

Critical Issues in Dental Hygiene

Advancing Our Profession: Are Higher Educational Standards the Answer?

Erin S. Boyleston, RDH, MS; Marie A. Collins, RDH, EdD

Introduction

A profession is defined as an entity that continuously enlarges its body of knowledge, functions autonomously in formulation of policy and maintains high standards of achievement and conduct.¹ Educational models in health care have changed drastically as professions mature. As our knowledge base expands, our expectations for highly educated health care professionals continue to increase as well. Standards for entry into practice need to reflect the depth and rigor of programs. The purpose of this manuscript is to investigate how the professions of physical therapy, occupational therapy, physician assistant, nursing and respiratory therapy have advanced their educational models for entry into practice and to recommend how dental hygiene can integrate similar models to advance the profession.

In June 2002, the Institute of Medicine (IOM) organized a multidisciplinary summit (the Committee on Health Professions Education) to address concerns that health professionals were not adequately prepared to meet the needs of the patient and the requirements of the changing health care system.² Participants included representatives from allied health, nursing, medical and pharmacological educators and students, health professional and industry association representatives, regulators and representatives of certifying organizations, providers, consumers and influential policy makers. The committee was tasked with developing strategies for restructuring clinical education across the full continuum of education. The resulting report, *Health Professions Education: A Bridge to Quality*² is applicable to all clinicians, regardless of discipline. The vi-

Abstract

Purpose: Educational models in health care professions have changed drastically since on-the-job training models. The purpose of this manuscript was to investigate how the professions of physical therapy, occupational therapy, physician assistant, nursing and respiratory therapy have advanced their educational models for entry into practice and to recommend how dental hygiene can integrate similar models to advance the profession. The recommendations are to create an accreditation council for dental hygiene education and to mandate articulation agreements for baccalaureate degree completion in developing and existing programs. Dental hygiene must continue on the path to advance our profession and glean lessons from other health professions.

Keywords: Allied Health Occupations, dental hygiene, education, baccalaureate

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sion that emerged from the summit was stated as "All health professionals should be educated to deliver patient-centered care as members of an interdisciplinary team, emphasizing evidence-based practice, quality improvement approaches and informatics."

Core competencies were identified by the IOM that validate the rationale for advancing the education of entry-level clinicians beyond technical training. This concept has been implemented by professions such as physical therapy, occupational therapy, physician assistant, nursing and respiratory therapy as they advanced their educational models. The following describes the professions and how they have reformed their entry to practice models.

Physical Therapy

The American Physical Therapy Association (APTA) defines physical therapists as highly-edu-

cated, licensed health care professionals who treat individuals with health-related conditions, illnesses or injuries that limit their abilities to move and perform functional activities in their daily lives. Additionally, they teach patients how to prevent the loss of mobility or manage their condition by developing programs for healthier and more active lifestyles.³

The profession of physical therapy developed during the latter part of the 19th century due to the crippling effects of the polio epidemic (1894 to 1916) and the vast number of wounded soldiers returning from World War I (1914 to 1919). The majority of these early education programs awarded certificates, were only 3 to 6 months in length and required students to have either a prior degree in physical education or high academic standing. Graduates who provided service in the military were called "Reconstruction Aides" and those in civilian roles were called "Physiotherapy Technicians" or "Physical Therapy Aides."⁴⁻⁶

