George Franklin Grant

Practice Profiles

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Dentists Famous in Other Fields

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Celebrating Leadership

Jack F. Conley, DDS

With the 2002 holiday season upon us and with a new year quickly approaching, it is a particularly appropriate time to salute the leadership that is so important to achieving the mission of the dental profession.

From our experience, colleagues who have not actively participated are not always fully informed about the contributions of those who serve. In fact, some have been inclined to refer to the service process that dental leadership engages in as "dental politics." Such a label does not fairly describe the importance of the contributions and the sacrifices often made by volunteers. For that reason, we would like to share some recent examples.

During the past few years in particular, the California Dental Association has received exceptional contributions from those elected to lead. This has been a time when the position of the association's executive administrative officer has often been in a state of flux. This reality has required an increased level of commitment from volunteer leadership that is unprecedented in our many years of watching leadership in action. It has also come at a time when the dentist business owner has been confronted with many more requirements and regulations that necessitate much more time if a practice is to successfully meet the demands of an increasingly competitive dental marketplace.

Our purpose is not to describe all, or even a significant part, of these contributions; nor do we want to slight any of the other important contributions made by outstanding leaders during the several decades of our observations. Our purpose is only to highlight a few notable accomplishments that have been publicly recognized at American Dental Association and California Dental Association annual meetings in the past two months.

Dr. Eugene Sekiguchi, CDA president in 1997, was the first to demonstrate a new level of commitment when he served as interim executive director after completing his term as CDA's highest elected officer in late 1997. Commuting from his home in Southern California to Sacramento on a weekly basis to oversee the operation of a 15,000+ membership organization brought significant sacrifice. It required that he spend considerable time away from family and an active dental practice.

Subsequently, in late 1998, Gene turned to serving the American Dental Association as trustee from the 13th District (California). Last October, he announced his intention to seek the office of ADA president-elect. Because of his outstanding record of service to his profession, Gene Sekiguchi received strong support from his leadership colleagues in California, component dental societies, and ethnic dental organizations within the state, and his friends.

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His accomplishments, his leadership abilities, and his commitment to his profession were successfully communicated to the 410-member ADA House of Delegates. As has been previously reported elsewhere, Dr. Gene Sekiguchi was elected to the American Dental Association's highest office and will serve as president in 2003-2004. Dentistry throughout the country will continue to be the beneficiary of Gene's untiring efforts on behalf of his profession. As an ADA trustee, he has already made important contributions in such divergent policy areas as dental information technology and dental office wastewater. It is important that we honor his achievements at this time and wish him well as he challenges the extremely time-intensive activities of the American Dental Associations two highest offices.

The presidents of the California Dental Association have been extremely effective in helping to focus the efforts of staff and leadership at times when staff administrative leadership was not effective. Ken Lange, Gene Welling, Kent Farnsworth, Jack Broussard, and Steve Chan and their respective teams have been very responsive during these very difficult times.

The last three volunteer administrations in particular have dealt with not only the tiresome issues of the day such as dental unit waterlines, amalgam, and wastewater, but also progressive new association initiatives such as the California Dental Association Foundation and the development and implementation of a comprehensive strategic plan.

The year 2002 has been particularly remarkable as Dr. Steve Chan's administrative year has been confronted by outside legal activity challenging the dental profession in the state over the safety of amalgam and peer review. Steve and his immediate predecessors effectively balanced the demands placed on them by the above challenges and, in addition, organized ADA officer campaigns. Finally, Steve Chan provided extremely effective leadership during the time when administrative change became an important association matter.

The year 2003 is rapidly approaching and is filled with challenges for new President Dennis Kalebjian, who has already been a major participant in the management of the activities previously described. In addition, Dr. Kalebjian chairs the search committee for a new executive director, an activity that should become one of the most important for this association, not only for 2003, but also potentially for many years to come.

Traditionally, contributions of the leadership are shared and acknowledged each fall before the somewhat limited audiences of the CDA and ADA Houses of Delegates.

Because we believe these contributions and accomplishments are so important to the profession, our purpose here was to share and celebrate them with the larger segment of the membership that makes up the readership of this publication.

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Dental Practice Patterns Add to Oral Health Disparity

By CDA Journal Staff

There is a growing chasm between the practice of dentistry in the United States and the oral health needs of the nation, according to a recent study "The Growing Challenge of Health Care in America" published in the Sept. 5 issue of Health Affairs.

The researchers report that, while the dental professions have flourished, there is "abundant evidence that a sizable segment of the population does not have access to oral health care" and that the dental safety net is "poorly defined and underdeveloped." The article examines the oral health workforce and trends in dental care delivery in relation to the physician workforce and trends in medicine.

"The practice of dentistry has improved, becoming more lucrative and less time-consuming," said Elizabeth Mertz, MPA, lead author and project director at the UCSF Center for Health Professions. "In comparison to physicians, dentists work more independently, have a higher rate of solo practice, and in some cases their earnings have surpassed the net income of physicians," Mertz explained.

"But, while dentistry appears to remain a 'cottage industry' fighting incorporation into larger systems of managed care and capitated payments that have permeated medical groups," she said, "our study found that both the dentist-to-population ratio and the average number patient care hours of dentists have been declining," Mertz said.

There are approximately 150,000 clinically active dentists in the United States. Although the number of dentists has been increasing for the past 20 years, the growth has leveled off in comparison to the growth in the U.S. population, resulting in a decreasing dentist-to-population ratio: 58.41 per 100,000 in 1996. (In 1990, there were nearly 60 dentists per 100,000 population.) The physician-to-patient ratio currently stands at 286 per 100,000, and between 1960 and 1998, the physician population grew by 198.6 percent. In addition, the dentist workforce is aging, and a good portion of them will reach retirement age in the next decade. There are fewer young dentists in practice and few dentists working past the age of 65.

In addition, the study found that gender, age, and racial composition of the dental workforce does not match that of the general population and is even more misaligned than the physician workforce. For instance, in a contrast of the racial composition of the U.S. population in 2000 with the dental and physician practice community and the entering dental and medical student population in 1999, the racial/ethnic distribution of the dental workforce is among the least diverse of health professions. Approximately 13 percent of dentists are nonwhite, compared to 22 percent of physicians and 28 percent of the population. African Americans, Hispanics, and Native Americans are generally considered to be underrepresented minorities in the health professions. Dentistry is made up of 6.8 percent underrepresented minorities compared to 8.5 percent of physicians and 24.8 percent of the population. First-year dental students in 1999 were 34 percent nonwhite. However, just 10.2 percent of the students in the entering class were underrepresented minorities. In medicine, 36 percent of the first-year students in 1998 were nonwhite and 14 percent were underrepresented minorities.

The study found that on average, 63.7 percent of patients are covered by private insurance, 5.7 percent by public insurance, and 30.6 percent are uninsured. In 1998, $53.8 billion in private money was spent on dental services, nearly 50 percent as out-of-pocket payments.

"Despite much recent activity at the federal level documenting disparities in oral health and access to care, we have found that the dental public health system provides little funding for prevention or oral health care of the underserved," said co-author Edward O'Neil, MPA, PhD, director of the UCSF Center for the Health Professions and professor of family and community medicine and dental public health.

The authors conclude that only by moving beyond the existing systems of finance, reorganizing systems of dental practice, and utilizing dental professionals in new and innovative ways will the system be able to address the unmet health needs of underserved populations. The UCSF study recommends the following alternatives:

- Expand alternative organization structures for providing care such as public dental clinics or through the use of dental vans and mobile dental services;
- Educate the underserved populations about new programs in oral health to boost participation in existing and new programs;
- Expand and integrate oral health care services within primary health care facilities to reach a broader population base;
- Develop a multidisciplinary approach to oral health through the use of the public health system professionals and social workers;
- Expand independent practice for hygienists and assistants;
- Develop new dental school strategies for recruitment and retention of professionals from the underserved communities;
- Focus more effort on program evaluation, concentrating on cost-

effectiveness and patient outcomes. Funding for the study was provided by the California HealthCare Foundation and the Bureau of Health Professions. For more information, visit the Web site for the UCSF Center for Health Professions at http://futurehealth.ucsf.edu.

Scientists Identify Key Gene Involved in Cleft Lip and Palate

Scientists report in the October 2002 issue of Nature Genetics that they have discovered the gene that causes Van der Woude syndrome, the most common of the syndromic forms of cleft lip and palate.

The term "syndromic" means babies are born with cleft lip and palate, in addition to other birth defects.

