



Alliance for a Cavity-Free Future
Stop Caries NOW for a Cavity-Free Future

KING'S
College
LONDON

A GLOBAL CONSENSUS for achieving a dental cavity-free future

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Based on advice and policy recommendations from:
THE ACFF MAKING CAVITIES HISTORY TASKFORCE



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Recommendations for new caries-related policies

What is dental caries?

Dental caries is a biofilm-mediated, diet modulated, multifactorial, non-communicable, dynamic disease resulting in a net mineral loss of dental hard tissues. It is determined by biological, behavioural, psychosocial, and environmental factors. As a consequence of this process, a caries lesion develops.¹

What is a dental cavity?

A tooth with caries that has progressed far enough to produce a collapse in the integrity of the outer enamel, exposing the inner dentine. This stage of caries typically leads to a restoration or filling.²

What is cavity-free?

Cavity-free implies that there are no detected cavities in dentine. However, thorough clinical examination may reveal the presence of non-cavitated and/or micro cavitated carious lesions.¹

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The Consensus Recommendations contained in this report were co-created by the Task Force members over a series of meetings at the end of 2020. The remainder of the report has been written by the authors following the advice and suggestions of the Taskforce members. The authors take responsibility for the views expressed.



This document is supported by a living appendix which can be accessed at www.acffglobal.org/making-cavities-history

Summary documents, explanatory papers and case studies will be added to the appendix over time.

Key Appendix Documents:

- An economic perspective on the global burden of caries
- Making Cavities History Taskforce Policy Recommendations

¹Machiulskiene V. et al., Terminology of Dental Caries and Dental Caries Management: Consensus Report of a Workshop Organized by ORCA and Cariology Research Group of IADR. *Caries Res* 2020;54:7–14 (<https://doi.org/10.1159/000503309>).

²Pitts, N., Mazevet, M., Mayne, C., Hinrichs, S., Boulding, H., & Grant, J., Towards a Cavity-Free Future: How do we accelerate a policy shift towards increased resource allocation for caries prevention and control? The Policy Institute at King's, 2017, (<https://doi.org/10.18742/pub01-015>).

Overview

Caries is the world's most prevalent non-communicable disease. Caries and cavities affect sufferers right across the life course, and globally are responsible for the largest burden of all disease.

Untreated caries and cavities can adversely impact the quality of life of sufferers in multiple ways. In addition to this, untreated caries creates sizeable economic challenges with huge global costs. Caries is a widespread problem and has the largest impact of any issue within oral health, yet the burden and pain caused by caries and cavities are preventable.

By tackling caries at the early stages, we can avoid cavities. This can not only lead to improvements in oral health but can also, through common risk factors, go a long way towards tackling other major (and costly) non-communicable diseases for wider health benefits.

Despite this evidence, caries is typically ignored in health policy. Previous global policy recommendations have not explicitly mentioned dental caries, and caries is not currently visible in global or national NCD strategies. This means that it is invisible to health policymakers and does not come with available resources.

We can demonstrate that a cavity-free future is possible, and also widely desirable. With a shared international vision for this for the last decade, we are at a turning point, with dental authorities around the world united in this vision, speaking with one voice to push for change.

Making progress with caries requires both WHO-level global policy agreements and country-level policy implementation. With this in mind, the ACFF Taskforce was formed to bring together world-leading experts in cariology, behaviour change, public health, and health policy, in order to create consensus on policy recommendations. This is in order to ensure international level agreement and

buy-in, as well as locally suitable frameworks for initiating effective policy and healthcare systems development.

The key outcomes of the Taskforce were that population education and behaviour must drive change around primary NCD prevention, with caries recognised in global and national NCD agendas. It is also critical to tackle sugar and the other major food risk factors for NCDs, whilst continuing to educate people on the importance of nutrition and hygiene. To move to a cavity-free future, there also needs to be integrated and incentivised primary and secondary caries prevention across the life course as part of wider health provision. We also need to push to ensure the availability of systematic surveillance data to monitor actions and progress.

The recommendations within this paper are a consensus among international representatives from across the global dental community. The authors strongly believe that if a concerted, global effort is made, dental caries can be stopped in its tracks, and we call upon policymakers to consider these recommendations so that we might feasibly create a future free from dental cavities.

