Global oral health status report: towards universal health coverage for oral health by 2030. Regional summary of the Eastern Mediterranean Region

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Global oral health status report
Towards universal health coverage for oral health by 2030
Regional summary of the Eastern Mediterranean Region
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Oral diseases are among the most common noncommunicable diseases worldwide, affecting an estimated 3.5 billion people. The burden is increasing, particularly in low- and middle-income countries.

Good oral health is essential for eating, breathing and speaking, and contributes to overall health, well-being and confidence in interacting with others. But oral health is challenged by a range of diseases and conditions, and stark and persistent inequalities in the burden of disease and access to oral health care. Disadvantaged and marginalized people are more likely to be at risk of oral diseases and their negative consequences.

The good news is that many oral diseases can be prevented and treated. Cost-effective preventive and clinical interventions are available, together with approaches to tackle risks common to all noncommunicable diseases, with the potential to be effective in a range of contexts, including low- and middle-income countries.

Oral health has long been neglected in the global health agenda. Our biggest challenge now is ensuring that all people, wherever they live and whatever their income, have the knowledge and tools needed to look after their teeth and mouths, and access to prevention and care when they need it. For this to happen, all countries need sufficient staff trained in oral health, and oral health services must be included in national health coverage packages, either free of charge or at a price that people can afford.

The adoption by WHO Member States of a historic resolution on oral health at the World Health Assembly in 2021 was an important step forward. The development and adoption of a comprehensive Global Strategy on Oral Health, with a bold vision for universal coverage of oral health services by 2030 was another milestone. The Global Oral Health Action Plan to be discussed in 2023 will include a monitoring framework, with clear targets to be achieved by 2030. These policies will provide us with a clear path towards ensuring oral health for all.

This WHO Global Oral Health Status Report provides a comprehensive picture of the oral disease burden, the resources available for oral health, and the challenges ahead.

The report also includes country profiles, and will serve as a baseline for tracking progress. Integrating oral health promotion and care into primary health care and UHC benefit packages will be key to success. WHO is committed to providing guidance and support to countries to help make this happen.

I am confident that this report will contribute to continued and increased efforts to improve oral health globally, so that no one is left behind with preventable and treatable oral diseases.

Dr Tedros Adhanom Ghebreyesus
Director-General, World Health Organization
What is oral health?

The WHO defines oral health as the state of the mouth, teeth and orofacial structures that enables individuals to perform essential functions, such as eating, breathing and speaking, and encompasses psychosocial dimensions, such as self-confidence, well-being and the ability to socialize and work without pain, discomfort and embarrassment. Oral health varies over the life course from early life to old age, is integral to general health and supports individuals in participating in society and achieving their potential.
Towards global oral health equity through universal health coverage
Oral diseases, while largely preventable, pose a significant global health burden and affect people throughout their life course, causing physical symptoms, functional limitations and detrimental impacts on emotional, mental and social well-being.

In 2021 at the Seventy-fourth World Health Assembly, the landmark resolution WHA74.5 on oral health was adopted (1). It recognizes that oral health should be embedded within the noncommunicable disease (NCD) agenda and that essential oral health care intervention should be included in universal health coverage (UHC) benefit packages. As such, it calls on Member States to shift from the traditional curative approach to oral health care towards a promotive and preventive approach.

The World Health Organization (WHO) Eastern Mediterranean Region is home to more than 700 million people. The Region comprises 21 Member States and occupied Palestinian territory. The burden of oral diseases is high in the Region, affecting more than 330 million people (46.5% of the population) in 2019, with a disproportionate impact on the poor and socially disadvantaged. This highlights the urgent need to prevent and control oral diseases and promote oral health in the Region.

This regional summary draws on the WHO Global oral health status report (2), published in 2022, which provides a comprehensive overview of the global oral disease burden, the global health importance of oral health and the impact of oral diseases over the life course. The summary focuses on the oral health status in the Eastern Mediterranean Region and is split into four sections: (a) oral diseases are global and regional health problems; (b) the burden of the main oral diseases; (c) key challenges and opportunities towards oral health for all in the Eastern Mediterranean Region; and (d) road map towards UHC for oral health 2030.
Oral diseases are global and regional health problems
Oral diseases present an increasing global and regional burden

- Oral diseases are the most widespread of the more than 300 diseases and conditions that affect humanity. About 3.5 billion people worldwide were affected by oral diseases in 2019. Between 1990 and 2019, estimated case numbers of oral diseases increased by more than 1 billion. This translates to a 50% increase, which is larger than the population increase of about 45% during the same period.

