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Conflicts of interest between the sugary food and beverage industry and dental research organisations: time for reform

See **Series** pages 249 and 261

Prevention of dental caries (tooth decay), one of the most common chronic diseases globally,[1] requires the global implementation of WHO's guideline on sugars intake.[2,3] WHO recommends that individuals consume less than 10% of total energy intake from free sugars and that intake below 5% would be beneficial.[3] The global dental research community, as the *Lancet* oral health Series[1,2] argues, has an important role in the implementation of the WHO guideline by promoting research on public health and dietary interventions, among other actions. However, dental research activities have not focused on sugars for many years. To remedy this, the European Organisation for Caries Research (ORCA) and the European Association of Dental Public Health (EADPH) organised a joint symposium on sugars in 2015 to stimulate new research.[4] The same year, the American Dental Association urged the US National Institute of Dental and Craniofacial Research (NIDCR) to increase research on sugars and oral health.[5] Although these actions are important, to produce meaningful research on sugar reduction dental research organisations must also address their financial conflicts of interest (COI) with the sugary food and beverage industry.

A check of dental research organisation websites shows that corporate members of ORCA[6] include Cloetta, a Nordic confectionery company; Unilever, a global consumer goods company that sells ice cream and sugary beverages; and Mars Wrigley Confectionery, a leading manufacturer of chewing gum, chocolate, mints, and fruity confections (through its Wrigley Oral Healthcare Program). Corporate members of the International Association for Dental Research (IADR)[7] include Unilever and Mondelēz International, one of the world's largest snack companies, whose products include cookies, chocolate, and confectionery. These financial ties are slightly less shocking given the oral health-care products these companies sell: xylitol chewing gum and pastilles (Cloetta), sugar-free gum with xylitol (Mondelēz, Mars Wrigley), and toothbrushes and fluoridated toothpaste (Unilever). Nonetheless, as the dental research community comes to terms with its neglect of sugars intake, these relationships with industry are ripe for scrutiny.[1,2]

Emerging evidence of industry influence on research agendas[8] contributes to the plausibility that Cloetta, Mars Wrigley, Mondelēz, and Unilever could view their financial relationships with dental research organisations as an opportunity to ensure a focus on dental caries interventions with commercial applications—eg, xylitol, oral hygiene instruction, fluoridated toothpaste, and sugar-free chewing gum—while deflecting attention from harm caused by consumption of their sugary products. Industry funding presents a risk of bias in how research is designed, conducted, and published.[9] It can drive research agendas away from studying product harms or towards topics that distract from these harms.

For example, Coca-Cola has funded studies on the association of obesity with physical activity rather than with sugar consumption[8] and the tobacco industry has funded research on the adverse effects of indoor pollutants other than second-hand smoke.[10] Such industry-supported research agendas are optimised to protect industry profits, not advance public health.[8] The sugar, chocolate, and confectionery industries have a history of funding dental research to develop non-dietary interventions to control caries, including enzymes that break up dental plaque and a caries vaccine.[11] Findings from a case study of the 1971 NIDCR National Caries Program, launched to end tooth decay within a decade, indicated that 78% of a sugar industry report promoting non-dietary interventions was incorporated into the first request for research proposals.[11] Research that could have been harmful to sugar industry interests, such as the development of methods to measure whether specific foods cause caries, was omitted from the research priorities.[11]

In 2009, the US Institute of Medicine (now the National Academy of Medicine) issued a report on COI in medical research, education, and practice with pharmaceutical, medical device, and biotechnology companies.[12] This report has served as an international model for reform and our panel includes an expansion of its key recommendations that are applicable to dental research organisations.

