

## What does research tell us about the future of dental hygiene?

Jacquelyn L. Fried, RDH, MS

When I was asked to write an editorial on what research tells us about the future of dental hygiene, my immediate thought was – it pretty much tells us everything! My mind started racing as I pondered the topic and what seemed like a million ideas ran through my head. My attempt here is to consider selected current trends and scientific data that speak to some of the salient issues that will affect the future of our profession.

Research findings allow the dental hygiene profession to keep pace with current demographic, political, economic, psychosocial, technological, physiological and educational changes occurring in our society. These changes, or forces, shape health care delivery in the U.S. and directly affect our future. Many trends offer pathways for professional acceleration while others suggest challenges we must address. Our profession's future rests upon acknowledging research results derived from well-conducted scientific studies and proceeding accordingly. One can hardly deny that the future of health care is growing in complexity. These complexities mandate that dental hygienists possess well-developed and multi-faceted skill sets, commanding high levels of formal education.

Epidemiologic data shows a burgeoning elderly cohort, a more heterogeneous society and a large population segment lacking access to cost-effective, quality oral health care. What does this mean for the future of dental hygiene? First, dental hygienists must be equipped to manage patients with poly-pharmacy, understand the oral and systemic effects of medications and be able to convey this information to their clients and to other health and human service providers. Knowledge of the oral-systemic link as related to specific medical conditions is essential. The level of disease among the in-patient elderly, the dearth of available preventive care and research data demonstrating that oral disease is a

primary cause of nosocomial pneumonia all suggest that dental hygienists will assume more prominent roles in assisted living, long term care and hospital facilities.<sup>1</sup> This prominence will demand interprofessional collaborative, leadership and administrative skills.

Delivering care in a heterogeneous society and treating those with limited access occurs in many delivery settings. In each setting, the dental hygienist will need expertise in the delivery of culturally competent care, recognizing limited and low health literacy challenges while demonstrating outstanding communication and leadership skills. In some culturally indigenous facilities, the dental hygienist is the primary oral health care gatekeeper.<sup>2</sup> Dental hygienists may be the only oral health care providers available in some rural health care settings.<sup>3</sup> Dental hygienists will also assume important preventive roles in federally qualified health care facilities. Telehealth will become more commonplace as dental hygienists practice in settings requiring distance and digital communication. To reduce the growing rate of oral-related hospital emergency visits among underserved and disenfranchised populations, preventive care has become a number one priority. In the area of early intervention, assisting in risk assessment and providing dental homes for children who would otherwise not have access to dental care, the presence of dental hygienists in pediatric medical practices has shown promise and will likely grow.

Economic and political findings will influence the future of the profession. Legislative changes addressing scope of practice, federal mandates such as the Affordable Care Act and politicians' growing awareness of the cost of untreated health care will catapult the profession into greater prominence. Economically, fewer dentists are opening solo practices. Research indicates that large group practices are growing exponentially with some settings blending the delivery of medical and dental services.<sup>4</sup> The practice of "dental medicine" will grow. In many of these delivery settings, dental hygienists will serve as administrators and must have a strong knowledge base in the oral systemic link, interprofessional collaboration and technological skills related to chairside testing and information sharing and management.

Future dental hygienists must be students of cultural change. Psychosocially, we are seeing changes and greater acceptance of sexual orientations and preferences. With an increase in HPV-associated head and neck cancers through salivary diagnostics dental hygienists will be more involved with disease identification and the provision of related preventive education. Dental hygienists will likely play an increased role in sophisticated chairside testing



that will help identify oral diseases and other systemic conditions. This same technology also allows for the identification of genetic biomarkers associated with specific diseases. Molecular biological research and genomic information will guide future practice and advance the understanding of cranio-facial diseases, including dental caries and periodontal disease.<sup>5</sup>

Dental hygiene is poised to identify societal diseases of documented epidemic proportions. Many dental hygienists already conduct rapid HIV testing. Using this same model, future dental hygienists will perform rapid glucose testing for diabetes and in addition to discussing periodontal disease, will educate patients about obesity and the role sugar plays in both oral *and* systemic disease. Screening for high blood pressure, "the silent killer," is standard of care in most educational institutions and will become commonplace in all practice settings.

Research in the area of education offers telling findings. First, dental hygiene curricula will be emphasizing interprofessional education as supported by national data.<sup>6</sup> Secondly, amassed data show that dental hygiene faculty pools are aging and a crisis of qualified educators looms.<sup>7</sup> Who will teach the future students?

Since new research findings are generated constantly, dental hygiene professionals must be astute consumers of the literature and ever cognizant of the evolving health care world around them. Dental hygiene educators who are in the forefront of shaping the future workforce must base their curricula on new, valid and reliable scientific information.

Most importantly, dental hygiene must have its own body of research. In essence, we must conduct the studies that demonstrate our worth. The data emanating from the dental therapy studies is a classic example of documented success. Outcomes data show that Minnesota Advanced Dental Therapists (ADT) are creating change and reducing oral disease, and that ADTs are well-accepted and garner a high level of patient satisfaction.<sup>8</sup> More dental hygiene research must provide the data demonstrating our value to the communities we serve.

We cannot afford to be the best kept secret any longer. We need standardized, valid and reliable outcomes measures demonstrating the evidence on how we prevent disease, promote health and contribute to the overall well-being of society - this is the real research that will shape our future.

In essence, we need to put our data where our mouths are!

**Jacquelyn L. Fried, RDH, MS** is an associate professor and Director of Interprofessional Initiatives, Department of Advanced Oral Sciences and Therapeutics, University of Maryland School of Dentistry, Baltimore, MD

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