



ORAL HEALTH
AN ESSENTIAL ELEMENT OF
HEALTHY AGING

Interprofessional Solutions for Improving Oral Health in Older Adults

Addressing Access Barriers, Creating Oral Health Champions



A white paper based on the forum,
*Developing an Interprofessional Roadmap
to Improving Oral Health in Older Adults.*
Developed by The Gerontological Society
of America. Supported by GlaxoSmithKline
Consumer Healthcare.

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Goal

To promote oral and general health and quality of life outcomes in older adults by focusing all members of the health care team—medicine, dentistry, nursing, pharmacy, social work, and other professions—on interprofessional whole-person care that recognizes the inherent connection between oral and systemic health and is valued in the health care system.

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Introduction

Improving or maintaining oral health in an aging population is more than a lofty goal. Increasingly, a healthy mouth is recognized as an integral and necessary part of a whole-person approach to health care as delivered by an interprofessional team that combines the efforts of health professionals of all types—dental professionals, primary care and specialty physicians, nurses, nurse practitioners, pharmacists, social workers, psychologists, physical and occupational therapists, and others—who can be “oral health champions” by advocating, educating stakeholders, and providing and facilitating direct care that supports oral health.

With those thoughts in mind, The Gerontological Society of America (GSA) convened a forum of leading experts and key stakeholders committed to healthy aging on March 1–2, 2017, in Alexandria, Virginia. The forum, **Developing an Interprofessional Roadmap to Improving Oral Health in Older Adults**, built on baseline information in a recent issue of GSA’s *What’s Hot* newsletter, “Oral Health: An Essential Element of Healthy Aging.” Forum attendees are listed on the following page. Content of the *What’s Hot* publication and the agenda for the forum were developed by GSA’s workgroup on oral health, listed in the box on page 5.

In this white paper, the deliberations of the forum are summarized, relevant content is presented, and ideas are developed for enhancing or maintaining oral health in older adults with a goal of better quality of life and improved health outcomes. The concepts and solutions generated through a brainstorming and consensus-building process (see page 5) encompassed needed activities in research, education, policy, practice, and funding arenas.

FORUM PARTICIPANTS

A diverse group of organizations representing clinical practice, public policy, academia, and research attended the forum.

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Consensus-Building Process Used During Forum

To take full advantage of the diverse, extensive knowledge of the impressive group assembled for the GSA forum, a brainstorming and consensus-building process was developed by a professional facilitator who coordinated small-group breakouts. This process ensured cross-pollination of ideas by assigning people from each area of expertise (research, education, practice, policy) to six small groups. GSA's workgroup members facilitated and recorded discussions of each group.

As forum attendees arrived, they were directed to one of six tables where they would spend most of the day. Following three baseline-setting presentations, those at each table shared with their group examples of successes in supporting oral health in older adults and/or addressed other interprofessional issues or challenges for approximately 10 minutes. Participants then spent 5 minutes writing on Post-it Notes to indicate the challenges or barriers to improving oral health in older adults. Each group placed these notes on a separate designated section of a nearby wall as they discussed the ideas and asked clarifying questions over a 10-minute period. This activity was followed by each discussion group sorting the ideas into like batches based on themes of barriers and challenges.

In the final 30 minutes of this breakout session, attendees individually identified potential solutions for the challenge/barrier

themes. Group members then posted and discussed the written solutions on the wall within each theme area.

During lunch, attendees moved to tables that aligned with their areas of expertise to share the challenge/barriers and potential solutions with colleagues. This provided an opportunity to further develop viable solutions and identify ways to improve concepts from the research, education, practice, and policy experts in attendance.

Following three after-lunch presentations on interprofessional and innovative initiatives, participants moved back to their original tables. In small groups, participants reviewed their solutions, discussing which ideas would be easy or difficult to do or inexpensive or costly to accomplish. Attendees looked for ideas with big potential “payoffs.” They then began to think about which ideas they would implement if they could choose only one or two.

Using colored dots, forum participants then voted for their top three priority solutions within their group. Votes were tallied, and the groups completed a solutions template for each of their top three solutions. These were presented to the full group in the final session of the day. The key ideas from each group provide the basis for the “Solutions” presented in this white paper.

Putting the “O” in HEENT— The HEENOT Model

Older adults have complicated clinical conditions, and these make it even more important for health professionals to collaborate in providing interprofessional whole-person care for patients in this part of the aging continuum, Judith Haber, PhD, APRN, BC, FAAN, told attendees at the oral health forum. As shown in Figure 1, such care combines the efforts of all oral

health champions—whether advocates for prevention and check-ups, educators who provide more in-depth information, and/or providers of oral health services—who are involved in the care of the older adult and put the individual at the center of everyone’s attention.

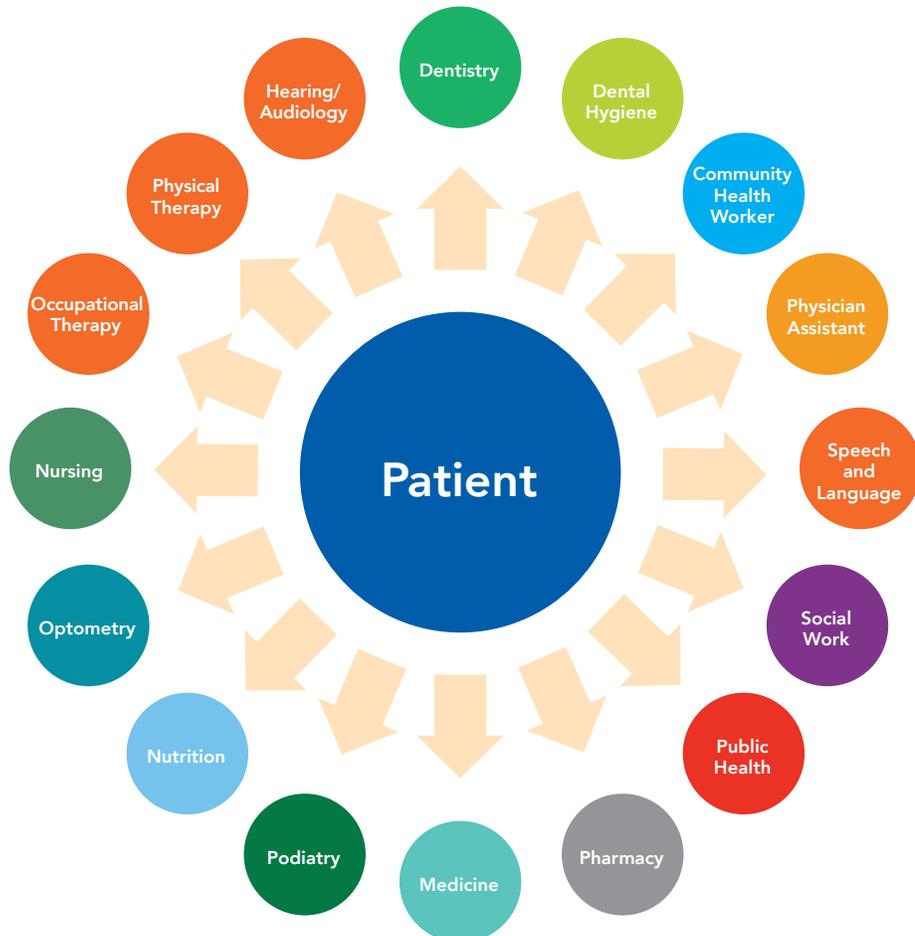
“Oral health should be part of the standard of care across all of our disciplines,” Haber said.

To overcome the historical separation between dentistry and medicine, efforts to change the practice paradigms must begin during training of health professionals, Haber said. That means providing information and examples for faculty and preceptors involved in the education of health professionals and influencing directors of residency and fellowship programs, said Haber, who is executive director of the Oral Health Nursing Education and Practice (OHNEP) program and the Ursula Springer Leadership Professor in Nursing at the New York University Rory Meyers College of Nursing.

An example of the old paradigm of practice is illustrated by the acronym HEENT, a standard shorthand clinicians use to mean examination of the head, eyes, ears, nose, and throat. As Haber advocated with colleagues in a well-known article published in 2015,¹ HEENT should be transformed to HEENOT, creating the new paradigm by adding the oral cavity to the parts of the head that health professionals must examine and treat in all settings.

Through OHNEP, Haber is involved in faculty and preceptor development for interprofessional education rotations, which provides a “train the trainer” experience that can extend into the care provided in daily practice. The Community Geriatric Oral Health Program offers New York University nurse practitioner and dental students the opportunity to work together in talking with area residents about their oral health problems; such experiences carry over into the activities these students model for their practitioner preceptors during rotations.

