

CRITICAL ISSUES IN DENTAL HYGIENE

Parallels between the Development of the Nurse Practitioner and the Advancement of the Dental Hygienist

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Abstract

Purpose: Dental hygienists have often been described as the registered nurses of the dental field. Similar parallels also exist between the development of the nurse practitioner from the nursing profession and the evolution of the dental hygiene practice and profession. This article explores 3 major similarities between the professions of nurse practitioner and dental hygienist. Public health issues, educational constructs, and the social and political environments shaping each profession are discussed to inform dental hygienists of their potential career options for future expanded therapeutic care roles.

Keywords: dental hygiene, nurse practitioners, mid-level provider, public health

This study supports the NDHRA priority area, **Professional Education and Development:** Investigate how other health professions have established the masters and doctoral levels of education as their entry level into practice.

INTRODUCTION

Dental hygienists have often been described as the registered nurses (RN) of the dental field. Today there are many more advanced nursing roles beyond that of the RN. For example, nurses have expanded their education and career options through the introduction of the nurse practitioner.¹ The political, social and educational environments that existed when nurse practitioners were first introduced to the U.S. health care system have striking similarities to the environment that dental hygienists find themselves in today as they work toward advancing their profession. Although there is constant change in health care, the public health issues driving changes have remained the same over the last 50 years and across all health professions (e.g., access to care, lack of affordable care, provider shortages).² Political, educational and social issues were key in the development of the nurse practitioner and will continue to be paramount in the advancement of the dental hygienist.¹ Understanding how the nursing profession addressed public health issues, expanded their education, and confronted political and social challenges through the introduction of the nurse practitioner will help dental hygienists gain perspective about their role in health care.¹⁻³ Recognizing the pathways of progress and the historical background of the nurse practitioner may allow dental hygienists to better direct their own expanded roles in therapeutic health care. This critical issues paper evaluates similarities between the professions as related to historic and current public

health issues, the educational constructs for both health care providers, and the social and political environment that continues shaping both professions.¹⁻³⁷ Growth potential for the dental hygiene profession can be further examined.

Public Health Issues

Nurse practitioners were introduced into the U.S. health system in the 1960s in response to the public's concern over physician shortages as well as the demand for affordable primary health care services to underserved populations and groups.¹⁻⁴ At the time, the number of primary care providers was insufficient to support the demand and need for medical care. Physician specialization contributed to a decrease in the number of primary care providers.² Vulnerable populations, including rural and poor urban populations, women, children, and the elderly had the greatest difficulty accessing medical care.² A real public health need for a new workforce model emerged as a result of access issues. The evolution of the independent nurse practitioner from existing nursing educational models was the result.¹

Just as in the 1960s when medical care concerns focused on physician shortage and rising costs, dentistry faces similar issues. According to the U.S. Department of Health and Human Services, the number of traditional dental health professional shortage areas has tripled in the last 25 years.⁵

Currently, about 5,000 areas in the U.S. are designated as dental health professional shortage areas (a ratio of 5,000 or more people to 1 dentist in the area). Reportedly, it would require roughly 7,300 more dentists to eliminate the designation of these shortage areas.⁶ Approximately 5,200 students graduated from dental schools across the U.S. in 2013, but 3,500 dentists retired last year and that number is expected to rise with the aging workforce population.^{7,8} The Health Resources and Services Administration (HRSA) released a report in February of 2015 concluding that all 50 states in the U.S. will experience a shortage of dentists by 2025.⁹ The shortage of primary dental care providers is clearly evident in epidemiologic data.⁵⁻⁹

Dental health shortage areas typically are populated by some of the most vulnerable populations.⁶ Disproportionately distributed dentists, coupled with the low numbers of dentists who participate in Medicaid, equates to millions of low-income children with inadequate dental care.¹⁰ The PEW Charitable Trusts reported that in 2011, less than half of the Medicaid-enrolled children received dental care in 22 states.¹⁰ These facts are significant since lower income children are twice as likely to develop cavities as their affluent counterparts.¹⁰ Low provider numbers and unmet needs of the underserved are 2 substantial parallels between the development of nurse practitioners and the future expansion of the dental hygienist's roles.^{1-6,9} Low numbers of direct access dental care providers and underserved populations are now also prompting discussions about expanding roles for dental hygienists, educating more mid-level providers and making legislative changes to treat underserved populations.⁹

