



Advocating for Soda Taxes: How Oral Health Professionals Fit In

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ABSTRACT Our recent analysis of how soda tax debates appear in the news revealed that oral health professionals seldom appear. By elevating their expert voices, oral health practitioners can contribute new and salient arguments for soda taxes to the public discourse and help advance public policy that improves oral health outcomes. We propose media advocacy strategies that oral health professionals can use to increase their visibility in the news to make the case for soda taxes.

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Reducing the consumption of sugary drinks is a key public health goal, as sugary drinks are the largest source of added sugar in the American diet¹ and are associated with a range of chronic diseases, including obesity, type 2 diabetes, cardiovascular disease and dental caries.^{2,3} From the landmark 1954 Vipeholm Study to national surveys and recent epidemiologic studies, evidence suggests there is a direct link between sugar consumption and the risk of dental caries.⁴⁻⁹ Sucrose has specifically been highlighted in the literature as cariogenic, contributing to increased metabolic activity and acid production from bacterial plaque and demineralization of tooth enamel.^{5,8,9} Recent studies confirm that consuming sugary drinks increases the risk of caries among children.^{10,11} Wilder and colleagues found, for example, that among elementary school children in Georgia, each additional serving of sugary drinks consumed per day increased the risk of experiencing cavities by 22 percent.¹⁰

Oral health professionals see the effects of sugar and sugary drink consumption on their patients every day, particularly in low-income and ethnic minority communities.¹² Though preventable, dental caries is the most prevalent chronic disease worldwide¹³ and the most common chronic childhood disease in the U.S.¹⁴ In California and across the U.S., children from low-income households and communities of color are at highest risk for acquiring dental caries and being unable to get treatment for them.¹⁵⁻¹⁷ Untreated tooth decay can lead to substantial mouth pain and is a leading cause of children's school absences in the U.S., compromising their educational potential as well.^{18,19}

Because consumption of sugar and sugary drinks is a strong risk factor for dental erosion and caries across the lifecourse,^{3,13} oral health professionals recognize the need for limiting the consumption of sugary drinks.²⁰ Together with other public health professionals, oral health leaders are increasingly exploring the potential of soda taxes as a policy lever.²¹⁻²⁸ Indeed, one of the California Dental Association's current policy priorities is reducing consumption of sugary drinks by supporting taxes and warning label policies.^{29,30} These taxes can reduce consumption of sugary drinks and fund health promotion programs.^{21,22,24,28} In 2013, Mexico became the first country to pass a substantial excise tax on sugary drinks, and within the first year of implementation soda sales decreased by 12 percent, with the sharpest decline among vulnerable low-income residents.³¹ However, the sugary drink industry has fought aggressively against these policies, spending tens of millions of dollars against state and local soda tax proposals in recent years.³²

Dentists and other oral health professionals can take the lead in making the case for soda taxes and framing overconsumption of sugar as a significant

public health and health equity issue with oral health consequences. Too often, however, their voices are absent from the dialogue about these policy strategies. News coverage, which sets and reflects the public debate about public policy, offers a window through which we can understand that dialogue. Based on our recent analysis of how soda tax debates were portrayed in news coverage — and specifically, how oral health and oral health professionals appeared — we identify possible strategies for the oral health community to support soda tax efforts, particularly using media

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advocacy. By raising their voices, dentists, hygienists and other oral health experts can contribute new arguments in favor of soda taxes to the public dialogue and help advance public health policy to improve oral health outcomes.

Berkeley and San Francisco's Soda Tax Debates

In 2014, Berkeley and San Francisco voters both considered sugary drink tax proposals. Berkeley became the first city in U.S. history to pass a sugary drink tax. More than half of voters supported San Francisco's proposal, but it lacked the two-thirds majority of votes needed for it to pass. In a previous analysis, we examined news coverage, social media and campaign materials to gauge what types of discourse surrounded the initiatives.³³

We found that tax proponents regularly made the case for soda taxes using health-related arguments. In the news, journalists, tax advocates and others most often connected sugary drinks to obesity (38 percent of articles) and diabetes (34 percent). However, tax proponents rarely discussed the negative oral health implications of sugary drink intake or the oral health benefits of sugary drink taxes. Indeed, oral health was mentioned in only 2 percent of articles about sugary drink taxes. Though dental caries are the most prevalent chronic disease worldwide,¹³ diabetes was discussed 17 times more frequently and obesity 19 times more frequently than were the oral health consequences of sugary drink consumption.

