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Across the globe, an exploding senior population intensifies the need for basic and specialized dental care. A strong relationship exists between dental and general health for the elderly, yet there is not currently a recognized dental specialty in geriatrics in the United States. By 2030, it is expected that there will be nearly 71 million adults 65 years and older in the United States, making up 20% of the population (Centers for Disease Control and Prevention [CDC], 2007).

2006 Population % 65 years +	
United States	12%
Texas	10%
Bandera County	16%
Bexar County	10%
Comal County	14%
Kendall County	15%

(MapStats, 2008)

### Dental Health Challenges

Individuals facing oral health issues commonly face other medical illnesses stemming from a weakened immune system. Several dental conditions are typical of senior citizens with poor oral health. These conditions are often progressive and cumulative, further complicating care:

- Edentulousness (loss of all natural teeth)
  - Facial Pain or discomfort
  - Oral Cancer
  - Caries (tooth decay/cavities)
  - Periodontal issues
  - Denture-related conditions
  - Xerostomia (dry mouth/lowered saliva)
- (Peterson, P., & Yamamoto, T., 2005)

### Factors Contributing to Dental Health Challenges

Social and personal choices, medical complications, and physical limitations all contribute to dental health challenges in the lives of senior citizens. Common risk factors associated with poor dental health include chronic illness, dietary habits, level of poverty, tobacco use, medications, genetic predisposition, excessive consumption of alcohol, disability, lack of medical/dental health knowledge, and hygiene standards (Peterson, P., & Yamamoto, T., 2005; Weinberg, 2007). The dental care of the senior population, who remain at high risk for low income and disabilities, is tremendously affected by social status. In 2007, the Census Bureau estimated that 15% of persons over 65 years lived below the poverty level in Bexar County (U.S. Census Bureau, 2007). Combined with a negative attitude toward oral health, a fear of violence from strangers, a low level of income, and a lack of social support, accessing dental care could become a low priority in the lives of the elderly.

The greater prevalence of chronic medical conditions in seniors, such as cancer, diabetes, arthritis, osteoporosis, and heart disease, also impacts oral health and proper oral maintenance and functionality (CDC, 2006). The medications prescribed to deal with medical conditions often become large contributors to dental health challenges. More than 400 medications prescribed for common ailments can alter the ability to taste and smell and may also increase dryness of mouth, which often compromises oral health (Braine, 2005). This places older adults in greater peril, for they are more likely to take

over-the-counter or prescription drugs (Texas Dental Association, 2008). Certain medications have been known to complicate dental healthcare. For example, in 2006 the drug Fosamax, often used by osteoporosis patients to strengthen bones, was found to lead to many serious oral health issues, including osteonecrosis, or death of the jaw bone (Kolata, 2006).

Undoubtedly, general and oral health are inter-related. Existing medical conditions may increase the risk of dental problems, but poor dental health often increases vulnerability to new medical issues. Edentulousness (loss of all natural teeth), which affected 19% of United States seniors in 2006 (Kaiser Family Foundation, 2006) may also increase the risk for periodontitis and affect body weight, diet adequacy, and food enjoyment, due to lost chewing efficiency (CDC, 2008). Significant research has been dedicated to understanding the relationship between an individual’s diet/nutrition and oral health. Essential to maintaining proper dental care is a balanced diet, which becomes difficult for older adults who have altered food choices to compensate for tooth loss or ill-fitting dentures (Tougher-Decker, 2006).

Physical limitations are a major contributing factor to dental health challenges. The lack of basic aspects of daily living among seniors, including vision, hearing, and personal hygiene, impairs the ability to access dental care and practice proper oral care. Practicing and accessing proper dental care is even more complicated for institutionalized, homebound, or disabled seniors. Many caregivers lack the necessary time and/or training to dispense adequate oral care to seniors (Guay, 2005). Lack of equipment to treat clients in nursing facilities as well as lack of transportation in many cases does not allow for routine dentist visits (Texas Dental Association, 2008).

**Financial Burden of Dental Care**

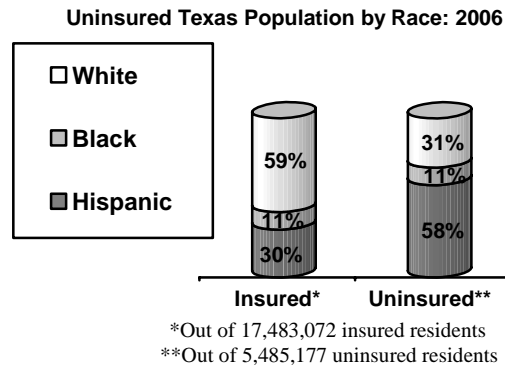
Dental care encompasses approximately 5-10% of national public resources in industrialized countries (Braine, 2005). In 2007 alone, nearly \$98.6 billion was spent by Americans on dental care (CDC, 2008). Yet, a large number of the senior population does not qualify for basic

health insurance, which is often tied to employment. It is estimated that only one out of five Americans over the age of 75 has private dental insurance (Lamster, 2004). For seniors with basic health coverage, including Medicare and Medicaid, little or no dental care is provided. Medicare does not cover routine dental care, it only provides for limited emergency dental service. Cleanings and basic screenings are not covered (Texas Dental Association, 2008). Basic preventive procedures are, therefore, often under-utilized.