FIGURE 1. The Interprofessional Whole-Person Care Model



The national accrediting bodies for most health professional educational programs have added interprofessional education to their standards (see sidebar below). This includes dentistry. Graduates of these programs are entering practice, where they have a greater appreciation for the value of team-based care and the practicalities of

working with oral health champions from other professions to ensure better health for their patients.

“By continuing these efforts into residency and fellowship programs, we really have a shot at changing the world,” Haber concluded. “We have to be persistent—this doesn’t happen overnight.

Think in small bites—we don’t have to expose every student to every experience, but multiple interprofessional exposures will reinforce the messages. It just takes time.”

Through efforts that culminated in a 2014 report from the Health Resources and Services Administration,³ oral health

IPEC Competencies and Interprofessional Education

Since its founding in 2009, the Interprofessional Education Collaborative (IPEC; www.ipecollaborative.org) has made remarkable progress toward its mission of promoting and encouraging efforts to “advance substantive interprofessional learning experiences to help prepare future health professionals for enhanced team-based care of patients and improved population health outcomes.” Interprofessional education is now embedded in educational curricular and/or accreditation standards of all major health professions. The movement is growing as policy, curricular, and accreditation changes are made by the various bodies that oversee education in the various health professions.

Originally founded by the education associations representing allopathic and osteopathic medicine, dentistry, nursing, pharmacy, and public health, IPEC recently added 14 additional groups through a new institutional membership category, including representatives from nutrition, podiatry, physical and occupational therapy, social work and psychology, optometry, and allied health professions.

The current IPEC president is Richard W. Valachovic, DMD, MPH, a dentist who is the CEO and president of the American Dental Education Association.

In 2016, IPEC released an update to its Core Competencies for Interprofessional Collaborative Practice.² As illustrated conceptually in Figure 2, these core competencies are expected in emerging health professionals:

- **Competency 1**—Work with individuals of other professions to maintain a climate of mutual respect and shared values. (Values/Ethics)
- **Competency 2**—Use the knowledge of one’s own role and those of other professions to appropriately assess

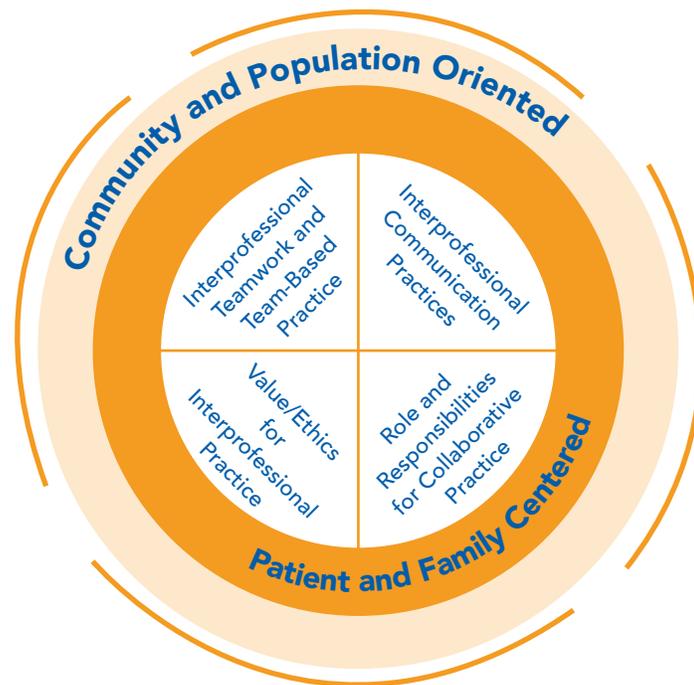
and address the health care needs of patients and to promote and advance the health of populations. (Roles/Responsibilities)

- **Competency 3**—Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the

prevention and treatment of disease. (Interprofessional Communication)

- **Competency 4**—Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable. (Teams and Teamwork)

FIGURE 2. The Interprofessional Collaboration Competency Domain



The “learning continuum” pre-licensure through practice trajectory

Core competencies are defined for each of the quadrants, along with 39 subcompetencies.

Source: Reference 2. Interprofessional Education Collaborative. *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Washington, DC: Interprofessional Education Collaborative; 2016.

is now within the mainstream of whole-person care, Haber said. It is being recognized as an integral and necessary part of primary care and the patient-centered medical home. “If we begin

with interprofessional oral–systemic education that prepares our students for collaborative practice upon graduation, we really can increase interprofessional oral health workforce capacity, decrease

disparities, and actually improve oral health and overall health outcomes.”

At the forum, participants discussed this topic and formulated the Solution detailed in the box below.



Oral Health Education and Experiences in Training Programs for All Health Professions

DESCRIPTION

Support the continued establishment of interprofessional oral health training programs with clinical experiences in the “real world” (experiential learning) for all health professional students and the faculty who teach them, and extend such experiences into graduate health professional educational programs (residencies and fellowships).

WHO COULD BE INVOLVED IN THIS SOLUTION

- University programs across professions/disciplines.
- Residency/fellowship programs in all settings.
- National associations of health professional education organizations (e.g., Association of American Medical Colleges, American Dental Education Association, American Association of Colleges of Pharmacy, American Association of Colleges of Nursing).
- Accreditation organizations for various professional programs: physicians, nurse practitioners, nurses, nurse midwives, physician assistants, and other health professionals (e.g., Accreditation Council for Graduate Medical Education, Commission on Dental Accreditation, Accreditation Council for Pharmacy Education, Commission on Collegiate Nursing Education).
- Interprofessional Education Collaborative.
- Government organizations such as the Health Resources and Services Administration.
- Private funding sources.
- Community partner organizations that can support “real world” experiences.

CHALLENGES AND BARRIERS

Policy

- State boards governing the practice of health professions may need to adjust scope of practice regulations to permit appropriate oral health–related services to be provided by various types of educationally qualified practitioners.
- Dental professionals should be permitted under scope of practice regulations to provide relevant health-related services such as smoking cessation advice and prescriptions.
- Explore the possibility of expanded opportunities and reimbursement for dental hygienists, dental assistants, nurse practitioners, nurse midwives, and physician assistants to provide appropriate oral health evaluations, education, and selected preventive care (e.g., fluoride application) in nondental settings beyond what is currently available.

Education

- The large number of health professional schools and associated accrediting bodies presents a challenge.
- Curricula must be modified to include required oral health education in the training provided for medicine, nursing, and other health professions.
- Increase collaborative learning experiences among dental professionals and other health care professionals.
- Improve culturally competent training for the workforce to deliver oral health care.
- Making experiences relevant when student and preceptor are from different professions and when students from various health professions interact in experiential settings.

Practice

- Limitations in scope of practice for various health care providers providing expanded oral health services.
- Reimbursement for some services in many states is limited for dental and nondental professionals; incentives may be needed for providing oral health information and services without financial remuneration.
- Poor interoperability of electronic health records among health care providers.

Research

- Better understanding of risk assessment and how clinicians can use the information to develop therapeutic strategies and behavioral interventions for patients.
- For training programs to include oral health, demonstration of evidence of effectiveness of training materials is needed; interprofessional education must result in an outcome measure of change/expansion of practice.
- Provide rigorous evaluation of the feasibility and effectiveness of the interprofessional education program.
- Evaluate impact of workforce redesign demonstration projects on clinical outcomes.

Funding

- Need for grant funding for educational and training pilot projects and program development.
- New financial models needed to facilitate interprofessional education or integrated care model development and sustain these over the long term.

KEY POINTS OF EVALUATION

- Evaluate training materials, curricula, and interprofessional training programs.
- Evaluate the outcome measures of financial feasibility, resources, number of professionals trained, and funding of these programs.

Creating Interprofessional Practice Opportunities

Despite the successes in creating practice-ready graduates of health professional schools who are steeped in the value of interprofessional teamwork, those future-focused achievements alone are not enough to change practice in the short run. Strategies must also be developed for getting the message to practicing health professionals who did not receive the benefits of learning about interprofessional teamwork yet will be practicing for decades.

“It’s really about changing the paradigms for education *and* practice,” Haber said. She and Beth Truett, BS, MDiv, of Oral Health America, shared examples of current efforts to bring health professionals together to improve Americans’ oral health.