According to the scientists, the discovery could direct them to genes involved in "nonsyndromic" cleft lip and palate, one of the most common birth defects in the world. Among Caucasians, nonsyndromic cleft lip and palate occurs in an estimated 1 in every 1,000 live births, and the frequency seems to be even higher in some Asian countries, such as China and the Philippines.

"Since there is so much clinical overlap between the two, we expect that similar genes and maybe even the same genes will be involved in the nonsyndromic form," said Jeff Murray, MD, a scientist at the University of Iowa and an author of the paper.

Murray noted that the gene, called IRF6, seems to play a key role in the normal formation of the lips, palate, skin, and genitalia. He said further study of the gene should provide precise molecular clues into normal human development and suggest specific biological strategies to prevent birth defects, such as cleft lip and palate.

First described in the 1860s, Van der Woude syndrome is involved in about 2 percent of all cases of cleft lip and palate, occurring in approximately 1 of every 33,000 live births. Children with the syndrome are born with any of four characteristic birth defects: Pits, or small indentations, in the lower lip; cleft lip; cleft palate; and undeveloped tooth buds.

The research was supported by the National Institute of Dental and Craniofacial Research.

Treating Oral Candidosis in Purview of Dental Professional

Dentists must be prepared to play a central role in the recognition, diagnosis, and treatment of oral candidosis, the most common fungal infection of the oral cavity, according to an article in Quintessence International, Vol. 33, No. 7, 2002.

Navy dental researchers report that dental practitioners must be familiar with antifungal treatment strategies and patient management guidelines.

Candidosis is caused by an overgrowth of the fungal organism Candida. Colonization by Candida in the oral cavity does not necessarily equate to infection, they said. Studies have shown that a significant proportion of healthy individuals continuously harbor Candida albicans.

Many factors can increase susceptibility to oral candidosis. They include immunosuppression, endocrinopathies, nutritional deficiencies, medications, malignancies, dental prostheses, epithelial alternations, salivary changes, a high-carbohydrate diet, age, poor oral hygiene, and a history of smoking.

Prompt treatment of candidosis with an appropriate antifungal agent can eliminate infection, prevent systemic dissemination, and prevent potentially debilitating sequelae.

The diagnosis of oral candidosis is often based on clinical signs and symptoms and can be supported by adjunctive tests such a exfoliative cytology, biopsy, and culture. According to the article, oral candidosis is often asymptomatic, but patients may periodically describe a burning sensation, dyphasis, or an altered sense of taste.

The primary line of treatment of mild, localized oral candidosis usually consists of topical antifungal therapy. Systemic antifungal agents are generally reserved to treat severe, localized, disseminated oral candidosis or infections in immunosuppressed individuals.

Therapeutic management should be based on the patient's medical history, clinical presentation, and symptoms, the researchers said. Practitioners must monitor the patient's response to antifungal therapy, educate the patient to improve treatment compliance, and provide appropriate follow-up to maximize therapeutic effectiveness.

Watch Out for Seven Deadly Leadership Sins, Experts Warn

The greatest investment dentists will make in their practices will be the investments made in their dental teams, said Steve Anderson and Walter Hailey in Dental Practice Management, summer 2002.

There are some basic rules to follow that will create the best environment in which a team can succeed, they said; and the best way to relate to the rules is to be aware of the sins that make the rules necessary.

Sin No. 1: No vision. Most dental teams get their motivation and enthusiasm from the hope that problems will be addressed or that their personal situation will improve. But without a clear vision, this hope does not exist.

Sin No. 2: No accountability. The authors said this is a common complaint of dental team members. Definitive solutions to problems must be reached, and someone must be given the specific assignment to carry out the decision.

Sin No. 3: No recognition. According to the authors, this ranks as the biggest complaint team members have about their dentist. Anderson and Hailey say that even simple things such as a kind word, a short note, or a quick thank you can build loyalty and harmony.

Sin No. 4. Too much control. A common complaint of team members is that they wish the dentist would get out of the way and let them do what they know how to do. Anderson and Hailey said that, as consummate perfectionists, most dentist

Mammalian Teeth Successfully Regenerated

For the first time, researchers have been able to successfully regenerate teeth.

According to the October 2002 issue of the Journal of Dental Research, researchers from the Forsyth Institute found that when cells obtained from immature teeth of 6-month-old pigs were seeded onto biodegradable polymer scaffolds and placed in rat hosts, small, recognizable tooth crowns formed within 30 weeks.

The researchers are the first to report using dissociated tooth tissues (tooth buds enzymatically digested into single cells) combined with polymer scaffolding (a technique used to form a pattern for human tissues and organs) to regenerate teeth. Researchers from other laboratories had previously used alternative approaches to form partial tooth structures including dentin and pulp, but none had grown complete structures that included enamel.

The research also suggests the existence of dental stem cells, which could be key to bioengineering human teeth. "The ability to identify, isolate, and propagate dental stem cells to use in biological replacement tooth therapy has the potential to revolutionize dentistry," said Dominick P. DePaola, DDS, PhD, president and chief executive officer of the Forsyth Institute.

think they have to manage and look over every detail in the office with as much attention as they give to doing a crown prep.

Sin No. 5: No open ears. Anderson and Hailey said that according to a recent survey of loyal team members who had been with the same office for 10 years or more, one of the consistent factors that contributed to employees' longevity was the feeling they had that the leaders in the practice listened to them and that their opinions mattered.

Sin No. 6: Gossip. It crops up everywhere unless there's a way to control it. Gossip can tear an office apart. The authors said the solution is easy: Make sure all team members agree to take all problems back to the source. If an employee has a problem with another person, it should be his or her responsibility to go to that person and get it resolved.

Sin No. 7: Bad attitudes. The authors said that it is a lot easier to hire people with great attitudes and train them in the needed technical skills. But if some employees have attitude problems, the solution is to clarify what is expected. They said, too, that dentists should lead by example, not asking their dental team to do anything they are not willing to do themselves.

Antidepressant Shows Results in Helping Spit Tobacco Users Quit

An antidepressant that has been shown to help smokers quit may also prove effective in helping spit tobacco users kick their habit, according to preliminary research results from the Mayo Clinic.

In a study of 68 spit tobacco users randomly assigned to take either bupropion or a placebo for 12 weeks to aid in quitting their habits, 44 percent of the bupropion group were still abstinent at the 12-week mark, compared to 26 percent of the placebo group.

In addition to finding greater success in cessation, participants who took bupropion gained less weight -- an average of 1.54 pounds -- during the 12 weeks than those who took the placebo, who averaged 9.7 pounds.

However, the researchers said that spit tobacco users may benefit from talking bupropion longer than 12 weeks, since abstinence rates for both groups were even, at about 29 percent, at a 24-week follow-up.

"The results are good news for spit tobacco users trying to quit," said Lowell Dale, MD, a Mayo Clinic specialist in nicotine dependence and lead researcher on the study. "None of the other agents that help smokers quit -- patches and gum -- have been shown to be as effective for spit tobacco users."

The Mayo Nicotine Research Center plans to launch a large double-blind study on bupropion for spit tobacco users.

Occlusal Vertical Dimension on Face Height Not Visually Distinguishable

Attempts to alter face height by changing the occlusal vertical dimension may not produce visually distinguishable results, reports a study in the International Journal of Prosthodontics, Vol. 15. No. 4.

Researchers at the Department of Prosthodontics, Tel Aviv University, Israel, evaluated the effect of increasing occlusal vertical dimension on 22 young adults.

A common belief in fixed and removable prosthodontics, they said, is that an increase or decrease in the occlusion vertical dimension significantly affects the lower face height and facial esthetics. Some believe that an altered occlusal vertical dimension can improve dentofacial esthetics and create improved visual proportions in facial height.

The researchers photographed the 22 subjects in a standardized manner in an anterior view. Sequential photographs were taken at the intercuspation and clinical rest positions, with four complete-arch maxillary occlusal overlays increasing occlusal vertical dimension in interincisal

increments of 2, 4, 6 and 8 mm.
Objective measurements were made from the photographs using facial reference markers. Ten observers made subjective evaluations of the resulting changes in face height using the sequential photographs randomly presented.
Measurements of the facial markers showed that, on increasing occlusal vertical dimension, a corresponding change in lower face height was 50 percent of the interincisal increase in intercuspation and 40 percent for the clinical rest position. Analysis of variance for repeated measures showed a statistically significant effect of the intraoral increase in occlusal vertical dimension on lower face height.
However, the researchers noted, subjective results showed that observers were not capable of detecting changes in face height caused by an intraoral increase in occlusal vertical dimension (2 to 6 mm intrinsically). ANOVA for the difference between dentists and nondentists showed a minimal, but significant, difference between the two groups with dentists erring slightly less.
The researchers noted that the findings of their study apply to young adults. Changes in older patients may be more apparent because of aging-induced soft-tissue alterations. Their findings indicate that changes in vertical dimension in fixed prosthodontics within the range of 2 to 6 mm are unlikely to cause visually apparent changes in the soft tissue face height in the range of normal vertical dimension.

