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# An Expert Opinion from the European College of Gerodontology and the European Geriatric Medicine Society: European Policy Recommendations on Oral Health in Older Adults

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This is an expert opinion paper on oral health policy recommendations for older adults in Europe, with particular focus on frail and care-dependent persons, that the European College of Gerodontology (ECG) and the European Geriatric Medicine Society (EUGMS) Task and Finish Group on Gerodontology has developed. Oral health in older adults is often poor. Common oral diseases such as caries, periodontal disease, denture-related conditions, hyposalivation, and oral pre- and cancerous conditions may lead to tooth loss, pain, local and systemic infection, impaired oral function, and poor quality of life. Although the majority of oral diseases can be prevented or treated, oral problems in older adults remain prevalent and largely underdiagnosed,

because frail persons often do not receive routine dental care, due to a number of barriers and misconceptions. These hindrances include person-related issues, lack of professional support, and lack of effective oral health policies. Three major areas for action are identified: education for healthcare providers, health policy action plans, and citizen empowerment and involvement. A list of defined competencies in geriatric oral health for non-dental healthcare providers is suggested, as well as an oral health promotion and disease prevention protocol for residents in institutional settings. Oral health assessment should be incorporated into general health assessments, oral health care should be integrated into public healthcare coverage, and access to dental care should be ensured. *J Am Geriatr Soc* 66:609–613, 2018.

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According to the World Health Organization *World Report on Ageing and Health*, “oral health is a crucial and often neglected area of healthy ageing.”<sup>1</sup> Despite significant progress in dental science and oral health prevention in recent years, chronic oral diseases are common in older adults, particularly those who are frail and care dependent.<sup>2</sup> These oral diseases may cause pain and lead to local and systemic infection; decay and loss of teeth; and impaired chewing, speaking, and swallowing, constraining food choices and leading to weight loss. In addition, poor dental appearance and halitosis damage psychosocial well-being and integration in society.<sup>2,3</sup> Increasing evidence also reveals significant interactions between oral health and general health that are

unidirectional and often bidirectional, making the challenges of poor oral health considerable.<sup>2,4-7</sup> Oral problems in older adults are largely underdiagnosed because of various barriers and misconceptions.<sup>8-12</sup> As people age and experience functional impairment, they tend to refrain from routine dental care while the number of consultations with non-dental healthcare providers increase, but few healthcare providers, in the community or in nursing homes, are well trained to assess oral problems, recommend or perform adequate oral health measures, or identify problems that need to be referred to a dental professional.<sup>12-15</sup> In addition, oral assessment is not integrated into the general health examination, and public funding often does not cover dental care, whilst financial resources of older adults are often limited.

In response to these challenges, the European College of Gerodontology (ECG) and the European Geriatric Medicine Society (EUGMS) have created a common Task and Finish Group to develop an expert opinion paper on oral health policy recommendations for older Europeans, particularly those with frailty and functional limitations.

### WHAT IS THE ORAL HEALTH STATUS OF OLDER ADULTS?

The World Health Organization has described the main challenges of oral health in older adults<sup>2,3</sup> including tooth loss (in high-income countries still up to 35%), dental caries, periodontal disease, xerostomia, denture-related conditions (up to 67% of denture wearers), and oral pre-cancer and cancer. All of these conditions impair quality of life.<sup>2,3</sup> In older adults with serious illnesses and functional dependency, oral problems are often underdiagnosed and untreated.<sup>12,16</sup> A study of homebound older adults in New York revealed that 78.9% of those who were dentate had at least one decayed tooth, that 45.6% needed dental extractions, and that 25.8% of those who wore dentures had insufficient dentures.<sup>12</sup> Poor oral hygiene is the major contributor to dental caries and periodontal disease. Combined with a sugar-rich diet, low salivary flow, or both, it can lead to destruction of teeth, discomfort, infection, abscesses, pain, and ultimately tooth loss. Missing teeth are usually replaced with fixed or removable prostheses (dentures). Poorly maintained dentures may be colonized with fungi and bacteria, causing inflammation that may spread to the lower respiratory tract. Other common oral pathologies in older adults are squamous cell carcinoma, candidiasis, lichen planus, mucosal pemphigoid, pemphigus vulgaris, leukoplakia, burning mouth syndrome, and denture-related lesions.<sup>2,17</sup> Although oral cancer can be detected at an early stage in a routine visual inspection, regular screening is an exception. Medications, systemic diseases, and head and neck radiotherapy are the major sources of hyposalivation and xerostomia in older adults, affecting 30% of those aged 65 and older and causing significant deterioration in oral health and quality of life.<sup>18</sup>

