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# Oral health

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## Key facts

- Oral diseases, while largely preventable, pose a major health burden for many countries and affect people throughout their lifetime, causing pain, discomfort, disfigurement and even death.
- It is estimated that oral diseases affect nearly 3.7 billion people.
- Untreated dental caries (tooth decay) in permanent teeth is the most common health condition according to the Global Burden of Disease 2021.
- Prevention and treatment for oral health conditions is expensive and usually not part of national universal health coverage (UHC) benefit packages.
- Most low- and middle-income countries do not have sufficient services available to prevent and treat oral health conditions.
- Oral diseases are caused by a range of modifiable risk factors common to many noncommunicable diseases (NCDs), including sugar consumption, tobacco use, alcohol use and poor hygiene, and their underlying social and commercial determinants.

## Overview

Most oral health conditions are largely preventable and can be treated in their early stages. Most cases are dental caries (tooth decay), periodontal diseases, tooth loss and oral cancers. Other oral conditions of public health importance are orofacial clefts, noma

(severe gangrenous disease starting in the mouth mostly affecting children) and oro-dental trauma.

Prevalence of the main oral diseases continues to increase globally with growing urbanization and changes in living conditions. This is primarily due to inadequate exposure to fluoride (in the water supply and oral hygiene products such as toothpaste), availability and affordability of food with high sugar content and poor access to oral health care services in the community. Marketing of food and beverages high in sugar, as well as tobacco and alcohol, have led to a growing consumption of products that contribute to oral health conditions and other NCDs.

## **Dental caries (tooth decay)**

Dental caries results when plaque forms on the surface of a tooth and converts the free sugars (all sugars added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and fruit juices) contained in foods and drinks into acids that destroy the tooth over time. A continued high intake of free sugars, inadequate exposure to fluoride and a lack of removal of plaque by toothbrushing can lead to caries, pain and sometimes tooth loss and infection.

## **Periodontal (gum) disease**

Periodontal disease affects the tissues that both surround and support the teeth. The disease is characterized by bleeding or swollen gums (gingivitis), pain and sometimes bad breath. In its more severe form, the gum can come away from the tooth and supporting bone, causing teeth to become loose and sometimes fall out. Severe periodontal diseases are estimated to affect more than 1 billion cases worldwide. The main risk factors for periodontal disease are poor oral hygiene and tobacco use.

## **Edentulism (total tooth loss)**

Losing teeth is generally the end point of a lifelong history of oral disease, mainly advanced dental caries and severe periodontal disease, but can also be due to trauma and other causes. The estimated global average prevalence of complete tooth loss is almost 7% among people aged 20 years or older. For people aged 60 years or older, a much higher global prevalence of 23% has been estimated. Losing teeth can be psychologically traumatic, socially damaging and functionally limiting.

# Oral cancer

Oral cancer includes cancers of the lip, other parts of the mouth and the oropharynx and combined rank as the 13<sup>th</sup> most common cancer worldwide. The global incidence of cancers of the lip and oral cavity is estimated to be 389 846 new cases and 188 438 deaths in 2022 (1). Oral cancer is more common in men and in older people, more deadly in men compared to women and it varies strongly by socio-economic circumstances.

Tobacco, alcohol and areca nut (betel quid) use are among the leading causes of oral cancer. In North America and Europe, human papillomavirus infections are responsible for a growing percentage of oral cancers among young people.

# Oro-dental trauma

Oro-dental trauma results from injury to the teeth, mouth and oral cavity. Latest estimates show that 1 billion people are affected, with a prevalence of around 20% for children up to 12 years old. Oro-dental trauma can be caused by oral factors such as lack of alignment of teeth and environmental factors (such as unsafe playgrounds, risk-taking behaviour, road accidents and violence). Treatment is costly and lengthy and sometimes can even lead to tooth loss, resulting in complications for facial and psychological development and quality of life.

# Noma

Noma is a severe gangrenous disease of the mouth and the face. It mostly affects children aged 2–6 years suffering from malnutrition, affected by infectious disease, living in extreme poverty with poor oral hygiene or with weakened immune systems.

