26 June, 2022

VIA Electronic Submission (appendix3@who.int)
World Health Organization
CH-1211 Geneva 27
Switzerland

Re: Comments on Draft Updated Appendix 3 of the WHO Global NCD Action Plan 2013-2030

Dear Sir or Madam:

The International Council of Beverages Associations ("ICBA") is pleased to submit these comments in response to the World Health Organization's "Draft Discussion Paper for Updated Appendix 3" ("Draft Appendix") to its "Global Action Plan for the Prevention and Control of Noncommunicable Diseases, 2013-2030" ("Global Action Plan"), which was released on June 6, 2022. ICBA is an international non-profit, non-governmental organization established in 1995 that represents the global non-alcoholic beverage industry[1]. ICBA has been a recognized observer at Codex Alimentarius for over 20 years and holds special consultative status with the UN's Economic and Social Committee (ECOSOC). While ICBA appreciates this opportunity to provide written comments, we are nonetheless disappointed to learn that the private sector is now excluded from the upcoming web-based consultations on this matter, which were recently restricted to only those in official relations with WHO. We believe that a robust, transparent consultation process with wide stakeholder engagement is critical to ensuring good outcomes and encourage WHO to reconsider this decision.

Executive Summary

ICBA would like to take this opportunity to express our support for the WHO's important efforts to prevent and control obesity and other non-communicable diseases. As discussed below in Section II, ICBA and its members have long made robust commitments to help address the challenges facing the global community related to non-communicable diseases. We are pleased to see that many of these efforts are complementary to WHO's efforts to update Appendix 3—specifically those related to reformulation of beverages to reduce added sugars, our support of science-based interpretative front-of-package nutrition labeling programs, and our recently strengthened marketing-to-children guidelines. The beverage industry is engaging around the world in "best practice" interventions to help enable healthy diets.

[1] The members of ICBA include national and regional beverage associations as well as multinational beverage companies that operate in more than 200 countries and territories. For further information please see www.icba-net.org.

We do, however, note with concern WHO's continued promotion of a sugar-sweetened beverage tax as a proposed intervention, and **respectfully request that the WHO revise the Draft Appendix to remove it from the proposed menu of policy options**. We are aware that WHO has been actively calling for taxation of sugar-sweetened beverages since 2016, when it published a report on "Fiscal Policies for the Diet and Prevention of NCDs."[2] However, at some point, **proposed interventions must be measured against real-world outcomes for them to continue to be supported by all stakeholders.** We have witnessed several researchers since 2014 claim that "modeling" demonstrates that health outcomes will result from taxation – and yet, here we are in 2022 and there are **still no demonstrated positive health outcomes from the selective taxation of a single beverage category in a consumer's diet.** We would also note that in these times where many are already struggling with food price inflation due to geopolitical instability, WHO should be very careful about giving fiscal advice beyond its remit that has the impact of raising grocery cart prices. **We refer readers to our Annex 1, which reviews the science related to taxation of sugar-sweetened beverages.**

The bottom line is that this intervention will not meaningfully help achieve the voluntary global targets for non-communicable disease prevention and control that are identified in the WHO's Global Action Plan. As WHO briefed Member States in April 2017, WHO's internal CHOICE Analysis did not support sugar-sweetened beverage taxation from either a health outcomes or a cost-effectiveness basis. If Appendix 3 is really intended to stand up to scrutiny as the best, most-evidence supported interventions, then it is critical that WHO acknowledge when interventions previously proposed simply haven't proven their value, then or now, and instead move forward with those than can achieve real results.

I. History of Appendix 3 and the Sugar-Sweetened Beverage Tax Recommendation

We believe it is important to provide historical context on this intervention's inclusion in Appendix 3. We start by noting that in this Draft Discussion Paper and its related materials, the Sugar-Sweetened Beverage Taxation recommendation (intervention "H6") is the only intervention with a CHOICE analysis for whom no supporting evidence was provided in the accompanying Technical Brief. For the "Unhealthy Diets" Technical Brief, evidence for interventions H1-H5 is included, while evidence for sugar-sweetened beverage taxation (H6) is not included. Given the compressed schedule of review for this update of Appendix 3 (9 months compared to the multi-year process of other updates for this important Appendix), it is unfortunate that WHO is not able to provide evidentiary support for Member States and other stakeholders to consider at the outset of the consultation process.