Following a successful test during a five-state pilot phase, the Wisdom Tooth Project of Oral Health America is “poised for interprofessional expansion,” Truett said. Through a demonstration project, Tooth Wisdom for Pharmacists, continuing education programs have been presented at Nova Southeastern University and the University of North Carolina at Chapel Hill to 125 pharmacists. Participants, who practiced mostly in community (retail) pharmacies but also in hospitals and health systems, reported frequently encountering patients with dry mouth, gum disease, and denture-related issues.

Truett pointed to research, conducted by Ann Spolarich of the Arizona School of Dentistry and Oral Health, showing that pharmacists who participated in a training program on oral health reported greater knowledge, confidence in locating resources, and level of preparedness to counsel older adults about oral health.⁴

Haber also provided examples of interprofessional education targeting practitioners. An online webinar series from NICHE (Nurses Improving Care for Healthsystem Elders) provides modules

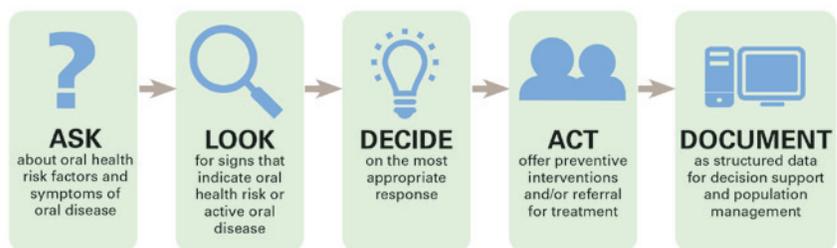
The Oral Health Delivery Framework: Ask, Look, Decide, Act, Document

When taking on accountability for oral health responsibilities, a primary care team can use a simple five-step delivery framework: Ask, Look, Decide, Act, and Document. This approach is delineated well in the Qualis Health white paper, *Oral Health: An Essential Component of Primary Care*.⁵

As shown in Figure 3, the five steps as described in the Qualis Health document are as follows:

- **Ask about symptoms that suggest oral disease and factors that place patients at increased risk for oral disease.** Two or three simple questions can be asked to elicit symptoms of oral dryness, pain or bleeding in the mouth, oral hygiene and dietary habits, and length of time since the patient last saw a dentist. These questions can be asked verbally or included in a written health risk assessment.
- **Look for signs that indicate oral health risk or active oral disease.** Assess the adequacy of salivary flow; look for signs of poor oral hygiene, white spots or cavities, gum recession, or periodontal inflammation; and conduct examination of the oral mucosa and tongue for signs of disease.
- **Decide on the most appropriate response.** Review information gathered and share results with patients and families. Determine a course of action using standardized criteria based on the answers to the screening and risk assessment questions; findings of the oral exam; and the values, preferences, and goals of the patient and family.
- **Act by delivering preventive interventions and/or placing an order for a referral to a dentist or medical specialist.** Preventive interventions delivered in the primary care setting may include: (1) changes in the medication list to protect the saliva, teeth, and gums; (2) fluoride therapy; (3) dietary counseling to protect the teeth and gums and to promote glycemic control for patients with diabetes; (4) oral hygiene training; and (5) therapy for tobacco, alcohol, or drug addiction. Refer to dental or other health professionals.
- **Document the findings as structured data to organize information for decision support, measure care processes, and monitor clinical outcomes so that quality of care can be managed.**

FIGURE 3. Oral Health Delivery Framework



Source: Reference 5. Reprinted by permission from Qualis Health. Hummel J, Phillips KE, Holt B, Hayes C. *Oral Health: An Essential Component of Primary Care*. Seattle, WA: Qualis Health; June 2015.

on oral health in older adults, including ones that focus on patients with dementia, in acute care settings, and in long-term care facilities.^a The University of Vermont has developed a virtual clinic with older adult patients who present with chronic conditions and oral health issues, and Haber spearheaded a conference at New York University in September 2016 on “Transforming Whole Person Care Through Interprofessional Medical–Dental Collaboration.”^b

To be sure such initiatives are making a difference, Haber said it is important to evaluate every project, big or small. Only by finding what works can resources be optimally deployed for making a difference in the lives of older adults through a new paradigm for practice.

“I remind people all the time,” Haber said, “it’s not dental health. It’s oral health, and it is part of whole-person care.”

At the forum, participants discussed this topic and formulated the Solution detailed in the box to the right.



Integrated Interprofessional Educational Programs for Practitioners

DESCRIPTION

Support integrated interdisciplinary experiences, opportunities, training, and education for practicing health professionals in all fields.

WHO COULD BE INVOLVED IN THIS SOLUTION

- Continuing education providers across professions/disciplines.
- National organizations of health professionals (e.g., American Medical Association, American Dental Association, American Dental Hygienists’ Association, American Nurses Association, American Pharmacists Association).
- Accrediting bodies for continuing education of health professionals (e.g., Accreditation Council for Graduate Medical Education, Commission on Dental Accreditation, American Academy of Dental Hygiene, American Nurses Credentialing Center, Accreditation Council for Pharmacy Education, Commission on Collegiate Nursing Education).
- Interprofessional Education Collaborative.
- Hospitals and health systems.
- Department of Veterans Affairs.
- Centers for Medicare and Medicaid Services.
- Bureau of Health Workforce/Health Resources and Services Administration (HRSA).

CHALLENGES AND BARRIERS

Policy

- Scope of practice expanded for nondental providers (e.g., application of fluoride, writing prescriptions for fluoride and other adjunctive preventive aids) and dental professionals (e.g., smoking cessation).

Education

- Need for an interprofessional approach to oral health care linking it to overall health.
- Need for educating practitioners on the relevance and value of interprofessional oral health activities to their practices.
- Time constraints limit opportunities for providers to attend continuing professional education and/or for dental professionals to enroll in existing

certificate and masters programs in geriatric dentistry.

Practice

- Workforce issues, including relative number and distribution of oral health care providers.
- Limited financial incentives because of lack of reimbursement or coverage.
- Lack of understanding of the roles and responsibilities of other members of the team.
- For implementation, resources are needed for patient education materials and referral options.

Research

- Need to demonstrate evidence for effectiveness of interventions provided by nondental health professionals.
- Need to demonstrate increased access to care as a result of opportunities/ programs involving nondental health professionals.
- Need to demonstrate cost savings with participation of expanded team providing oral health care.

Funding

- Need funding for program development.
- Need funding for training and workforce development (to compensate for loss of HRSA funds).

KEY POINTS OF EVALUATION

- Availability of interdisciplinary continuing education opportunities focusing on oral health.
- Availability of profession-specific continuing education opportunities focusing on oral health.

^a This webinar series is available online at <http://www.nicheprogram.org/knowledge-center/webinars/archived-webinars>.

^b Materials from this symposium are available online at <https://www.nyu.edu/about/news-publications/news/2016/september/nyu-health-sciences-symposium-transforming-whole-person-care-t.html>.

Overcoming Key Oral Health Care Access Barriers

When it comes to expanding oral health services for older adults, the need is unquestioned. Adults cite cost and insurance problems, time, transportation, anxiety, and other reasons for not intending to see a dentist within the next year.⁶

Two key barriers to provision of adequate oral health services could be influenced by the dental profession: affordability of oral health services and ensuring a sufficient supply of oral health professionals with geriatric training to meet patient demand.

People want to maintain a healthy mouth for many reasons, Michael C. Alfano, DMD, PhD, told forum participants. Alfano, president of the Santa Fe Group and professor, dean, and executive vice president emeritus at New York University, listed the benefits of oral health for its own sake: mastication, speaking, nonverbal communication, positive social interactions, and making a great first impression.

As adults retire and lose employer-sponsored insurance, they are able to obtain medical coverage through the Medicare system at 65 years of age. Medicare does not provide coverage for oral health services, and thus many people lose their dental benefits at this age, Alfano said. The combination of living on a fixed or reduced income and having no dental insurance deters many older adults from obtaining the oral health services at an important point in their lives.⁷

The Santa Fe Group is working to change that, Alfano added. Using the limited data available in the peer-reviewed literature and the important studies of data

provided by dental insurance companies (see sidebar to the right), Alfano and his group have set a formal goal of securing an oral health benefit for Medicare beneficiaries. In addition to conducting an important conference on this topic in 2016, the Santa Fe Group is collaborating on a Medicare oral health benefit with governmental partners, associations of health professionals, nonprofit foundations, and insurance companies that offer coverage of oral health services.

