TOWARD A COMPREHENSIVE HEALTH HOME: Integrating the Mouth to the Body

American Association of Public Health Dentistry (AAPHD)

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The American Association of Public Health Dentistry (AAPHD) "works to promote the total health of all citizens through the development and support of effective programs of oral health promotion and disease prevention".[1] As a way to achieve its goals, AAPHD promotes the integration and/or coordination of oral health and dental homes with other health professions and "home" models. This document provides an overview of patient-centered medical homes, health homes, and health care homes and makes recommendations on how to further integrate/coordinate oral health/dental homes with such models.

A Systemic Problem

The challenge of improving oral health, and consequently total health, for all Americans is complex and, therefore, composed of many factors.

Population's needs. The demographics of the American population are changing and so are their health care needs. Americans today are more diverse, live longer and have higher expectations about their health care. Chronic diseases have become more common, and health disparities persist across the lifespan.

Health care costs. American costs for health care have skyrocketed. Care for chronic diseases is continuous, inter-disciplinary, and expensive. Care for the uninsured, who often make use of emergency rooms, is more costly than routine care. Dental diseases can be easily prevented by evidence-based and cost-effective preventive measures such as sealants and fluorides. New models are emerging to help make the health system more effective and efficient.

Fragmented system. The current health care system struggles to effectively fulfill its mission[2]. Oral health continues to be a distant component of the overall health system. Patients find it difficult to navigate and coordinate their care through such a complex system. Efforts to promote coordinated care through medical homes and dental homes happen nationwide, but they are often pursued separately.

Lack of oral health awareness. For too long, the perception that oral health is in some way less important than and separate from general health has been deeply ingrained in American consciousness. The Surgeon General has called for specific actions to change the oral health perception of the public, policy makers, and health professionals.

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[1] About the America Association of Public Health Dentistry (AAPHD). At http://www.aaphd.org/default.asp?page=about.htm.

[2] "Health system refers to all the activities whose primary purpose is to promote, restore, or maintain health. Its three fundamental objectives are: to improve the health of the population it serves, to respond to people's expectations, and to provide financial protection against the costs of ill-health." World Health Organization. The World Health Report 2000 – Health Systems: Improving Performance. At http://www.who.int/whr/2000/en /.

[3] As a result of this lack of awareness, oral health care continues to be disregarded as a crucial component of primary care and as a priority for public funding.

Unempowered patients. Patients are the reason for a health care system and the ultimate payers of their health care; still many individuals do not have their overall health care needs addressed or met. Patients have a powerful role in sustaining their own health yet they are not recognized as important partners in their care.[4]

Background

Oral Health and Dental Home

Oral health has historically been perceived as disconnected from the rest of the body's health. As a consequence, the dental professions have been distant from other health professions and the health care system in several ways:

- Dentistry is traditionally misperceived as a technical profession, with little connection to the physiology of the body.
- Higher education for dentistry and dental hygiene are separated from the training of other health care professions.
- Dental and medical electronic records do not communicate with each other.
- Care coordination between dental and medical offices is often unavailable, even if such offices are co-located.
- Dental insurance is usually separated from medical insurance.
- Oral health is not usually considered a component of primary care[5] in the US.
- Dental care for all ages is not a required benefit of the Medicare and Medicaid programs.
- Patients are often unaware of the impact of oral health on their general health.

In 2000, the Surgeon General reported the silent epidemic of oral diseases in the country. He also raised awareness about the scientific evidence linking oral health to other chronic diseases (diabetes, heart disease, and others), general health and quality

[3] Office of the Surgeon General. National Call to Action to Promote Oral Health. 2003. At http://www.surgeongeneral.gov/topics/oralhealth/nationalcalltoaction.html.
[4] Agency for Healthcare Research and Quality (AHRQ). At http://www.ahrq.gov/downloads/pub/advances/vol4/Miranda.pdf.
[5] "The ultimate goal of 'primary health care' is better health for all. Five key elements can help achieve that goal: 1) reducing exclusion and social disparities in health (universal coverage reforms); 2) organizing health services around people's needs and expectations (service delivery reforms); 3) integrating health into all sectors (public policy reforms); 4) pursuing collaborative models of policy dialogue (leadership reforms); and 5) increasing stakeholder participation." World Health Organization. At http://www.who.int/topics/primary_health_care/en/.

of life.[6] A paradigm shift also happened in the mid-2000s, when oral diseases were classified as chronic diseases given their causal relationship to lifestyle factors (e.g., diet, smoking, hygiene, etc).[7,8] Despite these profound changes, little has been done to integrate oral health into the health care system and consequently "bring the mouth back to the body".