Study Shows Caries in Primary Teeth Predict Future Decay

Children with tooth decay in their primary dentition are nearly three times more likely to have decay in their permanent teeth, according to an eight-year study conducted in China.
In 362 Chinese children age 3 to 5 years at the time of the 1992 baseline study, 85 percent who had had caries in their primary molars showed at least one decayed permanent tooth in a follow-up examination in 2000. In contrast, 83 percent of the children who exhibited no caries in their primary teeth remained decay-free until at least age 12.
The authors of the study suggest that children with caries in their primary dentition should be considered high-risk cases for decay in permanent teeth, increasing the importance of dental sealants and fluoride treatments for decay prevention.
The recommendation is consistent with a recent recommendation from the Centers for Disease Control and Prevention calling for broader community efforts to reduce tooth decay by extending water fluoridation and dental sealants to more children and adults.
The results of the Chinese study were published in the August 2002 issue of the Journal of Dental Research.

Honors

Donald S. Clem, III, DDS, of Fullerton, Calif., has been elected president of the American Academy of Periodontology Foundation.
Paulo M. Camargo, DDS, of Los Angeles, has been named the 2002 recipient of the Bud and Linda Tarrson Fellowship by the American Academy of Periodontology Foundation.
The California Association of Orthodontists has selected Arthur A. Dugoni, DDS, MSD, dean of the University of the Pacific School of Dentistry, as the recipient of its 2002 Distinguished Service Award.

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Dentists Famous in Other Fields

Malvin E. Ring, DDS, MLS

ABSTRACT The profession of dentistry has long attracted individuals who were often multitalented, achieving fame in fields other than dentistry, such as literature, business, sports, and politics. Several have been justly rewarded with worldwide recognition. Many of these outstanding individuals continued to practice their profession while carrying on their avocation, while others decided to devote their entire time to the pursuit of these interests. Nevertheless, many in the dental profession are unaware of their colleagues who have achieved fame in other fields. Only a very few of these outstanding dentists are discussed in this article.

AUTHOR

Malvin E. Ring, DDS, MLS, is the author of Dentistry: An Illustrated History. He practiced dentistry for more than 30 years in Batavia, N.Y.

The profession of dentistry has always attracted individuals who were standouts in other fields of endeavor as well as their chosen profession. Some stayed on as dentists and used their other skills as a hobby or a sideline. Some gave up the practice of dentistry entirely to devote all their time to the pursuit of their other love. This group of dentists is characterized by the late Professor Gardner Foley as "dental truants" in his fascinating book Foley's Footnotes. In addition, there are those who almost became dentists, never fully finishing their studies, because the lure of another pursuit proved too great. Among these latter are the famous baseball manager Casey Stengel and Mark Spitz, who won more Olympic gold medals for swimming than anyone else.

Many famous individuals who practiced dentistry but left to follow another line of work have been frequently written about in both the professional and lay literature and are well-known to most of us. To list but a few, there are Paul Revere, who practiced in Boston for seven years; "Doc" Holliday who, after graduation from dental school, went out West for his health and became a celebrated gambler; and gunfighter Zane Grey, who became the most popular author of novels of the West and the frontier. And possibly somewhat less well-known but enormously influential was Dr. Adalbert J. Volck, an artist who achieved renown for his bitter and biting anti-Lincoln cartoons and his many newspaper drawings supporting the Confederacy during the Civil War.

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This article, however, deals with dentists who achieved renown for excelling in an endeavor other than dentistry, but who are not generally known to the dental profession. There are many, many more than the author was able to include in this short article; to list them all and all their accomplishments would require a book.

The Political Arena

Dr. Cheddi Jagan, President of his Country

Born of East Indian parents in Guyana, Dr. Cheddi Jagan attended Queen's College in Georgetown, the capital of Guyana. At that time, the country was a British Crown Colony, made up almost equally of Africans whose ancestors had been brought in as slaves to work the cotton plantations and East Indians who had come as indentured servants and ended up working the rice and sugar plantations.

When Jagan attended Queen's College, he had as a classmate Clifton O. Dummett, who would later become one of the luminaries in the American dental profession (**Figure 1**). It was Dummett who influenced Jagan to join him at Northwestern University in the study of dentistry, and the two left for Chicago together. Because he was considered an "Oriental" instead of "black," Jagan was able to find lodging near the dental school. But his friend Dummett was refused by the white landlords and had to find a room in the black ghetto of Chicago, which entailed an hour's travel each way to school. It was this blatant evidence of Jim Crow that turned Jagan into a fighter for equality for all peoples. In a letter to Dummett in 1942, he wrote "Now is the time for the Negro population to demand equality, and to see that the Atlantic Charter materialize and bear fruit at home. Now is the time for all suppressed and minority groups to demand not only theoretical but also practical equality, so that the common foe will be resisted by all on an equal footing. It is only in this light that the civil disobedience campaign of Gandhi can be viewed."

Figure 1. Two close friends, Dr. Clifton O. Dummett (left) who has received numerous honors from the dental profession, and Dr. Cheddi Jagan, the first president of an independent Guyana.

After graduation from Northwestern in 1942, Jagan was burning with a desire to bring independence from British rule to his homeland. In August 1943, he married a Chicago woman, Janet Rosenberg; and he and his new wife went to Guyana in 1943. Jagan then began the practice of dentistry in the capital city, Georgetown. He practiced there full time from 1943 to 1957 and part time thereafter. His wife was his dental assistant during the entire time.

He soon entered politics, quickly becoming leader of the People's Progressive Party. He won his first victory in the first popular election, held in 1953. This was short-lived, however, because the British suspended the constitution, ousted his party on the grounds that it was intent on setting up a "Communist" government, and clapped Jagan into jail for six months. Nevertheless, four years later, still under British rule, a free election under a new constitution returned Jagan and his party to power. The British were eventually forced out of Guyana in May 1966.

By this time, the conservatives in the country united in an opposition party and challenged Jagan and won the election. However, when details of corruption on the part of the leaders of this opposition party became known, it was forced to adopt a new constitution in 1980. This called for the election of a president, and in 1992 Jagan was elected the first president of his native land. His death, at the age of 78, came in 1997; and the people elected his wife, Janet, to serve as president in place of her dentist-husband, the "Father of a Free Guyana."

Dr. James B. Edwards, Governor and Presidential Cabinet Member.

Figure 2. Dr. James B. Edwards, former governor of North Carolina and secretary of energy in the Reagan administration.

After earning his dental degree from the University of Louisville, Dr. James B. Edwards completed his graduate surgical training at the Henry Ford Hospital in Detroit and then at the Graduate School of Medicine of the University of Pennsylvania. Board-certified in oral surgery, Edwards set up practice in Charleston, S.C., becoming only the second certified oral surgeon to practice in the state (**Figure 2**)

He began his political career as chairman of his county's Republican Party and soon attracted favorable attention of the state party officials.

He was elected in 1974 as the state's first Republican governor since the days of Reconstruction; and although he proved to be a very popular governor, he was prevented from seeking a third term by the state constitution. In 1981, he was tapped by President Ronald Reagan to be a member of his cabinet as secretary of energy, a post he held till 1982.

He has garnered many honors from the dental profession, culminating with his receiving the American College of Dentists highest accolade, the William J. Gies Award in 2000.

Dr. Charles W. Norwood, Patients' Advocate in Congress

Figure 3.
Dr. Charles W. Norwood, representative in Congress from Georgia.

The American people's major advocate in Congress on all matters of health care is a dentist who was graduated from Georgetown University School of Dentistry in 1967, after having served as student body president during his senior year. Upon receiving his degree, Dr. Charles W. Norwood served in the Army Dental Corps and saw combat in Vietnam with the 173rd Airborne Brigade (**Figure 3**).

His 24 years of dental practice in Augusta, Ga., were marked as well with exceptional service to his profession, notably his role as president of the Georgia Dental Association in 1982-83 and as a member of the ADA House of Delegates in 1984-85. He achieved prominence in 2001 when he became an advocate in Congress for patients and staunchly insisted that a broader patients' rights bill be adopted. President George W. Bush negotiated on this bill almost solely with Norwood and a favorable agreement was finally hammered out.

