

Time to put your money where your mouth is

Addressing inequalities in oral health



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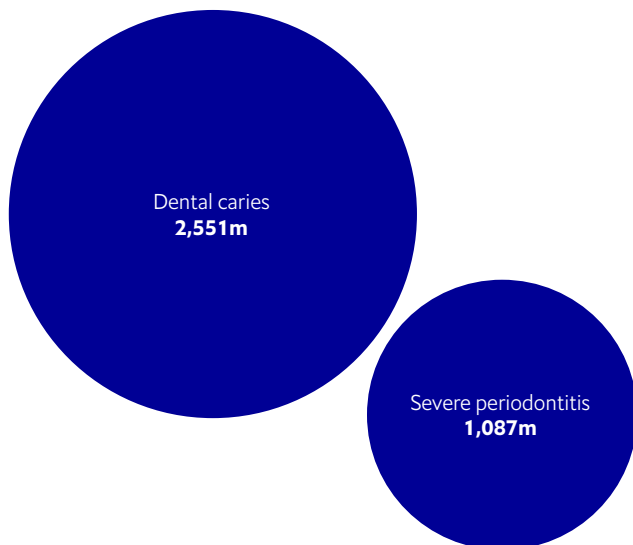
45% of the world's population is
affected by oral diseases.

Surpassing the combined prevalence of 5 of the
most common non-communicable diseases.¹

More years are lost to disability from oral
diseases than any other medical condition.²

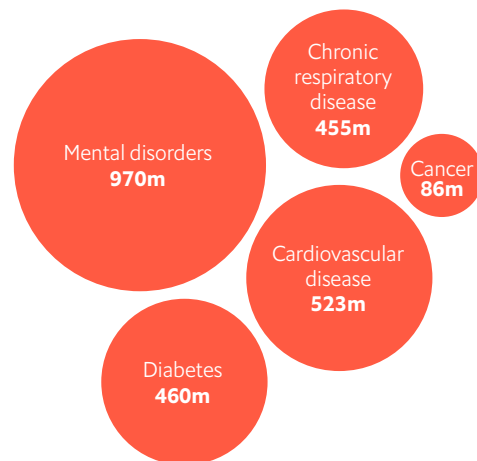
Prevalence of the 2 most common oral diseases

Combined: 3,639m



Prevalence of 5 of the most common NCDs

Combined: 2,494m



Source: Global Burden of Disease, 2019¹

What are dental caries and periodontal disease?

Dental caries (tooth decay) is a bacterially mediated and sugar modulated NCD that causes damage to the structure of teeth. Periodontal disease (gum disease) the most common forms being gingivitis and periodontitis, is a destructive inflammatory disease of the tissues that hold teeth in place.

