

**Written Statement of the American Association for Dental Research (AADR)
Senate Special Committee on Aging Forum: *Ageism in Health Care: Are Our Nation's
Seniors Receiving Proper Oral health Care?***

The AADR is a nonprofit organization composed of nearly 5,000 individual members and 100 institutional members dedicated to advancing research to improve oral health and facilitating the communication and application of research findings. AADR is a full partner with the US Department of Health & Human Services in addressing the Surgeon General's Call to Oral health Action and the Healthy People 2010 oral health objectives. To this end, the AADR in 2003 signed a Memorandum of Understanding (MOU) with the US Department of Health & Human Services in which the AADR agreed to engage in activities designed to facilitate the achievement of the oral health objectives of HP 2010 related to the prevention of dental caries, periodontal disease and the early diagnosis of oral cancer.

The AADR appreciates the opportunity to present its views and recommendations on the topic of oral health and aging to the Senate Special Committee on Aging. The following comments follow the order of the four questions that the various groups invited to the Forum have been asked to address.

1. What are the greatest problems that America's seniors face where oral health is concerned?

The major problem for older adults is the age-associated increased risk for disease – especially chronic diseases – and the likelihood that there will be multiple co-morbid conditions. Many of these diseases and their treatments (medications), place them at greater risk for oral health problems.

Currently, 35 million people are over age 65 in the United States, and this number is expected to double to 70 million by 2030 when one in five Americans will be 65 years or older. Women who reach age 65 can expect to live an additional 19 years of life, while men can expect to live an additional 16 years. The gap in life expectancy between men and women is narrowing with improvements in medical care, preventive health services and healthier lifestyles.

Disability from chronic disease places older adults at greatest risk for oral disease. More than half of older adults report at least one physical or non-physical disability. Disability is more severe in the very old. Arthritis occurs in half of older persons and can have a profound effect on oral hygiene. Older adults' more frequent use of medications such as antidepressants, antihistamines, antihypertensives and diuretics is often associated with decreased saliva flow, xerostomia, or dry mouth. Reduced salivary flow compromises the ability of the elderly to chew, speak, taste, swallow and increases the risk for dental caries, periodontal diseases, and soft-tissue trauma. Oral candidiasis (thrush or an oral infection caused by yeast) may occur with long-term use of antibiotics, steroid therapy or chemotherapy. Gingival overgrowth also can be induced by medications such as anticonvulsants (phenytoin), cyclosporine and calcium channel blockers (e.g., nifedipine) in the presence of poor oral hygiene, further complicating the ability to maintain good oral hygiene. Medical conditions that compromise the immune system such as diabetes

mellitus, head and neck radiation therapy and human immunodeficiency virus (HIV) infection also place the patient at risk for candidiasis.

Dental caries is not just a problem of the young. Older adults not only experience cavities on the crowns of the teeth like young people, but they are also more likely to have root caries. Root caries occurs more frequently in older adults. Until recently dental caries was considered a childhood disease; however, older adults present with the greatest increase in the number of teeth at risk for caries. Estimates show that by 2030 the number of teeth at risk for dental caries in 45-64 year olds will increase by 73% and in the 65-84 year old group 104%. This increase is due to the fact that people are living longer and with more of their teeth. National survey data show that 47% of individuals age 65 to 74 and 56% of individuals 75 years and older have decayed or filled root surfaces. Risk factors for root caries are dry mouth, poor oral hygiene, exposed root surfaces (gingival recession), cognitive or physical deficits, a high carbohydrate diet and partial dentures.

Little evidence exists that the risk factors for periodontal disease in older adults are different than the risk for factors for younger people. Nonetheless, periodontal disease in older adults may be modified by health and immune status, medication, genetics, diabetes, nutrition, saliva flow, as well as cognitive and functional deficits. Regardless of age, periodontal disease may progress faster and the response to its treatment may be slower in smokers than non-smokers.

Tobacco and alcohol use are the major risk factors for oral and pharyngeal cancers. Approximately 90% of people with oral and pharyngeal cancers use tobacco. All forms of tobacco use, including smokeless/chewing, cigars, and pipes, increase the risk for the disease. Smokers and those who frequently drink alcohol are up to six times more likely than who do not use these products to develop oral cancers. It is estimated that oral and pharyngeal cancer will account for 28,900 new cases and 7,400 deaths in the 2002 in the US. Oral and pharyngeal cancer increases with advanced age with most occurring after age 40. Men are diagnosed with the disease twice as often as women although data suggest the gap is slowly narrowing. The prognosis for oral and pharyngeal cancer has not improved in recent decades and more than half of oral cancers have metastasized to a distant site by the time of diagnosis.