Dr. Bernard J. Cigrand, Father of "Flag Day"

On June 14, 1885, a 19-year-old teacher in a one-room schoolhouse in the tiny village of Waubeka, Wis., decided that the flag of the United States needed to be accorded more recognition as a symbol that unites the diverse elements of the nation. Himself the son of parents who had emigrated from Luxembourg, he decided to teach his students more about Old Glory. Thus on the 108th anniversary of the adoption of the Stars and Stripes as the official flag of the new nation by the Continental Congress, he put a small flag on his desk and instructed his students to write an essay telling what the flag meant to them.

This young teacher's name was Bernard J. Cigrand, and he did not rest with that exercise. The following year, he appealed for a "Flag Birthday" in the pages of the Chicago newspaper, the Argus. This was only the beginning of a quest for a special holiday that he never gave up. He wrote countless articles in a variety of publications; and in 1894 he was instrumental in organizing the National American Flag Association, headquartered in Chicago, and was named its first president.

His personal life went on apace, in addition to his lecturing and teaching about the flag. He entered University Dental College -- later to become the dental school of Northwestern University in Chicago -- and received his DDS in 1888. In addition to establishing his practice in Chicago, he joined the faculty of his alma mater, but when the Columbian Dental School -- later to become the University of Illinois College of Dentistry -- was formed, he switched to that school. He was so highly esteemed that he served as dean from 1904 to 1906. He practiced with his son, Elroy, in the suburb of Aurora, until his death in 1932.

During all this time, he continued to work for the establishment of a Flag Day, a dream that finally culminated when President Woodrow Wilson established National Flag Day on June 14, 1916. This was carried further, however, when President Harry Truman in 1949 signed the law making observance of Flag Day a national holiday.

The village of Waubeka has only 500 residents. But on the second Sunday of June, it hosts an annual Flag Day festival that attracts more than 10,000 visitors who are thrilled by numerous bands, fireworks displays, and military activities. The little one-room schoolhouse is now listed on the register of historic places.

In 1985, the Postal Service issued a new stamp honoring the flag; and it chose for the first-day-of-issue sale one place: the little village of Waubeka, the birthplace of Cigrand, the "Father of Flag Day."

Arts And Literature

Dr. Karl J. Leone, World Authority on Faulkner

When the principal world conference about writer William Faulkner convenes annually in Mississippi, the attendees include scholars from all the major universities of the world. But it also includes a Staten Island, N.Y., dentist who ranks among the greatest as an authority on the renowned author. Dr. Karl J. Leone is always asked to deliver a key lecture on Faulkner. (**Figure 4**).

A native of Brooklyn, Leone entered the Army in the early days of World War II and soon found himself chosen for the Army specialized training program, which was instituted to ensure an adequate number of medical and dental practitioners to serve the civilian population after the war. He accordingly entered the University of Pennsylvania in Philadelphia and was graduated with his dental degree in 1946. Setting up practice in his native Brooklyn, he eventually moved to Staten Island, where he confined his practice to the treatment of temporomandibular joint disorders.

His interest in Faulkner came by accident. He was browsing through a stack of books in a Greenwich Village used bookstore when he picked up the book Pylon by Faulkner, read a few pages, and bought it for a quarter. That is all it took for him to

Figure 4.
Dr. Karl J. Leone, internationally recognized authority on William Faulkner, at work with one of his hobbies, miniature carousels.

become hooked on the writer; and today he has a large and valuable collection of Faulkner's writings, including first editions, signed copies, as well as numerous artifacts associated with the author's life. Leone set for himself the task of learning all he could about Faulkner, and today he is considered one of America's foremost authorities on the Nobel Prize-winning author.

Dr. William Green Turner, Famed Sculptor

The city of Newport, R.I., has long been a mecca for tourists; and one of that city's most famous draws is the exceptionally heroic statue of Commodore Oliver Hazard Perry of "Don't Give Up the Ship" fame. It was during the battle of Lake Erie in the War of 1812 that Perry, commanding a fleet of American ships, defeated a larger force of British warships and reported to the president "We have met the enemy, and they are ours."

Perry's own flagship, the Lawrence, was so badly damaged that he had to leave it and transfer his command to another ship; but he carried with him the famous flag with those immortal words and flew it on this new ship's mast. The sculpture shows Perry at that moment, the flag still furled and slung under his shoulder. The sculptor of this life-size bronze monument was Dr. William Green Turner, a graduate of the Baltimore College of Dental Surgery (**Figure 5**).

Born in Newport in 1833, the son of a prominent physician, he had planned to study art, but was influenced by his family to become a dentist. Upon graduating from dental school in 1857 -- at the head of his class -- he began practice in New York City; but with the outbreak of the Civil War, he was among the first to offer his services and was enrolled in the Rhode Island Volunteers. He rose in the ranks, and by 1863 he had been made a captain. At the Battle of Chancellorville, he was so severely wounded that he was left on the field to die. Nevertheless, he recovered enough to return to his home.

After the war, he found that dentistry was too strenuous for the state of his health; and he decided to work in his first love, the field of art. He settled in Florence, Italy, in 1869, where he remained for 30 years. A student at the Academy of Fine Arts, he became a noted artist, ultimately producing a number of sculptures that were purchased by private collectors as well as major public collections.

When the citizens of Newport decided to commission a statue of Commodore Perry to stand in the center of town, they chose the hometown native, Turner. The statue was modeled and cast in Florence; and Turner returned to Newport in 1885 for the unveiling, but left again for Florence. He returned to Newport for good, however, in 1901, and remained there until his death in 1917.

Dr. Francois-Joseph Talma, France's Greatest Actor

The greatest French actor of all time began his professional life as a dentist. He was one of 13 children and was born in Paris in 1763. His father, Michel had as a patron a wealthy English lord who helped him study dentistry and open a practice in London. Numerous newspaper notices of the day advertised the elder Talma's skill at "curing all Disorders of the Teeth, and particularly remov[ing] all Scorbutic Humours." During this time, the young Francois-Joseph had remained in school in Paris; but when he turned 16, his father had him come to London to study dentistry with him.

Contrary to his father's desires, the young man's interest turned to the theater; and he secured the choice role as Othello. His acting was greatly acclaimed. Nevertheless, circumstances which we do not know caused him to give up the theater and return to Paris around 1781. His uncle, Philippe, his father's older brother, also was practicing dentistry in Paris and took his young nephew on as an associate (**Figure 6**)

But the lure of the theater was too strong, and when the École Royale Dramatique was created in 1786, young Talma gave up dentistry and enrolled in the school where he studied with some of

Figure 5. The statue in Newport, R.I. by Dr. William Green Turner of famed Commodore Oliver Hazard Perry, hero of the Battle of Lake Erie in the War of 1812.

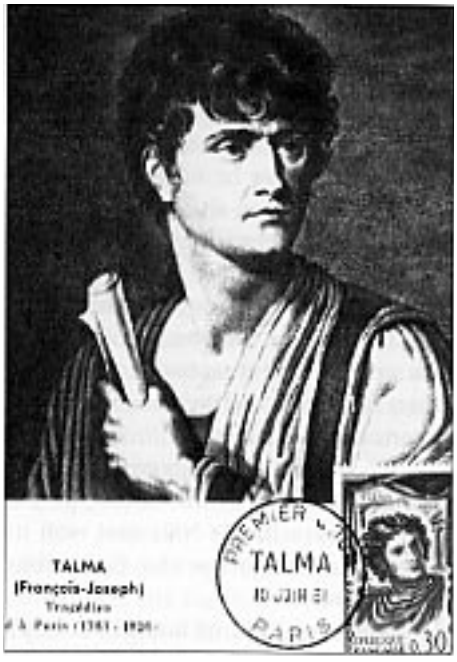

Figure 6. The French government issued a stamp in honor of Francois-Joseph Talma, the dentist who became France's greatest actor. This postcard bears the postmark of First Day of Issue.

France's leading thespians.

A close friend of the young Napoleon, Talma gained immeasurably when the former became emperor. It was at that time that his fortunes in the theater rose; and he soon was acclaimed as France's greatest actor, a position he would hold until his death, probably of cancer, in 1826 at the age of 63. He is buried in the Pre Lachaise cemetery in Paris; and his grave is not only beautifully cared for to this day, but is visited daily by hundreds of theater enthusiasts.

Dr. Herbert Ferber, Sculptor of the Abstract

Born to a poor Jewish family in New York City in 1906, Herbert Ferber put himself through Columbia University's School of Dental and Oral Surgery, receiving his degree in 1930.