Everything discussed in this paper is based on best evidence. This evidence should be shared broadly throughout institutional, healthcare professional, industrial, civil society, and patient communities so that all can play their role as the world embarks with greater determination on the path to a cavity-free future.

Policy recommendations to make cavities history

The task ahead will be to align systems, develop new tools and reimbursement incentives and form a collaborative approach to primary oral care whilst ensuring recognition of the severity of the issue at hand from those with the power to promote change. Making progress with caries requires both global-level policy agreements and country-level policy implementation. With this in mind, the ACFF Taskforce was formed in 2020 to bring together world-leading experts in cariology, behaviour change, public health, and health policy, to create a consensus as to the required direction of travel in order to ensure international level agreement and buy-in as well as locally suitable frameworks for initiating effective policy and systems development. The following are the consensus policy recommendations agreed by the Task Force following an intensive series of virtual meetings held between October and December 2020. These recommendations are offered by the Taskforce to policymakers as a springboard for ensuring that caries and cavities are given a platform within health policy discussion, with a view to successfully influencing improvements in oral and general health.

1 – Population and health professional education and behaviour must drive change around primary prevention of NCDs

The recognition of caries as a manageable NCD by policymakers, professionals and the public, and the implementation of suitable oral health education programmes for all stakeholder groups will be essential in driving a shift in attitude towards, and improvements in dental caries.

I – Effective prevention and management of dental caries and cavities across the life course

Oral diseases, notably dental caries and cavities, are largely preventable. Disease prevention and management allow individuals to live a pain-free and high-quality life throughout their lives, and reduces the impact on healthcare expenditure.

WE CALL UPON POLICYMAKERS:

- **To recognise caries and cavities** in their national non-communicable diseases (NCDs) plans at the same level as other major NCDs, such as diabetes, which share common risk factors.
- **To implement oral health education programmes** in preschools and schools for both students and parents, with the support of key stakeholders from across the healthcare spectrum, based on best practice examples from across the world, such as the Childsmile programme.
- **To implement oral health education programmes** specifically addressed at vulnerable groups, such as pregnant women, the elderly population, etc.
- **To include oral health curricula prevention and management modules** as part of the formal and lifelong training of healthcare professionals, across the spectrum.

2 - It is critical to tackle sugar and other major risk factors for NCDs

The availability of, and education surrounding appropriate nutrition and hygiene is a key element in the fight against dental caries. The dangers of frequent sugar consumption, particularly for children under 2 years old, must be addressed through multiple care routes to ensure coverage is broad. By suitably addressing these risk factors, benefits will be achieved across multiple areas of health with an increased awareness of factors fundamental to achieving health across the life course.

II - Addressing caries and cavities risk factors across the life course to fight major non-communicable diseases

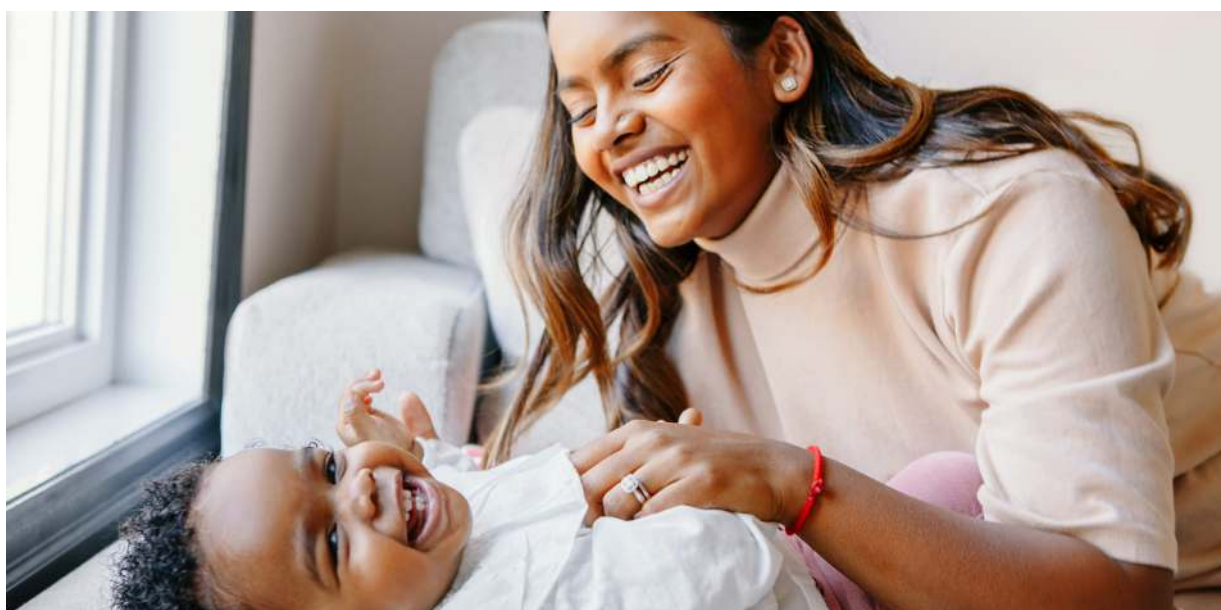
Sugar consumption is one of the most common dietary risk factors across the life course towards developing an NCD, notably diabetes, cardiovascular diseases, cancer, and obesity, and results in massive public expenditures for the treatment of caries and cavities. Reduction in the intake of sugar-sweetened beverages and foods is advised globally as part of healthier dietary patterns to help reduce energy intake, the risk of obesity, and obesity-related disorders.