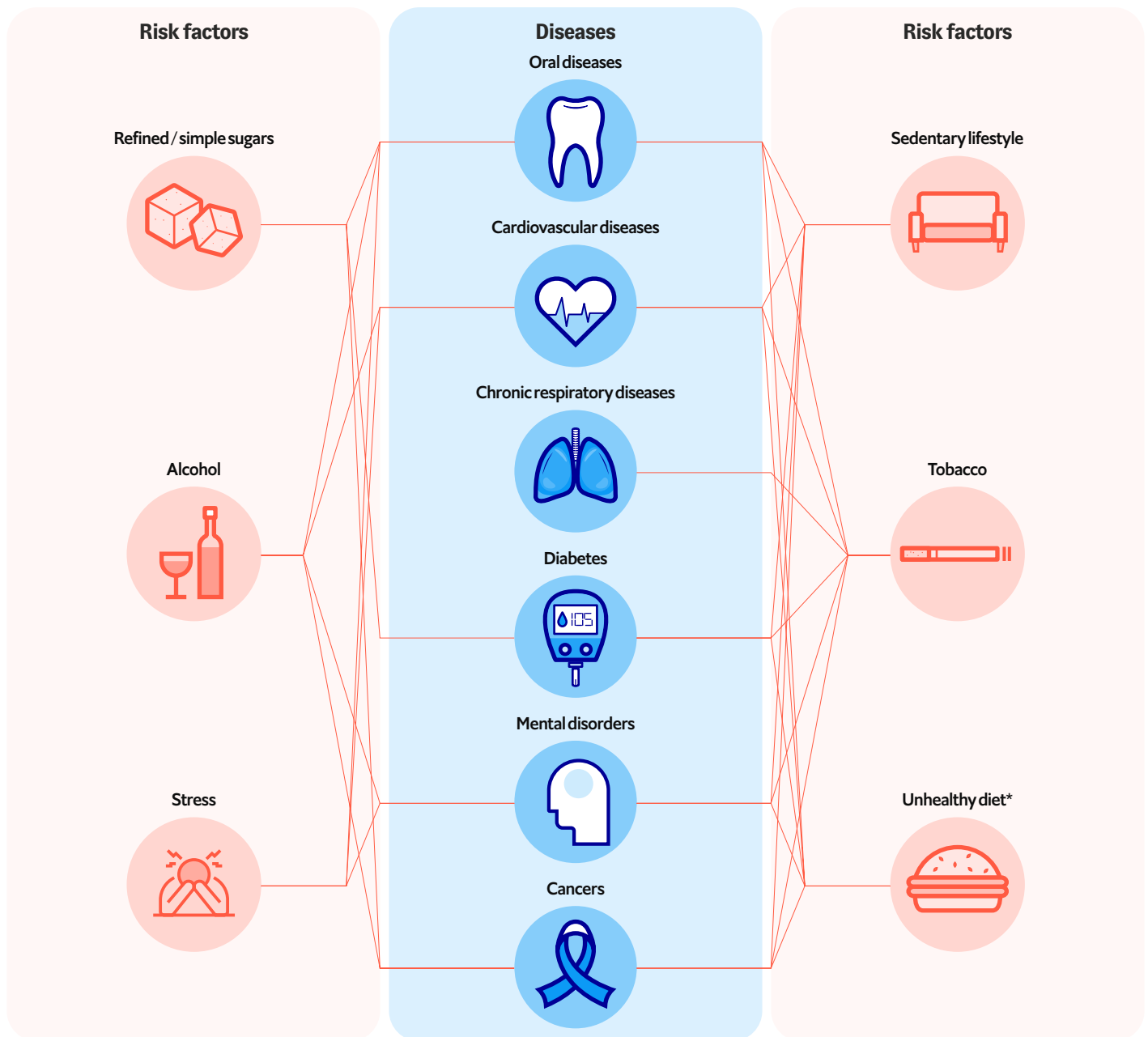
Common risk factor approach

Even though oral diseases share common risk factors associations with other NCDs, they have been **siloed from the remaining healthcare system** in models of provision and funding.

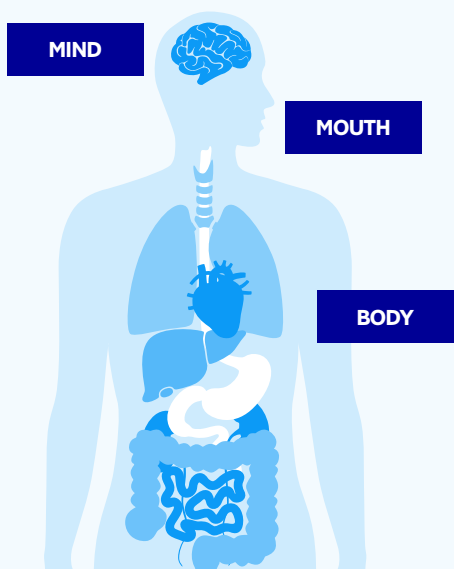
Risk factors for oral diseases, such as a diet rich in sugars, tobacco use, and alcohol consumption, also **increase the risk of other leading NCDs** like diabetes, heart disease, cancer, and stroke.

A **holistic approach targeting shared risk factors** common across multiple NCDs, would have a positive impact on reducing or preventing a myriad of NCDs.

Risk factors with direct or indirect pathways of association with multiple NCDs^{3,4}



*The term unhealthy diet comprises foods that are high in saturated and trans fats, salt, and sugar; having a low intake of fibre, fruits, and vegetables; and having a high consumption of sugar-sweetened beverages, among other factors. An unhealthy diet would typically include sugar-sweetened beverages and products but as high sugar intake is the single most important risk factor for the development of dental caries, as well as a risk factor for periodontitis, we've included sugar as a separate, distinct risk factor.