As the demand for physical therapists grew, the delivery of their services also expanded beyond the traditional hospital setting to private homes, schools and nursing homes. Many argued that the technical training alone was no longer sufficient to prepare graduates for the complex medical needs of the population. The first standards of the profession were established in 1928 by the American Physiotherapy Association, a precursor to the APTA. Accreditation was later transferred to the American Medical Association (AMA) due to APTA's limited resources and inability to enforce educational standards. As a benchmark for developing programs, the AMA established accreditation guidelines in the 1936 publication, *The Essentials for an Acceptable School for Physical Therapy Technicians*. Entry into the 12 to 24 month physical therapy programs required a minimum of 60 college credits or a 2 year degree in nursing or physical education. Throughout the 1950s, there was a proliferation in the number of baccalaureate programs and a reduction in certificate programs. By 1960, the minimum educational qualification was elevated to the baccalaureate degree level. A resolution proposed in 1979 required a post-baccalaureate entry-level degree but was met with resistance and later abandoned in 1988. The Commission on Accreditation in Physical Therapy Education (CAPTE) assumed sole responsibility for accreditation of physical therapy education programs in 1983 and continues in this role today. CAPTE is comprised of a 29 member commission with representation from physical therapy educators who are basic scientists, curriculum specialists and academic administrators, physical thera-

py clinicians and clinical educators, administrators from institutions of higher education and public representatives.⁷

Since 2002, the entry into practice degree in physical therapy has been the master's degree. As of 2010, there are 213 accredited entry-level programs in the U.S., of which 7 grant a master's degree and 206 grant a doctorate degree.⁸ Regardless of academic degree, to obtain a license to practice, students must graduate from an accredited program, successfully pass the National Physical Therapy Examination (NPTE) and fulfill any additional state or territory-specific requirements.

Vision 2020 is the APTA's plan for the future of physical therapy, which states: "By 2020, physical therapy will be provided by physical therapists who are doctors of physical therapy, recognized by consumers and other health care professionals as the practitioners of choice to whom consumers have direct access for the diagnosis of, interventions for, and prevention of impairments, activity limitations, participation restrictions and environmental barriers related to movement, function and health."⁹ The 6 specific elements of the Vision include autonomous practice, direct access, doctor of physical therapy, evidence-based practice, practitioner of choice and professionalism.⁹ This is consistent with CAPTE's adoption of advancing the entry-level degree to the doctoral level by December 31, 2015.⁷ An Education Strategic Plan (2006 to 2020) to accomplish Vision 2020 has been outlined by APTA in 18 goal statements.¹⁰

Occupational Therapy

The American Occupational Therapy Association, Inc. (AOTA) defines occupational therapists as health care professionals who assist individuals or groups with everyday life activities (occupations) for the purpose of participation in roles and situations in home, school, workplace, community and other settings. Occupational therapy services are provided for the purpose of promoting health and wellness and to those who have or are at risk for developing an illness, injury, disease, disorder, condition, impairment, disability, activity limitation or participation restriction. Occupational therapy addresses the physical, cognitive, psychosocial, sensory and other aspects of performance in a variety of contexts to support engagement in everyday life activities that affect health, well-being and quality of life.¹¹

Similar to the physical therapists of the time, occupational therapists also filled the role of Re-

construction Aides assisting injured soldiers after World War I.^{11,12} In 1917, occupational therapy established its first professional association, the National Society for the Promotion of Occupational Therapy (NSPOT), which later changed its name in 1921 to the American Occupational Therapy Association. AOTA's leadership helped create professional-level courses of study in colleges and universities throughout the U.S. to assure a high quality of practitioner in the field. By 1931, the first official educational standards for occupational therapists were published. In 1933, a collaborative effort between AOTA and the AMA resulted in the development and improvement of education programs for occupational therapy. The Essentials of an Acceptable School of Occupational Therapy was the guideline established in 1935, representing the first cooperative accreditation activity by the AMA. Occupational therapy programs are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the AOTA.¹³

Whether the baccalaureate degree was adequate for entry to practice in occupational therapy has been questioned by many in the profession since the late 1950s. In 1999, ACOTE mandated that all professional entry-level occupational therapy programs must be offered at the post-baccalaureate level by January 1, 2007 to receive or maintain accreditation status.^{11,13} Additionally, in August of 2004, ACOTE transitioned from using 1 set of standards for all OT programs to creating separate standards for each entry-level degree, master's and doctorate. Additionally, new separate accreditation standards were formally adopted in 2006: one for the master's programs and one for doctoral programs. These new standards became effective January 2008.¹³