If economic barriers were removed for older adults, the question then becomes how demand for oral health services will be affected and the number and distribution of available oral health practitioners positioned to meet any change in demand. In the United States, 73 million baby boomers are moving into their Medicare years. This scenario is being repeated in many other countries. Although new dental schools have opened in recent years and some existing schools have increased their class sizes, many current practitioners who were educated in the 1970s and 1980s are starting to retire, potentially decreasing the number of practicing dentists. More significantly, a substantial number of dentists specially trained in caring for geriatric patients via geriatric fellowship programs first established in the 1980s are also nearing the end of their careers, and many of those still active professionally are in academic settings or in other positions that do not involve as much direct patient care. Federal funding for such programs, available from the Health Resources and Services Administration, has decreased. There are multiple medically/dentally

Avalere: Cost Savings Demonstrated in the "Insurance Studies"

What are the expected economic benefits of an oral health benefit under Medicare? Such questions are difficult to answer through controlled trials, but data on large patient populations are available through the claims processed over the years by insurance companies offering a dental benefit to employers.

United Concordia/Highmark, Cigna, Aetna, and UnitedHealth report annual reductions in medical costs ranging from \$1,300 to \$3,200 per person when patients with diabetes have periodontal treatments. In patients with congestive heart failure or chronic kidney disease, cost reductions were as much as \$14,000 per person per year.⁸

Avalere Health, a Washington, DC–based consulting firm, calculated that a periodontal benefit under Medicare would produce overall savings of \$63.5 billion over a 10-year period and this cost reduction would continue over the long term. The analysis considered medically complex patients with one of three chronic conditions. In the later years of the period, medical cost savings were as much as \$12 per \$1 spent for dental benefits.⁸



underserved areas and dental health professions shortage areas in every state, resulting in poor access to oral health services, as well as disparities in care, in many rural and inner city locations.

One vision for addressing the supply side of the equation was provided to forum attendees by Stephen Shuman, DDS, MS, of the University of Minnesota School of Dentistry and chair of the GSA Oral Health Workgroup. Shuman heads Minnesota's Oral Health Services for Older Adults Program, which seeks to train dental and nondental professionals at all levels to provide better care, contribute new knowledge about geriatric dental care, and improve access to high-quality oral health services for older adults with special needs.

A dental clinic built and staffed at the Walker Methodist Health Center in Minneapolis is one specific way in which Shuman's group has expanded availability of oral health services for older adults while increasing educational opportunities for dental professionals at all levels. First opened in 2006 and expanded in 2016, the clinic has provided 15,000 visits to more than 2,000 older adults from 15 area long-term care facilities and the community at large. The value of these services is \$3 million, including \$1 million of uncompensated care. The clinic has also trained more than 300 dental and other health professions students about geriatric care, including dental, dental hygiene, and dental therapy students, students from other health disciplines, and practicing professionals in continuing education.

"Unlike medicine or pharmacy, which may be able to pack up and move around more easily, dentistry has to build a clinic, attract patients, and develop a model for sustainability," Shuman said. "Fortunately, Walker Methodist is one of those elder care providers that recognizes the need for more professionals trained in geriatrics to meet demand and is willing to provide a site for clinical and interprofessional training that also expands community access to care."

At the forum, participants discussed this topic and formulated the Solution detailed in the box to the right.



Medicare Coverage of Oral Health Services

DESCRIPTION

Obtain Part B coverage of oral health services for Medicare beneficiaries.

WHO COULD BE INVOLVED IN THIS SOLUTION

- Policymakers.
- Insurance companies.
- Health professionals of all types and their professional organizations.
- Educational organizations.
- Public/social services groups.
- Consumer groups.
- Health care economists.
- Federal government, including the Congressional Budget Office, Office of Management and Budget, Department of Health and Human Services (Centers for Medicare and Medicaid Services, Centers for Disease Control and Prevention, Health Resources and Services Administration, National Institutes of Health, Agency for Healthcare Research and Quality), and Internal Revenue Service.
- State governments.

CHALLENGES AND BARRIERS

Policy

- Need for advocates/lobbyists; oral health lacks "appeal" that has driven support of other causes.

Education

- Need to educate the public that not only is oral health a benefit that is attainable and worth pursuing on its own merits but also because it can improve management of several systemic conditions, reduce the need for hospitalization, and reduce total health care costs.
- Need consumer/grassroots support.
- Need consumer oral health champions.

Practice

- Need programs to support practice change and adaptations to a new payer environment.
- Lack of oral health benefit for older adults and other Medicare beneficiaries.
- Financial barriers to oral health access for older adults and other Medicare beneficiaries.

Research

- Need more research (and funding for the research) to demonstrate cost-effectiveness with Medicare benefit/ focus on prevention.
- Need continued research into the impact of improved oral health on prevention and management of chronic diseases.

Funding

- Need funding for advocacy efforts (Santa Fe Group).
- Need research funding to address the impact of proposed and implemented programs.
- Need funding for consumer education.

KEY POINTS OF EVALUATION

- Support for Medicare coverage by health professional organizations, especially those in dentistry and leading medical, nursing, pharmacy, geriatrics/gerontology, and social work associations.
- Support for Medicare coverage of oral health services by Members of Congress, candidates for Congress in 2018 and 2020, U.S. President, and candidates for that office in 2020.
- Consumer support/demand for coverage of oral health services under Medicare.
- Enrollment of providers and beneficiaries in oral health Part B services once the benefit is established.

Creating Oral Health Interprofessional Champions

“It takes a team to improve oral health,” Linda C. Niessen, DMD, MPH, dean of the Nova Southeastern University College of Dental Medicine, told forum participants. The number of variables affecting access to dental care for

older adults increases with age. Lack of financing, inadequate transportation, and patient beliefs that dental care is unneeded can interfere with accessing needed dental care. Niessen discussed the need for a team approach to oral health if the country is to

overcome these and other access issues as the number of older adults swells during the baby boomers’ senior years.

To be effective team members, all health professionals must be educated about the oral health needs of older adults

Microbiomes and the Immune System

Mounting medical research evidence suggests that bacterial infections in the mouth are associated with inflammation in remote sites of the body, potentially contributing to chronic diseases. Through increased knowledge of relationships between microbiomes and the immune system, newly identified, intertwined factors are providing options for clinicians seeking to treat a broad spectrum of oral and systemic diseases.

Summarizing this research for forum participants was Harold Slavkin, DDS, professor and dean emeritus at the Herman Ostrow School of Dentistry, Center for Craniofacial Molecular Biology, University of Southern California, and former director of the National Institute of Dental and Craniofacial Research. “Thousands of microbial species populate biofilms found in many niches of the body,” Slavkin said. “Presently, a total of 8 billion people are on Earth, but there are 10^{31} microbes—viruses, bacteria, fungi, and protozoa—with 1,400 species shown to be pathogenic.”

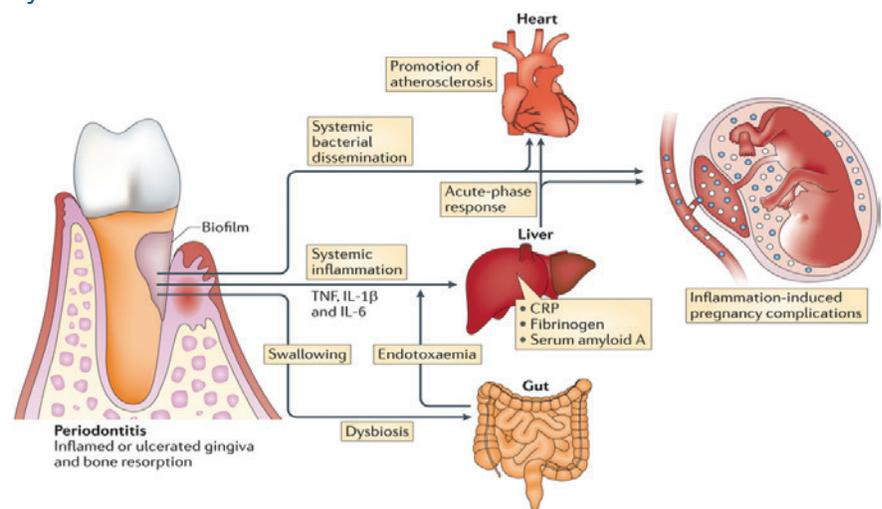
The biofilm created when plaque forms in the mouth can have marked effects on the mouth and supporting bone and gum structures but also on distant organs, Slavkin said. As shown in Figure 4, physical transfer of pathogens can lead to infections, and immune components

responding to the biofilm can produce inflammation in the liver, heart, and uterus.⁹

Microbes in the body are for the most part not harmful; in fact, biofilms are typically necessary for proper function of organs in which they occur routinely. In the mouth, though, bacteria and biofilms

can lead to the development of dental caries (which are actually infectious diseases), and host genomics along with environmental factors can allow the microbes to produce periodontal disease and all the complications that accompany it, Slavkin said.

