

LINKING RESEARCH TO CLINICAL PRACTICE

Interprofessional Collaborative Care by Dental Hygienists to Foster Medical-Dental Integration

Denise M. Bowen, RDH, MS

The purpose of Linking Research to Clinical Practice is to present evidence based information to clinical dental hygienists so that they can make informed decisions regarding patient treatment and recommendations. Each issue will feature a different topic area of importance to clinical dental hygienists with A BOTTOM LINE to translate the research findings into clinical application.

The Bottom Line:

The link between oral health and systemic health is broadly known, yet over 15 years of research, reports, and recommendations focusing on the dental-medical divide have resulted in few programs to effectively address integration of oral health care and primary health care in a variety of settings.¹ A health care professional with management and leadership capabilities is needed to coordinate an interprofessional approach to providing comprehensive health care. The dental hygienist is uniquely well-suited to fulfill this need by providing preventive oral health services and referrals for dental care in medical settings and addressing primary care needs related to oral health in dental care settings. Several models incorporating dental hygienists in medical-dental care integration exist.

Based on the findings of these 2 reviews, the ensuing conclusions regarding dental hygienists' potential for interprofessional roles related to medical-dental integration can be drawn:

- Bringing preventive oral health care to the patient in the medical home and community health clinics has potential to reduce persistent barriers to receiving dental care, improve oral health outcomes in vulnerable populations, and decrease oral health disparities.
- The dental hygienist has the opportunity to assume a leadership role in developing closer integration of oral and primary care as an oral health care manager, by coordinating interprofessional efforts of the providers needed to implement comprehensive, patient-centered care.
- Evidence is needed to advance these models of medical-dental integration, remove barriers to implementation, and document effectiveness of each model.

Braun PA, Cusick A. Collaboration between medical providers and dental hygienists in pediatric health care. J Evid Base Dent Prac 2016. 16S; 59-67.

Abstract

Basic preventive oral services for children can be provided within the medical home through the collaborative care of medical providers and dental hygienists to expand access for vulnerable populations.

Background: Because dental caries is a largely preventable disease, it is untenable that it remains the most common chronic disease of childhood. Leveraging the multiple visits children have with medical providers has potential to expand access to early preventive oral services. Developing interprofessional relationships between dental providers, including dental hygienists, and medical providers is a strategic approach to symbiotically expand access to dental care. Alternative care delivery models that provide dental services in the medical home expand access to these services for vulnerable populations. The purpose of this article is to explore 4 innovative care models aimed to expand access to dental care.

Methods: Current activities in Colorado and around the nation are described regarding the provision of basic preventive oral health services (eg, fluoride varnish) by medical providers with referral to a dentist (expanded coordinated care), the collocation of dental hygiene services into the medical home (colocated care), the integration of a dental hygienist into the medical care team (integrated care), and the expansion of the dental home into the community setting through telehealth-enabled teams (virtual dental home). Gaps in evidence regarding the impacts of these models are elucidated.

Conclusion: Bringing preventive and restorative dental services to the patient both in the medical home and in the community has potential to reduce longstanding barriers to receive these services, improve oral health outcomes of vulnerable patients, and decrease oral health disparities.

Commentary: Evidence is needed to document the effectiveness of the dental hygienist in coordinating patient-centered care to enhance integration of primary

care and oral health care and expand access to care. This article provides a review of 4 innovative interprofessional care models which provide dental hygiene services and dental referrals to vulnerable populations in medical and/or community settings and highlights areas of research needed to provide evidence of effectiveness. The target population is children experiencing or at risk for dental caries and the approach involves delivering oral health care in the primary health care setting or medical home. Observations regarding each of these models are based on implementation in Colorado and in other locations throughout the United States. Although early outcomes are described to document feasibility, empirical evidence is needed to determine effectiveness of each model presented.