Since 2007, there are 2 degree levels for entry into practice in occupational therapy: master's and doctorate. As of 2010, there are 146 accredited entry-level programs in the U.S., of which 142 grant a master's degree and 4 grant a doctorate degree.¹⁴ Regardless of degree, to obtain the status of Occupational Therapist, Registered (OTR), students must graduate from an accredited program, successfully pass the National Board for Certification in Occupational Therapy (NBCOT) and fulfill any additional state or territory-specific requirements.¹¹

AOTA established occupational therapy's Centennial Vision in 2003, which states: "We envision that occupational therapy is a powerful, widely recognized, science-driven, and evidence-based profession with a globally connected and diverse workforce meeting society's occupational

needs."¹⁵ After identifying relevant elements and barriers, 4 strategic initiatives materialized in the Centennial Vision for occupational therapy. These include building the capacity to fulfill the profession's potential and mission, demonstrating and articulating value to individuals, organizations and communities, building an inclusive community of members, linking education research and practice.^{15,16}

Physician Assistant

The American Academy of Physician Assistants (AAPA) defines physician assistants as health professionals licensed to practice medicine with physician supervision. Physician assistants exercise autonomy in medical decision making and provide a broad range of diagnostic and therapeutic services.¹⁷

Dr. Eugene Stead of the Duke University Medical Center in North Carolina assembled the first class of physician assistants in 1955. It was comprised of Navy corpsmen who received considerable medical training during their military service. The curriculum was based in part on his knowledge of the fast-track training of doctors during World War II.¹⁸ The number of physician assistant programs grew rapidly in the 1970s and were located in a variety of institutions, including medical schools, community colleges, teaching hospitals and vocational schools. Consequently, a wide range of credentials were awarded including certificates, associate degrees and a few baccalaureate degrees.^{18,19}

The first accreditation standards for physician assistant programs, The Essentials of an Accredited Educational Program for the Assistant to the Primary Care Physician, were developed in 1971 by the AMA Subcommittee of the Council on Medical Education's Advisory Committee on Education for Allied Health Professions and Services. The subcommittee included representatives from the American Academy of Family Physicians (AAFP), American Academy of Pediatrics (AAP), American College of Physicians (ACP), American Society of Internal Medicine (ASIM), AMA and Association of American Medical Colleges (AAMC). The Essentials were approved by those organizations except for the AAMC, which declined to approve or endorse. In 1988, the Joint Review Committee for Educational Programs for the Assistant to Primary Care Physician was renamed the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). The ARC-PA began operation as a free-standing accrediting agency in 2001.²⁰

The movement towards an entry-level master's degree started in the late 1980s, as several key institutions restructured their curricula to award a master's degree. Factors that influenced this transition included a well-educated applicant pool, rigor of the curriculum and advancements in other health professions toward a masters-level degree.¹⁹

All new physician assistant programs established after September 2006 must award a baccalaureate degree or higher. As of March 2011, there are 156 accredited entry-level physician assistant programs in the U.S., of which 4 grant certificates, 4 grant associate degrees, 19 grant baccalaureate degrees and 129 grant master's degrees.²⁰ All of the certificate and associate programs for physician assistant education have articulation agreements with other institutions for obtaining a baccalaureate and/or master's degree, and some require dual application for concurrent enrollment. Regardless of academic degree, to obtain a license to practice, students must graduate from an accredited physician assistant program, successfully complete of the NCCPA's Physician Assistant National Certifying Exam and fulfill any additional state or territory-specific requirements.

The physician assistant profession is currently advancing its entry to practice to the graduate level. The ARC-PA has raised the accreditation standard for programs by requiring all programs accredited prior to 2013 that do not currently offer a graduate degree to transition to conferring a graduate degree, which should be awarded by the sponsoring institution upon all physician assistant students who matriculate into the program after 2020.²¹ Institutions planning to develop a program and apply for provisional accreditation that do not meet these eligibility requirements will not be considered by the ARC-PA.