### IS THERE AN ASSOCIATION BETWEEN ORAL DISEASE AND GENERAL HEALTH?

There is a large body of evidence of an association between oral disease, particularly inflammation of the

periodontal tissues (periodontal disease), and cardiovascular disease, diabetes mellitus, and respiratory disease. Chronic periodontal disease is associated with multiple potential bacteremia events that may allow periodontal pathogens to migrate to nonoral tissues, including atherosclerotic plaques.<sup>19</sup> Diabetes is a well characterized risk factor for periodontal disease through an exaggerated inflammatory response to the periodontal microflora.<sup>4</sup> Bacterial species that normally do not colonize the oropharynx can cause aspiration pneumonia, and it has been suggested that the oral cavity is an important reservoir for these pathogens.<sup>5</sup> Recent evidence suggests that better oral hygiene and frequent professional oral care can reduce the progression or occurrence of respiratory tract diseases in high-risk older adults, particularly in nursing homes and intensive care units.<sup>6</sup> Furthermore, poor oral health and loss of teeth can negatively affect dietary intake and nutritional status of older adults.<sup>2</sup>

### WHAT ARE THE BARRIERS AND RISK FACTORS TO ORAL HEALTH IN OLDER ADULTS?

Oral health in older adults, particularly those who are care dependent, is often largely neglected because of a number of barriers and misconceptions. These can be divided into:

- Person-related issues such as physical and social determinants of health, including physical illness, polypharmacy, limited mobility, mental deterioration, care dependency, sociocultural background, low educational level, poor oral health knowledge, lack of access to dental care when, for example, living in a rural area or an institutional healthcare facility, personal financial challenges when dental care is paid for out of pocket, unhealthy dietary habits, smoking, negative personal attitudes toward and beliefs about oral health, a shift in priorities, and dental fear.<sup>2,3,8,9,11,12</sup> Poor mobility and low use of smart solutions supporting elderly mobility in public transportation may render access to dental care difficult.<sup>8,9,12</sup>
- Lack of professional support, including limited training of dental professionals in caring for frail and care-dependent older people,<sup>11,20</sup> and poor knowledge of oral health of non-dental care providers.<sup>13-15</sup> In nursing homes, common findings are inadequate oral care training of caregivers, limitations in time and staff, and negative attitudes toward providing oral hygiene for frail older residents.<sup>14,15</sup>
- Lack of effective oral health policies, including lack of priority for oral health in healthcare policy, limited public dental care coverage combined with high cost of dental treatment, socioeconomic inequalities in access to dental care, lack of availability of domiciliary dental care, poor oral health literacy of citizens, and unsupported care systems for individuals living in residential care or confined at home.<sup>2,3,9,11,21</sup>

### CAN ORAL DISEASE BE PREVENTED?

The major chronic oral diseases, such as caries and periodontal disease, as well as many oral lesions, are preventable and can be treated successfully, if diagnosed

early. Oral diseases share common risk factors with major chronic diseases such as unhealthy diet, tobacco use, and harmful alcohol consumption, enabling their prevention through shared public policies.<sup>1–3</sup> Caries and periodontal disease prevention is mainly based on oral self-care or assisted oral hygiene and professional oral health care adapted to individual needs.<sup>22</sup> Chemical agents such as fluoride applications, a one-to-one mixture of chlorhexidine/thymol varnish, and chlorhexidine mouthwash have been shown to assist oral disease control in older adults, but more research is necessary.<sup>21–23</sup> Hyposalivation and xerostomia are more difficult to prevent but may be managed using local and systemic measures and close collaboration between dentists and physicians.<sup>18</sup>

**ECG/EUGMS RECOMMENDATIONS FOR POLICY MAKERS**

Considering the poor oral health status of older adults, the barriers to oral health previously described, and the preventable nature of most oral problems, the ECG/EUGMS Task and Finish Group on Gerodontology urges European and global institutions to develop an action plan for older adults, particularly those who are frail and have functional limitations, and encourage individual countries to implement it. Three major areas have been identified: educational action plans, health policy action plans, and citizen empowerment and involvement.

**Educational Action Plans**

Educational action plans should involve dental and non-dental healthcare professionals. Although gerodontology is taught at most European dental schools at the undergraduate level (86.2%)<sup>20</sup>, more training opportunities in oral health care of frail older adults should be offered, more emphasis should be placed on developing positive attitudes and on interdisciplinary and interprofessional training, and more postgraduate and continuing education programs on gerodontology should be developed.<sup>9,11,20,24,25</sup>

Geriatric oral health education programs should be developed for non-dental healthcare practitioners at all levels of education (undergraduate, postgraduate, specialty training), including physicians, nurses, nursing assistants, physiotherapists, occupational therapists, medical assistants, pharmacists, dieticians and others, with emphasis on interprofessional education and collaborative practice.<sup>2,3,10–14,24,26–28</sup> Various medical societies need to establish dedicated task forces for the development of a geriatric oral health curriculum, considering the major competencies described in Table 1. Furthermore, because many practicing non-dental healthcare providers have not received any oral health training during their formal education, it is recommended that oral health assessment and promotion competencies be integrated into requirements for continuing education. Oral health education courses in institutional settings should include regular theoretical and hands-on training.<sup>21</sup> Training should target not only knowledge gain, but also improvement of attitudes of staff toward oral health promotion.<sup>15</sup>