In 2001, the American Academy of Pediatric Dentistry (AAPD) developed a dental home policy based on the AAP characteristics of the medical home. Dental home was then defined as a means to enhance access to care from an early age.[9,10,11,12,13, 14] In 2008, the AAP released a new policy recommending the establishment of a dental home at 1 year of age and that physicians seek collaborative relationships with local dentists to optimize the availability of a dental home.[15] The American Dental Association put out its resolution in 2005, defining dental home as "the ongoing relationship between the dentist who is the primary dental care provider and the patient, which includes comprehensive oral health care, beginning no later than age one". In 2010, the previous definition was expanded to include patients of all ages. More recently, there has been a realization that having the best "dental home" system possible may be an improvement to the current oral health scenario, but it will likely not lead to a better awareness of the connection of oral health to general health.

Other Homes

Efforts have been put forth to make the health care system more effective in addressing the population's health needs. Such efforts focus on care management, prevention and primary care, and are often referred to as "homes".

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[6] Oral Health in America: A Report of the Surgeon General. 2000. At http://www.surgeongeneral.gov/library/oralhealth/.
[7] Fejerskov O. Changing paradigms in concepts on dental caries: consequences for oral health care. Caries Research 2004: 38:182-191.
[8] Centers for Disease Control and Prevention, Chronic Disease Home. At http://www.cdc.gov/chronicdisease/resources/publications/aag/doh.htm.
[9] The Dental Home – it is never too early to start. American Academy of Pediatric Dentistry Foundation, the Dental Trade Alliance Foundation and the American Dental Association. Feb 2007. At http://www.aapd.org/foundation/pdfs/DentalHomeFinal.pdf.
[10] American Association of Pediatric Dentistry. Policy on the Dental Home. Adopted 2001, Revised 2004. At http://www.aapd.org/media/policies_guidelines/p_dentalhome.pdf.
[11] American Association of Pediatric Dentistry. Definition of Dental Home. Adopted 2006. At http://www.aapd.org/media/policies_guidelines/d_dentalhome.pdf.
[12] Edelstein BL. Environmental Factors in Implementing the Dental Home for all Young Children: Draft Background Paper for Maternal and Child Health Bureau Dental Home Meeting. Sept 2008. At http://www.cdhp.org/resource/environmental_factors_implementing_dental_home_all_young_children.
[13] Savage MR et cols. Early Preventive Dental Visits: Effects on Subsequent utilization and costs. Pediatrics 2004; 114-418-423. At www.pediatrics.org.
[14] Nowak AJ, Casamassimo PS. The dental home – a primary care oral health concept. JADA, 133(93-98), Jan 2002.
[15] American Academy of Pediatrics Policy Statement on Preventive Oral Health Interventions for Pediatricians. Pediatrics 2008;122:1387–1394. At www.pediatrics.org.

Medical Home. In 1967, the American Academy of Pediatrics coined the term "medical home" in relation to children with special needs. The concept evolved overtime to include coordination of multidisciplinary care and incorporate primary care to treat the whole child, not just the disease. The model emphasized care that is: is continuous, comprehensive, coordinated, compassionate, family-centered, and culturally and linguistically appropriate.[16,17] Oral health was not included as a component of this model, despite of evidence for doing so.[18]

Patient-Centered Medical Homes (PCMH). In 2001, the Institute of Medicine recognized the concept of patient centeredness as an important component of quality of care. [19] Since then, the medical home model has been referred to as patient-centered medical home. The focus has evolved from children to the whole lifespan. In 2007, the Joint Principles of the PCMH were adopted by the American College of Physicians, American Academy of Pediatrics, American Academy of Family Physicians, American Osteopathic Association, and later by the American Academy of Nurse Practitioners and American Dietetic Association.[20] The Joint Principles include: having a personal physician, physician directed medical practice, whole person orientation, coordinated and/or integrated care, quality and safety of care, enhanced access, and appropriate payment. The Washington State PCMH is the only component that specifically names *oral health* as one of its coordinated services.[21] Alternative delivery modes have also been recognized as PCMH, such as school based health centers[22] and mobile clinics.[23] In 2009, the National Academy for State Health Policy called for the building of PCMH in State Medicaid and CHIP Programs.[24]