In the first model, expanded coordinated care, the primary care provider (e.g., pediatrician, family doctor, nurse practitioner, physician assistant) delivers preventive oral health care such as oral health risk assessment and anticipatory guidance, application of fluoride varnish, dental referrals, and prescription of fluoride supplements in the medical office. This model is based on the fact that infants and young children see their primary care provider frequently and regularly for the first 36 months of life, and they do not often visit a dental care provider. An example cited by the authors of this review is Colorado's Cavity Free at Three Program which has trained 3,000 health care professionals and has begun to increase access to preventive oral health services and dental referrals for young children.² Nonetheless, barriers have been identified including a lack of time during the medical visit to provide preventive oral health care, inadequate public and private reimbursement, conflicting priorities of medical/primary health care providers, and a deficiency of dentists to whom patients can be referred (especially very young and Medicaid-insured patients).²

A small group of medical practices in Colorado tested another innovative model in the Colorado Dental Hygiene Co-Location Project where dental hygienists were co-located in private and public primary care practices. Co-location of medical and dental services within the same health care facility also has existed in community health centers for a many years; however, actual positioning of a dental hygienist delivering preventive services in a primary care practice setting is a more recent approach. Rooms serve a dual purpose, equipped for delivery of primary care and preventive oral health services by either a dental hygienist or a medical care provider depending on needs of the child and scheduling. Barriers include a lack of prioritization by primary care providers or limited time to schedule the added services. Part-time availability of a dental hygienist in the office is less seamless than having one available full-time to establish a routine. Busy medical providers

are being asked to assume additional responsibilities and provide preventive oral health services; however, evidence-based strategies to save time and evidence of effectiveness in improving oral health outcomes and related behaviors of infant and child patients and their parents are needed.

The Colorado Medical-Dental Integration (CO MDI) Project represents a medical-dental integration model where dental hygiene services are assimilated directly into the medical home to create a "health home" to address both general and oral health. Sixteen medical practices/systems are participating including federally qualified health centers, school-based clinics, and clinics serving homeless or refugee children. Each facility is equipped with space and portable dental equipment for the dental hygienist who develops a referral relationship or contract with one or more dentists in the local community and coordinates the cases. This model has advantages such as enhanced communication, comprehensive care plans, and shared resources such as scheduling, billing, and medical records. A sustainable business plan is essential to its success. The authors present 3 models emerging out of the CO MDI, each providing an opportunity for dental hygiene research.

Teledentistry, or a virtual dental home, involves using the latest technology to connect dental hygienists in the community with dentists at remote office sites. Dental hygienists are able to work in medical practices/clinics or community settings and provide case management using collaboration and a contractual arrangement with a dentist to address patients' needs in areas without access to care. The authors describe the Hub and Spoke Model with the dentist at the hub and hygienists out in the field or in medical settings as ideal for teledentistry. It has been tested in California and now is being tested in Colorado and Oregon.

The authors conclude that all of these models require education for medical providers regarding their role in identifying oral disease and related risk factors. Dental hygienists also need knowledge and support to address systemic health conditions related to oral health, skills in interprofessional communication/relationships, and training in development of a business plan for sustainability. Each model has benefits and challenges to implementation, and all models lack strong evidence of their impacts on the oral health of various populations. Gaps in knowledge include tools to facilitate coordinated care, effective strategies to assure follow up on referrals from medical settings for dental care, effective strategies to overcome barriers, acceptability of these models to communities and patients, and oral health outcomes. Opportunities are needed to implement these various medical-dental care models and evaluate their effectiveness.

Thiele CW, Strauss SM, Northridge ME, Birenz S. The oral health care manager in a patient-centered health facility. J Evid Base Dent Prac. 2016;16S:34-42.

Abstract

The dental hygienist team member has an opportunity to coordinate care within an interprofessional practice as an oral health care manager.

Background and Purpose: Although dental hygienists are currently practicing within interprofessional teams in settings such as pediatric offices, hospitals, nursing homes, schools, and federally qualified health centers, they often still assume traditional responsibilities rather than practicing to the full extent of their training and licenses. This article explains the opportunity for the dental hygiene professional to embrace patient-centered care as an oral health care manager who can facilitate integration of oral and primary care in a variety of health care settings.

Methods: Based on an innovative model of collaboration between a college of dentistry and a college of nursing, an idea emerged among several faculty members for a new management method for realizing continuity and coordination of comprehensive patient care. Involved faculty members began working on the development of an approach to interprofessional practice with the dental hygienist serving as an oral health care manager who would address both oral health care and a patient's related primary care issues through appropriate referrals and follow-up. This approach is explained in this article, along with the results of several pilot studies that begin to evaluate the feasibility of a dental hygienist as an oral health care manager.

Conclusion: A health care provider with management skills and leadership qualities is required to coordinate the interprofessional provision of comprehensive health care. The dental hygienist has the opportunity to lead closer integration of oral and primary care as an oral health care manager, by coordinating the team of providers needed to implement comprehensive, patient-centered care.