WE CALL UPON COUNTRIES

- **to include oral diseases**, and in particular caries and cavities, into their national NCDs plans when targeting high sugar consumption in major NCDs. In turn, directly addressing caries and cavities will also address the major NCDs.

WE ENCOURAGE POLICYMAKERS TO FOCUS ON:

- **Creating effective solutions**, with all stakeholders, to provide affordable and accessible healthy food and drinkable water as well as decrease the purchase of sugared food or drinks through taxation policies.
- **The importance of decreasing sugar intake** in the first two years of life as these years are crucial in determining a child's wellbeing in adulthood.
- **The implementation of oral hygiene education programmes** in primary and secondary school, including nutrition programmes modelling healthy and affordable nutrition and hygiene practices.
- **The promotion of healthy food consumption** across the life course, notably in schools and in the workplace.



3 - There needs to be integrated primary and secondary caries prevention across the life course

The integration of caries and cavities into wider oral health policies and continuing the push towards including prevention within national health programmes as an essential part of UHC is key to making cavities history. We call for greater access to integrated primary and secondary preventive dental care to maintain health. As part of policy development, consideration must be given to ensuring effective systems are in place to support preventive dentistry and the development of the local workforce delivering care. Achieving effective caries prevention and management across the lifeforce will involve educating and empowering the existing dental workforce to deliver up-to-date care pathways, as well as restructuring health systems to allow for effective continued development in best practice for caregivers. It also means expanding, where possible, the range of people who can advise and refer patients, and, in some cases, treat basic dental health needs to increase care accessibility.

III - Integration of primary and secondary prevention across the life course to address the burden of cavities and caries

There is no general health without oral health. Therefore, a focus on prevention across the life course is key.

WE CALL UPON POLICYMAKERS:

- **To ensure a shift towards optimal standards of care** and preventive dental medicine, which is outcomes oriented and based on best practice implementation, and includes access to affordable future innovations in caries prevention technologies and care delivery, in discussion with all key stakeholders from across the healthcare spectrum. This should furthermore address the reduction of the environmental footprint through the reduction of the use of dental amalgam, in line with the implementation of the Minamata Convention on Mercury, and other restorative materials.
- **To ensure the implementation, access, and affordability** of proven preventive measures, such as public health use of fluoride and effective and affordable fluoride toothpaste, to promote and preserve oral health, in discussion with all key stakeholders from across the healthcare spectrum.
- **To strengthen the interconnectivity** between oral and general health through a holistic approach which integrates oral health into general health promotion strategies as well as in academic curricula and lifelong learning for professionals.
- **To integrate equitable and affordable access to essential care** for the most common dental needs in primary care services (under Universal Health Coverage) to improve the prevention and management of NCDs as well as caries and cavities.
- **To integrate oral health policies**, and in particular the inclusion of caries and cavities prevention policies, into national health programmes as cost-effective measures and part of primary care services, as well as to translate them into national prevention programmes. The focus should be on the entire life course and range from early childhood caries to healthy ageing, in line with the WHO Decade of Healthy Ageing.