Health Home. Created by the Washington Health Foundation in 2004, this term is defined as "a trusted source of routine, prevention-oriented medical, *oral health* and mental health screening and advice that helps the patient keep health records current, complete, and shared with all their health providers, and that supports their work on a personalized health and wellness plan."[25] This model takes a full patient-oriented focus

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[16] American Academy of Pediatrics. Policy Statement of the Medical Home. Pediatrics 2002; 110 (1) 184-186. At http://aappolicy.aappublications.org/cgi/content/full/pediatrics;110/1/184.
[17] Sia C et al. History of the Medical Home Concept. Pediatrics 2004; 113:1473-1478. At www.pediatrics.org.
[18] Lewis C, Robertson AS and Phelps S. Unmet Dental Care Needs Among Children With Special Health Care Needs: Implications for the Medical Home. *Pediatrics* 2005;116;426-431. At www.pediatrics.org.
[19] Institute of Medicine. Crossing the Quality Chasm: a new health system for the 21st century. Vol 6. Washington DC: National Academy Press; 2001.
[20] Joint Principles of the Patient-Centered Medical Home. At http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home.
[21] Washington PCMH. At http://www.pcpcc.net/content/washington-patient-centered-medical-home-collaborative.
[22] McPherson-Corder MD. The integrated school health center: a new medical home. Pediatrics. 1995; 96:864-866.
[23] Redlener I. Access denied: taking action for medically underserved children. J Urban health. 1998; 75-724-731.
[24] Kaye N, Takach M. Building Medical homes in State Medicaid and CHIP Programs. June 2009. At http://nashp.org/node/1098.
[25] Washington Health Foundation. Health Home 3.0. At http://www.whf.org/my-health.

and is used by the Foundation as the cornerstone of its campaign to make Washington the healthiest state in the nation and its new health insurance program.

Health Care Home. In 2009, the National Association of Community Health Centers coined this term to refer to "a vehicle by which patient- and family-level care at the point of delivery may contribute to meeting population-level goals of improving access to care, reducing health disparities, increasing preventive service delivery, and improving the management of chronic diseases". In 2010, the American Public Health Association (APHA) supported this model, reinforcing the need to include *oral health*, behavioral health, and nutrition as important partners. APHA recommends: the implementation of the health care model to all populations and all primary care providers; and use of alternative modes of care, such as school health centers and mobile clinics, to care for the underserved. APHA also asks public and commercial insurance to provide higher reimbursement to professionals engaged in such model, and even higher reimbursement for those who serve the underserved. Finally, APHA suggests that public/private partnerships support pilot and demonstration projects.

Evaluation of "Homes"

Evaluation of medical homes is increasing. Studies have shown that this model promotes health through prevention[26,27]; leads to healthier children and families[28,29]; and reduces health care costs [30,31]. Compared to medical homes, there is little evidence on the effectiveness of dental homes. A recent study concluded "Preschool Medicaid children who had an early preventive dental visit were more likely to use subsequent preventive services and experience lower dentally related costs. In addition, children from racial minority groups had significantly more difficulty in finding access to dental care as did those in counties with fewer dentists per population.[32] Another study says that "early preventive visits can reduce the need for restorative and emergency care, therefore reducing dentally related costs among high-risk children. Preschool Medicaid children who had an early preventive dental visit by age 1 were more likely to use subsequent preventive services and experienced less dentally related costs."[33] More

[26] Braveman, P., Marchi K., Egerter S, Pearl M, Neuhaus J, Barriers to timely prenatal care among women with insurance: the importance of prepregnancy factors. Obstetrics and Gynecology. 2000: 95:874-880.
[27] Kahn, Norman (2004). The Future of Family Medicine: A Collaborative Project of the Family Medicine Community. At http://www.annfammed.org/cgi/content/full/2/suppl_1/s3.
[28] Strickland, B., et al. (2004). Access to the Medical Home: Results of the National Survey of Children With Special Health Care Needs. *Pediatrics* 113:5 (1485-1992). At www.pediatrics.org.
[29] Palfrey, J., et al (2004). The Pediatric Alliance for Coordinated Care: Evaluation of a Medical Home Model. *Pediatrics*. 113:5 (1507-1516). At www.pediatrics.org.
[30]Starfield, B & Shi, L (2004) The Medical Home, Access to Care and Insurance. A Review of Evidence. Pediatrics. 113: 1493-1498. At www.pediatrics.org.
[31] Klitzner TS, Rabbitt LA, Chang RKR. Benefits of care coordination for children with complex disease: a pilot medical home project in a residency teaching clinic. J Pediatrics. 2010; 156:1006-1010.
[32] Savage MF et al. Early preventive dental visits: effects on subsequent utilization and costs. Pediatrics 2004; 114(4):e418-e423. At www.pediatrics.org.
[33] Lee JY, et cols. Pediatric Dentistry, 2006; 28(2):102-5; discussion 192-8.

research and evaluation projects need to be in place to further evaluate the outcomes of dental homes.