In an interview with the Smithsonian Archives of American Art, Ferber said that while he was still a dental student a teacher encouraged him to have what he thought was an extra-dental interest. So, after a year of dental school, he began studying at night at the Beaux Arts Institute of Design, which was loosely affiliated with the École des Beaux Arts in Paris. He had wanted to study at the Art Students League, but the tuition was prohibitively high for him.

He began with sculptures in wood and stone, soon going on to the making of massive figures in these media. Upon graduation from dental school, he received two conflicting offers: an instructorship at the school and a fellowship at the renowned Tiffany Foundation. He chose to study at the foundation for several years, in the process meeting such luminaries of the modern art movement as Mark Rothko and Chaim Gross. After two years, he returned to Columbia and joined the dental faculty.

However, his fame as a modern abstractionist sculptor far outshone his dental career. He switched from figure modeling and made huge metal abstract sculptures. He also did a fair amount of painting of abstracts. His works are in the permanent collections of the National Gallery of Art in Washington, the Albright-Knox Gallery in Buffalo, the Whitney Museum of American Art in New York City as well as in private collections.

Ferber died in New York City in 1991 at the age of 85.

Inventions

Dr. Josephus Requa, Inventor of the First Machine Gun

Dr. Josephus Requa practiced in the Wilder Building in Rochester, N.Y.; and during his professional career he invented the first practical machine gun in 1861. He and a gunsmith, William Billinghurst, built a prototype at the latter's gun shop on 41 Main St., Rochester. It consisted of 25 rifle barrels mounted horizontally on a two-wheel wagon and weighed 500 pounds. A clip held 25 .52-caliber bullets. They were loaded at one time and fired with a single long percussion cap. Three soldiers could reload seven times a minute, thus getting off 175 shots in one minute.

Although Gen. James W. Ripley, chief of ordnance procurement, was not interested, claiming his men could shoot "fast enough," Requa sought an audience with President Abraham Lincoln, who was very impressed with the gun and, on his own initiative, ordered tests to be made.

Patent No. 36,448 was issued to Requa and Billinghurst on Sept. 16, 1862; and the new gun was pressed into service on the very next day at the bloody battle of Antietam. Unfortunately, although the guns were delivered to the battlefield in time, the ship carrying the bullets had been sunk by the Confederates as it made its way to the battle. However, the guns did see action at the battle of Charleston in 1863 and at Petersburg and Cold Harbor in 1864. Requa never did receive proper recognition for his contribution. His gun, the first machine gun, was soon supplanted by the more successful hand-cranked Gatling gun, which could fire 350 rounds a minute.

Dr. Edward Maynard, Inventor of the Gun That Almost Won the Civil War.

Dr. Edward Maynard practiced dentistry in Washington, D.C., in the early years of the 19th century. With a strongly inventive mind, he was not satisfied with the limitations of dentistry. From an early age, he had a strong interest in guns and the way they were fired. His first invention in this field was the Maynard Tape Primer Lock, patented in 1845. This supplanted the easily dropped copper percussion cap and was adapted for use in a wide array of pistols, rifles, and shotguns. Manufactured by the Massachusetts Arms Company, this invention alone brought him more than $75,000 in royalties, an enormous sum in those days.

Although he secured many additional patents in the succeeding years, his greatest contribution was the breech-loading carbine, which he patented in 1859. The usual practice in loading a rifle at that time was to ram a linen packet full of powder down the barrel and then ram the ball to place with a ramrod. It was then ignited with a percussion cap at the breech. Maynard not only invented a much more practical percussion cap, but a brass cartridge as well, one that could be loaded into the rifle at the breech end.

The Navy conducted tests of this new rifle in 1859, with astounding results: of 250 shots fired at 500 yards, all hit the target, 80 percent of them within a four-foot square. It fired 12 rounds a minute, and 562 rounds were fired before the barrel needed cleaning.

The Civil War brought large orders from the Union army for this amazing new rifle; and by the time the war was over, more than 200,000 carbines were in the hands of Union soldiers who had used more than 2 million of Maynard's cartridges.

After the war, the rifle continued in production for use by hunters and sportsmen, and Maynard received honors and decorations not only from his own grateful government, but also from Belgium, Prussia, and Sweden, who lauded this innovative genius. Maynard died at the age of 78 in 1891, recognized by many as the man who made the gun that won the Civil War.

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Sports

Dr. Cary Middlecoff, Champion Golfer

One of the greatest golfers of all times, Cary Middlecoff won his third tournament as a professional in 1947 and at least one more every year until his retirement from the game in 1961. He had won 37 major tournaments and was high on the PGA Tour's all-time list; and in the 1950s had won more money than anyone else (**Figure 7**)

Figure 7. Dr. Cary Middlecoff, who won more money in professional golf tournaments than any other player in the 1950s.

The son of a dentist, Dr. Herman Middlecoff, Cary was born in Halls, Tenn., in 1921. He was a big youngster; and his father, who was an avid golfer, was determined that his son learn the game. The famed golf champion, Bobby Jones, was friend of the senior Middlecoff, and agreed to teach the youngster the fine points of the game. While still a teenager, Cary won the Memphis city championship and went on to win the state title.

He enrolled at the University of Tennessee School of Dentistry and received his DDS in 1944 and immediately went into the Army Dental Corps. He was discharged in 1946 and joined his father's dental practice. But he spent more time at golf competitions than at the chair. So his father turned once again to Bobby Jones, asking him to persuade Cary to return to dentistry. Jones tried, but admitted failure. For when Middlecoff won the 1955 Masters tournament, Jones said, "The way he filled those 72 cavities during the last four days makes me think I may have been wrong." Middlecoff considered his win of the 1956 U.S. Open at the Oak Hill Country Club in Rochester, N.Y., "my greatest accomplishment in golf." There he bested such greats as Ben Hogan and Julius Boros.

Middlecoff never returned to dental practice, earning more than $250,000 in his professional career, a large sum in those days. He died in 1988 at the age of 77.

Dr. Jim Ailinger, National Football League Standout

March 27, 2001, saw the death at the age of 99 of Dr. Jim Ailinger of Buffalo, who, in 1997 was declared the "Oldest Living Former NFL Player" by the Pro Football Hall of Fame.

A 1925 graduate of the School of Dentistry of the University of Buffalo, Ailinger was still a senior at the school when he was signed by the Buffalo All-Americans, the ancestor of today's Bills. Shortly thereafter the team was sold, changed its name to the Bisons, played its first season in the NFL, and won its first game -- against the Columbus Tigers 13 to 0.

Although slight in build by today's standards (he was 5 foot 11 inches and 185 pounds), Ailinger nevertheless played almost every position on the team, particularly lineman. The most famous player against whom he played was Jim Thorpe, long considered America's greatest athlete. Thorpe tried to run Ailinger over on a kick return and, as described by Ailinger, "All I could see were his knees going up and down. I was knocked out cold -- but I tackled him!"

When that first season ended, he was approached by Red Grange, who wanted to recruit him. But Ailinger, fearing damage to his hands, decided to stay with dentistry. However, he became a pro referee for the Intercollegiate Football Association and among the 425 games he worked were four Army-Navy games and three Harvard-Yale games.

Ailinger had a very successful dental practice in Buffalo, retiring at the age of 87.

Dr. Richard Vallese, Mr. Universe

Everyone is familiar with the quondam advertisement of the 90-pound weakling who was always getting sand kicked in his face by the big, tough fellow. The story of Mr. Universe 1987, Dr. Richard Vallese, seemed to be a real life repeat of that ad.

Born in 1939, "Val" as a child was always bullied by the bigger kids. In fact, he was so underdeveloped that his physician suggested growth hormones. When he entered high school, he was only 5 feet 6 inches tall and weighed a scrawny 80 pounds. As an undergraduate at Marquette University in Milwaukee, he began a body-building regimen. In time a roommate suggested he enter a bodybuilding competition; and, overcoming his personal doubts, went on to win. From that point there was no stopping him; he went on to win every local competition he entered and eventually won the title of Mr. America (**Figure 8**).

He entered Marquette's dental school and received his DDS in 1984 but continued his rigorous training even after he began a flourishing practice. He was still only five foot six, but he tipped the scales at 216 pounds of solid muscle. His biggest triumph came in 1987 when he entered the most prestigious of all bodybuilding

Figure 8. Dr. Richard Vallese, who won the title of Mr. Universe in 1987.

competitions, Mr. Universe, and came away with first place. And with the Mr. Universe title under his belt, he went back to practicing dentistry, his other great love.