FIGURE 4. Biologically Plausible Mechanisms Linking Periodontitis to Systemic Inflammation and Disease



Nature Reviews | Immunology

Abbreviations: CRP, C-reactive protein; IL, interleukin; TNF, tumor necrosis factor.

Source: Reference 9 Reprinted by permission from Macmillan Publishers Ltd: *Nature Reviews Immunology*. Hajishengallis G. Periodontitis: from microbial immune subversion to systemic inflammation. 2015;15:30–44.

Mouth/Body Connection

The condition of the mouth can be reflective of, and contributory to, a variety of systemic conditions ranging from diabetes to respiratory disease and potentially other disorders. Declines in activities of daily living, increases in frailty, and even increased mortality have been linked to poor oral health in some studies,¹¹ along with a number of physical and behavioral disorders associated with inflammatory factors common among these diseases. Examples of oral infection-related problems associated with systemic diseases illustrate the operative pathophysiologic mechanisms.

Diabetes contributes to periodontal disease. It worsens oral health primarily through its effects on the body's microbe-fighting capabilities; as blood glucose levels rise, the body is less adept at fighting pathogens and more susceptible to infections. Bacteria and fungi can proliferate in the oral cavity when hygiene is poor. Biofilms in plaque and tartar (calculus) on the teeth can easily extend into gingival tissues. Fungal infections such as thrush (candidiasis) can occur in the mouths of patients with diabetes, and lichen planus and lichenoid reactions can occur on the skin. Diabetes can reduce salivary gland function and thereby contribute to development of dental caries (see below for paragraph on xerostomia). Taste is often impaired in patients with diabetes,^{12,13} and neuropathy-associated reduction in salivary production can cause dental caries and gum/periodontal disease through xerostomia (dry mouth).¹⁴

Respiratory diseases and aspiration pneumonia occur more frequently in patients with poor oral health. Pathogens can easily travel between the mouth and lungs. Inflammatory overreactions to microbes are involved in damage to tissues in the gums and connective tissue of the lungs. Biofilms in the mouth and

upper respiratory tract can also serve as reservoirs of respiratory pathogens, creating additional sources of infection.¹⁵

Atherosclerotic conditions such as ischemic heart disease and ischemic stroke have been associated with periodontal disease in various case-control or cohort studies, and this association may be due to the general inflammation in blood vessels that each of these conditions can produce (Figure 4).^{9,16} Peer-reviewed published studies to date have suggested an associative, not causative, relationship between periodontal disease and atherosclerotic conditions, according to the American Heart Association and American Dental Association, which have noted that both conditions share some common risk factors such as diabetes and smoking that can complicate research.^{17,18} An infectious link could be the mechanism for this relationship, as high-risk periodontal pathogens have been shown to contribute to the pathogenesis of atherosclerosis.¹⁹

While clinical trials have not yet found that treatment of periodontal disease can lower the risks of poor outcomes of atherosclerotic disease, nor have reported the results of primary prevention, the relationship is biologically plausible given the general inflammation and common inflammatory factors found in these conditions.¹⁶ Moreover, when periodontal services were provided to patients with cerebrovascular disease or coronary artery disease, annual insurance claims costs were reduced by 40.9% and 10.7%, respectively.²⁰ Additional dental insurance studies⁹ also have found that treatment of periodontal disease lowers subsequent medical treatment costs, further implicating it as a contributory factor in atherosclerotic disease.

Specific high-risk pathogens entering the bloodstream from diseased gums could play a role in this relationship by increasing the release of pro-

inflammatory cytokines that can produce atherosclerosis and related conditions,¹⁹ acting through a “confounding relationship among oral infections, host inflammatory response, and host genetic characteristics,” according to Slavkin, writing on behalf of the Santa Fe Group in a May 2017 *JADA* editorial.²¹

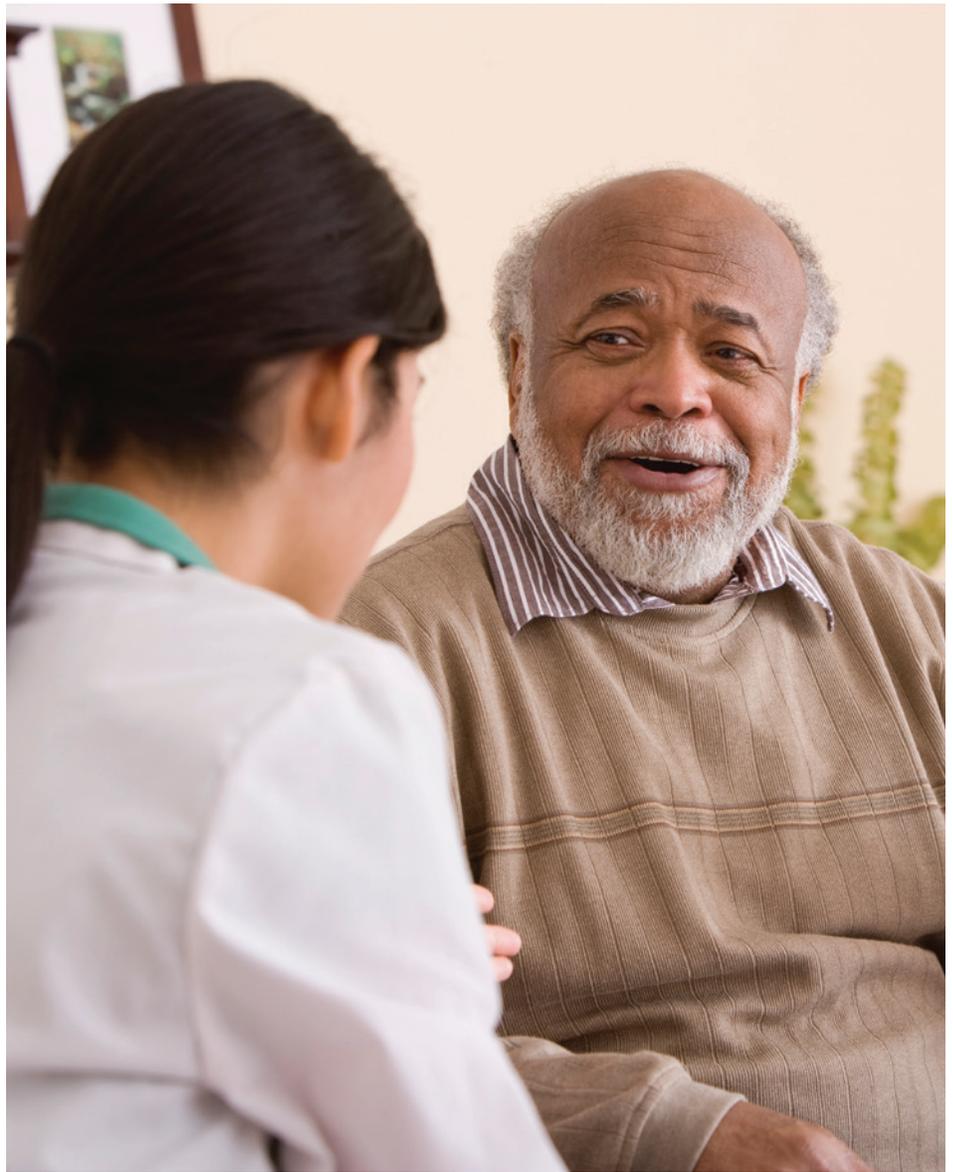
Osteoporosis is another disease with potential effects on oral health. Through its effects on bone, osteoporosis can produce weakness in the jaw bones that support the teeth. Patients taking certain medications for treating osteoporosis are at risk for osteonecrosis, a rare but serious complication that can affect the jaws after tooth-related trauma from infections, injuries, or extractions. Osteonecrosis is associated with use of bisphosphonates and denosumab, which are also used in patients with bone cancer.^{22,23}

Cognitive function and oral health measures appear to be interrelated, but causation remains unclear between cognitive impairment and factors such as tooth loss, periodontal disease and caries, and denture use. Research has shown that people with good oral hygiene habits and those who are seen regularly by dentists have reduced risks of cognitive decline and the onset of dementia; however, the cognitive impairment could be leading to poor oral health, rather than the other way around.²⁴ When dementia occurs, patients can lose the ability to brush and floss daily, and caregivers must add these tasks to their daily routines. The effort is worth it: Individuals with dementia can maintain dentition and healthy gums with good dental care just as well as those without dementia.^{25,26}