Discussion

Although efforts around medical and dental homes have been pursued at the local, state, and/or national levels, such efforts are rarely interconnected. If such trend continues, keeping dental homes separated from medical homes may just serve to reinforce the perception that "the mouth is separated from the body." Such misunderstanding can hamper the potential benefits that could result from an integration of the principles and practices of dental and medical homes.

While a full integration of oral health into medical or health care homes has not yet materialized, several individual opportunities have promoted the collaborative work of dental and medical professionals. Some states have allowed medical providers (physicians and nurses) to perform caries risk assessment, provide dietary counseling to reduce risk of developing caries and apply fluoride varnish.[34] Some dental professionals screen and monitor patients for blood pressure and plasma glucose levels to assist them with their overall health. These changes have allowed the push of the medical home toward the dental home and vice-versa.[35]

The relationship between health professionals was shown to be important for care coordination between the dental and medical professions to be successful. Pediatricians who have high confidence in their ability to perform oral health screenings and report low overall dental referral difficulty were more likely to refer children with signs of decay or high risk for decay to a dentist.[36]

Quite recently, a more intentional integration of medical, oral health and other areas has been proposed by several state and national organizations.[37, ,38,39,40, 41, 42] The federal Health Resources and Services Administration (HRSA) chose as one of its 2010

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[34] Washington State ABCD Program. At http://www.abcd-dental.org/.
[35] Glick M. A home away from home: the patient-centered health home. Editorial. JADA, 140:141-142, Feb 2009.
[36] Dela Cruz, G. Dental screening and referral of young children by pediatric primary care providers. Pediatrics 2004, 114(5):e642-e652. At www.pediatrics.org.
[37] Fisher ES. Building a Medical Neighborhood for the Medical Home. N Engl J Med 2008; 359(12):1202-1205.
[38] Washington State Department of Health. Medical Homes for Children and Adults. The Health of Washington State. At http://www.medicalhome.org/.
[39] Wisconsin Department of Health and Family Services, Division of Public Health Medical and Dental Home. Wisconsin's Plan (PPH 40045), April 2003. http://www.wisconsinmedicalsociety.org/_WMS/publications/wmj/issues/wmj_v103n5/103no5_Fleischfresser.pdf.
[40] Hurd S. Including Oral Health in the Medical Home. Medical Home News. June 2010. At www.medicalhomenews.com.
[41] Grant Makers in Health. Critical services for our children: integrating mental and oral health into primary care. Issue brief # 30. Feb 2008. At http://www.gih.org/usr_doc/Issue_Brief_30.pdf.
[42] Lewis, C. Unmet dental care needs among children with special health care needs – implications for the medical home. Pediatrics 2005, 116(3):e-426-431. At www.pediatrics.org.

strategic goals the "improvement of access to quality health services" by, among others, "expanding oral health and behavioral health services and integrating them into primary care settings."[43]

A recent editorial on a dental journal proposes that "to further the creation of a patient-centered health home, more innovative strategies need to be addressed, including reimbursement issues, referral patterns, integrating health technologies among providers, and cultivating a willingness to look beyond traditional scope of practice. The focus should be on what kind of care is provided and how, and not on who should provide care. A medical home, a dental home, a patient-centered medical home or a health care home will need staff members who are intimately involved in patient care, especially in coordinating services across the health care system."[44]

Proposed Systemic Strategies

A systemic problem calls for systemic strategies. It is important to emphasize the need for innovative, collaborative and sustainable approaches to ensure that health homes can address the multiple health needs of the population.

