Global oral health status report

Towards universal health coverage for oral health by 2030 Regional summary of the Western Pacific Region



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

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Foreword



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.

All

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, wellbeing 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) Western Pacific Region is home to 37 countries and areas with about one quarter of the world's population. The burden of oral diseases is high in the Region, affecting more than 800 million people (42.1% of the population) in 2019, which highlights the need for action to prevent and control oral diseases.

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 Western Pacific 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 Western Pacific Region; and (d) road map towards UHC for oral health 2030. This regional summary is based on the 27 Member States in the Region.



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 Western Pacific Region grew by more than 180 million a 29.5% increase, greater than the estimated population increase of about 26% during the same period.
- In 2019, the Region had more than 800 million cases of the major oral diseases combined.

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.
- The Western Pacific Region has one of the largest and fastest growing older adult populations in the world. More than 240 million people aged 65 years and older live in this Region, and that number is expected to double by 2050 (3). These demographic and epidemiological transitions will affect the burden of oral diseases and subsequent responses in the Region. Poor oral health among older people can negatively affect daily activities and can result in specific challenges related to pain, impaired chewing and nutritional deficiencies (see the case study on the next page).



Promoting oral health as essential to healthy ageing (Japan)

In 1987, a survey in Japan found that people at age 80 had only about five natural teeth on average, causing malnutrition and poor health in the elderly. Two years later, based on new data on oral functionality, Japan's Ministry of Health and Welfare and Japan Dental Association launched the 8020 Campaign (4). The goal was to ensure that people still had 20 of their teeth at the age of 80 so that they could maintain nutritional and social well-being. The campaign adopted a lifelong approach to preventing tooth loss by engaging multiple sectors and carrying out initiatives that targeted all generations.

At 93 years old, Sakuji Yanadori from Niigata City, Japan, still has 30 natural teeth, dispelling the myth that "losing teeth is a normal part of getting older." His explanation for his healthy mouth does not reveal any secrets. He practices good oral hygiene, does not miss his regular dental visits and avoids sugar.

Maintaining natural teeth with adequate functionality allows Yanadori to enjoy well-balanced meals that he shares with his family. His diet consists of a variety of meat, fish and vegetables that helps him keep his body in optimum condition, allowing him to remain socially connected as well. Today, Yanadori can still be found playing piano or the game Go at the local community club.

A national survey in 2016 showed that the 8020 Campaign had been successful in reaching its goals, with half of the 80-year-old population maintaining more than 20 of their natural teeth. The campaign continues to adopt a holistic approach to oral health, ensuring that the future older adult population has sufficient teeth and oral function to maintain good health and quality of life (5).



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 and vulnerable 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

- In the Western Pacific Region, the total direct expenditure due to oral diseases is about US\$ 107 billion. Productivity losses from oral diseases were estimated to be around US\$ 85 billion in 2019.
- About half of the countries in the Region spend less than US\$ 10 per person per year on oral health care, five countries spend between US\$ 11 and US\$ 50, and five high-income countries spend between US\$ 51 and US\$ 300 (Fig. 1).
- 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 Western Pacific Region (2019)

Data Source: Global oral health status report: towards universal health coverage for oral health by 2030. Geneva: World Health Organization; 2022. https://www.who.int/team/noncommunicable-diseases/global-status-report-on-oral-health-2022/ Map Creation Date: 13 March 2023. Map Production: WHO GIS Centre for Health, DNA/DDI © WHO 2023. All rights reserved.

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.
- Vast inequalities in access to oral health services also exist within and among countries in the Western Pacific Region. For example, the number of dentists per 10 000 population ranges from 0.1 to 8.0, with a regional average of 4.6, higher than the global average of 3.3. For countries where data are available, the number of dental prosthetic technicians per 10 000 population ranges from 0.0 to 6.8, with a regional average of 2.1, and the number of dental assistants and therapists ranges from 0.0 to 15.5, with a regional average of 5.4; the global averages are 0.6 and 1.9, respectively.