Noma is mostly found in sub-Saharan Africa, although cases have also been reported in Latin America and Asia. Noma starts as a soft tissue lesion (a sore) of the gums. It then develops into an acute necrotizing gingivitis that progresses rapidly, destroying the soft tissues and further progressing to involve the hard tissues and skin of the face.

According to latest estimates (from 1998) there are 140 000 new cases of noma annually. Without treatment, noma is fatal in 90% of cases. Survivors suffer from severe facial disfigurement, have difficulty speaking and eating, endure social stigma, and require complex surgery and rehabilitation. Where noma is detected at an early stage, its progression can be rapidly halted through basic hygiene, antibiotics and improved nutrition.

# Cleft lip and palate

Orofacial clefts, the most common of craniofacial birth defects, have a global prevalence of between 1 in 1000–1500 births, with wide variation in different studies and populations (2). Genetic predisposition is a major cause. However, poor maternal nutrition, tobacco consumption, alcohol and obesity during pregnancy also play a role. In low-income settings, there is a high mortality rate in the neonatal period. If lip and palate clefts are properly treated by surgery, complete rehabilitation is possible.

## Risk factors

Most oral diseases and conditions share modifiable risk factors such as tobacco use, alcohol consumption and an unhealthy diet high in free sugars that are common to other NCDs including cardiovascular disease, cancer, chronic respiratory disease and diabetes.

In addition, diabetes has been linked in a reciprocal way with the development and progression of periodontal disease. There is also a causal link between the high consumption of sugar and diabetes, obesity and dental caries.

## Oral health inequalities

Oral diseases disproportionately affect the poor and socially disadvantaged members of society. There is a very strong and consistent association between socioeconomic status (income, occupation and educational level) and the prevalence and severity of oral diseases. This association exists from early childhood to older age and across populations in high-, middle- and low-income countries.

## Prevention

The burden of oral diseases and other noncommunicable diseases can be reduced through public health interventions by addressing common risk factors.

These include:

- **promoting a well-balanced diet low in free sugars and high in fruit and vegetables, and favouring water as the main drink;**
- **stopping use of all forms of tobacco, including chewing of areca nuts;**
- **reducing alcohol consumption; and**
- **encouraging use of protective equipment when doing sports and travelling on bicycles and motorcycles (to reduce the risk of facial injuries).**

Adequate exposure to fluoride is an essential factor in the prevention of dental caries.

Twice-daily tooth brushing with fluoride-containing toothpaste (1000 to 1500 ppm) should be encouraged.

## Access to oral health services

Unequal distribution of oral health professionals and a lack of appropriate health facilities to meet population needs in most countries means that access to primary oral health services is often low. Out-of-pocket costs for oral health care can be major barriers to accessing care. Paying for necessary oral health care is among the leading reasons for catastrophic health expenditures, resulting in an increased risk of impoverishment and economic hardship.

## WHO response

The World Health Assembly approved a [Resolution on oral health](#) in 2021 at the Seventy-fourth World Health Assembly. The Resolution recommends a shift from the traditional curative approach towards a preventive approach that includes promotion of oral health within the family, schools and workplaces, and includes timely, comprehensive and inclusive care within the primary health-care system. The Resolution affirms that oral health should be firmly embedded within the NCD agenda and that oral health-care interventions should be included in national universal health coverage benefit packages.

In response to the mandate outlined in the resolution, the Secretariat developed the [Global strategy on oral health](#), adopted in May 2022 (decision WHA75.11), and included the *Global oral health action plan 2023–2030 (GOHAP)* in the report on NCDs, noted by the Seventy-sixth World Health Assembly in 2023 (WHA76.9). The GOHAP includes a range of actions for Member States, the WHO Secretariat, international partners, civil society organizations and the private sector.

In 2024, as an outcome of the first ever WHO Global Oral Health Meeting that took place 26–29 November in Bangkok, Thailand, the [Bangkok Declaration – No Health Without Oral Health](#) was adopted. This Declaration advocates for elevating oral diseases as a global public health priority. The Bangkok Declaration reiterates Member States' commitment to the landmark 2021 resolution on oral health, which advances the prevention and control of oral diseases as part of the NCD, UHC and environmental agendas. It emphasizes the need to strengthen health systems through primary health care approaches, ensuring that environmental sustainability and climate resilience are central components.

## References

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