



# ACCELERATING ACTION ON ORAL HEALTH AND NCDs

Achieving an integrated response



# The burden of noncommunicable diseases

Noncommunicable diseases (NCDs) are now widely recognised as a major challenge to health and sustainable human development in the 21<sup>st</sup> century. NCDs are the leading cause of death and disability worldwide, responsible for 70% of global mortality<sup>1</sup>. This figure is projected to reach 74% by 2030<sup>2</sup>, exacting a heavy and growing toll on the health and economic security of all countries. Increasingly, it is low- and middle-income countries (LMICs) and the poorest and most vulnerable populations which are hardest hit by these largely preventable diseases.



The primary focus of the global NCD response has been on the four major diseases – namely cardiovascular disease (CVD), cancer, diabetes, and chronic respiratory diseases – and four risk factors – tobacco use, unhealthy diet, physical inactivity, and harmful use of alcohol – identified by the World Health Organization (WHO) and the United Nations (UN) as those responsible for the greatest burden. There is, however, a range of diseases and conditions including oral diseases, mental and neurological disorders, autoimmune disorders such as psoriasis, bone and joint conditions such as osteoporosis and arthritis, renal, eye and ear diseases that are linked to the four most prominent NCDs.

Driven by similar risk factors, together with demographic changes including rapid urbanisation and ageing populations, these diseases are closely interconnected. Often, two or more NCDs manifest in the same individual, referred to as ‘NCD co-morbidities’. NCD co-morbidities can occur because diseases share the same risk factors, or because some diseases predispose individuals to developing others. As a result, these conditions can benefit from a comprehensive and integrated response.

This policy brief highlights associations between oral diseases and NCDs, and provides recommendations for their prevention and control.

## The Compounded Challenge of NCD Co-Morbidities

NCD co-morbidities impose years of disability and compounded financial burden on those affected, their families, health systems, and national economies. While the prevalence of co-morbidities varies, it increases substantially with age in all countries, with higher rates in urban than rural areas<sup>3</sup>, and disproportionately affecting the poorest. Socio-economic inequalities are exacerbated for people living with co-morbidities, with the most drastic implications being for those living in developing countries enduring a double burden of NCDs and chronic infectious diseases. NCD co-morbidities are associated with greater healthcare utilisation and financial burden including, in most cases, higher out-of-pocket expenditures which are often more than double for NCD co-morbidities than for a single NCD<sup>3</sup>.

Globally, health systems are ill-equipped to respond to the challenges posed by NCD co-morbidities. In the first instance, health systems have evolved to address acute issues, rather than to provide the continuous care required for chronic conditions, including NCDs. Furthermore, many health systems are configured to treat singular diseases in a siloed, vertical approach, which is inappropriate and ineffective for people living with NCD co-morbidities. Given the complexities involved in clinical management decisions, developing clinical practice guidelines on managing co-morbidities for primary care practitioners is vital.

## Interconnected Diseases, Common Solutions

Since the UN Political Declaration on NCDs in 2011, governments have adopted a series of bold political commitments to guide the response and an ambitious global goal of achieving a 25% reduction in premature NCD mortality by 2025. However, progress to date has been insufficient and uneven. Out of the 174 countries featured in the 2015 WHO Progress Monitor on NCDs, only 29% have guidelines for the management of major NCDs, which is an essential first step towards provision of effective care. Even once this is achieved, there is an urgent need to move away from single-disease approaches, and to reorient health systems to integrate care packages across multiple chronic conditions, through a holistic person-centred approach.

Stronger health systems underpinned by primary health care (PHC) are crucial to effectively manage NCDs. PHC is often the first gateway to health services for people with NCDs and plays a central coordinating role in the prevention, diagnosis and long-term management

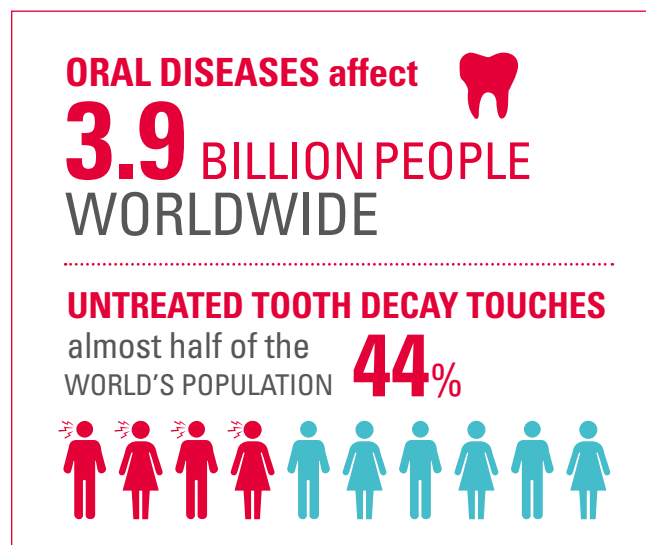
of chronic diseases. To address NCD co-morbidities, concerted efforts are needed not only for treatment of chronic diseases but also to reduce population risk factors for NCDs. This can be achieved through intersectoral health promotion and other primary and secondary prevention. This must be done throughout the life-course.