Dental research organisations have made inconsistent progress towards the disclosure and management of COI. As of June, 2019, neither ORCA nor EADPH had COI policies on their websites. By contrast, IADR and the American Association for Dental Research (AADR) require meeting and activity participants to disclose COI.[13] In 2016, IADR and AADR adopted policies to govern corporate sponsorships, including disclosure requirements for continuing education and the transfer of value from pharmaceutical and device manufacturers to any health-care professional, according to relevant national regulations and policies.[14] However, the extent of undisclosed financial ties with the sugary food and beverage industry is uncertain because existing transparency databases focus mainly on pharmaceutical industry payments.[15] Furthermore, disclosure alone does not manage COI.[15]

The corporate sponsorship policy of IADR and AADR includes provisions to keep financial relationships from impacting the scientific content of meetings and outcomes of awards, fellowships, and grant reviews.[14] Whether this policy is based on a risk assessment of relevant financial relationships is unclear, and there are no provisions to ensure policy adherence. IADR and AADR's decisions in 2019 to exclude sugar-sweetened beverage companies from their investment portfolios and to no longer procure their products for meetings and events signal a willingness to examine COI with the sugary food and beverage industry. However, other actions suggest a deepening of these relationships. IADR created a corporate section membership in 2014, engages its corporate partners in strategic planning, allows corporate representatives to serve on the IADR Council, and seeks to increase corporate funding for its programmes.[16] AADR welcomes the corporate sector to its leadership positions and made corporate members eligible for Board positions in 2016.[17]

If ORCA, EADPH, IADR, AADR, and the larger dental research community are serious about supporting the implementation of the WHO sugars intake guideline, then it is time for dental research organisations to develop and implement transparent, evidence-based policies and practices to eliminate or manage COI with the sugary food and beverage industry (panel). We urge the international dental community to work collaboratively to adopt and improve upon the Institute of Medicine recommendations[12] to ensure that public health is prioritised.

Panel: **Recommendations for the management of financial conflicts of interest between dental research organisations and the sugary food and beverage industry**

Dental organisations should:

- Adopt conflicts of interest policies consistent with the 2009 Institute of Medicine report[12] for the organisation and any related entities (eg, dental journals)
- Publicly report industry payments to dentists, researchers, health-care institutions, professional societies, and providers of continuing dental education
- Bar researchers with conflicts of interest from doing research with human participants except when the investigators' expertise is essential to the safe and rigorous conduct of the research
- Prohibit or end relationships with industry that present unacceptable risks of undue influence over professional decision making or a loss of public trust
- Reduce industry influence in the development of clinical practice guidelines by requiring the majority of guideline committee members and committee chair to be free of financial conflicts of interest
- Establish policies at the board level to identify, limit, and manage institution-level conflicts of interest
- Develop incentives to promote the institutional adoption and implementation of policies recommended by the Institute of Medicine report[12] for medical research, education, and practice

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Promoting radical action for global oral health: integration or independence?

See **Series** pages 249 and 261

Globally, oral health has been neglected. The major global burden of oral health and its social and economic impacts are not disputed,[1] and the deficiencies in oral health care and preventive services in all countries are apparent.[2] But given that everyone experiences oral health problems at some stage of their life, it is surprising that the neglect of global oral health has not been seriously challenged.

For the **FDI World Dental Federation** see https://www.fdiworlddental.org/

The *Lancet* oral health Series[1,2] makes eight important recommendations for ending this neglect. However, no strategic plan is proposed and the responsibilities of the stakeholders are not identified; further, the priority actions needed to overcome the global neglect of oral health have not been specified. We examine the underlying reasons for the neglect of oral health and suggest that building a global oral health movement is the first step to ensure oral health receives the sustained action it deserves.

Successful global health movements are characterised by strong and committed actors, powerful and compelling ideas, unique features, and an ability to exploit the political context.[3] The key global actors in oral health include the FDI World Dental Federation (FDI), WHO, national dental associations, policy makers, academics, practitioners, and donors. The FDI aims to lead the world to optimal oral health and has made some progress on sugar advocacy,[4] but is constrained by its emphasis on traditional clinical dental preoccupations. WHO has long been weak on oral health and, despite the optimism expressed in this Series,[2] we suspect there will be little improvement within the newly transformed organisation. There is limited engagement with oral health by the major non-governmental organisations or donors.

The ideas expressed in the *Lancet* oral health Series are compelling: a huge burden of disease, especially in