Rising dental costs also parallel the rising health care costs that occurred during the introduction of the nurse practitioner.¹¹⁻¹³ During World War II, health care expenditures accounted for 0.38% of the nation's Gross Domestic Product (GDP).¹¹ By 1961, it had risen to 1%, and resulted in concern over the lack of affordable care for the elderly, children and women.¹¹ This encouraged the development of a different workforce model in primary care, the nurse practitioner.¹¹ Economic costs are significantly higher today. In 2012, health care expenditures accounted for 17.2% of the GDP, meaning that, on average \$8,915 is spent per person for health care.¹² Cost of dental services reached \$110.9 billion in 2012 and continues to increase.¹³ Ultimately much like the introduction of the nurse practitioner, the introduction of new dental hygiene-based workforce models across the nation are being driven by similar public health issues (e.g., insufficient dental care providers, lack of dental care for vulnerable populations and rising dental care costs).^{9,10,13}

Constructs of Education

Registered nurses must obtain a master's or doctoral degree and then seek additional licensure in order to become a nurse practitioner.¹⁴ Today, there are over 350 academic nurse practitioner programs in the U.S.¹⁵ These programs started when nursing pioneers Loretta Ford and Henry Silver responded to demands for more health care access.² Ford and Silver recognized the need for nurses to have additional education and training to allow for more patient responsibility in expanded roles of care.² The new program would prepare nurses to assume more responsibility in treating underserved populations.^{2,3} To fulfill such roles, these pioneers understood that education of the nurse practitioner needed to go beyond a bachelor's degree.¹⁶

State licensing boards for nurses recognize both the associate and baccalaureate entry points.¹ The same is true of dental hygiene, thus adding to educational inconsistency among practicing professionals. Such inconsistency can adversely influence graduate education for advanced-practice dental hygienists because there can be "no expectations for a student's consistent knowledge and skill level on admission or after program completion."¹ The American Dental Education Association (ADEA) recognized the implications of varying entry-level programs in dental hygiene back in 2011. A brief entitled *Bracing for The Future: Opening Up Pathways to the Bachelor's Degree for Dental Hygienists* stressed the value of a bachelor's degree so that dental hygienists could enter master's-level programs to ensure safe provision of services in expanded roles.¹⁷

Economically, it is most feasible to train mid-level or advanced providers by supplementing the education of licensed dental hygienists just as nurses did with the nurse practitioner model. Advanced dental hygiene roles would require more education, and consequently the American Dental Hygiene Association (ADHA) and dental hygiene educators are establishing accreditation standards for advanced practice dental hygiene educational programs and new workforce models. The Commission on Dental Accreditation (CODA) assigned a task force to recommend standards for educating dental therapists, that is, mid-level providers. Initially, however, it did not seem that the standards recommended by the task force in December of 2013 were inclusive of dental hygiene-track advanced providers. The response, which was provided by the dental community, ADHA and the Federal Trade Commission, encouraged revisions to these recommendations.¹⁸ As of February 2015, CODA approved standards that allow for accreditation of dental hygiene-track advanced providers.¹⁹ Just like pioneers in nursing responded in 1965 with the introduction of the

nurse practitioner model, so too today, ADHA and dental hygiene educators are supporting new workforce models and accreditation standards addressing the shortage of dental providers and concerns over rising dental care costs.^{4,16,20} With expanded roles for dental hygienists, educational paths and specialized graduate degree programs must be established.¹⁶

Social and Political Environments

The introduction of the new nurse practitioner workforce model to primary medical care did not come without substantial battles. As the profession grew, nurse practitioners faced restrictions on practice, resources and reimbursement.^{1,14} These legal and political barriers were often driven by physicians' territorialism, needs for status and culture.^{1,2} Organized medicine viewed this new type of workforce model with suspicion, and expressed concerns about nurses practicing without direct supervision of a physician.²

Despite opposition, nurse practitioners documented expertise in disease prevention, public health promotion, the ability to increase access to care and patient satisfaction.¹ Substantial literature exists documenting that primary care outcomes do not differ between the delivery of care offered by a nurse practitioner and a physician.²¹⁻²⁵ Despite this, nurse practitioners are hindered by "inconsistent state laws, insurance reimbursement practices and a medical community that clings to outmoded notions of a physician-nurse hierarchy."¹⁴ Continued research in areas of patient satisfaction and care documenting further beneficial outcomes may assist nurses to move forward in practice and acceptance.²

Similar to the nurse practitioner, the expansion of roles and education for dental hygienists has received resistance. Since regulations and scope of practice definitions fall under state laws, there are a variety of differences regarding how dental hygienists can practice within each state.²⁶ For instance, in Colorado dental hygienists are legally able to perform several dental preventive procedures independently, without the supervision of a dentist.²⁷ These procedures include dental prophylaxis, exposure of radiographs, topical anesthesia, fluoride application, sealants, and dental hygiene diagnosis and treatment planning. In contrast, Indiana is a state where dental hygienists cannot perform a simple non-invasive procedure such as placing a caries-preventive sealant on a patient's tooth without the direct supervision or written authorization of a dentist.^{26,28} Despite the evidence of patient safety and satisfaction with direct access dental hygiene care, there are many states with restrictive practice acts.²⁹⁻³²