Oral diseases such as dental caries, periodontal disease, oral cancer, and other soft tissue lesions are often present in older adults. Compounding the occurrence of oral disease are medical and psychiatric diagnoses, as well as physical and financial limitations.

- Although edentulism has declined in the elderly from 46% in the early 1970s to 29% in 1988-94, those with lower incomes are much more likely to be missing all their teeth. 37% of those with incomes of <\$15,000 are edentulous compared to only 8% of those with incomes greater than \$50,000. Further, irrespective of income, the percentage of the population with a “functional dentition” (at least 21 teeth) declines with age as illustrated below. The use of dental services by the elderly is correlated not only with income and dental insurance coverage but also by the presence of teeth. As the edentulous population continues to decline and is replaced by older adults with increasing numbers of teeth requiring large amounts of restorative care, the need and demand for dental care by the elderly can be expected to grow.

Age	% with at least 21 teeth
20-29	97
60-69	41
70-79	30
80+	28

- On average, healthy community dwelling seniors take 3-4 medications per day compared to those in long-term care facilities who take about 8 medications per day. Many prescription and over-the-counter medications are associated with decreased saliva flow, and dry mouth and can, therefore, compromise chewing, tasting speaking and swallowing. (Niessen, Fedele 2002)
- It has been estimated that about one-third of community-dwelling older adults may have xerostomia and often patients are asymptomatic. Assessment of salivary flow is not usually incorporated into a routine dental examination; however, as noted above, lack of adequate saliva can be a significant problem for the elderly. Available clinical resources are now directed toward restorative dental treatment rather than specific diagnosis of the problem and implementation of an aggressive preventive intervention. (Navazesh, 2002)
- It has been reported that seniors are now entering nursing homes with greater numbers of teeth as well as more complex dentistry such as implant-supported prostheses. (Niessen, Fedele 2002)
- Data from the third NHANES indicate that 47% of 65-74 year olds and 56% of 75 year olds had decayed or filled root surfaces. (Winn, 1996)
- Although caries risk has declined for children and young adults, it has not done so for those 45 and older and in fact has increased for those 70 years and older. Caries risk management is especially important for the elderly population, given the additional risk factors, such as gingival recession, decreased salivary flow, removable partial dentures, physical disability, inability to pay for treatment and limited access to dental care. (Anusavice 2002)
- Few randomized controlled trials have been conducted to assess changing risk patterns for caries in the elderly or identify optimal diagnostic and treatment approaches to reduce caries risk. (Anusavice 2002)
- Only 7% of 75-85 year olds have healthy periodontal tissues (Mulligan, 2002).
- Lack of manual dexterity and/or visual acuity may hamper efforts of the elderly in performing oral hygiene. Dementia in institutionalized elderly further complicates plaque removal. (Mulligan, 2002)
- Two-thirds of oral and pharyngeal cancers occur in the elderly. (Mulligan, 2002)
- Other risks to the general health of the elderly that may be related to oral health include aspiration pneumonia and cardiovascular disease. Additional studies are needed in order in to determine the most effective preventive regimens for aspiration pneumonia and to determine if there is in fact a causal link between periodontal disease and cardiovascular disease or low birth weight babies. (Page et al In: Annals of Periodontology, 2001)
- About 60% of women and 50% of men 70 and older have osteoporosis (Sarment, 2002) and as individuals continue to live longer, the prevalence of osteoporosis is expected to increase rapidly. Limited research shows a correlation between bone mineral density

(BMD) of the jaws and systemic BMD. If supported by additional research, it is possible that dental x-ray films could eventually be used as screening devices for osteoporosis. Further studies of the relationships between osteoporosis, periodontal disease and tooth loss offer the opportunity to improve both the diagnosis and treatment of all these conditions. (Mulligan, 2002)

2. Caring for the elderly necessitates a multi-disciplinary approach. What are the responsibilities of the various stakeholders in providing older Americans with proper dental care?