In order to consolidate the inclusion of oral health into the health-related home model, AAPHD recommends the following actions:

1. Empower individuals to take ownership of their oral health and general health.
    a. Educate individuals and caregivers on how to use measures that prevent diseases and sustain overall health at both home and community settings.
    b. Clearly inform individuals and caregivers on how to navigate the health care system when needed.
    c. Disseminate messages through a variety of media to individuals, caregivers and communities on the importance of oral health to general health.
2. Enhance communication between patients and providers, and among dental and medical providers.
    a. Raise individuals' awareness about their health needs and about their role in health promotion, disease prevention, and treatment planning.
    b. Offer opportunities for interdisciplinary education of health professionals (dental, medical, nursing, pharmacy, behavioral health, social services, nutrition, and others) to promote a holistic understanding of general health and quality of life. Other professionals will learn more about oral health, and dental professionals will learn more about general health.

[43] Health Resources and Services Administration (HRSA) Website. At http://www.hrsa.gov/about/strategicplan.html.
[44] Glick M. A home away from home: the patient-centered health home. Editorial. JADA, 140:141-142, Feb 2009.

   c. Improve communication among providers via electronic records that include patients' general health and oral health information and that are shared among providers according to HIPAA rules.[45,46] Realize that co-location does not often equal effective communication.

3. Promote a health system that is patient- and prevention-oriented and supportive of comprehensive primary care integration that includes oral health.
   a. Assess and be aware of patient- and population-based health needs, and adjust the health system to serve such needs.
   b. Provide recognition and adequate reimbursement to professionals who coordinate patients' referrals navigation through the whole health system, and provide care to the underserved.
   c. Support initiatives that recognize the value and integration of oral health (dental homes) to other homes (medical, patient-centered, health care)

Potential Barriers

Barriers are expected in any change or improvement process. Some of the foreseeable barriers in promoting the integration of oral health (or dental homes) into medical homes are as follows:

- It takes continuing and consistent efforts at the individual and community levels to increase awareness of the public to health issues. The same is expected regarding raising awareness about the link between oral health and general health.
- Educational institutions need time to reorganize their curricula to integrate the training of dental, medical, and other health and supporting professions.
- Current professionals may feel insecure about these changes and the potential consequences on their practices.
- Coordination of dental and medical records requires alignment, redesign or development of new software as well as willingness of health care organizations.
- Public health programs need funds to continue community assessment activities that will help data-driven decision making.
- Insurance reimbursement for all 'homes' will likely depend on health outcomes and cost savings provided by pilot initiatives.

[45] Blumenthal D, Tavenner M. The Meaningful Use Regulation for Electronic Health Records. N Engl J Med, 2010; 363 (6):501-504.
[46] Defense Health Information Management System. Integrated Medical and Dental Electronic Health Record (EHF). At http://dhims.health.mil/docs/factsheet-Integrated_Medical_Dental_EHR.pdf.

System Readiness

The health system is gradually showing signs of readiness for a comprehensive health home that includes oral health. Some of these signs are:

- Much communication with the public already exists through a variety of media. Changes in the messages to link oral health to chronic diseases and to educate patients on their role in self-management have already started. Room for improvement still exists.
- Professionals who work on health system navigation and referral coordination, such as promotoras (for Hispanic groups), case managers, and care coordinators are already a reality in several settings.
- Interdisciplinary education has already started, and a national curriculum is available. [47]
- Health care reform includes funding to implement electronic medical records. Dental records need to be included.
- Public health has historically been recognized for its important neutral role in comprehensive health needs assessment. Such information will be paramount to the identification of the public's health needs.
- HRSA's strategic plan currently calls for the integration of dental, medical and behavioral health homes.

Expected Impact

By working on and fine tuning the systemic strategies above, looking for new opportunities and synergies, and being aware of the potential barriers and existing readiness, oral health can become a routine component of comprehensive health homes. From such integration, several benefits may occur, such as:

- Full awareness of the connection between the mouth and the body
- Coordination and communication among dental, medical and other professionals
- Better use of existing health system resources by providers and patients
- Better patient health outcomes with reduction of health disparities
- Potentially lower costs of care for individuals and society.

[47] Advisory Committee on training in primary care medicine and dentistry. Coming home: the patient-centered medical-dental home in primary care training. Sept 2008. At ftp://ftp.hrsa.gov/bhpr/actpcmd/seventhreport.pdf.

This document was developed within the vision that there is a need and a momentum to further integrate oral health (dental homes) into patient-centered medical homes, health homes and health care homes. A health system is only as good as the services it provides. It is crucial that all professionals, the public, and policymakers work together to restructure the current health system in a way that assures that all Americans remain healthy and have productive and happy lives.