Health services need to be reorganised to address populations' needs holistically and effectively, and to make best use of resources, especially in settings where these are most limited. Within the broader context of universal health coverage (UHC), investment for health and adequate health insurance for all should be at the core of policies to promote better access to health services across populations and reduce out-of-pocket expenditures.

# The impact of oral diseases

Oral diseases affect 3.9 billion people worldwide<sup>4</sup> and untreated tooth decay (dental caries) touches almost half of the world's population (44%), making it the most prevalent of all the 291 conditions included in the Global Burden of Disease Study (1990–2010)<sup>5</sup>. The impact of oral diseases on quality of life is huge: in adults they can, in the worst cases, lead to malnutrition and social isolation; in children they are the most common cause of pain-related sleep disturbance and retarded growth<sup>6</sup>.

The high prevalence and recurrent nature of diseases such as caries, periodontal (gum) disease and oral cancer make oral care costly. Oral conditions account for the fourth highest healthcare expenditure when compared to other NCDs. In the United States alone, US\$110 billion are spent yearly on oral healthcare and in the European Union, annual spending on oral healthcare was estimated at €79 billion in the years 2008–2012<sup>4</sup>.



## What is oral health?

Oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex<sup>7</sup>.

## Integrated action

The recognition that oral diseases and NCDs share modifiable risk factors and common social determinants creates new opportunities to improve prevention and care<sup>6</sup>. The following sections of the brief outline policy areas where integrated action can both improve oral health and reduce the NCD burden.

National Dental Associations (NDAs) should work with other NCD organisations to promote common solutions and, where they have not done so, join or help establish their national NCD Alliance.



## Common modifiable risk factors and social determinants

All major NCDs, including most oral diseases, share the same social determinants and some common modifiable risk factors, namely: poor diet, in particular one high in sugars, which is one of the main causes of tooth decay; tobacco use, which is implicated in the causation of periodontal disease; and the harmful use of alcohol. Tobacco and alcohol use are also strongly implicated in the development of oral and oropharyngeal cancer. People with lower socio-economic status suffer disproportionately from oral diseases and the resulting health, quality of life and economic impacts<sup>4,6,8</sup>. Many of these causes of disease lie outside the direct influence of health professionals, so it is imperative to adopt an integrated approach to tackle the combined burden of oral diseases and other NCDs, by addressing common modifiable risk factors and social determinants.

## Policy recommendations

- **Implement the relevant articles<sup>9</sup>** of the Framework Convention on Tobacco Control and policies to reduce harmful alcohol use and sugars intake, including tax increases and advertising restrictions.
- **Improve access to health services** and ensure more supportive social conditions for disadvantaged groups to reduce social inequities.
- **Adopt both a health and oral health** in all policies approach to minimise and manage risks to oral health, general health, and health equity arising from policies in other sectors.
- **Implement cost-effective** evidence-based population-wide oral health promotion measures – including campaigns to educate people on how to prevent oral diseases through avoiding risk factors and adopting good oral hygiene habits – as a way of protecting overall health and well-being.

## Associations between oral health and other diseases

Oral diseases are associated with a number of other NCDs, such as diabetes, cardiovascular disease, respiratory disease, and gastrointestinal and pancreatic cancers. Some of these relationships appear to be bi-directional: for example people with diabetes have an increased risk of periodontal disease, and treatment of periodontal disease improves blood glucose levels<sup>4,10</sup>. Effective regional and national strategies to promote oral health and prevent oral diseases show population-wide improvement of oral health can contribute to preventing the leading NCDs.

**Like other NCDs, oral health has close links with HIV/AIDS:** oral diseases are common in people living with HIV, and HIV-related oral lesions can be used to diagnose HIV infection and monitor HIV progression<sup>4,11</sup>.



**A more integrated approach to healthcare can achieve better outcomes for patients with oral diseases and other conditions, including NCDs.**

## Policy recommendations

- **Strengthen inter-professional collaboration** between oral health and other health professionals to improve prevention and management of co-morbidities, for example through shared health records.
- **Include oral health in curricula** for other healthcare professionals, and ensure oral healthcare professional education addresses associated diseases and interdisciplinary care.
- In LMICs, **integrate oral and NCD care into current programmes**, such as those for HIV/AIDS, to improve collaboration and capitalise on existing systems.



**CARDIOVASCULAR DISEASE**

Periodontal disease allows a much higher amount of **bacteria and plaque into the bloodstream** than when gums are healthy.