The organization states in their accreditation standards, ARC-PA Standards, fourth edition, "The [physician assistant] profession has evolved over time to one requiring a high level of academic rigor. Institutions that sponsor [physician assistant] programs are expected to incorporate this higher level of academic rigor into their programs and award an appropriate master's degree."²¹ Requiring an entry-level doctoral degree for physician assistants has been discussed but there are no official goals or professional position statements to date.^{18,22}

Nursing

The American Nurses Association (ANA) defines

nursing as the protection, promotion and optimization of health and abilities, prevention of illness and injury, alleviation of suffering through the diagnosis and treatment of human response and advocacy in the care of individuals, families, communities and populations.²³

The education of nurses began as hospital-based training programs during the late 1800s. In an attempt to raise nursing school standards in 1917, the National League of Nursing Education published A Standard Curriculum for Schools of Nursing. Up until the 1950s, there were 2 routes to the registered nurse credential: a diploma from a hospital-based program or a baccalaureate from an institute of higher education. The creation of the associate degree registered nurse during the 1950s stemmed from the nursing shortage, growth of community and junior colleges and consumer and government interest.^{24,25} The U.S. Surgeon General's Consultant Group on Nursing enacted the Comprehensive Nurse Training Act of 1964 which enhanced the quality of nursing education by consolidating the number of education and training programs and supplying funds for student loans, education grants and traineeships.²⁶ As a result, the Board of Directors of the ANA adopted a position paper with the recommendations that the minimum preparation for beginning professional nursing practice should be at the baccalaureate level, that there be a requirement making the baccalaureate degree the minimum standard for a registered nurse license, that a new license and title be created for associate degree nurses designating these practitioners as Registered Associate Nurses and that 2 types of technical nursing education programs: hospital-based diploma programs and practical nursing programs, be eliminated.²⁷

Today, programs are accredited by the National League for Nursing Accrediting Commission, Inc. and vary in length from 2 to 4 years depending on program type. Additionally, the American Association of Colleges of Nursing developed the Commission on Collegiate Nursing Education in 1996, an accrediting body specifically for baccalaureate and graduate degree nursing programs.

Despite the entry-to-practice dilemma that has existed in the nursing profession for more than 40 years, there are still 3 entry points to the professional nursing credential: diploma, associate and baccalaureate. There are 935 accredited programs for entry-level nursing in the U.S., of which 59 grant diplomas, 617 grant associate degrees and 259 baccalaureate degrees.²⁸ Regardless of academic degree, a graduate must pass a state

licensure examination called the National Council Licensure Examination for Registered Nurses to obtain the registered nurse credential.

Although the nursing profession has not reached a common ground for the entry-level degree, it is responding to the changing needs of higher education by utilizing distance education programs, developing accelerated baccalaureate tracks for students who hold non-nursing degrees and implementing new graduate programs, such as the clinical nurse leader, to attract other health care professionals to the nursing profession. In May 2010, the Tri-Council for Nursing, which includes 4 independent organizations: the American Association of Colleges of Nursing, ANA, American Organization of Nurse Executives and National League for Nursing, issued a consensus statement calling for all registered nurses to advance their education in the interest of enhancing quality and safety across health care settings. The statement advocates for changes in nursing practice and education, challenges nurses to advance their education to the baccalaureate level and beyond and calls for state and federal funding for initiatives that facilitate nurses seeking academic progression.²⁹

Respiratory Therapy

The American Association of Respiratory Care (AARC) defines respiratory therapists as health care professionals who specialize in the promotion of optimum cardiopulmonary function and health. Respiratory therapists employ scientific principles to identify, treat and prevent acute or chronic dysfunction of the cardiopulmonary system. Knowledge and understanding of the scientific principles underlying cardiopulmonary physiology and pathophysiology, as well as biomedical engineering and technology, enable respiratory therapists to provide patient care services effectively.³⁰