Xerostomia is a common condition that can result from medication use. Also common in older adults is polypharmacy, or the use of multiple medications for the numerous systemic conditions (e.g., urologic conditions) that occur

frequently as people age. Some of the medications used for these conditions have anticholinergic and other actions that decrease salivary flow as a side effect. Dry mouth complicates oral health on many levels, from promoting tooth decay to impairing functions such as speaking, tasting, chewing, and swallowing. Insufficient salivary secretion can also produce dry, cracked lips and lesions on the tongue and other oral soft tissues. Xerostomia predisposes patients to bad breath, which can have significant social interaction implications, especially in older adults and residents of long-term care facilities. The Beers list of agents provides guidance on medications that should be avoided in older adults, including several that cause dry mouth.^{27,28}

Head and neck cancer treatments—the high doses of radiation specifically—can produce a permanent decrease in salivary output and an altered consistency of saliva. When a sufficient amount of pH-buffering saliva is not available during a meal to correct the acidic environment associated with eating, the equilibrium of demineralization/remineralization of the enamel of the teeth shifts toward demineralization, leading to more caries and a faster clinical course when decay occurs. Combined with difficulty swallowing and mucosal sensitivity that develop as late symptoms and other related soft tissue problems (mucositis, candidiasis, mouth pain, and orofacial neuropathic pain), these cancer survivors often make alterations to their diets to avoid pain and sensitivity. Maladaptive changes—including consumption of foods with a high refined carbohydrate content and a diet lacking in fruits, vegetables, and protein—must be recognized and addressed to prevent nutritional problems that can lead to general functional deficits and overall patient decline.²⁹



using tested models such as Teaching Oral–Systemic Health.¹⁰ They will need to understand the evidence establishing a connection between a healthy mouth and a healthy body (see sidebar to the left). And they will need to be partners in health promotion campaigns that sensitize people to the importance of preventive oral hygiene and oral health services.

To care for older adults, health professionals will need additional skills and knowledge. As discussed in the sidebar, oral hygiene is not easy for patients with chronic diseases such as arthritis or dementia. Health professionals will need to provide information and instruction on how to reduce risks for caries and periodontal disease through interventions such as dietary counseling and avoiding

medications that decrease salivary flow whenever possible. As legally permissible, health professionals can apply fluoride, examine the mouth for oral cancer and dental problems, and offer other care traditionally offered by dentists. They can also encourage periodic preventive visits to oral health professionals.

Nurses and other professionals practicing in long-term care facilities need education and training on oral care for their residents with special needs. Studies show that dental care provided to frail older patients and those in the last year of life needs to be improved.^{30,31} Access to dental care is a particularly vexing challenge in this setting, as patients with dementia sometimes refuse care or become combative during routine dental cleanings

or other procedures. However, a study in a community-based geriatric dental clinic showed that most patients with dementia can maintain their dentition just as well as those without dementia when dental care is provided in a supportive setting.³² Supportive resources are available through projects such as Mouth Care Without a Battle (see Resources on page 22).

Through partnerships among all health professions—and building on the interprofessional skills developed in contemporary educational and training programs—oral health services can be more available to older adults.

At the forum, participants discussed this topic and formulated the Solution detailed in the box to the right.



Getting People to Care About Oral Health in Older Adults

DESCRIPTION

Drive awareness of the economic and humanistic value of better oral health for older adults through health promotions and public relations campaigns targeting consumers, caregivers, health professionals and other oral health champions, and researchers.

WHO COULD BE INVOLVED IN THIS SOLUTION

- Health professionals.
- Health care delivery organizations (e.g., health systems, ambulatory care clinics, community pharmacies).
- Consumer organizations.
- Caregiver organizations.
- Funding organizations.
- Industry.
- Government.
- Media outlets.
- Social media.

CHALLENGES AND BARRIERS

Policy

- Need to support public awareness of benefits of oral health—maintained through daily hygiene and periodic professional care—as advocacy efforts address financing and other barriers.

Education

- Insufficient oral health literacy of older adults and their caregivers.
- Lack of knowledge of dental professionals about older adults with complex medical conditions and functional limitations and lack of relevant research, clinical guidelines, and recommendations.
- Lack of perceived importance of oral health by nondental health professionals.

Practice

- Lack of oral health practice models (including ones providing opportunities for brief interventions by a wide variety of health professionals) and lack of awareness of such models in medicine, nursing, and other health professions.

Research

- Need to identify and address research gaps.
- Need to further examine the mechanisms between oral health and systemic diseases and frailty.
- Supplement the current evidence on the impact of oral disease on systemic health with studies of how the oral-systemic link can affect dental and medical care and how coordinated, whole-person care can improve the effectiveness of interventions and programs.

Funding

- Lack of funding for health promotion.

KEY POINTS OF EVALUATION

- Metrics for placement of news releases in various types of media (e.g., print, radio, television).
- Click rates and engagement on web-based and digital media.
- “Shares” and “likes” on social media.
- Success rates for stories pitched to media outlets.
- Changes in public opinion.
- Changes in educational curricula of health professionals to include oral health topics in didactic and experiential courses.



Improving Oral Health in Communities of Need

Despite a perception that dental care is widely available in the United States, many factors—some across populations and others affecting individuals—create communities of need when it comes to oral health services. Access is limited for people without dental insurance or the means to afford care on their own. A maldistribution of oral health professionals has resulted in limited access for those residing in some rural and low-income communities, and culturally competent care is needed for an increasingly diverse U.S. population. Low oral health literacy, cognitive/functional disability, and lack of transportation and caregiver support are other factors limiting oral health services for specific individuals.

As mentioned earlier, frail older adults have special needs regarding access to oral health care. Functionally dependent and/or cognitively impaired older adults residing at home or in long-term care facilities often have difficulty with daily oral hygiene, thereby increasing their risk for oral health problems. Increased training for facility staff, caregivers, and administrators about the importance of maintaining and improving older adults' access to services, tools, and information can provide critical foundational elements for successful oral health program implementation.

Frail older adults in long-term care facilities face particular challenges accessing dental care. Many states have Medicaid

programs that cover some emergency, preventive, and routine oral health services for facility residents. Others do not, even though federal law requires facilities that accept Medicare and/or Medicaid funds to be directly responsible for the dental care of their residents. Transportation challenges also come into play, as do clinical conditions that interfere with transport and/or provision of dental services. Ideally, long-term care facilities should develop an oral health care program with a plan to provide these services, but lack of funding can make these costs prohibitive.^{33,34}

Successful models of care that address access issues—often using the full spectrum of providers on the health care team—include the oral health components of Programs of All-Inclusive Care for the Elderly (PACE) such as On Lok PACE, other integrated medical and dental clinics such as the Gary and Mary West Senior Medical and Dental Clinics, rural outreach dental programs such as the University of Washington Regional Initiatives Dental Education Program, and the Alpha Omega–Henry Schein Cares Holocaust Survivors Oral Health Program providing dental care to older adult World War II Holocaust survivors.³⁵⁻³⁸

Many more innovative models of care are needed to begin to make a large dent in the tremendous unmet and projected need for oral health care services in the older adult population with poor access to

care. A new member of the dental services team, the dental therapist, is emerging as a midlevel practitioner who can provide services such as fillings and extractions at a lower cost (compared with dentists) and in alternative care settings. Dental therapists could prove to be especially important in the provision of services that are needed in long-term care facilities and in improving access to services in low-income, rural, and institutionalized populations.³⁹

Older adults who lack oral health literacy constitute another type of community of need. Many older adults deal daily with a number of conditions and concerns beyond oral health, and oral health care is not always the first priority for them.⁴⁰ Some older adults (as well as their caregivers) might believe that it is no longer necessary to have regular dental check-ups. In addition, cultural factors affect the use of dental care (e.g., perceptions of oral health and need for daily hygiene and periodic care by dental professionals).⁴¹ Caregivers can help supplement or provide oral hygiene care to older adults⁴² and should be aware of the need to help aging adults with these necessary daily activities, making sure that appropriate oral hygiene supplies (e.g., toothbrushes, flossing devices, mouthwash, adjunctive supplies such as fluoride mouth rinses or prescription gels) are available.

An active process is needed to encourage older adults to maintain their oral health on a daily basis throughout the life cycle.