The mouth, mind and body connection

- Poorly controlled diabetes is associated with increased prevalence and severity of periodontal disease. Conversely, **chronic periodontal inflammation worsens diabetes control and complications**⁵
- Periodontitis increases risk for **cardiovascular disease and its complications**.⁵
- Emerging evidence highlights the association between periodontal disease and **higher risk of cognitive decline and dementia**⁶
- Pain and associated complications resulting from dental caries can **interfere with sleep and lead to poor sleep quality**⁷
- Bad breath and changes in appearance due to periodontitis and caries can lead to social anxiety, **negatively impact self-esteem, interpersonal relationships and social life**.^{8,9}

Workforce

According to WHO estimates, there are around 4m oral health providers globally, of whom around 2.5m are dentists. About 80% of these dentists work in high-income or upper-middle income countries, while only **1.4% are estimated to work in low-income countries**.¹⁰

Dental hygienists and oral health educators are key to **expanding access to preventive care**. Engaging pharmacists, nurses and midwives at their point-of-contact with patients is critical for oral health promotion and disease prevention. Designing health systems that **provide holistic oral health care from multiple health professionals** is the key to successfully implementing preventive care. Integrating electronic dental and medical records would **improve oral-systemic healthcare**.



Economic burden

Direct treatment costs due to the 3 most common oral conditions (caries, severe periodontitis, and severe tooth loss) were estimated at US\$357 billion yearly, **4.9% of global health expenditure**.^{11,12}

The indirect costs are also significant. Productivity losses due to caries, severe periodontitis, and severe tooth loss are **estimated at \$188bn annually**.¹¹

Inequalities in oral health

Evidence from systematic reviews demonstrates socio-economic inequalities in oral health:



Low educational attainment is associated with an **86% and a 44% increased risk of periodontitis and caries prevalence**.^{13,14}

Low income is associated with a **29% increased risk of caries prevalence**.¹⁴

The value of prevention

Gum disease

Economist Impact's research 'Time to take gum disease seriously' estimated the return on investment for eliminating gingivitis in six countries.¹⁵

Over a 10-year period, every euro spent eliminating gingivitis would return:

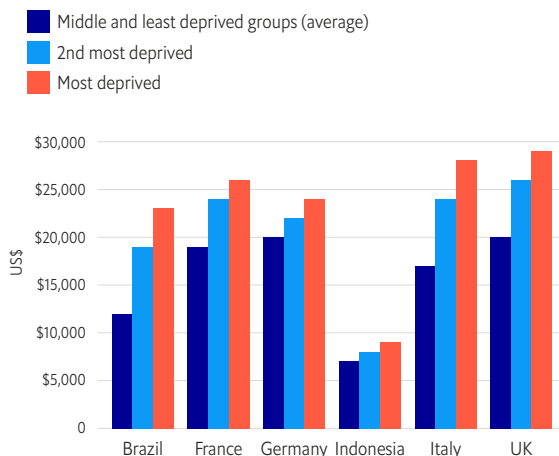


Dental caries

Economist Impact's report 'Time to put your money where your mouth is: Addressing inequalities in oral health' estimated dental caries treatment costs (between 12-65 years) across deprivation groups in six countries.

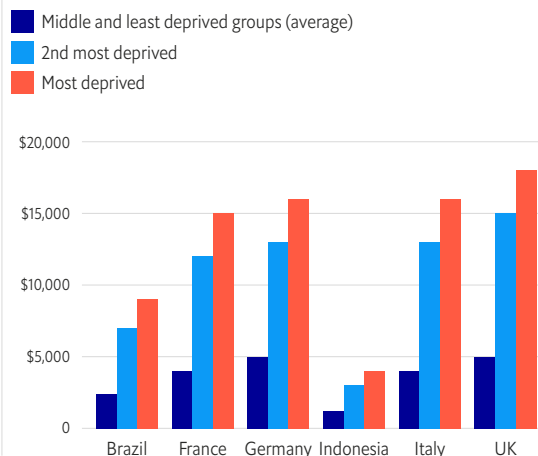
The most deprived bear the highest direct costs from caries

Per-person caries treatment costs (US\$) between 12-65 years by deprivation groups



The most deprived have the most to gain from a leveling-up approach to tackle caries

Decrease in per person costs (US\$) after levelling up approach to reduce caries progression



The way forward

There is an urgent need for better alignment between policy, public health, payment systems and clinical practice. Improving oral health requires a multi-pronged approach:



Engage the population by raising awareness



Address shared risk factors with other NCDs to improve overall health



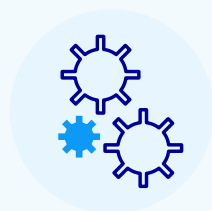
Expand and diversify the oral health workforce



Incentivise preventive care



Build public-private partnerships to promote population-level prevention



Improve epidemiological methods to measure early caries and periodontal diseases

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