Commentary: This article describes a model in which the dental hygienist, serving as an oral health care manager, coordinates both oral health care and primary care at chairside in the dental setting. The authors assert that dental hygienists are well-suited for this role and have the opportunity to become leaders as primary oral health care coordinators focusing on the oral-systemic health link, rather than allowing other health care professionals (e.g., nurses, physician assistants, nurse practitioners) to fulfill this need. They discuss findings of a pilot study regarding feasibility of this model for interprofessional education and, more importantly, interprofessional practice or collaboration (IPC). This model

is based upon a project initiated through cooperation between a school of dentistry and a college of nursing. Rather than expanding the scope of practice for other health care providers to assess oral health, provide preventive services, and refer patients to dentists for needed care, the authors explored the possibility of the dental hygienist assuming the role of IPC coordinator for patient-centered care in the dental care setting. The dental hygienist not only addresses oral health and disease but also primary health care needs, regardless of the limitations of practice acts or regulations governing dental hygiene practice. Sample cases of patients with diabetes, hypertension, and human papilloma virus are discussed within the context of the model.

A pilot study using a theoretical framework and research methods was conducted in 10 dental offices in the New York City area to explore approaches to implementation of IPC with diverse patient populations. The results, summarized in this review, were previously published.^{3,4} Findings based on interviews with both dental hygienists and dentists indicated a need for improved use of evidence-based guidelines to screen for systemic health conditions requiring primary care. Strikingly, dental providers knew of the importance of tobacco use and poor nutrition for general and oral health and reported using handheld Web-based devices to seek information for patients. The authors concluded more support is needed for dental providers related to these oral-systemic health issues; systems change is needed to facilitate implementation; and, the dental hygienist is well-positioned to provide patient-centered care and leadership in primary care referral and coordination at chairside. Further research is being conducted to assess an evidence-based clinical decision support system for use by dental hygienists at chairside for tobacco use, hypertension and diabetes screening, and nutritional counseling. Further, the authors propose, given the dynamic nature of practice acts, advanced practice settings, revised roles, and emerging workforce models, it is time for dental hygienists to become leaders in the interprofessional oral care team.

Summary: Dental hygienists are preventive professionals responsible for providing oral health care to patients in traditional dental settings, community settings, and primary care or medical settings. Several models for involvement of the dental hygienist in interprofessional provision of primary health care and preventive oral health care with referrals for dental care have been implemented, and pilot studies provide initial documentation of feasibility. More research is needed to advance these models of medical-dental integration, develop tools for implementation, assess acceptability by communities and patients, remove barriers to implementation, and document effectiveness of each model. Dental hygienists have an opportunity to provide leadership in addressing the medical-dental divide.

Denise M. Bowen, RDH, MS, is a graduate faculty member and Professor Emeritus in Dental Hygiene at Idaho State University. She has served as a consultant to dental industry, as well as numerous government, university and private organizations and presently is a member of the National Advisory Panel for the National Center for Dental Hygiene Research and Practice in the U.S. She has served as Chair of the American Dental Hygienists' Association Council on Research and has received national awards for excellence in dental hygiene. Recently, Professor Bowen served as editor of Darby and Walsh's Dental Hygiene Theory and Practice. She is widely known through her published articles and textbook chapters and dynamic continuing education programs related to nonsurgical periodontal therapy, preventive oral self-care, research methodology, and dental hygiene education.

REFERENCES

1. Donoff, B., McDonough, J. E., & Riedy, C. A., (2014). Integrating oral and general health care. *The New England Journal of Medicine*. 371:2247-2249. doi: 10.1056/NEJMp1410824
2. Braun PA, Widmer Racich K, Ling S, et al. Impact of an interpro-fessional oral health education program on health care professional and practice behaviors: a RE-AIM analysis. *Pediatric Health. Med Ther* 2015;6:101-9. Marinho VCC, Worthington HV, Walsh T, Chong L. Fluoride gels for preventing dental caries in children and adolescents. *Cochrane Database of Systematic Reviews* 2015, Issue 6. Art. No.: CD002280. DOI: 10.1002/14651858.CD002280.pub2
3. Northridge ME, Birenz S, Gomes G, et al. Views of dental providers on primary care coordination at chairside. *J Dent Hyg* 2016;90.
4. Russell SL, Greenblatt AP, Gomes D, et al. Toward implementing primary care at chairside: developing a clinical decision support system for dental hygienists. *J Evid Based Dent Pract* 2015;15: 145-51.