Self-Reported Payment Method for U. S. Senior Citizen (65+) Dental Expenses	
Out-of Pocket	72%
Private Insurance	19%
Medicaid	2%
Medicare	3%
Other Insurance	4%

(Medical Expenditure Panel Survey, 2006)

Between 2004 and 2006, Texas had approximately 24.1% uninsured residents, more than any other state (Shapleigh, 2008). Of all Texas counties, Bexar County represented the third largest population of uninsured people, almost 350,000 residents (Shapleigh, 2008). Minorities, more specifically Hispanics, are more disproportionately represented as uninsured, displayed by the following graph.



(Shapleigh, 2008)

Because many elderly operate with minimal income from employment or government aid, in many cases stemming from a loss of the benefits of employer-based dental insurance or a reduction in income, the senior population often experiences difficulty in meeting dental care expenses (American Society on Aging, 2005). The local public clinics generally have long waiting lists and offer only routine services,

making them unable to meet the serious dental needs of disabled patients with a history of neglected oral health. Barriers to oral healthcare are also compounded by individuals' lack of knowledge of the care necessary, along with more tangible difficulties such as limited mobility and/or transportation (American Society on Aging, 2005). These burdens, during a time of limited income and monetary resources, place seniors at great risk for dental problems.

**Availability of Dental Care in Texas**

- 3 Dental schools
- 11,612 licensed dentists
- 21 Dental hygiene schools
- 9,659 licensed hygienists
- 57 community-based low-income dental clinics
- 46 counties have no dentist
- 78% of Texas residents received fluoridated water in 2007
- 111 Texas counties were designated as Dental Health Professional Shortage Areas (HPSA) in 2008. Bexar County was classified as a partial-county area, demonstrating certain portions of the county do not meet the required threshold due to shortages in dental providers.
- In 2007, there was a supply-ratio of 38.5 general dentists per 100,000 residents in metropolitan counties and a rate of 23.5 per 100,000 residents in non-metropolitan counties.

(Texas Department of State Health Services, 2008; National Oral Health Surveillance System, 2007)

% of Texans Accessing Dental Care in 2006		
	Visited Dentist	Not Visiting Dentist
Texas	63.5 %	36.5%
White	69.2 %	30.8 %
Black	56.2%	43.8%
Hispanic	54.6%	45.4%
65+ Years	63.8 %	36.2%

(National Center for Chronic Disease Prevention and Health Promotion, Behavioral Risk Factor Surveillance System, 2006)

- The Clinical Geriatric Dentistry Program at the Dental School University of Texas Health

Science Center San Antonio (UTHSCSA) is the only program in South Texas that focuses exclusively on dental care for seniors. Begun in 1988, the program provides dental services to seniors who would otherwise not be treated because of existing medical conditions that require special handling including cardiovascular disease, respiratory disease, cancer, diabetes, Alzheimer's, and more. Services are provided both at the Dental School and in collaborating senior care facilities (UTHSCSA, 2002).

**Recommendations**

Complications related to living longer, such as social, medical, and physical limitations, as well as increased financial burden, have resulted in the need to alter how dental care to the elderly is practiced. The Centers for Disease Control and Prevention (2008) call for increased partnership between public and private organizations and health professionals to address and remove barriers to dental care, as well as enhance community awareness of current oral health issues. The important role of encouraging and providing incentives for dentists to practice in underserved areas or service low-income individuals has been deemed a key component in addressing oral health issues among seniors (Texas Dental Association, 2008). Many are beginning to recognize the need for the development and expansion of organizations that research the oral health of the elderly (World Health Organization, 2003).

Lamster (2004) makes these recommendations for improving the future of dental care for the elderly:

- Increase the emphasis of geriatric dentistry in dental schools
- Provide on and off site dental care for seniors
- Allow home health care providers to give topical fluorides as a preventative
- Collaborate with general health care providers to improve oral health exams and diagnosis

Proper oral health is significantly related to the overall quality of life for older individuals. The ability to meet nutritional needs is severely inhibited with poor oral health (CDC, 2007).

Improving access to geriatric dental care is a pressing health priority and will improve senior citizens' nutrition, general health, and overall sense of self-esteem.

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