Dr. Walter B. Tewksbury, Olympic Medalist

Dentists have participated in the Olympic games, but none has garnered as many medals as did a graduate of the School of Dentistry of the University of Pennsylvania, Class of 1899 (**Figure 9**).

Walter B. Tewksbury was born in 1876 in the small town of Tunkhannock, the county seat of Wyoming County, Pa. A scion of a middle-class family, he enrolled at the Penn dental school. In 1900, the Olympics were to be held in Paris, and in those days there were no national teams; anyone could enter if he had a sponsor and money to travel to the games. Tewksbury was asked to represent the university at the games, which he did with distinction. He brought home two gold medals, two silver, and one bronze. He achieved renown all over the world among sporting circles as a champion hurdle jumper and an outstanding sprinter. He later recounted the beginning of his athletic career. When he was in his freshman year, he said, he "hardly knew what a track team was. I was walking across Franklin Field one day when some student raced over and told me Mike Murphy wanted to see me. I'm going to make a sprinter of you' said Murphy. That's how my athletic career started for Penn."

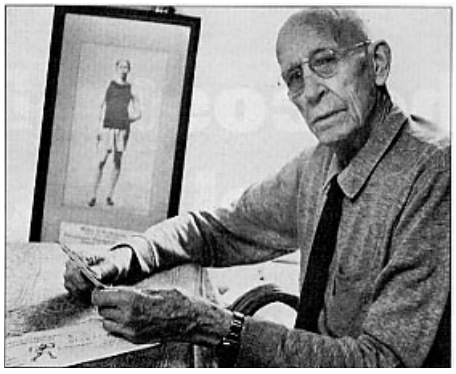

Figure 9. Dr. Walter B. Tewksbury, a star of the 1900 Olympic Games, who brought home medals for the hurdles and as a sprinter.

At the Intercollegiate Games, he won the 100 meter and the 220 yard dashes in both 1898 and 1899. These victories were later to be overshadowed by his triumphs at the 1900 Olympics.

Tewksbury continued the practice of dentistry in Tunkhannock until his retirement in 1946. He died in 1968 at the age of 93; and the Pennsylvania Historical and Museum Commission, in 1999, erected a monument in his honor in the center of his home town.

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Debt and Practice Profiles of Beginning Dental Practitioners

David W. Chambers, EdM, MBA, PhD; Alan W. Budenz, MS, MBA, DDS; Richard E. Fredekind, DMD, MA; and Nader A. Nadershahi, MBA, DDS

ABSTRACT Escalating student debt for dental education has led some to speculate that beginning practitioners may undertake procedures that are beyond their competence in an effort to augment practice income. This hypothesis was tested directly using a data set containing self-reports of practice profiles across a wide range of procedures and debt for education, practice, and personal purposes. Respondents were 113 individuals who had graduated from a private dental school from 1986 to 1997. Conservative dental practice was measured by comparing frequency of commonly and uncommonly performed procedures in the group as a whole against the profile for each respondent. There was no association between educational debt and propensity to engage in unconventional procedures. Older dentists and those who felt more competent at the time of graduation were less conservative. Amount of practice debt was a better predictor of unconventional practice than was educational debt.

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This research is not based on emerging scientific principles; it is grounded in rumor. The large educational debt of dental students has led to occasional speculation that this burden influences practice decisions and may even affect the quality of dental care rendered. The current study was undertaken to test the hypothesis that young practitioners tend to exceed their competence and perform procedures that are unnecessary, or at least are unconventional, to service their large debt burdens.

It is certainly true that educational debt is large. In 1998, dentists graduated from American dental schools owing an average $84,000 for their professional education. Educational debt is larger for students who attend dental schools that are not subsidized by state funds -- $108,000 debt for private schools compared to $71,000 for state schools.1-2

Dental educational debt is also increasing.3 In 1988, the average student borrowed $30,000 to complete his or her dental education. This represents an 80 percent increase over a 10-year period to 1998. Correcting for the Consumer Price

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Index, the growth in real dollars of debt was 60 percent. However, the income of dentists during this period accelerated at a rate almost twice the base inflation rate. The ratio of educational debt to annual net earnings of dentists in 1988 was 0.65. Ten years later, that ratio had risen to 0.69. Interest rates on educational loans declined during this period approximately two-percentage points.4

Although educational debt for dentists has risen and today represents an imposing figure by the standards of many wage earners or of established professionals, it does not seem unreasonable as an investment in a profession that has done well economically.5 While it is impossible to obtain reliable figures, debt involved with establishing a practice must also be considered. The size of practice debt relative to educational borrowing and the change, if any, in the proportion this represents of young dentists' debt structure also has the potential for influencing practice patterns.

A data set that allows for an empirical test of the association between debt and unconventional practice patterns was created as part of an outcomes assessment survey program regularly conducted at the University of the Pacific School of Dentistry. Graduates from the past 12 years were queried on a large number of items, including debt level and regularity in performing a broad range of dental procedures. The procedures ranged from common tasks such as placing restorations for occlusal protection to less common techniques such as comprehensive mixed dentition orthodontics and guided tissue regeneration. If debt burden pushes young practitioners to practice beyond their competence, it should be possible to detect an association between these variables in the data available. Associations between debt load and willingness to perform unusual procedures was also investigated relative to years since graduation, and practice type (owner, associate, or employee).

Table 1.

Frequency With Which 44 Dental Procedures Are Performed by Recent Graduates and Self-Reported Competency at Time of Graduation

	Frequency	Weighted frequency	Weighted competence
Restore for occlusal protection	1.00	2.97	2.56
Direct lab support	1.00	2.76	2.36
Timely, patient-sensitive restorations	1.00	3.00	2.38
Restore by principles	1.00	2.97	2.38
Fixed partial dentures	.97	2.82	2.30
Manage/treat Type I/II perio	.97	2.84	2.43
Treat surgical emergencies	.97	2.38	2.19
Post-op patient instructions	.97	2.83	2.53
Long-term care of restorations	.94	2.81	2.22
Endodontics on uncomplicated teeth	.93	2.76	2.44
Provisional restorations	.93	2.64	2.31
Straightforward partial dentures	.93	2.71	2.31
Simple and surgical extractions	.93	2.77	2.39
Administer common medications	.93	2.62	2.34
Fabricate mouth guards	.93	2.73	2.26
Perform pulp therapy	.92	2.46	2.31
Perform simple I&D	.91	2.30	2.35
Periodontal re-evaluation	.90	2.45	2.20
Composite veneers	.90	2.48	1.77
Manage/treat Type III/IV perio	.85	2.33	2.17
Restore teeth for crowns	.85	2.48	2.00
Dentures on poor ridges	.79	2.09	1.84

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	Frequency	Weighted frequency	Weighted competence
Treat early occlusal problems	.78	2.07	1.77
Composite, porcelain inlays	.77	2.31	1.77
Perform multirooted endo	.72	2.04	2.20
Extract soft tissue impactions	.70	2.00	2.03
Manage malocclusions	.67	1.92	1.71
Prostheses with precision attachments	.57	1.60	1.44
Manage complications of med emerg	.55	1.68	2.04
Perform biopsies	.50	1.40	1.72
Assess/treat basic med emergencies	.47	1.53	1.86
Deliver implant-borne restorations	.47	1.18	.88
Manage replant, avulsed, TMJ reduction	.44	1.33	1.33
Perform alveolary, torus sugery	.43	1.13	1.20
Perform TMD therapy	.40	1.10	1.19
Perform CPR	.38	1.10	2.27
Diagnose/treat minor ortho	.32	1.16	1.40
Use in-office sedation	.31	.89	1.00
Apical surgery	.21	.68	1.14
Complete two-phase ortho	.12	.41	.26
Guided tissue regeneration	.11	.43	.69
Perform laser surgery	.07	.22	1.14
Perform soft-tissue grafting	.05	.32	.85
Perform complete mixed-detention ortho	.04	.17	.29

Frequency is proportion of respondents reporting routine or sometimes performance of a procedure. Weighted frequency and weighted competence are computed using the following weights: "routinely" = 3, "sometimes" = 2, "rarely" = 1, and "never" = 0 for frequency and "master" = 3, "competent" = 2, "shaky" = 1, "unable to perform" = 0 for competence.