A major challenge in caring for older adults is managing the multiple existing co-morbid chronic conditions whose course and treatment may introduce further problems and complications. Geriatric caregivers must appreciate the potential scope of potential interactions. There are a number of diseases and conditions that place older adults at greater risk for dental and oral health problems. Conversely, due to senescent and disease-related alterations in immune competence or neurological impairment, oral disease may present a significant risk to the general health of selected populations.

From the perspective of the research community, we believe significant advances have been made that have directly contributed to improved oral health for older Americans, but much remains to be done. Many advances in dental disease prevention and treatment have been made possible through dental research. Prevention of tooth decay has been enhanced by studies revealing the benefits of water fluoridation, fluoride rinses, toothpastes, and varnishes as well as dental sealants. Treatment of the effects of tooth decay range from vastly improved restorative materials to implants to replace lost teeth. Scientists are exploring connections between periodontal and systemic diseases and biomimetics offers the potential to eventually grow new teeth (Young, 2002). Remarkable advances in human molecular genetics are identifying genes for developing therapeutic approaches to many oral diseases, including those that affect the elderly (US DHHS 2000). It is important to continue to support this ongoing research to enhance the prevention of disease and the effectiveness of care delivery. The AADR encourages support of federal agencies (NIDCR, AHRQ, CDC, DoD, VA) that are engaged in this research and notes the following as highlights of areas of opportunity for future research.

- Continue research efforts in risk assessment for oral disease. Encourage the development of practice-based networks to further refine these tools.
- Encourage the NIDCR and other federal agencies to support research efforts to identify the most appropriate methods of addressing the oral health needs of seniors.
- Support research that will determine whether or not there is a causal link between periodontal disease and cardiovascular disease, or aspiration pneumonia.
- Support research to advance the use of saliva as a diagnostic fluid for a wide variety of conditions, such as diabetes and breast cancer.
- Expand support for the NIDCR Centers for Research to Reduce Disparities to better understand the complex interplay among factors such as socio-economic status, ethnicity and environment.

- Support research efforts to improve the diagnosis of and expand treatment options for temporomandibular joint disorders.
- Support biomimetic and tissue engineering research that may eventually allow for the replacement of lost tooth structure with natural body tissue or even the ability to stimulate the growth of new teeth and perhaps functional structures of the periodontium as well.

3. Are there sufficient numbers of properly trained geriatric dentists, especially as 77 million baby boomers prepare to retire?

No. It is essential that geriatric dentists be trained in an interdisciplinary and multidisciplinary environment of health providers to appreciate the scope of diseases and health impacts of co-morbid conditions.

In preparation for this Forum, the AADR was unable to locate data on the number of dental practitioners specifically trained in geriatrics. Given the risk factors identify earlier, it certainly makes sense to have dental clinicians who are fully aware of the risk factors and are equipped with the necessary diagnostic and treatment skills. To achieve this goal, however, it may not be necessary to train large numbers of geriatric dental specialists. Such skills should be imparted as part of the didactic and clinical training received in dental school, with supplementation available through general practice and advanced dental education residencies. There should also be a number of residency programs in geriatric dentistry for practitioners who wish to devote their practices to treatment of the elderly and to train the needed faculty in this area. It is noteworthy that, despite the inexorable ‘graying’ of the US population, dental geriatric residencies in the Veterans Administration, once a key source of acquiring skills in this field, have been eliminated.

4. Suggested Solutions and/or Recommendations

- Support a research agenda that uncovers the causes of oral disease in older Americans and identifies best treatment options.
- Engage as many stakeholders as possible in pursuing the Surgeon General’s *Call to Action to Promote Oral Health*.
- Use the *Healthy People 2010* Oral Health objectives to guide and evaluate efforts to improve oral health for senior citizens
- Implement aggressive prevention efforts, using evidence-based interventions for patients determined to be at high risk for oral diseases whether in community or institutional settings.
- Improve the financing of oral health care for the elderly. Among the options to be considered: coverage of basic dental services under Medicaid, extending private dental coverage into retirement years, or providing seniors with the option to pay modest premiums for private coverage of a basic package of dental services. At a minimum, implement the recommendations of the IOM in regard to medically necessary dental services.
- Assure that dental schools, residencies and continuing education offer training that will enhance the knowledge and skill of providers in addressing the needs of seniors.

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