Patient education is important in this effort. Furthermore, health promotional initiatives are needed to reach those who are not accessing dental services regularly and to enlist all health professionals as well as family members/caregivers in the effort to improve oral health as part of the healthy aging concept.

At the forum, participants discussed this topic and formulated the Solution detailed in the box to the right.



Improve Access to Dental Care

DESCRIPTION

Define and establish a systematic approach to improving access to care for older adults that addresses barriers of low oral health literacy, poverty, lack of dental insurance, cognitive/functional disability, lack of transportation and caregiver support, and inability to find care.

WHO COULD BE INVOLVED IN THIS SOLUTION

- Policymakers—Medicare oral health benefit; subsidies or tax credits for oral care for low-income older adults; change state scope of practice laws and regulations to allow expanded oral health services provided by dental hygienists, dental therapists, and nondental health professionals.
- Health professionals—improve interprofessional collaborative practice to reintegrate oral health care into comprehensive general health care; improve access to dental care and quality of care in underserved populations; develop new care models to promote access to oral health services; increase availability of teledentistry and mobile oral health care services.
- Educational organizations—improve interprofessional training to increase nondental professionals' awareness of oral health; improve geriatric oral training for dental and nondental professionals; establish competency standards across interprofessional education.
- Public/social services—improve collaboration between oral health professionals and social workers; provide public services (e.g., transportation, language services) to improve access to oral health care services.
- Consumer groups—increase oral health literacy and public awareness of oral health.

CHALLENGES AND BARRIERS

Policy

- No dental insurance or inability to afford dental care; low reimbursement by Medicaid.

Education

- Inadequate public awareness of importance of oral health.

Practice

- Shortage of oral health professionals trained in geriatric care.
- Inadequate interactions and collaboration between dental and other health professionals.
- Limited access to dental care in long-term care settings.

Research

- Need evidence-based models of care to support justification for funding.
- Provide funding to establish and develop innovative demonstration projects.

Funding

- Inability to access oral health care because of lack of transportation, inability of older adults to travel to obtain needed services, shortage or maldistribution of providers.

KEY POINTS OF EVALUATION

- Percentage of older adults from a variety of environments who visit a dentist in a given year, based on data collected by the Centers for Disease Control and Prevention.
- Prevalence and incidence of oral disease/conditions (dental caries, periodontal disease, tooth loss) in older Americans, based on data collected in the National Health and Nutrition Examination Surveys.
- Percentage and/or number of federally qualified health centers with oral health care services.
- Availability of oral health benefit under Medicare Part B.

Focusing on the Future Through Creation of a Coalition of Oral Health Champions

What is the best way to empower the stakeholders in attendance at the GSA forum to work together in optimizing oral health among older adults?

During breakouts and other small-group discussions, forum participants concluded that a coalition of oral health champions is needed to facilitate discussion and idea generation among stakeholders, policymakers, health professionals, payers, and the public, and to serve as an access point to the wide variety of available toolkits and other existing resources.

Organizations and stakeholders—such as Oral Health America, the Santa Fe Group, the Association for State and Territorial Dental Directors, and the Administration for Community Living, to name a few—are already involved in interprofessional collaborative projects addressing oral health for older adults. While activities of participants overlap, relevant information is scattered across the internet. This makes it difficult for oral health champions to be sure they know about all available resources. Through a centralized, comprehensive compilation of these complementary assets in an interprofessional clearinghouse, the effectiveness of such efforts can be maximized.

A coalition of stakeholders could establish and maintain a platform for communication and information sharing, and identify and publicize champions for oral health for older adults. An internet-based clearinghouse of resources would provide organized, public access to resources for education, clinical care,



research, policy, and funding. It could include nationally recognized curricula, oral health resources for caregivers, and patient education toolkits. Emerging information could be disseminated inexpensively through electronic newsletters. This setting provides the coalition the ability to evaluate existing resources and set the education, clinical

care, research, policy, and funding agendas for future initiatives through identified gaps in knowledge.

The coalition could also provide researchers in the aging field who are interested in expanding into oral health with a way to connect with oral health experts to identify funding sources and obtain guidance on survey design and

data collection. Coalition members would serve as mentors for young academicians, researchers, and clinicians interested in pursuing specialization in oral health within their fields.

At the forum, participants discussed this topic and formulated the Solution detailed in the box to the right.



Creating a Coalition of Oral Health Champions

DESCRIPTION

Organize stakeholders through establishment of a "coalition of oral health champions" to collaborate on ways to improve oral health in older adults. Through this coalition, create an online, centralized, comprehensive clearinghouse of their many complementary oral health activities.

WHO COULD BE INVOLVED IN THIS SOLUTION

- Stakeholders in education, practice, research, and policy (including agencies of the federal and/or state governments).
- Groups and organizations such as The Gerontological Society of America, health and dental professional associations, Oral Health America, the Santa Fe Group, and the Association for State and Territorial Dental Directors.
- Existing and emerging coalitions (e.g., in Michigan, the Coalition for Oral Health for the Aging; in New Jersey, the New Jersey Coalition for Oral Health for the Aging).

CHALLENGES AND BARRIERS

Policy/Education/Practice/Research

- Need for coordination of potentially duplicative efforts of stakeholders ultimately committed to similar goals.
- Need for a forum in which stakeholders can discuss issues, identify mutually agreeable solutions, and create efficient plans for ensuring optimal oral health for older adults.
- Need to bring programs and resources involving policy, education, practice, research, and funding together to facilitate interprofessional collaboration as equal partners.

Funding

- Funding would be needed for start-up and ongoing support of this effort.

KEY POINTS OF EVALUATION

- Website traffic.
- Number of groups and organizations willing to join a coalition.
- Availability of sufficient funding for coalition activities and website.
- Guidelines or other products to promote interprofessional collaboration.

Conclusion

Tooth loss and poor oral health are not inevitable during the aging process. Oral health can be maintained throughout one's lifetime with daily oral hygiene and periodic professional care. Prevention and patient education strategies—both for individuals and communities—are critical in oral health for older adults. Oral health is a necessary part of overall health; it affects quality of life, has a potentially positive impact on a variety of chronic systemic conditions, and may contribute to reductions in total health care costs.

The six “Solutions” advocated in this white paper provide a roadmap for oral health champions to use in improving oral health in older adults. Through coordinated strategies in the education, practice, policy, and research arenas, an oral health community can coalesce and drive progress toward a new paradigm in which all health professionals share responsibility for better outcomes in both oral and systemic health.

As efforts to add oral health care as a benefit in the Medicare program take shape, research into educational programs, treatment provision, prevention strategies, and knowledge base will be needed. Specific research and program development areas include these examples:

- Support inclusion of oral health benefits as part of Medicare by examining the clinical, economic, social, and humanistic benefits of oral health

service utilization increases among beneficiaries compared with a control group of older adults.

- Develop effective models for improving oral health in older adults with special needs, including extent of involvement of dentists, other dental professionals (e.g., hygienists, therapists), nurses, and other relevant health professionals.
- Assess engagement of community oral health coordinators with underserved populations and evaluate their relative impact on oral health service utilization.
- Improve attitudes, skill levels, and knowledge of nondental health professionals about normal and pathological findings in the oral cavity.
- Promote evidence-based educational and clinical programs for all members of the health care team.
- Evaluate community-based oral health promotion programs.
- Perform longitudinal studies to understand the dynamic interrelationships among aging, systemic health, and oral health in older adults.

Good oral health is an important element in healthy aging. Through adoption of integrated models of care that involve all health professionals as well as proper research and funding, millions of older adults can maintain their oral health for a lifetime and enjoy the far-reaching benefits of overall better health and quality of life.