*The bacteria which enters our bodies contains a clot-promoting protein which is thought to clog our blood vessels and arteries, potentially increasing the risk of stroke and heart disease.*

**ALZHEIMER'S DISEASE**

The inflammatory substances released by gum infection have been **linked to the inflammation in the brain that could be responsible for Alzheimer's disease.**

**PNEUMONIA**

Oral infections can be associated with an **increased risk of pneumonia.**

**PANCREATIC / KIDNEY CANCER**

Periodontal disease may be associated with **gastrointestinal and pancreatic cancers.**

**DIABETES**

Periodontal disease can be associated with diabetes and may increase the **risk for diabetic complications.**

**FERTILITY PROBLEMS**

Periodontal disease has been linked with an **increased risk of preterm and low-weight babies.**

## Universal Health Coverage and Primary Healthcare

Universal Health Coverage (UHC) is an essential step towards eliminating inequities in oral health and NCDs. Access to oral healthcare is particularly poor in LMICs and, in the poorest countries, only 20% of the population has access to even the most basic care<sup>4</sup>. Primary Health Care (PHC) can make basic, affordable care available to underserved populations. To this end, the WHO has developed the Basic Package of Oral Care (BPOC) as a complement to its Package of Essential Noncommunicable Disease Interventions for Primary Health Care in Low-Resource Settings (WHO PEN)<sup>12</sup>.

### Policy recommendations

- **Integrate oral and NCD care into broader efforts to achieve UHC.** In LMICs, integrate essential oral and NCD care into PHC, using the BPOC and WHO PEN as appropriate.
- **Include oral health and NCD workforce planning** in overall planning for human resources for health and ensure the equitable distribution of oral and NCD healthcare professionals throughout the health system.



## Life-course approach

As with the other NCDs, exposure to the social determinants of health and common risk factors begins early in life and their effects accumulate over the life course. For example, early childhood caries (ECC) is associated with exposure during infancy to these factors<sup>13</sup>. There is also evidence that the effects of the exposure can occur during foetal development, as reflected in the association between preterm birth or low birth weight and poor maternal oral health. These associations need to be addressed in the context of exposure to the same (maternal) common risk factors and social determinants as the other NCDs. Furthermore, the fact that risky behaviours for oral diseases and NCDs such as unhealthy diet and tobacco use are often developed and reinforced in childhood or adolescence<sup>14</sup>, also needs to be taken into account when making policy recommendations.

### Policy recommendations

- **Strengthen healthcare professional education** and collaboration to ensure oral disease and NCD risks are appropriately considered in maternal and paediatric care.
- **Implement community-based initiatives**, such as school education programmes, to promote healthy behaviours from an early age.
- **Ensure healthy environments for children**, for example through banning sugar sweetened beverages and unhealthy snacks in schools and ensuring healthy food is available.

## Disease surveillance and research

There is a serious lack, especially in LMICs, of reliable, standardised surveillance data on oral disease and NCDs. These are essential to understanding the extent of the disease burden, monitoring progress and raising awareness among policymakers and other stakeholders. There is also a continued and increased need for research into effective interventions for oral health and NCDs<sup>4</sup>.

### Policy recommendations

- Systematically include oral disease and NCD surveillance in **epidemiological monitoring**, including surveillance of common modifiable risk factors.
- Promote research into **effective interventions** for oral health and NCDs, focusing on what works in the area of social and behavioural interventions to tackle the common modifiable risk factors.
- Adopt an oral health in all policies approach.



## Oral health, NCDs and development



The significant health and economic burden of oral diseases makes action on oral health a prerequisite for achieving NCD targets and the Sustainable Development Goals (SDGs). In addition to the specific health goal (SDG3) 'promote health and well-being for all at all ages', which includes reducing premature mortality from NCDs and achieving UHC, oral health is related to several other SDGs and should be integrated into plans and associated targets.

### Policy recommendations

- **Integrate oral health perspectives into national NCD action plans**, preparations for the 2018 UN High-level meeting on NCDs and other relevant NCD governance mechanisms.
- **Fully integrate oral health and NCDs into SDG strategies and monitoring frameworks.**

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NCD Alliance is a unique civil society network, uniting 2,000 organisations in more than 170 countries, dedicated to improving NCD prevention and control worldwide.

Today, our network includes national and regional NCD alliances, member associations of our seven steering group members, joined with global and national civil society organisations (CSOs), scientific and professional associations, academic and research institutions, and dedicated individuals. We have a diverse supporter base, including FDI World Dental Federation. Together with strategic partners, including the WHO, the United Nations (UN) and governments, NCD Alliance works on a global, regional and national level to bring a united civil society voice to the global campaign on NCDs.

[www.ncdalliance.org](http://www.ncdalliance.org)



FDI World Dental Federation serves as the principal representative body for more than one million dentists worldwide, and is one of the oldest organizations in the field of dentistry. It leads the global fight against oral disease and is committed to ensuring the threat it poses to human health and well-being is recognized. FDI works with its close to 200 member associations and specialist groups in more than 130 countries, governments, United Nations (UN) agencies including the World Health Organization (WHO), as well as other international partners to improve the oral health of all people. [www.fdiworlddental.org](http://www.fdiworlddental.org); [www.facebook.com/FDIWorldDentalFederation](https://www.facebook.com/FDIWorldDentalFederation); [twitter.com/worlddentalfed](https://twitter.com/worlddentalfed).

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