This approach is consistent with a pattern in which WHO does not provide the necessary level of scientific evidence to support public health outcomes for this intervention, despite Member State requests. At the 140th Session of the WHO Executive Board meeting in January 2017, the Member States declined to endorse the WHO's policy recommendation for taxation of SSBs. Specifically, the United States, Canada, New Zealand and Italy requested information on the underlying science and support for such a recommendation. In response, WHO released a very short, thinly-sourced

[2] See WHO Report, "Fiscal Policies for Diet and Prevention of NCDs," October 2016, available at https://www.who.int/news/item/11-10-2016-who-urges-global-action-to-curtail-consumption-and-health-impacts-of-sugary-drinks

document on 12 April 2017[3] titled "Technical Briefing: Dietary Interventions for the Appendix 3 of the Global Action Plan for Non-Communicable Disease" that was intended to provide the scientific support – but did not provide actual data or evidence that taxation reduces obesity. Only 1.5 pages was devoted to supporting their tax recommendation. On 24 April 2017, WHO convened an "information session" for Member States to provide additional support and analysis for their proposed interventions. At this information session and in response to questions, WHO informed Member States that WHO's own "CHOICE analysis" demonstrated that a sugar-sweetened beverage tax is not a cost-effective health intervention. However, to date and despite repeated requests, WHO has not publicly released the results of this CHOICE analysis.

At the 70th World Health Assembly, the updated Appendix 3 was endorsed by most Member States, but it was not without controversy, largely due to the debate over the lack of scientific support provided by WHO for certain interventions such as the sugar-sweetened beverage tax. Both the United States and Italy did not endorse Appendix 3, and the United States therefore formally disassociated from Operative Paragraph 1 of the related WHA resolution, stating in part in its Explanation of Position, "*We strongly support many of the recommendations in the Appendix. However, we believe that the evidence underlying certain interventions is not yet sufficient to recommend them. Further, we believe that recommendations for preventing and controlling NCDs should reflect the fact that all foods can be part of an overall healthy diet.*" Italy joined the United States in formally disassociating from Appendix 3.

ICBA therefore reiterates requests made in 2017: please publish any WHO CHOICE analyses (past and/or present) as it relates to sugar-sweetened beverage taxation so that Member States and other stakeholders can have the benefit of reviewing the evidence that supports the interventions.

II. ICBA Members Support Meaningful Efforts by the WHO to Prevent and Control Non-Communicable Diseases

While we may question the utility of sugar-sweetened beverage taxation, we would note our full support for the WHO Global Action Plan's overarching goal of reducing "the preventable and avoidable burden of morbidity, mortality, and disability due to non-communicable diseases by means of multisectoral collaboration and cooperation at national, regional, and global levels."[4] ICBA is also supportive of a menu of interventions that focus on identifying opportunities for reformulating foods and beverages, providing front-of-package nutrition information from which consumers can make informed dietary decisions, increasing opportunities for physical activity, voluntarily reducing the amount of marketing to children (including around schools), and providing education on health, nutrition, and in general, supporting WHO's Global Strategy on Diet, Physical Activity, and Health.

[3] Attached as Annex 2

[4] *Id.* at 3.

A. Our Industry's Reformulation and Product Innovation Efforts Deliver Meaningful Results

We agree with WHO that reformulation of foods and beverages is an important intervention and should be included in the updated Appendix 3. We would highlight the importance of including within the scope of this intervention voluntary initiatives (many of the existing and underway) as well as the value of public-private partnerships in this space. Around the globe, our industry is implementing and publicly reporting on sugar reduction commitments, through an array of public-private partnerships. We offer just a few examples:

- In conjunction with **Singapore's Ministry of Health**, seven major beverage companies, including The Coca-Cola Company and PepsiCo, signed an industry pledge to remove by 2020 drinks that contain more than 12 percent sugar from their portfolios of sugar-sweetened beverages.

- In partnership with the **Conference Board of Canada**, the Canadian Beverage Association and its membership have committed to reducing beverage calories consumed per person by 20 percent by 2025. A report prepared by The Conference Board of Canada shows that through product and packaging innovations, beverage calories consumed by Canadians has dropped by 16% between 2014 and 2020. That means that since 2004 there has been almost a 30 percent reduction in calories.[5]

- In 2020 in **Mexico, the members of ANPRAC**, the national beverage association, pledged to reduce calories in their products an additional 20% by 2024 by reformulating more than 50 products, and by increasing their portfolio of reduced or non-caloric products to 70%.

- In November 2018, the **Brazilian Ministry of Health, in conjunction with the Brazilian food and beverage associations** signed a Memorandum of Understanding to establish national goals for sugar reduction. The agreement outlines a series of commitments to be undertaken by the food and beverage sector to help reduce Brazilian's sugar intake to less than 10% of total daily calories consumed, including reducing sugar in key categories such as sugar-sweetened beverages, confectionaries and other foods.