On-the-job training and apprenticeships programs for inhalation therapists or oxygen technicians started in hospital-based programs. Formal education for the respiratory care profession began in the late 1940s, with national standards for schools in place by 1950. Educational programs in community colleges and technical schools flourished in the 1960s. Minimum program length was set at 18 months in 1962.^{31,32}

In the 1980s, there was a high demand for respiratory therapists. This resulted in programs artificially shortening their curriculum to meet the demands of society. Many feel that the demands were met at the expense of the advancement of the profession. As respiratory care evolved from

task-based, technical functions to providing more complex services, curriculum length increased as the knowledge base expanded. Programs began shifting to colleges and universities that could award academic credit and degrees. During the 1990s, the American Association for Respiratory Care supported research on the future scope of practice and education of respiratory therapists. These efforts contributed to the growing recognition of the need for an associate degree minimum academic preparation for entry-level therapists.

There are 2 pathways for entry into practice for respiratory therapy, the associate degree and the baccalaureate degree. As of 2010, there are 409 accredited entry-level respiratory therapy programs in the U.S., of which 53 programs award a baccalaureate degree and the other 356 award an associate degree.³³ The minimum length of the program must be 2 academic years of full-time instruction or its equivalent. Regardless of academic degree, the entry-level credential, Certified Respiratory Therapist (CRT), can be attained upon successful completion of a national examination. The Registered Respiratory Therapist (RRT) credential may be obtained by successful completion of 2 additional examinations. Both the CRT and the RRT are credentialed by the National Board for Respiratory Care.³⁴ On January 10, 2003, AARC issued a Landmark Statement on education and credentialing which stated: "There is a need to increase the number of respiratory therapists with advanced levels of training and education to meet the demands of providing services requiring complex cognitive abilities and patient management skills. Therefore the AARC strongly encourages the continuing development of baccalaureate and graduate education in respiratory care, to include: traditional BS degree programs, associate degree to baccalaureate degree articulation and bridge agreements, distance education for BS degree programs offered at the community college level, promotion of master of science in Respiratory Care degree programs for the development of leadership in the areas of management, education, research, and clinical specialization."³¹

Effective July 1, 2010, the Commission on Accreditation for Respiratory Care (CoARC) mandated that programs be at least 2 years in length and award a minimum of an associate degree. Students enrolled in a 100-level program must graduate by December 31, 2012, to be recognized as graduates of a CoARC-accredited program.³⁵

The 2009 Coalition for Baccalaureate and Graduate Respiratory Therapy Education survey provided the profession an updated roster of programs

which award baccalaureate and master's degrees in respiratory care. This survey also revealed considerable interest in developing future programs – 22 programs intend to initiate a program at this level. AARC developed a task force to direct the future of the respiratory therapist profession into 2015 and beyond. One of the 10 recommendations was to request that CoARC change Standard 1.01 to require a baccalaureate or graduate degree for entry into the profession.³⁶ A statement on the CoARC website expresses the commission's current position: "CoARC will continue accrediting and serving associate degree programs. While the CoARC supports the development of academic advancement pathways for the associate degree graduate in gaining baccalaureate and graduate degrees, the members of the Commission continue to strongly support the associate degree as the minimum degree required for entry to the profession."³⁷

Dental Hygiene

The American Dental Hygienists' Association (ADHA) defines dental hygienists as licensed health care professionals, who support the health and well being of the American public through oral health promotion, education, prevention and therapeutic services.³⁸

The appearance of dental hygiene in the dental profession gained momentum in the late 1800s. Dentists began seeing the benefits of preventive care and implemented it in their own offices. Some dentists trained their own dental nurses without the benefit of formal coursework. However, Dr. Alfred C. Fones outlined a course of study for his dental assistant, Irene Newman, to train her in this new specialty. Within 3 years, he had trained and graduated 97 students. In 1915, the scope of practice of the dental hygienist was legally defined for the first time when Connecticut enacted an amendment to their dental practice law to regulate the practice of dental hygienists. The first dental hygiene training programs were 9 months to 1 year in length. The professional association, ADHA, was formed in 1923 and association leaders quickly noticed the need for standardization within the profession.³⁹