Methods

UOP School of Dentistry conducted in 1986, 1992, and 1998 a comprehensive outcomes assessment survey of its graduates from the preceding 12 years of classes.6-8 The aggregate survey collected several thousands of pieces of information ranging from problems with patients and staff to continuing education patterns, the use of evidence in selecting new products, and the proportion of work that was elective or retreatment. Because of its large size, systematically stratified groups of graduates answered overlapping subsets of questions. The overall response rate on the 1988 administration of this outcomes assessments survey was 303 of the mailed 1,638 surveys (18 percent).

The subset of data analyzed here represents 113 respondents balanced for number of years since graduation and whether the practitioner is a practice owner, associate, or an employee. Graduates who were enrolled in advanced education programs or participated in specialty practices were removed from the sample, leaving an effective sample size of 86. Forty-four procedures were rated by the respondents and are listed in **Table 1** by order from the most to the least frequently performed. For each procedure, respondents indicated the regularity with which they personally performed such procedures from a choice of four alternatives: "routinely," "sometimes," "rarely" and "never." They were also asked to indicate for each procedure how competent they felt they were at the time of graduation with respect to that technique.

A relative index of "conventional treatment" can be constructed by comparing each dentist's practice profile to the mean for his or her peers. For each of the 44 procedures, the proportion of respondents saying they routinely performed the technique was calculated. The profile of procedures for individual dentists was then weighted by this "routineness" value for each of the techniques the dentist performed

and an average taken for each dentist. A dentist with a high score on this measure self-reported frequently performing more typical procedures than the peer group does. This variable is thus called an index of "conventional" practice. Dentists with low scores more regularly performed procedures that are uncommon in the peer group.

Respondents also reported personal loan information. In particular, they were asked to give the amount of loans taken for educational purposes, the amount still owed on these loans, the estimated year in which payback would be completed, and the estimated proportion of gross practice income devoted to paying back these loans. The same four questions were asked regarding debt incurred to purchase and equip a dental practice and the amount of loans taken for personal reasons such as the purchase of a home or car.

Results

Table 1 lists the 44 procedures studied in this survey. Three values are given for each procedure: frequency, weighted frequency, and weighted competence. The frequency score is the proportion of dentists who report performing the procedure routinely or sometimes. The weighted frequency score is an average across dentists based on frequency, with higher scores given for routinely performed procedures. A score of 2.0 means that dentists report on average performing the procedure "sometimes." The weighted competency score is the averaged self-report of competency in the procedure at time of graduation. A score above 2.0 means the typical student felt he or she was competent or better.

Table 2 displays the self-reported debt load of respondents. The average of all borrowing for education, practice, and personal reasons is $364,000. Even though this sample is composed of graduates from a private dental school, the largest components of debt are for personal reasons (51 percent more than for education) and for starting a practice (44 percent more than for education). The payback period is shortest and the percent of practice income largest for paying back practice loans.

Table 2.

Self-Reported Debt From Borrowing for Educational, Practice, and Personal Reasons (Amounts Borrowed and Owed in $1,000)

	Borrowed	Owed	Est. Payback	% Gross
Dental education	92.2	58.7	10 years	.095
Dental practice	132.5	75.3	5 years	.132
Personal	139.3	112.1	14 years	.105
Total	**364.0**	**246.1**		

The results of tests for correlations among characteristics of dentists in their first 12 years of practice, their debt burdens, and the conservativeness of their practice profiles are shown in **Table 3**. Level of educational debt is significantly related to both length of time since graduation and practice type. More recent graduates have higher unpaid educational debt and dentists practicing as employees or as associates also have larger unpaid debt. There is a trend toward dentists who felt they were more competent at graduation to have higher educational debt and for dentists who have been in practice longer to have greater unpaid debt associated with purchasing a practice.

There are no significant correlations between unpaid educational, practice, or personal debt and conventional nature of practice profiles. The associations tend to be in the direction of larger debt being coupled with more conventional practice. Amount of debt for purchase and establishment of a practice is a better predictor of unconventional practice than is educational debt. The same conclusions are drawn if amount borrowed is substituted for amount owed and if the second, more liberal, measure of conventional practice is employed.

Discussion

The hypothesis that recent graduates who have larger debt will have practice profiles that are more unconventional than their colleagues who have less debt or than more senior dentists was not confirmed in this survey of graduates from the past 12 years at the UOP School of Dentistry. If anything, there is a trend for larger debt, especially larger educational debt, to be associated with more conventional practices and for more senior dentists to be less conventional. There is a statistically significant association between more unconventional practice and self-reports of confidence at gradation. It is reasonable that students who felt themselves to be better prepared have developed practices that offer broader ranges of procedures to their patients.

The often-noted connection between debt and year of graduation and practice type was also found in this research. The more years since graduation from dental school the less likely a dentist is to work as an employee and the more likely he or she is to own a practice. It was also found that larger educational debts (both amount borrowed and amount still unpaid) are associated with more recent graduates and with employees and dentists working as associates. Much has been made of both of these associations, some authors arguing that larger debts are forcing recent graduates away from practice ownership.3

It would appear that the data in this research support the hypothesis that

Table 3.

Correlation Coefficients for Characteristics of Dentists, Their Debt Level, and Conventional Nature of Their Practice Profiles

	Prac type	Competence	Educ debt	Prac debt	Pers debt	Conventional
Year	-.478***	.102	-.715***	-.189+	.052	-.146+
Prac type		.039	-.342***	.136	.150	-.095
Competence			.156+	.002	-.031	-.165+
Educ debt				.207*	.001	.087
Prac debt					-.013	-.067
Pers Debt						.182

Year = years since graduation, Prac type = practice type (where 1 is employee, 2 is associate, and 3 is owner), Competence = average self-rated competency at time of dental school graduation (where higher numbers indicate greater competency), Educ debt = unpaid educational debt at time survey was completed, Prac debt = unpaid practice debt, Pers debt = unpaid personal debt, Conventional = index of conventionality of practice profile.

+= p<.10; *=p<.05; **=p<.01; ***=p<.001

larger debt discourages or delays practice ownership. An alternative explanation can be found in the natural connection between practice type and years since graduation. Both of these are associated with debt -- greater educational debt correlating with more recent graduation and with practice type. How much does educational debt contribute to our understanding of practice type once we have accounted for the shared associations with years since graduation? This type of question is customarily addressed with stepwise multiple regressiong where the natural association between years in practice and practice type is forced into the equation first and the additional explanatory value of debt is assessed. When this is done, years since graduation explains a statistically significant 25 percent of the variance in practice type and educational debt adds nothing.

Conclusion

This survey of graduates from the previous 12 years at a private dental school was undertaken to determine whether there is an association between debt load and preferring more unconventional procedures in practice. No evidence could be found linking the amount of money borrowed for educational purposes with a propensity to perform procedures that others regard as unusual. Confidence in the null effect interpretation is increased in this study by the fact that the low reported correlations are both positive and negative (and thus unlikely to be affected by changes in statistical power), and the detection of statistically significant associations between riskiness of practice profile and other predictors.

This research was conducted at a dental school that currently has the fifth-highest annualized tuition in the United States. Even so, educational borrowing was only 75 percent of borrowing to establish a practice and 66 percent of personal borrowing. Over the past decade, default rate on educational loans by graduates of UOP have been one-quarter the national average among dental graduates. Historically, the increases in educational debt have nearly matched the increases in expected earnings from dental practice. There was no detectable association between the amount of educational borrowing or debt and willingness to engage in unusual dental procedures.

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George Franklin Grant, DMD: Renaissance Man

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ABSTRACT While George Franklin Grant may be known as the second African American dental graduate and the inventor of the golf tee, it is not generally known that he was one of the pioneers in cleft palate and speech therapy, a longtime faculty member of Harvard University's dental school, and the founder of the Harvard Odontological Society.

ACKNOWLEDGMENTS

Special thanks to the Countway Library of Medicine for the image of Dr. George F. Grant, and to Gil Taylor, Smithsonian Institution Libraries, for the Grant patent papers.