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, and the Western Pacific Region has a high consumption of sugar, although consumption varies among countries. The per capita availability of sugar in the Region ranges from 19.1 to 135.0 grams/day.

The Western Pacific Region saw a mixed trend in caries morbidity between 1990 and 2019, showing the largest decrease in both prevalence of caries of permanent teeth (-6.5%) and case numbers for caries of deciduous teeth (-22.8%) among the WHO regions while case numbers for caries of permanent teeth increased by 20.4%. In 2019, the Region had the highest prevalence of caries in deciduous teeth (46.2%) within the WHO regions, and even larger prevalence rates were seen in the Pacific Island countries (Fig. 2). The burden of caries in the Region remains high, with more than 566 million combined cases of caries of deciduous (102 million cases) and permanent (464 million cases) teeth, the second highest number of cases among all WHO regions (Fig. 3).



Fig. 2.Estimated prevalence of caries of deciduous teeth in people aged 1–9 years per country in the Western Pacific Region (2019)



Fig. 3. Estimated prevalence of caries of permanent teeth in people aged 5 years or more per country in the Western Pacific 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.

Among the WHO regions, the Western Pacific Region showed the highest increase in prevalence (39.2%) of severe periodontal disease between 1990 and 2019, with a prevalence of 16.3% in 2019 among persons aged 15 years or older (Fig. 4). High-income countries accounted for about half of the prevalence within the Region. Because 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 regional burden of disease in the future due to the growing ageing population.



Fig. 4. Estimated prevalence of severe periodontal disease in people aged 15 years or older per country in the Western Pacific Region (2019)

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.

Cases of edentulism in the Western Pacific Region make up the greatest proportion of cases among the WHO regions (26.3%), with about 92 million cases among people aged 20 years or more in 2019, which translates to a prevalence of 6.2% in the Region. The Region had the largest increase in prevalence (39.2%) between 1990 and 2019, nearly five times higher than the global average increase of 8.0%. Maintaining functional teeth is critical for supporting healthy longevity; however, one in five adults in the Western Pacific Region aged above 60 years suffered from complete loss of teeth in 2019, and country prevalence of edentulism in this age group ranged between 12.0% and 37.7% (Fig. 5).



Fig. 5. Estimated prevalence of edentulism in people aged 60 years or older per country in the Western Pacific Region (2019)

Oral cancer

In 2020, the Western Pacific Region had an estimated 60 674 new cases of oral (lip and oral cavity) cancers, accounting for 16.1% of the total estimated number of new cases among all ages globally. There were more than 25 000 deaths from oral cancers in the Region in 2020. Incidence rates of oral cancer vary within the Region between 0.6 and 21.2 per 100 000 people (Fig. 6). Differences largely follow patterns of the main risk factors, including tobacco use and alcohol consumption. Human papillomavirus infection is increasingly contributing to oropharyngeal cancers of specific populations.



Fig. 6. Estimated age-standardized incidence rates of lip and oral cavity cancer in people 30 years or older per country in the Western Pacific Region (2020)

Data Source: Global oral health status report: towards universal health coverage for oral health by 2030. Geneva: World Health Organization; 2022. https:// www.who.int/team/noncommunicable-diseases/ global-status-report-on-oral-health-2022/ Map Creation Date: 13 March 2023. Map Production: WHO GIS Centre for Health, DNA/DDI © WHO 2023. All rights reserved.



Key challenges and opportunities towards oral health for all in the Western Pacific Region



Challenges

1. Oral health governance

- Fourteen countries (51.9%) did not have a national oral health policy, action plan or strategy in place.
- Seven countries (25.9%) did not have dedicated staff for oral diseases in the NCD Department of the Ministry of Health.
- Of the 13 countries represented, only two (15.4%) had completely phased out dental amalgam in line with the Minamata Convention on Mercury, ten (76.9%) were in the process of phase down, and one (7.7%) had no plan to phase down (6).
- Develop new national oral health policies that align with the WHO Global Strategy on Oral Health (7) and national NCD and UHC policies. The Global Oral Health Action Plan (8) 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.
- Seventeen countries (63.0%) 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 and accelerate implementation of measures to phase down the use of dental amalgam in accordance with the Minamata Convention on Mercury.