The first dental hygiene accreditation standards were mutually developed in 1947 by 3 groups: the ADHA, the National Association of Dental Examiners and the American Dental Association's Council on Dental Education, which became the current Commission on Dental Accreditation (CODA) in 1975. CODA is the sole accrediting agency for dental education programs. Of the 30 CODA rep-

resentatives, 1 member is from the ADHA.⁴⁰

According to CODA Standards for Dental Hygiene Programs, the curriculum must include at least 2 academic years of full-time instruction or its equivalent at the post-secondary college level. The scope and depth of the curriculum must reflect the objectives and philosophy of higher education. In a 2 year college setting, the graduates of the program must be awarded an associate degree. In a 4 year college or university, the graduates of the program must be awarded an associate degree, certificate or a baccalaureate degree.⁴¹

Entry to most dental hygiene programs requires approximately 3 semesters of prerequisite course work prior to the mandatory 2 year dental hygiene curriculum. In a recent ADHA survey, 79.9% of first year students had already completed at least 2 years of college.⁴² Diploma, associate and baccalaureate are the 3 entry-level degrees awarded in dental hygiene. According to the 2009–2010 Survey of Allied Dental Education, there were a total of 309 accredited entry-level programs in the U.S., of which 8 awarded certificates, 253 awarded associate degrees and 38 awarded baccalaureate degrees.⁴² As of August 7, 2011, the number of accredited programs has increased to 325.⁴³ Regardless of academic degree, to practice in the U.S., a candidate must graduate from an accredited dental hygiene program and successfully complete both a written National Board Dental Hygiene Examination and a clinical state or regional examination for individual state licensure.⁴⁴

The results of a 1931 ADHA survey showed that dental hygienists thought that program length should be increased to 2 years and culminate in a baccalaureate degree.³⁹ In June of 2005, the ADHA published the report *Dental Hygiene: Focus on Advancing the Profession*, which outlines a path for the future of dental hygiene. The report recommended that the entry point to dental hygiene move from the associate's degree to the baccalaureate within 5 years.³⁸ Many barriers to enrolling in advanced dental hygiene education programs, beyond the associate's degree, have been cited in the literature.^{45,46} Some of the barriers noted are the belief that the associate's degree is sufficient for clinical practice, lack of degree value/benefit, time and funding.^{38,45–47} Apprehension about completing a thesis is cited as a barrier to pursuing graduate dental hygiene education.⁴⁶ Although the formal educational requirement of a 2 year academic program has remained unchanged, there have been some advancements in the practice and regulation of the profession.^{38,39}

Dental hygiene licensure is regulated by individual state boards, yet licensing exams have evolved from independent state exams to 5 regional testing agencies, with the exception of Delaware which does not accept a regional exam.⁴⁸ Supervision of dental hygienists vary by state.⁴⁹ Direct supervision requires that a dentist must be present in the facility when a dental hygienist performs procedures. General supervision requires that a dentist has authorized a dental hygienist to perform procedures but need not be present during the performance of those procedures. Direct access does not require specific authorization from a dentist and a dental hygienist can provide services as determined appropriate. General supervision is allowed in 47 states and direct access is allowed in 32 states.⁵⁰

Dental hygienists were first allowed to administer local anesthesia in the state of Washington in 1971, and now 44 states allow this expanded function.⁵¹ Administration of nitrous oxide sedation is allowed in 29 states.⁵² Restorative duties allowed by dental hygienists vary by state, yet are mostly prohibited.⁵³ According to a June 2010 ADHA report, there are 15 states that contain statutory or regulatory language allowing the state Medicaid department to directly reimburse dental hygienists for services rendered.⁵⁴ In all remaining states, dental hygienists cannot be directly reimbursed for their services.