George Franklin Grant (Figure 1) was born in Oswego, N.Y., on Sept. 15, 1846. His parents in their early youth had been slaves. He was educated in the Oswego public schools, and at age 15 began studying dentistry in a preceptorship with Dr. Albert Smith in his Oswego office. In 1867, at age 21, he moved to Boston and the following year entered Harvard University Dental School. He graduated in 1870 with distinction and was the second African American to graduate from a recognized dental school in the United States. Robert T. Freeman had graduated from Harvard the year before him in 1869.[1]

In 1874, Grant was appointed to the Harvard faculty as a demonstrator in mechanical dentistry (operative and prosthetic dentistry), a position he held for 10 years. From 1884 to 1899, he specialized as an instructor in the treatment of cleft palate cases, inventing numerous devices for the correction and treatment of cleft palate. He was recognized as a pioneer and authority in cleft palate therapy.[1]

Cleft Palate Nonsurgical Treatment

By 1889, Grant had treated 115 cases of congenital cleft palate using artificial appliances to restore normal functions. His first patient was a 14-year-old girl in 1873; her surgeon recommended no surgical operation to repair the defect. She later became a teacher in the public schools. Grant thought that the importance of the constrictor pharyngeus muscle in the treatment of cleft cases was overestimated and that appliances could be made as early as the seventh year of age. He emphasized the importance of the early operation on the harelip, which generally accompanied the palatal defect, since a short and inflexible lip interfered with the articulation and obtaining a good impression.[2]

Prosthesis and Speech

On July 11, 1881, Grant presented a paper, "Dental Prosthesis -- Its Relation

Figure 1. Dr. George Franklin Grant (courtesy of Countway Library of Medicine).

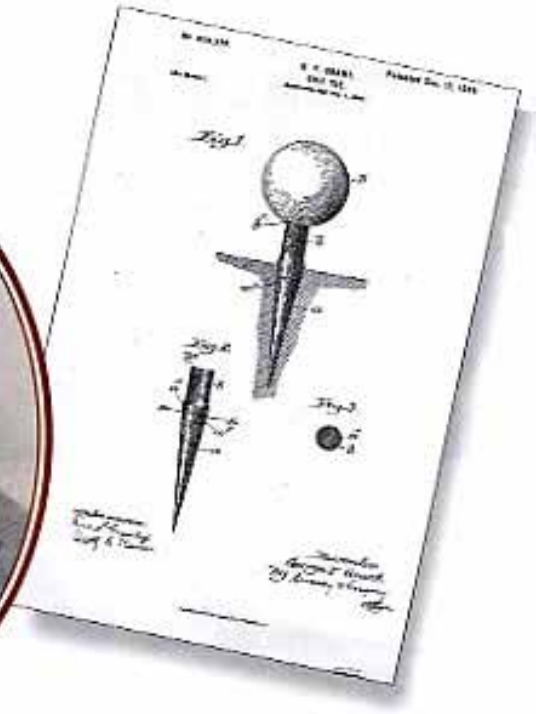

Figure 2. Grant's 1899 golf tee patent (courtesy of U.S. Patent Office).

to Articulate Speech," at the American Dental Association's 21st annual session held in New York City. He emphasized the importance of retaining the patient's speech identity or "tone-quality" in prosthetic replacements. The voice was an important factor in the establishment of identity. He felt that the teeth presented "one-fourth of the whole amount of vibrating surface involved in the function of articulation," and that their loss deprived the tongue of its support in articulation. He recommended a thin gold metallic base for partial dentures, which combined maximum strength with minimum of bulk.[3] Many years later, Grant delivered his message on the importance of prosthetic dentistry in the dental curriculum.[4]

Porcelain Contours

On Dec. 28, 1893, Grant read a paper on "Porcelain Contours" before the Harvard Odontological Society. He recommended pin-retained porcelain inlays for teeth so damaged that gold foils would be esthetically objectionable to the patient. He used "diamond-dust" cutting instruments. Grant believed that the profession needed "a new filling material" for these types of restorations.[5]

Hypnotism

Grant's broad interests also included hypnotism; and he made a presentation on the subject on Oct. 2, 1895, before the American Academy of Dental Science of which he was a member. He opened his talk by saying that he was primarily interested in eliciting discussion on the subject, rather than "imparting any instruction as to the direct means of inducing hypnosis for the purpose of lessening the pain or reducing the dread of dental operations."[6] He recommended first mastering the subject before using it and was "skeptical as to facts and cautious as to theories."[7] Earlier in 1890, Carter and Turner, English dentists, had demonstrated "hypnotic anesthesia for painless tooth extractions."[8]

Logan Crowns

Grant's last article, "A Review of Some Methods of Crowning Teeth," appeared in 1904. He condemned the Logan crown (all porcelain with dowel post) for causing fractured roots. He recommended platinized gold or platino-iridium alloy posts, which are malleable and ductile.[9]

Grant's Invention

Although Grant has been a neglected figure among 19th century dental pioneers, he was recognized in a recent publication on the history of African Americans and the game of golf. Grant, an avid golfer, invented the golf tee. Before Grant's invention, golfers teed up their golf balls on small mounds of damp sand. Tired of continuously having to pinch up the sand at every tee box, Grant fashioned a wooden peg to support the ball. He patented his golf tee on Dec. 12, 1899 (**Figure 2**). Grant never marketed his tees; he just gave them away to his friends. Finally, in 1991, the U.S. Golf Association gave Grant recognition for his contribution to the game of golf.[10]

Conclusion

Grant died of cancer of the liver on Aug. 21, 1910, at his summer home in Chester, New Hampshire.1 Grant truly was a "Renaissance man."

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Dumbing Down of America

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It took us a while to get here, but the dumbing down of America is almost complete. This statement comes as no surprise to those whose job it is to chronicle the gradual dissolution of the old American can-do spirit, the rugged risk-taking pioneer attitude that conquered the West, thus freeing the nation from ravaging hordes of bison and dispatching the last of 5 billion passenger pigeons.

Today's citizen wants above all to be safe. Safe from everything -- germs, terrorists, halitosis, any untoward results from such disparate events as blind dates, cosmetic surgery, and executive harassment. Risk-taking, except for the likes of Evel Knievel and maybe Geraldo Rivera, is pretty much reduced to an occasional jaywalking episode or bravely tearing off one of those "Do not remove" warnings on a new mattress. Even then, the realization of what could happen as a result of these transgressions weighs heavily on the mind. "In God we trust, but play it safe anyway!" that's our motto.

During the past generation or so, premonitions of disaster and dire predictions of impending tragedy were the sole responsibility of our mothers, which is why today you never run with a sharp stick and always look both ways before crossing the street in clean underwear. Mothers were very clear on this. But as society became more complex and the development of common sense was stifled by the sports and entertainment industries, opportunities for personal harm became too prevalent. Mothers couldn't handle the volume of warnings necessary, so the federal government and industry have taken over, giving mothers a much-needed respite.

Industry, prodded by an anxious government, has been quick to assume the role of Mother Protector. We recently bought a new iron. Black & Decker, the manufacturer, was fortunately right there with appropriate warnings in three languages directing us to "Use iron only for its intended use." Thank heaven we didn't use it as part of a juggling act or to brand the dog. B&D also cautioned us against electric shock occasioned by "immersing the iron in water or other liquid." What other liquid? That effectively canceled our plan to defrost Jello with it. Finally, the warnings conclude with the startling revelation that "Burns can occur from touching hot metal parts. Always direct the steam vents away from your body." We didn't know that. There goes one of the main features of a steam iron -- touching up wrinkles without disrobing!

The makers of Preparation H Suppositories have considerately printed this warning on the box: FOR RECTAL USE

ONLY. Apparently this has been a big problem for manufacturer Wyeth Consumer Healthcare. Many irate customers have written in, one assumes, complaining that they had chewed up a whole box of these things with no decrease in the original problem even though they could whistle better.

The makers of curling irons and hair dryers, correctly assessing the astuteness of some of their customers and wishing to forestall inevitable litigation, warn against using their products in the shower or while taking a bath. Well, for heaven's sake! I have always dried my hair while taking a shower. This changes everything!

When was the last time you incinerated a can? According to every aerosol can on the market, puncturing and incinerating cans is still foremost on the manufacturers' minds. This is probably because of little tyke arsonists who can't read the accompanying warning to KEEP OUT OF REACH OF CHILDREN. Mothers who haven't defined "incinerate" for their kids will be violating Federal laws. It goes on.

Warning: High step, low step, no step. Caution: Do not plunge lighted sparkler in your eye. Careful! Objects are much closer than they appear. Walk, don't walk. Do not pass until safe to do so. Excessive exposure to the sun can be painful. Note: Use of this product may cause constipation, diarrhea, temporary blindness, loss of hair, stomach cramps and excessive earwax. Consult physician or faith healer if you experience peripheral numbness affecting the operation of bulldozers and other heavy equipment.

What's happening to us? When did the image of Duke Wayne give way to that of Pee Wee Herman? When did fear become the controlling factor in our lives? How could a person successfully sue a fast food outlet for not telling her that the coffee she ordered and later spilled in her lap was hot? When will common sense and personal responsibility make a comeback? Probably not until all the lawyers are deceased.

Mommy!