Opportunities

Challenges

Opportunities

2. Oral health promotion and oral disease prevention

- Twelve countries (46.2%)^a have not implemented a tax on sugarsweetened beverages.
- Fluoride toothpaste was unaffordable in two lower middle-income countries (Lao People's Democratic Republic and Philippines).
- 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 (9) is an opportunity to improve affordability and availability of fluoride toothpaste and products. (See the case study on the next page).
- 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.

Making good oral health part of the daily school routine (Philippines)

"The Philippines are amongst the countries with the highest prevalence of dental caries in children. Toothache, infections, dental impairment, impacted nutritional intake, and school absenteeism are some of the consequences. With the available resources to address oral diseases, a curative approach was neither realistic nor ethically appropriate," states Dr Maria Corazon Dumlao, Chief of the Health Division of the Health and Nutrition Centre at the Philippine Department of Education, recalling the situation back in 2008. At that time, only regular preventive interventions in key institutionalized settings, such as schools, were identified as realistic to address the silent epidemic of dental caries in the Philippines.

The Regional Fit for School Programme, initiated by the Philippine Department of Education, the German Development Cooperation and the German Federal Ministry of Economic Cooperation and Development facilitated the integration of daily group toothbrushing with fluoride toothpaste as part of the Essential Health Care Programme, along with other school health and water, sanitation and hygiene interventions (10).

Supervised by teachers or older students, this approach of simple, effective interventions not only allows schools to manage toothbrushing efficiently for a large number of students, but also ensures that basic hygiene and exposure to fluoride are accessible on a daily basis for students, irrespective of their socioeconomic background. Toothpaste and toothbrushes are financed by the Department of Education, and agreements were made with a local manufacturer to simplify bulk procurement of affordable, high-quality fluoride toothpaste. Research showed that, depending on implementation quality, daily group toothbrushing with fluoride toothpaste prevented up to 38% of new caries lesions and reduced days of absence (*11, 12*).



Challenges

3. Oral health workforce

- Inequalities exist in the ratio of oral health workforce to population among high-income, upper middleincome and lower middle-income countries. Six (25.0%)^b countries had less than one dentist per 10 000 population; these were all lower middle-income countries.
- In most countries of the Region, dentist-centred workforce models dominate, with inadequate task sharing and skill mixes within a wider team.
- Integrate oral health care into primary health care at all service levels, including required staffing, skill mixes and competencies.
- 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.

Opportunities

Challenges	Opportunities	
4. Oral health care in primary health care		
 Integration of oral health care into NCD management and primary health care is fragmented and, in some countries, nonexistent. The predominance of private oral health care models in many countries leads to high out-of-pocket expenses, particularly for disadvantaged populations. 	 Increase access to safe, effective and affordable essential oral health care as part of national UHC benefits packages with improved financial protection. 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 22 countries (88.0%)^c; (b) urgent treatment for providing emergency oral care and pain relief in 20 countries (80.0%)^c; and (c) basic restorative dental procedures to treat existing dental decay in 19 countries (76.0%)^c. 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. 	

Note. Where indicated, percentage(s) were calculated among ^a 26 countries, ^b 24 countries, or ^c 25 countries, which excludes countries where data were not available. Figures without indication are based on data from 27 countries.

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 (7). The Global Oral Health Action Plan (2023–2030) is the second step in the implementation of the resolution on oral health (8). 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 (7). 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 (8) and make substantial progress towards closing the global gaps in oral health by 2030 – UHC for oral health.

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World Health Organization Department of Noncommunicable Diseases 20 Avenue Appia 1211 Geneva 27 Switzerland <u>www.who.int</u> https://www.who.int/health-topics/oral-health

