

# Oral Health Disparity in Older Adults

### **Dental Decay and Tooth Loss**

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#### **KEYWORDS**

- Dental decay Tooth loss Older adults Dental care Quality of life
- Social implications of oral health Employment opportunities Social inequities

#### **KEY POINTS**

- Oral health disparities exist in the aging population regarding untreated dental caries and edentulism related to income, sex, race and ethnicity, and education level.
- Access to dental care in older adults may be complicated by several factors including finances; transportation; medical and psychological complexities; and attitudes of patients, caregivers, and providers.
- Oral health has far greater implications on quality of life for older adults than generally recognized, including employment opportunities. Disparities in public policy regarding oral health for older adults nationally may compound social inequities.

#### INTRODUCTION

The number of older adults in the United States is increasing. The 2005 White House Conference on Aging focused on aging Baby Boomers (people born between 1946 and 1964) and their impact on the economy.<sup>1</sup> The conference's main agenda proposed solutions on accommodating an estimated 73 million people within this population in the next 40 years as they move into and through the older years of life. Approximately 20% of the US population will consist of those older than the age of 65 by 2040.<sup>1</sup>

The Surgeon General's Report on Oral Health in America created a landmark position in elevating oral health as part of overall health when it stated that oral health is a necessary component of good general health.<sup>2</sup> Large numbers of older adults are

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retaining their natural teeth as they age and continue to use dental services throughout their retirement years. This trend is significant because the mouth reflects a person's health and well-being throughout life.

The benefits of retaining natural dentition include the ability to eat a healthy and varied diet and to maintain social interactions. However, the retention of natural teeth into older age puts greater numbers of teeth at risk for tooth decay and periodontal disease, because age-related issues may hamper oral hygiene efforts and the ability to access regular dental care.

The older adult population in the United States is heterogeneous, and disparities in oral health exist among those aged 65 and older. There are disparities in the rates of dental decay and tooth loss related to income, sex, race and ethnicity, and education level.<sup>1,2</sup>

#### EPIDEMIOLOGY OF EDENTULISM AND DENTAL DECAY IN OLDER ADULTS

A major source of national oral health data in the United States is the National Health and Nutrition Examination Survey (NHANES). The NHANES is an on-going series of studies conducted by the National Center for Health Statistics, a division of the US Department of Health and Human Services, Public Health Service at the Centers for Disease Control and Prevention. NHANES surveys are designed to longitudinally assess the health and nutritional status of adults and children in the United States.<sup>2</sup>

Before the 1999 survey, NHANES surveys were conducted periodically (ie, 1971– 1974 and 1988–1994). Since 1999 the surveys are continuous and conducted annually, and up-dates are issued in 2- or 4-year cycles (1999–2004; 2005–2008). The data collected are stratified by age, race and ethnicity, poverty level, and sex. Data collected on older adults are divided into age subcategories of 65 to 74 years, and 75+ years.

The oral health portion of the surveys consists of participant interviews and clinical dental examinations. Assessments include the prevalence of dental diseases and conditions, along with demographic and socioeconomic data. Mean number of permanent teeth, caries rates, and edentulous rates have been historically assessed.

The prevalence of edentulism in older adults has been declining over the past decades from a reported 45.6% from 1971–1974 to 23% reported during the period 2005 to 2008 (**Fig. 1**).<sup>3</sup> This continues the trend of overall edentulous rate reduction in comparison with previously reported rates of 34% in 1988 to 1994 and 27% in 1999 to 2004.<sup>3</sup> The implication for dentists of declining rates of edentulism is that there will be more potential older adults retaining some or all of their natural dentition requiring dental treatment (ie, increasing need and demand for dental services by older adults in the future) (see Fig. 1).

Disparities in edentulous rates in older adults are related to income, age, sex, and race and ethnicity.<sup>3</sup> The 2005 to 2008 NHANES data reported significantly more edentulous non-Hispanic older black adults (32%) compared with Mexican-American older adults (16%) and non-Hispanic white older adults (22%).

There are significant disparities in the prevalence of edentulism inversely proportional to income level, with prevalence more than double for older adults living below 100% of the federal poverty level (37%) compared with those persons living at 200% of the poverty level or higher (16%). The lower the income level, the higher the probability of edentulism (Fig. 2).

#### PREVALENCE OF UNTREATED DENTAL CARIES IN OLDER ADULTS

Fig. 3 and Table 1<sup>3-5</sup> show prevalence of untreated caries in older adults. NHANES 2005 to 2008 reported similar results to those of NHANES 1999 to 2002. However,

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