Resources

Love the Gums You're With:

Patient resources on the website of the American Academy of Periodontology (www.perio.org/consumer/patient-resources) and the organization's GUMBLR website for "all things gums" (www.loveyourgums.tumblr.com)

Mouth Care Without a Battle:

An evidence-based approach to person-centered daily mouth care for individuals with cognitive and physical impairment (www.mouthcarewithoutabattle.org)

Mouth Healthy: Consumer-facing website of the American Dental Association (www.mouthhealthy.org)

Oral Health: Federal resources are listed on the Health Resources and Services Administration website (www.hrsa.gov/publichealth/clinical/oralhealth/)

Smiles for Life: Resources useful for professionals teaching students in the health professions or interacting directly with patients about oral health (www.smilesforlifeoralhealth.org)

Tooth Wisdom: Health resources, developed by the nonprofit Oral Health America, for older adults regarding the importance of oral health, finding dental care services, and paying for care (www.toothwisdom.org)

References

1. Haber J, Hartnett E, Allen K, et al. Putting the mouth back in the head: HEENT to HEENOT. *Am J Public Health*. 2015;105(3):437–441.
2. Interprofessional Education Collaborative. *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Washington, DC: Interprofessional Education Collaborative; 2016.
3. Health Resources and Services Administration. Integration of oral health and primary care practice. February 2014. <https://www.hrsa.gov/publichealth/clinical/oralhealth/primarycare/integrationoforalhealth.pdf>. Accessed April 17, 2017.
4. Spolarich A. Training pharmacists to counsel older adults about oral health. Paper presented at the International Association for Dental Research General Session; March 24, 2017; San Francisco, CA. <https://iadr2017.zerista.com/poster/member/77308>. Accessed April 17, 2017.
5. Hummel J, Phillips KE, Holt B, Hayes C. *Oral Health: An Essential Component of Primary Care*. Seattle, WA: Qualis Health; June 2015. <http://www.safetynetmedicalhome.org/sites/default/files/Guide-Oral-Health-Integration.pdf>. Accessed April 17, 2017.
6. Yarbrough C, Nasseh K, Vujicic M. Why adults forgo dental care: evidence from a new national survey. Chicago, IL: American Dental Association Health Policy Institute; November 2014. http://www.ada.org/~media/ADA/Science%20and%20Research/HPI/Files/HPIBrief_1114_1.ashx. Accessed April 17, 2017.
7. Calvo J, Chávez EM, Jones J. Financial roadblocks to oral health for older adults. *Generations*. 2016;40(3):85–89.
8. Avalere Health. Evaluation of the cost savings associated with periodontal disease treatment benefit. January 4, 2016. http://pdsfoundation.org/downloads/Avalere_Health_Estimated_Impact_of_Medicare_Periodontal_Coverage.pdf. Accessed June 9, 2017.
9. Hajishengallis G. Periodontitis: from microbial immune subversion to systemic inflammation. *Nat Rev Immunol*. 2015;15:30–44.
10. Haber J, Hartnett E, Allen K, et al. The impact of oral-systemic health on advancing interprofessional education outcomes. *J Dent Educ*. 2017;81(2):140–148.
11. Zhang W, Wu YY, Wu B. Does oral health predict functional status in late life? Findings from a national sample. *J Aging Health*. Epub March 20, 2017.
12. American Dental Association. For the dental patient. Diabetes: tips for good oral health. *J Am Dent Assoc*. 2010;141(7):926.
13. American Diabetes Association. Diabetes and oral health problems. October 10, 2014. <http://www.diabetes.org/living-with-diabetes/treatment-and-care/oral-health-and-hygiene/diabetes-and-oral-health.html>. Accessed April 17, 2017.
14. Borgnakke W, Anderson P, Shannon C, Jivanescu A. Is there a relationship between oral health and diabetic neuropathy? *Curr Diab Rep*. 2015;15(11):93.
15. Gulati M, Anand V, Jain N, et al. Essentials of periodontal medicine in preventive medicine. *Int J Prev Med*. 2013;4(9):988–994.
16. Li C, Lv Z, Shi Z, Zhu Y, Wu Y, et al. Periodontal therapy for the management of cardiovascular disease in patients with chronic periodontitis. *Cochrane Database Syst Rev*. 2014;8:CD009197.
17. Lockhart PB, Bolger AF, Papapanou PN, et al. Periodontal disease and atherosclerotic vascular disease: does the evidence support an independent association? A scientific statement from the American Heart Association. *Circulation*. 2012;125(20):2520–2544.
18. American Diabetes Association. "New" periodontal disease and cardiovascular disease. October 21, 2015. <http://www.ada.org/en/science-research/science-in-the-news/new-periodontal-disease-and-cardiovascular-disease>. Accessed May 30, 2017.
19. Bale BF, Doneen AL, Vigerust DJ. High-risk periodontal pathogens contribute to the pathogenesis of atherosclerosis. *Postgrad Med J*. 2017;93(1098):215–220.
20. Jeffcoat MK, Jeffcoat RL, Gladowski PA, Bramson JB, Blum JJ. Impact of periodontal therapy on general health: evidence from insurance data for five systemic conditions. *Am J Prev Med*. 2014;47(2):166–174.
21. Slavkin HC, for the Santa Fe Group. A national imperative: oral health services in Medicare [editorial]. *J Am Dent Assoc*. 2017;148(5):281–283.

22. Rollason V, Laverrière A, MacDonald LC, Walsh T, Tramèr MR, Vogt-Ferrier NB. Interventions for treating bisphosphonate-related osteonecrosis of the jaw (BRONJ). *Cochrane Database Syst Rev.* 2016;2:CD008455.
23. Dodson TB. The frequency of medication-related osteonecrosis of the jaw and its associated risk factors. *Oral Maxillofac Surg Clin North Am.* 2015;27(4):509–516.
24. Li J, Hanzhang X, Pan W, Wu B. Association between tooth loss and cognitive decline: a 13-year longitudinal study of Chinese older adults. *PLoS One.* 2017;12(2):e0171404.
25. National Institute of Dental and Craniofacial Research. Dental care every day: a caregiver's guide. February 2012. <http://www.nidcr.nih.gov/OralHealth/Topics/DevelopmentalDisabilities/DentalCareEveryDay.htm>. Accessed April 17, 2017.
26. Wu B, Fillenbaum GG, Plassman BL, Guo L. Association between oral health and cognitive status: a systematic review. *J Am Geriatr Soc.* 2016;64(4):739–751.
27. American Geriatrics Society 2015 Beers Criteria Update Expert Panel. American Geriatrics Society 2015 updated Beers criteria for potentially inappropriate medication use in older adults. *J Am Geriatr Soc.* 2015;63(11):2227–2246.
28. Skaar DD, O'Conner H. Using the Beers criteria to identify potentially inappropriate medication use by older adult dental patients. *J Am Dent Assoc.* 2017;148(5):298–307.
29. Murphy BA, Deng J. Advances in supportive care for late effects of head and neck cancer. *J Clin Oncol.* 2015;33(29):3314–3321.
30. Chen X, Chen H, Douglas C, Preisser JS, Shuman SK. Dental treatment intensity in frail older adults in the last year of life. *J Am Dent Assoc.* 2013;144(11):1234–1242.
31. Chen X, Clark JJ, Preisser JS, Naorungroj S, Shuman SK. Dental caries in older adults in the last year of life. *J Am Geriatr Soc.* 2013;61(8):1345–1350.
32. Chen X, Shuman SK, Hodges JS, Gatewood LC, Xu J. Patterns of tooth loss in older adults with and without dementia: a retrospective study based on a Minnesota cohort. *J Am Geriatr Soc.* 2010;58(12):2300–2307.
33. Dirks SJ. Nursing facility dentistry. *Generations.* 2016;40(3):52–59.
34. Saunders MJ, Martin WE, Ceridan B, eds. *Dental Regs. Compliance Manual for the Nursing Facility (volume 1); Developing a Dental Program for the Nursing Facility: A Manual for Dental Office Staff (volume 2).* 3rd ed. American Society of Geriatric Dentistry/University of Texas Health Science Center at San Antonio; 2005.
35. Chávez EM, Lederman B. On Lok PACE: where oral healthcare is an integral part of healthcare. *Generations.* 2016;40(3):104–107.
36. Becerra K, Nguyen V. The Gary and Mary West Senior Dental Clinic: an integrated model of dental, health, and wellness care for older adults. *Generations.* 2016;40(3):100–103.
37. Roberts FA, DiMarco AC, Skillman SM, Mouradian WE. Growing the dental workforce to serve rural communities: University of Washington's RIDE Program. *Generations.* 2016;40(3):79–84.
38. Wiseman M. Alpha Omega–Henry Schein Cares Holocaust Program meets dental needs of survivors. *Generations.* 2016;40(3):108–110.
39. Koppelman J, Vitzthum K, Simon L. Expanding where dental therapists can practice could increase Americans' access to cost-efficient care. *Health Aff.* 2016;35(12):2200–2206.
40. Wu B, Plassman BL, Liang J, Wei L. Cognitive function and dental care utilization among community-dwelling older adults. *Am J Public Health.* 2007;97(12):2216–2221.
41. Luo H, Wu B. Acculturation and dental service use among Asian immigrants in the U.S. *Am J Prev Med.* 2016;51(6):939–946.
42. Wu B, Luo HB, Flint E, Qin L. Dental care utilization among caregivers who care for older adults. *Res Aging.* 2015;37(4):388–412.