Even when oral health did appear in the news, it was rarely discussed substantively. Instead, oral health issues were typically mentioned in passing or listed among other chronic diseases. For example, one *San Francisco Chronicle* letter to the editor referred to "... diabetes, tooth decay, obesity and the myriad other problems that result from the consumption of sugary drinks ..."

Dental caries and oral health may have been left out of the public debate in part because of the absence of dentists and other oral health professionals in media coverage. The soda tax debates in Berkeley and San Francisco featured a range of speakers promoting the taxes, including campaign representatives, city officials, public health advocates, clinicians, researchers and community residents. However, though the Berkeley Dental Society was a major supporter of Berkeley's proposal and a local dentist is part of the city's new panel of experts to advise how to allocate the funds collected,³⁴ oral health experts were almost entirely absent from the media we examined.

Why Oral Health Needs to Be Part of the Conversation

Dental health professionals have a long history of advancing community dental health through advocacy. The Centers for Disease Control and Prevention listed community water fluoridation as one of the top 10 greatest public health achievements of the 20th century — an achievement that likely would not have been possible without oral health professionals promoting institutional change.³⁵

Oral health practitioners have also led advocacy efforts specifically targeting sugary drinks. In Illinois, for example, dentists and the Illinois State Dental Society urged policymakers to impose a sugary drink tax. In 2009, 200 dentists converged on the State Capitol to show support and generate media attention.²⁹ Using these and other media advocacy strategies,³⁶ these oral health advocates made the case for a soda tax, arguing that the funds generated could help open dental clinics and assist people in need.³⁷

The voices of dentists, hygienists and other oral health experts, then, can help shift the public conversation around sugary drink regulation — a conversation that is often influenced by forces concerned with profits over health. Policies to limit sugary drink consumption face stiff opposition from the soda and sugar industry. Led by the American Beverage Association, the nonalcoholic beverage industry has spent tens of millions of dollars since 2009 defeating the more than two dozen municipal and state sugary drink taxes proposed across the country.^{32,38,39} During the most recent soda tax battles in California, the soda industry spent \$9.1 million in San Francisco⁴⁰ and \$2.4 million in Berkeley.⁴¹

Oral health professionals also need to be vigilant and vocal “in their own backyards,” because the sugar industry

has gone as far as influencing scientific research to downplay the implications of sugar consumption. Historically, the industry interfered with the agenda of the National Institute of Dental Research, forcing it to shift priorities toward vaccines against tooth decay and enzymes to remove dental plaque and away from studying how to restrict sugar consumption to prevent tooth decay.⁴² More recently, Coca-Cola was criticized for providing millions of dollars to fund misleading research that shifted the blame for obesity to lack of physical

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activity and away from the consumption of sugary drinks.⁴³ Dental practitioners should be alert to industry influence that can distract from their health goals.

Recommendations

What can oral health professionals do to build the capacity of the field to advocate for policies to combat the adverse effects of sugar? Among other strategies, the field can:

Make advocacy a part of dental education. While dentists provide clinical care to individual patients, their advocacy for dental public health policies at the community, state and federal levels can improve the health of whole populations and shape the future of dental practice. However, dental training largely ignores the role of policy in shaping oral health

and does not develop future dentists’ advocacy skills. A study examining the participation of American Academy of Pediatric Dentistry members in advocacy found that while 90 percent of respondents supported advocacy as a role for dentists, less than half reported taking action and only 22 percent were specifically trained in advocacy during residency.⁴⁴

But dental students are eager to be more involved in shaping policy. At Texas A&M University’s Baylor College of Dentistry, for example, students created an Advocacy Academy and planned a lobby day where they gained experience interacting and building relationships with state representatives.⁴⁵ Indiana University School of Dentistry also introduces students to the policy process through an annual Health Policy Forum, an evaluation of which showed half of students who participated in the 2009 forum were more likely to get involved in political advocacy afterward.⁴⁶ A recent study from the *Journal of Dental Education* found that dental hygiene students benefit from leadership courses that include training on legislative advocacy, and that ongoing mentorship after graduation is necessary so that practitioners can continue to develop these skills.⁴⁷ The American Student Dental Association recognizes advocacy as an important aspect of leadership development for dental students and provides opportunities for members to develop advocacy skills, including national lobby days.⁴⁸ There are also postgraduate programs that incorporate policy advocacy. Dental public health residencies, such as the one at the University of California, San Francisco, provide training to dentists in planning, evaluating and advocating for policies.^{49,50}

In short, the field needs comprehensive and organized efforts to teach dental students core competencies about oral health policy issues and how to lobby

their local and state governments. Integration of these skills into dental training can help create a new generation of professionals who are equipped with the tools to advocate for policies that guarantee oral health for everyone.