**Health Policy Action Plans**

Appropriate health policies for geriatric oral health promotion should be developed and implemented (Tables 2 and 3).<sup>1–3,9–12,14,16,21,24–28</sup> As a priority, oral health assessment should be incorporated into the general health assessment, with emphasis on prevention, and oral health care should be covered by state or social security. An integrated oral healthcare model at the level of primary care, including oral health assessments, delivery of preventive measures and decisions for dental referrals could significantly benefit the older population.<sup>27,28</sup> Access to dental care should be ensured for older adults who are not able to visit the dental office, by promoting domiciliary care.<sup>12,24</sup> Legislative and policy developments and protocols on oral health should be implemented in institutional settings for older residents.<sup>14,15,21,24–26</sup>

**Citizen Empowerment and Involvement**

Citizen empowerment processes for direct involvement in actions related to oral care for older adults should be materialized. These may include oral health literacy for self-care and care of others, personal motivation to seek dental care, collaboration with healthcare professionals in oral health assessment and promotion strategies, and guiding decision-makers in enacting legislation for oral health promotion and coverage by state or social security, particularly for frail and care-dependent individuals.<sup>2,9,29</sup> The preferences of older adults for provision of oral care services when they become frail and care dependent should be recorded.<sup>30</sup>

**CONCLUSION**

Older people often have poor oral health, particularly those who are frail and care dependent, because there are various risk factors and barriers. These include person-related issues, lack of professional support, and lack of effective oral health policies. An increasing body of

**Table 1. Learning Objectives for Training of Non-Dental Healthcare Professionals in Oral Health Assessment and Promotion of Older Adults**

<b>Non-dental healthcare providers involved in the care of older adults should be competent to:</b>
Recognize oral health as part of multimorbidity and consider its impact on the general health and quality of life of older adults
Reflect current medication regimens towards their impact on oral health
Perform an initial assessment of oral health status and discriminate normal from abnormal findings in the oral cavity
Identify and process common oral conditions in older adults
Demonstrate oral hygiene measures to older adults and their caregivers and assist with or provide daily oral hygiene when necessary
Develop strategies to overcome barriers to oral health maintenance and access to dental care
Decide when to refer to a dentist
Actively communicate findings and interventions to other healthcare professionals as part of an integrated comprehensive care plan and collaborative practice



**Table 2. Health Policy Action Plans for Improving Oral Health in Older Adults**

Incorporate preventive oral health care in routine medical care
Integrate oral health assessment into general health assessments and comprehensive geriatric assessments
Integrate oral care into public health care coverage
Promote interprofessional collaboration and practice of dental and other care providers of older persons
Promote oral health prevention campaigns for the public
Integrate oral health into general health-promotion activities.
Offer free dental examinations for older adults in community settings and residential care
Ensure access to dental care and support domiciliary care
Promote and fund research on effective oral health intervention programs in the community and in institutional care
Clarify the role of allied dental and non-dental healthcare professionals in oral health assessment and promotion
Encourage companies to develop appropriate oral health care products for older adults and promote relevant campaigns
Ensure legislative and policy developments and protocols on oral health promotion targeting residents in institutional care settings (e.g. nursing homes, residential care, assisted living, long-term care hospitals) (see Table 3)

**Table 3. Legislative and Policy Developments and Protocols for Oral Health Prevention and Promotion in Institutional Settings for Older Adults (e.g., Nursing Homes, Rehabilitation Centers, Residential Care, Assisted Living, Long-Term Care Hospitals)**

Ensure that oral health assessment is incorporated into the medical entry assessment
Provide daily oral and denture hygiene
Train caregivers in providing daily oral hygiene to residents
Ensure accessibility of oral healthcare products
Provide and promote a healthy diet that protects oral health (e.g. limit sugar and refined and processed foods; avoid beverages and foods rich in sugar between meals; provide more vegetables, cheese, and milk)
Ensure access to emergency and routine examinations and comprehensive dental services
Provide regular oral screenings for residents using appropriate validated tools

evidence demonstrates the effectiveness of preventive oral health care programs in improving older adults' oral health, whether living at home or in residential care. Given that there is a relationship between oral and general health and between oral health and subjective well-being, the challenges of poor oral health are considerable.

Three major areas for further action by policy makers have been identified: educational action plans for oral health in older adults for dental and non-dental healthcare providers; health policy action plans with emphasis on oral health prevention, removing barriers to access to dental care, integration of oral health assessment into general health assessment, integration of oral health care into public healthcare coverage, and oral health promotion in institutional settings; and citizen empowerment for direct involvement in actions related to oral care of the older adults.

Our recommendations should be considered as advocacy tools for intergovernmental healthcare organizations; governmental health, welfare, and educational authorities;

public health planners and administrators; healthcare professional and public health societies; and citizen organizations at a national and European level. The present recommendations might also be valid in North America and other developed and developing countries facing similar oral health needs and barriers to dental care in older adults.

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