- Over the last 30 years (1990–2019), estimated case numbers of major oral diseases (caries of deciduous and permanent teeth, edentulism, severe periodontal disease and other oral disorders combined) in the Eastern Mediterranean Region grew by almost 165 million – a 95.6% increase, slightly higher than the estimated population increase of 95.1% during the same period. This was the second largest percentage increase in oral diseases between 1990 and 2019 among the WHO regions.

- Among the WHO regions, the Eastern Mediterranean Region had the lowest number of cases (more than 330 million) of all the major oral diseases combined in 2019.

Oral diseases share risk factors with other NCDs and have impacts along the life course

- Shared, modifiable NCD risk factors include high intake of free sugars, all forms of tobacco use and harmful alcohol use. Taking a common risk factor approach to the prevention of oral diseases by embedding oral health within the broader NCD agenda ensures that progress can be made across a range of NCDs, including oral diseases, diabetes, cancer and cardiovascular diseases.

- Oral diseases are among the most common NCDs, and their increasing burden only adds to the burden of NCDs in the Region. NCDs are responsible for 66% of all deaths in the Eastern Mediterranean Region, with half of those being premature, occurring before the age of 70 (3).

Oral diseases disproportionately affect disadvantaged populations in society

- Stark and persistent inequalities in oral health status exist across different population groups. Inequalities result from a complex array of interconnecting factors, many of which are beyond individuals' control. Oral diseases disproportionately affect poor, vulnerable and/or marginalized members of societies, often including people who are on low incomes; people living with disability; older people living alone or in care homes; people who are refugees, in prison or living in remote and rural communities; and people from minority and/or other socially marginalized groups.

- Access to oral health services is uneven within and among countries. Availability of oral health services is not aligned with the needs of the population. Those with the greatest need often have the least access to services.
The economic burden of oral diseases is very high

- Expenditure on oral health care is unequal across the 21 countries of the Eastern Mediterranean Region. In the Region, the total direct expenditure due to oral diseases is about US$ 7 billion. At the same time, productivity losses from oral diseases are estimated to be around US$ 10 billion.

- Within the Region, six countries spend less than US$ 1 per person per year on oral health care, seven countries spend between US$ 1 and US$ 10 per person per year, six spend between US$ 11 and US$ 50, and two spend between US$ 50 and US$ 300 (Fig. 1). The two countries that spend the most are high-income countries.

- Oral health care is often associated with high out-of-pocket expenditures because private practitioners predominantly provide the services, which are usually only partially or not at all covered by government programmes and/or insurance schemes.

Fig. 1. Per capita dental expenditures in US$ per country in the Eastern Mediterranean Region (2019)
There are gaps in the oral health workforce

- Oral health care is often characterized by low workforce numbers, a predominance of private provision models, underresourced public services, inadequate task sharing and skill mixes within teams, limited or no access for rural, remote or disadvantaged populations, and lack of financial protection and coverage.

- Inequalities in access to oral health services also exist within and among countries in the Eastern Mediterranean Region. For example, the number of dentists per 10,000 population ranges from 0.2 to 10.2 (Fig. 2), with a regional average of 2.5, compared with the global average of 3.3. For countries where data are available, the number of dental prosthetic technicians per 10,000 population ranges from 0.1 to 0.9, with a regional average of 0.3, and the number of dental assistants and therapists ranges from 0.2 to 2.8, with a regional average of 0.2; the global averages are 0.6 and 1.9, respectively.

Fig. 2. Workforce for oral health: dentist density in the Eastern Mediterranean Region

Map Creation Date: 28 February 2023. Map Production: WHO GIS Centre for Health, DNA/DDI © WHO 2023. All rights reserved.
The burden of the main oral diseases
Dental caries

Dental caries is a gradual loss and breakdown of tooth hard tissues that results when free sugars contained in food or drink are converted by bacteria into acids that destroy the tooth over time. Dental caries affects all age groups, starting with the eruption of the first teeth, increasing in prevalence until late adulthood and remaining at high levels until older age. Dental caries is the most common NCD worldwide, with more than one third of the global population living with untreated dental caries. Consumption of free sugars is the main dietary factor in the development of dental caries.