Build coalitions with other stakeholders and assume a seat at the table. Oral health is part of overall health, and risk factors for oral disease coincide with risk factors for other chronic noncommunicable diseases associated with sugary drink consumption, including obesity, diabetes and cardiovascular disease. Established dental societies and organizations, such as the California Dental Association and the American Dental Association, can use their existing leverage and broad reach to bring oral health professionals together to participate in advocacy efforts. Oral health professionals can also form alliances and coalitions with those in public health and health care. These coalitions will be poised to make a stronger and more cohesive case for policies that limit soda intake, such as sugary drink taxes, restrictions on sugary drink marketing (company sponsorships for health organizations, schools and sports events) and sugary drink-free health facilities, public buildings, schools, childcare centers and sports facilities. As part of these coalitions, dental professionals can bring an oral health lens to advocacy efforts, for example by pushing for the money garnered from soda taxes to go toward funding oral health prevention efforts along with other health promotion programs.

Incorporate media advocacy into broader advocacy efforts. Media advocacy, “the strategic use of mass media to support community organizing to advance a social or public policy initiative,”³⁶ is a tool that can amplify and accelerate larger strategic efforts by dentists to advance policies to promote oral health. A range of resources exist to support oral health advocates

in learning about and successfully using media advocacy^{51,52} — we highlight here a few key tactics, including:

- *Identify policy goals and targets.* As mentioned above, there is a range of policies with the potential to limit sugary drink intake. A first step for creating an effective media advocacy strategy is to consider what specific policy change you are trying to achieve, who has the power to create that change and who the allies are that can work with you to achieve it.

Oral health professionals see the effects of sugary drink consumption every day and can speak to the impact of sugary drinks on the lives and health of their patients.

- *Put oral health on the agenda using news and opinion space.* To increase the visibility of dentists and other oral health professionals in public dialogue about health policy and related issues, submit blog posts and opinion pieces that provide an oral health perspective. Some examples of effective springboards for opinion pieces include breaking news, the release of new research/data about sugary drinks, controversial behavior from the soda industry, local events or holidays connected in the public’s mind with the policy process or with sugar consumption, like Election Day or Halloween, respectively. Also, reach out to and develop relationships with journalists to ensure that the news stories

they write on public health issues incorporate oral health perspectives. Contact journalists over social media, send them emails and be proactive in putting stories on their radar.

- *Become visible and vocal spokespeople.* Oral health professionals see the effects of sugary drink consumption every day and can speak to the impact of sugary drinks on the lives and health of their patients. As experts, they can use the media to educate the public and build support for soda taxes. They can also recruit community members who have experienced oral health problems themselves or whose children have been affected. These authentic voices³⁶ can speak powerfully and effectively about the consequences of tooth decay and the importance of policies to reduce sugary drink consumption in guaranteeing that every child has a healthy smile.

Conclusion

Media coverage of Berkeley and San Francisco’s soda tax debates offers insight into the public dialogue around these high-profile issues. We found that oral health was largely absent from discussions of health around these policies, but that there are many opportunities for oral health professionals to become part of the conversation. By identifying specific policy goals, inserting oral health perspectives into news and opinion coverage and becoming visible spokespeople, oral health professionals can position themselves to provide new and powerful health arguments to both policymakers and the public. In other words, oral health professionals are well poised to build their capacity as media advocates and advocate for policies that reduce sugary drink consumption and improve the oral health of whole populations. ■