As the profession of dental hygiene advances into the future, research will be needed to document quality care and satisfaction achieved under new dental hygiene workforce models. Such data could validate the continued development of new oral health care delivery models. Just as equivalency of many outcomes has been documented between nurse practitioners and physicians, outcome assessments will compare the care provided by dentists and dental hygienists.

DISCUSSION

Table I provides additional parallels between the professional advancement of nurses and dental hygienists. These key advancements in both the nursing and dental hygiene professions allow health care providers to see similarities and the benefits of strategically moving the profession forward in education, political, social and public health arenas.

Notably, however, it is crucial for the profession of dental hygiene to recognize that unlike the nursing profession, which is self-regulated, dental hygienists are primarily regulated by their employers, dentists.³³ Nursing first established self-regulation in 1903 and later outlined the practice of registered nurses between the 1930s and 1950s through state Nurse Practice Acts (NPAs).³⁴ These NPAs define nursing practice as independent of physicians, and allow state boards controlled by nurses to determine licensure requirements and codes of ethics for the profession.³⁴

Unlike nurses, the profession of dental hygiene does not have autonomy, which allows state legislators and dental boards to suppress dental hygienists from practicing to the fullest extent of their training. Wanchek suggested that by expanding educational opportunities and reducing scope of practice restrictions on dental hygienists, states could reduce oral disparities and increase access to dental care.³³ As with other health professionals who are self-regulated, "dental hygienists possess the knowledge, skill and judgment to best regulate the profession."³⁵ Therefore, self-regulation will be important for the profession of dental hygiene to obtain to further develop advanced workforce models and greater scope of practice nationwide. Conducting and publishing additional research documenting quality of care and patient safety, along with dental cost savings, should also encourage new regulation standards and advanced practice models in dental hygiene, as has happened in nursing.^{26,36} The development of advanced educational models is currently moving forward so that the profession is adequately educated and capable of delivering care in expanded practice settings treating underserved populations.^{16,19} Ad-

Table I: Key Advancements within the Nursing and Dental Hygiene Professions of the U.S.^{2,25,26,36-41}

Advancement	Year	Nursing Profession	Year	Dental Hygiene Profession
Education	1873	First nursing educational program opens - Bellevue School of Nursing, New York	1913	First school for dental hygiene opens - Fones School of Dental Hygiene, Connecticut
Political and Social	1896	Formation of professional association representing nurses known today as the American Nurses Association (ANA)	1923	Formation of the American Dental Hygienists' Association (ADHA)
Education	1900	Publication of the journal, American Journal of Nursing – 1900	1927	First publication of what is known today as Journal of Dental Hygiene
Political and Social	1938	New York becomes the first state to require licensure for nursing practice	1920	Six states have established licensure for dental hygienists
Education	1965	First nurse practitioner program created at the University of Colorado	1947	American Dental Association (ADA) and ADHA set accreditation standards for dental hygiene educational programs
Education	1973	ANA published accreditation standards for nursing education	1951	ADA Council on Dental Education establishes accreditation standards for dental hygiene education
Political and Social/ Public Health	1977 to 1983	Multiple studies published comparing nurse practitioner care to that of physicians Institute of Medicine documents cost reductions and economic feasibility of care provided by nurse practitioners	1996 to 1997	Studies published on independently practicing dental hygienists show safety and high quality of care
	1992	Yale Journal of Regulation publishes journal issue on cost-effective and high quality care of nurse practitioners – a call is made to eliminate regulatory restrictions	2014	National Governors Association publishes article on increased access to care by dental hygienists –a call is made to allow dental hygienists to be reimbursed by Medicaid and to decrease practice and supervision restrictions

vanced dental care practitioners can help address the complex dental public health problems in the U.S., just as nurse practitioners have done for the nursing profession.^{26,36}

CONCLUSION

Dental hygiene is facing a paradigm shift for changing and advancing professional education and practice. The profession can learn from studying the history of the nurse practitioner, including the fact that although nurses faced opposition, they were able to establish higher educational lev-

els within nursing to educate nurse practitioners adequately for expanded roles.¹ The progress of the nursing profession via the development of the nurse practitioner within public health, education, and social and political environments illustrates the potential growth of the dental hygiene profession by way of advanced education and practice models.

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