At the regional level, the prevalence of dental caries in deciduous and permanent teeth remained unchanged between 1990 and 2019. During that period, the Eastern Mediterranean Region had the second largest increase (44.4%) in the number of caries of deciduous teeth in children between 1 and 9 years old (Fig. 3). The Region also had the second highest prevalence (32.3%) of caries of permanent teeth in 2019 (Fig. 4). The burden of caries in the Region remains high, with more than 269 million cases in 2019.

**Fig. 3. Estimated prevalence of caries of deciduous teeth in people aged 1–9 years per country in the Eastern Mediterranean Region (2019)**
Severe periodontal disease

Periodontal disease is a chronic inflammation of the soft and hard tissues that support and anchor the teeth. Severe periodontal disease, defined as the presence of a pocket of more than 6 mm depth, is a condition of public health concern. Poor oral hygiene is a major behavioural risk factor for periodontal disease, in addition to common NCD risk factors like tobacco use.

The Eastern Mediterranean Region experienced a 10.4% increase in the prevalence of severe periodontal disease between 1990 and 2019 and has a prevalence of 17.4% among people aged 15 years or older. The prevalence of severe periodontal disease varies between countries in the Region (Fig. 5). Because the prevalence of severe periodontal disease peaks around 55 years of age and remains high until old age, it is likely the Region will experience a higher burden of disease in the future given the growing ageing population.
Edentulism

Losing teeth is generally the end point of a lifelong history of oral disease, primarily advanced dental caries and severe periodontal disease, but tooth loss can also result from trauma; all can possibly lead to tooth extraction. Edentulism is a stark indicator of social and economic inequalities, with disadvantaged populations disproportionately experiencing total tooth loss.

Among the WHO regions, the Eastern Mediterranean Region had 7.0% of the cases of edentulism in 2019, with about 24 million cases occurring in people aged 20 years or more. This equates to a prevalence of 5.9%. The Region was one of two WHO regions to experience a decline in prevalence (-2.8%) between 1990 and 2019, despite a global increase of 8.0%.

Maintaining functional teeth is critical for supporting healthy ageing, but one in four (24.8%) older adults above the age of 60 suffered from complete tooth loss in the Region in 2019, compared with the global average of 22.7%. Country prevalence of edentulism in this age group ranged from 6.5% to 34.6% (Fig. 6).
**Oral cancer**

The Eastern Mediterranean Region had an estimated 23,749 new cases of oral (lip and oral cavity) cancers in 2020, accounting for 6.3% of the total estimated number of new cases globally. The Region had more than 14,000 deaths from oral cancers in 2020. Within the Region, country incidence rates of oral cancer vary from low to high, with a range between 1.1 and 10.1 per 100,000 people (Fig. 7). Differences largely follow patterns of the main risk factors, including tobacco use and alcohol consumption. Incidence is highest in Pakistan, where areca nut and betel leaf consumption is very high.
Fig. 7. Estimated age-standardized incidence rates of lip and oral cavity cancer in people of all ages per 100 000 population per country in the Eastern Mediterranean Region (2020)
Key challenges and opportunities towards oral health for all in the Eastern Mediterranean Region
### Challenges

- Nine countries (42.9%) did not have a national oral health policy.
- Six countries (30.0%) did not have dedicated staff for oral diseases in the NCD Department of the Ministry of Health.
- Of the three countries represented, two (66.7%) were in the process of phasing down dental amalgam in line with the Minamata Convention on Mercury, while one (33.3%) had no plan to phase down (4).

### Opportunities

- Develop new national oral health policies that align with the WHO Global Strategy on Oral Health (5) and national NCD and UHC policies. The Global Oral Health Action Plan (6) outlines 100 proposed actions (for Member States, the WHO Secretariat, international partners, civil society organizations and the private sector) across six strategic objectives. The accompanying global monitoring framework identifies 11 core and 29 complementary indicators to track and monitor progress on implementation of the Global Oral Health Action Plan.
- Allocate dedicated staff and funds for oral health at the Ministry of Health or other national governmental health agency, ensuring integration with the NCD and UHC agendas.
- Fourteen countries (66.7%) are parties to the Minamata Convention on Mercury, which aims to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds. Become a party to the Minamata Convention on Mercury and accelerate implementation of measures to phase down the use of dental amalgam in accordance with the Minamata Convention on Mercury.
### Challenges

- Eleven countries (55.0%) have not implemented a tax on sugar-sweetened beverages.
- Of the three countries where data were available, fluoride toothpaste was unaffordable in Egypt and Jordan and affordable in Lebanon.