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REFERENCES

- Reedy J, Krebs-Smith SM. (2010). Dietary sources of energy, solid fats and added sugars among children and adolescents in the United States. *J Am Diet Assoc* 110(10): 1477-1484.
- Basen-Engquist K, Chang M. (2011). Obesity and cancer risk: Recent review and evidence. *Curr Oncol Rep* 13(1): 71-76.
- Vartanian LR, Schwartz MB, Brownell KD. (2007). Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *Am J Public Health* 97(4): 667-675.
- Gustafsson BE, Quensel CE, Lanke LS, Lundqvist C, Grahnen H, Bonow BE, et al. (1953). The effect of different levels of carbohydrate intake on caries activity in 436 individuals observed for five years. *Acta Odontol Scand* 11(3-4): 232-364.
- Moynihan P, Kelly S. (2013). Effect on caries of restricting sugars intake systematic review to inform WHO guidelines. *J Dent Res* 0022034513508954.
- Moynihan P. (2005). The interrelationship between diet and oral health. *Proc Nutr Soc* 64(04): 571-580.
- Sheiham A, James WPT. (2014). A reappraisal of the quantitative relationship between sugar intake and dental caries: The need for new criteria for developing goals for sugar intake. *BMC Public Health* 14(1): 863.
- Sheiham A. (1983). Sugars and dental decay. *Lancet* 321(8319): 282-284.
- Zero D. (2004). Sugars – the arch criminal? *Caries Res* 38(3): 277-285.
- Wildler JR, Kaste LM, Handler A, Chapple McGruder T, Rankin KM. (2015). The association between sugar-sweetened beverages and dental caries among third grade students in Georgia. *J Public Health Dent* 2016 Winter;76(1):76-84.
- Armfield JM, Spencer AJ, Roberts-Thomson KF, Plastow K. (2013). Water fluoridation and the association of sugar-sweetened beverage consumption and dental caries in Australian children. *Am J Public Health* 103(3): 494-500.
- Flores G. (2010). Racial and ethnic disparities in the health and health care of children. *Pediatrics* 125(4): e979-e1020.
- Selwitz RH, Ismail AI, Pitts NB. (2007). Dental caries. *Lancet* 369(9555): 51-59.
- General S. (2000). Oral health in America: A report of the surgeon general. Rockville: National Institute of Dental and Craniofacial Research, National Institutes of Health.
- Dye B, Li X, Thornton-Evans G. Oral health disparities as determined by selected Healthy People 2020 oral health objectives for the United States, 2009-2010. Hyattsville, Md.: National Center for Health Statistics; 2012. www.cdc.gov/nchs/products/databriefs/db104.htm. Accessed Oct. 16, 2014.
- Dye BA, Thornton-Evans G, Li X, Iafolla TJ. (2015). Dental caries and sealant prevalence in children and adolescents in the United States, 2011-2012. U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
- Pourat N, Finocchio L. (2010). Racial and ethnic disparities in dental care for publicly insured children. *Health Aff* 29(7): 1356-1363.
- Jackson SL, Vann WF Jr., Kotch JB, Pahel BT, Lee JY. (2011). Impact of poor oral health on children's school attendance and performance. *Am J Public Health* 101(10): 1900-1906.
- Seirawan H, Faust S, Mulligan R. (2012). The impact of oral health on the academic performance of disadvantaged children. *Am J Public Health* 102(9): 1729-1734.
- Beaglehole RH. (2015). Dentists and sugary drinks. *J Am Dent Assoc* 146(2): 73-74.
- Han E, Powell LM. (2013). Consumption Patterns of Sugar-Sweetened Beverages in the United States. *J Acad Nutr Diet* 113(1): 43-53.
- Brownell KD, Farley T, Willett WC, Popkin BM, Chaloupka FJ, Thompson JW, et al. (2009). The Public Health and Economic Benefits of Taxing Sugar-Sweetened Beverages. *N Engl J Med* 361(16): 1599-1605.
- Powell LM, Chiqui JF, Khan T, Wada R, Chaloupka FJ. (2013). Assessing the potential effectiveness of food and beverage taxes and subsidies for improving public health: A systematic review of prices, demand and body weight outcomes. *Obes Rev* 14(2): 110-28.
- Chaloupka FJ, Davidson PA. (2010). Applying tobacco control lessons to obesity: Taxes and other pricing strategies to reduce consumption. publichealthlawcenter.org/sites/default/files/resources/tcl-syn-obesity-2010.pdf.
- Andreyeva T, Long MW, Brownell KD. (2010). The impact of food prices on consumption: A systematic review of research on the price elasticity of demand for food. *Am J Public Health* 100(2): 216-222.