Dental hygiene does not meet the strict interpretation of a profession since it lacks autonomy and self-regulation.¹ There are 17 states that have dental hygiene committees with some authority regarding practice, but none have final regulatory powers.⁵⁵ The profession is regulated by a State Board of Dentistry or Department of Health and may contain 1 or more dental hygiene members.⁵⁵ Pending state and federal legislation impacting dental hygiene in the areas of self-regulation, direct access and workforce is tracked on the ADHA's website.⁵⁶

The ADHA Strategic Plan Year 2010 to 2012 outlines advocacy goals for the profession, which includes objectives to increase the autonomy of dental hygiene and to increase the public's direct access to dental hygienists. Strategies for increasing autonomy include exploring the development of a dental hygiene accrediting agency and supporting the advanced dental hygiene practitioner (ADHP) workforce model.⁴⁷ The action plan for developing an accrediting agency includes securing funding for an accreditation consultant to conduct a comprehensive feasibility study. A recent study on the status of the ADHP reported several states

are planning ADHP graduate programs while dental therapists and advanced dental therapists entered the Minnesota workforce in 2011.^{57,58}

In February 2010, CODA received requests to accredit the educational programs in dental therapy and advanced dental therapy from the Minnesota Board of Dentistry, the Minnesota Dental Association, the University of Minnesota and Metropolitan State University. In August 2010, CODA determined that it would not proceed with the development of a process to accredit dental therapist education programs.⁵⁹ Finally, in August 2011, CODA voted to develop accreditation standards for these advanced programs. The American Dental Association immediately responded in opposition, stating that they are "on record as firmly opposing anyone other than a dentist diagnosing oral disease or performing surgical/irreversible procedures."⁶⁰

Discussion

Based on what has been learned from other health care professions, the authors make the following recommendations for dental hygiene:

1. Create an Accreditation Council for Dental Hygiene Education, under the auspices of the ADHA to provide self regulation of the profession: This was a critical step for the advancement of all other professions discussed in this manuscript and is also a component of the ADHA Strategic Plan 2010 to 2012.⁴⁷
2. Mandate articulation agreements for all existing certificate/associate degree programs to provide baccalaureate degree completion. An entry-level bachelor's degree will move dental hygiene closer to the norm of other health professions. Similar to respiratory therapy in the 1980s, dental hygiene has experienced curriculum creep, squeezing too much information into dental hygiene curricula at the expense of the advancement of the profession.³¹ Accordingly, the rigor of the dental hygiene curriculum should be made equivalent to the degree granted. This has been done in other health professions but not in dental hygiene. Physical therapy and occupation therapy advanced their entry to practice to a graduate level in 2002 and 2007, respectively.
3. Mandate articulation agreement requirements for the initial accreditation of all developing programs: Professions that have moved from a 2 year to 4 year program experienced a natural growth in bachelor programs, while certificate and associate programs reduced. Physician assistant programs established after 2006 must

offer a baccalaureate degree. The few that still award certificate or associate degrees are mandated to offer concurrent enrollment with institutions granting higher degrees.

Conclusion

All of the professions reviewed in this manuscript evolved as a means to increase the population's access to care and entry level education advanced due to the academic rigor needed to provide safe care to patients, such as the medically compromised. Fundamental change cannot happen instantaneously. It may take years or even decades. Yet, the similarity among these professions is that they all have mapped out their vision to educate their graduates and practicing clinicians. In 1931, dental hygien-

ists wanted to raise the standards of the profession. Eighty years later, are we any closer to that vision? Dental hygiene must continue on the path to advance our profession and glean lessons from other health professions.

Erin S. Boyleston, RDH, MS, is an instructor at the Department of Dental Hygiene, College of Allied Health Sciences, Georgia Health Sciences University. Marie A. Collins, RDH, EdD, is an adjunct professor at the Department of Dental Hygiene, College of Allied Health Sciences and College of Dental Medicine, Georgia Health Sciences University, Augusta, Georgia and dean of the School of Health Sciences at Edison State College, Fort Myers/Naples, Florida.

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