### Opportunities

- Implement policy measures aiming to reduce intake of free sugars, such as:
  - (a) nutrition labelling: front-of-pack or other interpretative labelling to inform about sugars content, including mandatory declaration of sugars content on prepackaged food;
  - (b) reformulation limits or targets to reduce sugars content in foods and beverages;
  - (c) public food procurement and service policies to reduce offering food high in sugars;
  - (d) policies to protect children from the harmful impact of food marketing, including for foods and beverages high in sugars; and
  - (e) taxes on sugar-sweetened beverages and sugars or foods high in sugars.
- The addition of fluoride toothpaste to the WHO model lists of essential medicines in 2021 is an opportunity to improve affordability and availability of fluoride toothpaste and products.
- Optimize digital technologies for oral health care to improve oral health literacy, health worker training, early detection of oral diseases and oral health surveillance within national health systems.
### 3. Oral health workforce

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<th>Challenges</th>
<th>Opportunities</th>
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<tr>
<td>■ Inequalities exist in the ratio of oral health workforce to population among high-income, upper middle-income and lower middle-income countries.</td>
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<td>■ In most countries of the Eastern Mediterranean Region, dentist-centred workforce models dominate, with inadequate task sharing and skill mixes within a wider team.</td>
<td>■ Integrate oral health care into primary health care, including required staffing, skill mixes and competencies.</td>
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<td>■ Develop an innovative workforce model for oral health to respond to population oral health needs. Workforce trained and legally permitted to respond to the oral health needs of all population groups may include oral health professionals and other primary health care workers, including community health workers.</td>
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### 4. Oral health care in primary health care

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<th>Challenges</th>
<th>Opportunities</th>
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<td>Integration of oral health care into NCD management and primary health care is fragmented and, in some countries, nonexistent.</td>
<td>Increase access to safe, effective and affordable essential oral health care as part of national UHC benefits packages with improved financial protection.</td>
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<td>The predominance of private oral health care models in many countries leads to high out-of-pocket expenses, particularly for disadvantaged populations.</td>
<td>In the primary care facilities in the public health sector, there was high availability of (a) oral health screening for early detection of oral diseases in 15 countries (78.9%)(^b); (b) urgent treatment for providing emergency oral care and pain relief in 18 countries (94.7%)(^b); and (c) basic restorative dental procedures to treat existing dental decay in 16 countries (84.2%)(^b). Expand coverage of essential oral health care by planning for the availability, accessibility, acceptability and quality of skilled health workers able to deliver an essential package of oral health care for all.</td>
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Note. Where indicated, percentage(s) were calculated among *20 countries or 19 countries, which excludes countries where data were not available.*
A road map towards UHC for oral health
Adoption of resolution WHA74.5 on oral health (1) was a significant milestone towards repositioning oral health as part of the global health agenda in the context of UHC.

As a first step in the implementation of the resolution on oral health, Member States adopted the Global Strategy on Oral Health at the Seventy-fifth World Health Assembly in 2022 (5). The Global Oral Health Action Plan (2023–2030) is the second step in the implementation of the resolution on oral health (6). It is grounded in the Global Strategy on Oral Health’s vision, goal, guiding principles, strategic objectives and roles outlined for Member States, the WHO Secretariat, international partners, civil society and the private sector. The Global Oral Health Action Plan provides concrete guidance to progress the oral health agenda in countries and proposes a monitoring framework with targets to track progress towards 2030.

Recognition of oral diseases as global and regional public health problems will continue to generate momentum and action by all stakeholders, guided by the Global Strategy on Oral Health (5). This will be possible only with the concerted efforts of all stakeholders, including governments, the United Nations system, intergovernmental bodies, nonstate actors, nongovernmental organizations, professional associations, youth and student organizations, patients’ groups, academia, research institutions and the private sector. Working together, these stakeholders can achieve the ambitious targets put forward in the draft Global Oral Health Action Plan (6) and make substantial progress towards closing the global gaps in oral health by 2030 – UHC for oral health.
References