- Andreyeva T, Chaloupka FJ, Brownell KD. (2011). Estimating the potential of taxes on sugar-sweetened beverages to reduce consumption and generate revenue. *Prev Med* 52(6): 413-416.
- Chaloupka FJ, Powell LM, Chiqui JF. (2011). Sugar-sweetened beverage taxation as public health policy – lessons from tobacco. *Choices* 26(3).
- Brownell KD, Frieden TR. (2009). Ounces of prevention – the public policy case for taxes on sugared beverages. *N Engl J Med* 360: 1805-1808.
- Staff. (2009). Illinois dentists push for 5 percent soda tax. www.drbcuspid.com/index.aspx?sec=ser&sub=def&pag=dis&ItemID=301796.
- Major Issues and Priorities. www.cda.org/advocacy/legislation/major-legislative-issues. Accessed Jan. 7, 2016.
- Colchero MA, Popkin BM, Rivera JA, Ng SW. (2016). Beverage purchases from stores in Mexico under the excise tax on sugar sweetened beverages: Observational study. *bmj* 352: h6704.
- California Center for Public Health Advocacy. (2011). Soda Industry Ups Political Spending to Fight Proposed Sugary Drink Taxes. www.kickthecan.info/soda-industry-political-spending. Accessed April 30, 2014.
- Somji A, Bateman C, Nixon L, Arbatman L, Aziz A, Dorfman L. (2016). Soda tax debates in Berkeley and San Francisco: An analysis of social media, campaign materials and news coverage.
- Dugdale E. (2015). Berkeley's new soda tax panel begins its work. www.berkeleyside.com/2015/05/20/berkeleys-new-soda-tax-panel-begins-its-work.
- Centers for Disease Control and Prevention. (1999). Ten great public health achievements – United States, 1900-1999. *MMWR Morbid Mortal Wkly Rep* 48(12): 241.
- Wallack L, Dorfman L, Jernigan DH, Themba-Nixon M. (1993). *Media Advocacy and Public Health: Power for Prevention*. Sage.
- Riopell M. (2009). Dentists seeking tax hike on soda, energy drinks. www.pantagraph.com/news/dentists-seeking-tax-hike-on-soda-energy-drinks/article_7cca37b6-0a99-5f62-a22d-ca1dcbd2dd77.html.
- Pomeranz JL. (2014). Sugary Beverage Tax Policy: Lessons Learned From Tobacco. *Am J Public Health* 104(3): e13-e15.
- Grynbaum M. (2012, July 1). Soda makers begin their push against New York ban. www.nytimes.com/2012/07/02/nyregion/in-fight-against-nyc-soda-ban-industry-focuses-on-personal-choice.html?pagewanted=all&_r=1&. Accessed April 30, 2014.
- Steinmetz K. (2014). Big Soda Fights Bay Area Tax Proposals.
- Recipient Committee Campaign Statement: No on D, No Berkeley Beverage Tax. www.berkeleyside.com/wp-content/uploads/2015/02/Big-Sodas-Final-460.pdf. Accessed Oct. 6, 2015.
- Kearns CE, Glantz SA, Schmidt LA. (2015). Sugar industry influence on the scientific agenda of the National Institute of Dental Research's 1971 National Caries Program: A historical analysis of internal documents. *PLoS Med* 12(3): e1001798.
- O'Connor A. (2015). Coca-Cola funds scientists who shift blame for obesity away from bad diets. well.blogs.nytimes.com/2015/08/09/coca-cola-funds-scientists-who-shift-blame-for-obesity-away-from-bad-diets.
- Lopez-Cepero M, Amini H, Pagano G, Casamassimo P, Rashid R. (2013). Advocacy Practices Among U.S. Pediatric Dentists. *Pediatr Dent* 35(2): E49-E53.
- McGill N. (2015). Texas dental students learn about advocacy. *Am J Public Health Nations Health*; 45(3).
- Yoder KM, Edelstein BL. (2012). Oral health policy forum: Developing dental student knowledge and skills for health policy advocacy. *J Dent Educ* 76(12): 1572-1579.
- Rogo EJ, Bono LK, Peterson T. (2014). Developing Dental Hygiene Students as Future Leaders in Legislative Advocacy. *J Dent Educ* 78(4): 541-551.
- American Student Dental Association. National Dental Student Lobby Day. www.asdanet.org/lobbyday. Accessed May 31, 2016.
- American Association of Public Health Dentistry. Accredited dental public health residencies. www.aaphd.org/accredited-dental-public-health-residencies. Accessed March 25, 2016.
- University of California San Francisco School of Dentistry. Postgraduate programs: Dental public health. dentistry.ucsf.edu/admissions/postgraduate-programs/dental-public-health. Accessed March 25, 2016.
- Dorfman L, Herbert S, Woodruff K. (2007). Communicating for change: Making the case for health with media advocacy. *The California Endowment*.
- Dorfman L, Krasnow ID. (2014). Public health and media advocacy. *Public Health*; 35.

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