4 - We need systemic surveillance data to monitor actions and progress

So that we can effectively map caries incidence and monitor the success of different approaches to eliminating cavities, multi-national surveillance programmes for data on the prevalence and incidence of caries and cavities are essential. Building an aligned system for reporting from countries of high, low, and emerging economic status will help to offer a more comprehensive overview of the true burden of caries globally, and in turn will help us to monitor successful interventions over the medium and long term in our battle against cavities. This will then allow for effective evaluation and adjustment of programmes and policies, informing future decisions based on examples of best practice emerging from the programmes. A clear, universal reporting language must be used in the creation of these programmes to ensure that the data exchanged is useful and comprehensible and to minimise the margin for error within reporting.

POLICY RECOMMENDATIONS

IV - Comprehensive data collection for effective prevention and management of dental caries and cavities

The lack of data, in general, as well as the lack of consistent data on dental caries and cavities does not allow for proper decision making to ensure effective strategies in the prevention and management of dental caries and cavities.

WE CALL UPON POLICYMAKERS:

- **To create a sustainable public surveillance programme** for the collection of data on the prevalence and

incidence of caries and cavities across the life course, taking best practice examples as a starting point.

- **To monitor progress and evaluate the impact of policies aimed** at preventing and managing caries and cavities.
- **To use the same case definition and exchange data** on current oral health policies.
- **To establish a monitoring system** to ensure implementation of the above recommendations.

Steps should also be taken both at an international level and within countries to start to collect appropriate data (with prevalence/disease data which includes initial-stage disease) that will be needed for the long-term assessment of the costs and impacts of caries management and cavity prevention.⁸⁸ The potential of expanding existing NCDs frameworks to include surveillance and monitoring of caries risk factors, as well as caries prevalence and burden, should be explored as an efficient route to achieving results across the NCDs agenda. The collection of these data will be a big step in accelerating and refining progress towards a cavity-free future.

⁸⁸ Pitts, N.B., Carter, N.L. and Tsakos, G., *The Brussels Statement on the Future Needs for Caries Epidemiology and Surveillance in Europe*. Community Dent Health, 2018. 35(2): p. 66.

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About ACFF

The Alliance for a Cavity-Free Future (ACFF) is a global not-for-profit organisation that seeks to promote integrated clinical and public health action to confront the burden of tooth decay, fight dental caries initiation and progression, and, along with a global community of supporters, progress towards a Cavity-Free Future for all age groups. The ACFF was established in collaboration with a worldwide panel of experts in dentistry and public health who share a fervent belief in joining together across professional, geographic, and stakeholder lines, to create a unified global movement committed to combating caries in communities around the world.

The activities of the ACFF and its Chapters are supportive and complementary to ongoing WHO Oral Health initiatives and wider initiatives across other oral health matters (e.g., periodontal disease, Noma, oral cancer), whilst remaining focused on caries. ACFF, by nature is an alliance, drawing together and working closely alongside multidisciplinary partners to push for improvements in health, with controlling caries often viewed as a key starting point to seeing more widespread improvement in both oral and general health, with the idea that if we can eradicate cavities the rest will be easier to do.

The Alliance for a Cavity-Free Future

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MAKING CAVITIES HISTORY

The 'Global Burden' of Dental Caries



2.3 billion people have untreated cavities in permanent teeth, and over 530 million children suffer from untreated cavities of the primary teeth.¹²



It is estimated that in 2015 dental caries accounted for **\$245 billion** global economic burden (\$161 billion in direct treatment costs and \$84 billion in indirect productivity losses).⁹³



While **dental cavities are largely preventable**, untreated cavities in permanent teeth ranked **No. 1** for prevalence in the entire Global Burden of Disease Study - across all of 291 diseases and injuries considered.¹²

¹² Marcenes, W., et al., Global burden of oral conditions in 1990-2010: a systematic analysis. J Dent Res, 2013. 92(7): p. 592-7.

⁹³ Vujcic, M., Listl, S. *An economic perspective on the burden of dental caries* (for the ACFF Making Cavities History Taskforce), 2020.

¹² Marcenes, W., et al., Global burden of oral conditions in 1990-2010: a systematic analysis. J Dent Res, 2013. 92(7): p. 592-7.