- In 2014, in partnership with the **Alliance for a Healthier Generation**, the American Beverage Association and leading beverage companies set a goal to reduce beverage calories consumed per person nationally by 20 percent by 2025. In the first three years of implementation (2015-2017), about 60 percent of all new brands and flavors introduced were no-, low- and mid-calorie choice.
- Through the auspices of **UNESDA, the European soft drink association**, the leading beverage companies have committed to reducing the average added sugar

[5] The Conference Board of Canada, "Counting the Calories, Canadian's Consumption of High-Calorie Beverages Continues to Decline" (August 2018), *available at* https://www.conferenceboard.ca/press/newsrelease/2018/08/09/counting-the-calories-canadians-consumption-of-high-calorie-beverages-continues-to-decline?AspxAutoDetectCookieSupport=1 (last accessed May 29, 2019).

content of their still and carbonated soft drinks by 10 percent between 2015 and 2020. This commitment was introduced at the EU Platform for Action on Diet, Physical Activity and Health. The latest research shows an average 17.7% added sugars reduction since 2015, including a further 3.6% reduction in average added sugars between 2019 and 2021, as part of the sector's new commitment to reduce average added sugars by an additional 10% in the EU27 and the UK between 2019 and 2025. This comes on top of a 13.3% reduction in average added sugars between 2000 and 2015. In Spain, the soft drinks industry has reduced added sugars by 43% between 2005 and 2020 and in May 2022 announced a new 10% reduction pledge that will bring total sugar reduction to 53% by 2025.

- In June 2018, the **Australian Beverages Council** committed to a 20 percent reduction in sugar across the beverage industry's portfolio by 2025. As of 2021, the third progress report demonstrated a 16% reduction in sugar had been achieved, showing that the industry was well on track to achieve its overall goal.[6]

B. The Global Beverage Industry Supports Science-Based Interpretative Front-of-Pack Nutrition Labeling

ICBA agrees that front-of-package nutrition labeling can be an important instrument in empowering consumers to make sensible and balanced dietary choices. In June 2021, ICBA members adopted our global position supporting interpretative front-of-package labeling programs and offering our guiding principles to assist in the development of a successful interpretative front-of-package labeling scheme.[7] We are willing to engage and work with governments and other stakeholders to help develop the most appropriate labeling program to help meet the needs of their people according to their own national context. ICBA and its members also support the role of Codex in global food and nutrition labeling and global guidelines for harmonization, and as a Codex Observer, we are supportive of the efforts by the Codex Committee on Food Labelling ("CCFL") to establish global principles for front-of-package labeling.

C. Our Industry Supports Voluntary and Effective Guidelines on Marketing to Children

ICBA agrees that children should not be unduly influenced by marketing. The beverage industry has long made robust voluntary commitments in the area of advertising and marketing to children and respects the role of parents as the primary decision-makers on what their children consume. In 2008, ICBA and its members adopted landmark "Guidelines on Marketing to Children" ("ICBA Guidelines"). These 2008 ICBA Guidelines included a commitment by the companies undersigning the agreement to refrain from placing any marketing communications in any paid, third-party media whose audience consists of 50 percent or more of children under the age of 12. In 2015, ICBA updated the 2008 ICBA Guidelines to cover even more programming and marketing communications to children under the age of 12. In early 2022, ICBA members again strengthened the Guidelines in

[6] See Statement by Australian Beverages Council available at https://www.australianbeverages.org/non-alcoholic-beverages-industry-sugar-reduction-report-exceeds-target/

[7] See ICBA Position on Interpretative Front of Package Labeling, Adopted June 23, 2021, available at https://icba-bigtree.s3.amazonaws.com/files/resources/icbainterpretativelabelingpositionfinal.pdf

key areas, significantly raising the bar for beverage marketing worldwide. The Guidelines now extend to children under the age of 13 rather than 12 years, and the definition of children's media has been tightened by defining the audience as 30% under 13 rather than 35% under 12.

It should also be noted that in 2013, ICBA established Guidelines for the Composition, Labelling, and Responsible Marketing of Energy Drinks to help ensure such products are labeled and marketed responsibly, which were subsequently updated in March 2019.[8] Under these guidelines, ICBA member companies voluntarily refrain from marketing energy drinks to children,[9] and include an advisory statement that the product is not recommended for children.[10]

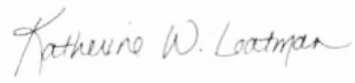
D. Our Industry Supports Commitments In School Environments

ICBA members agree that schools are special environments where balanced lifestyles should be encouraged. Out of respect for the school environment, under the ICBA Guidelines on Marketing to Children, members commit not to engage in beverage marketing communications in primary schools (which are defined as schools responsible for the education of children under the age of 13). In addition, leading ICBA member companies have instituted and follow robust global school beverage guidelines to help shape school environments that facilitate healthy choices for school-age children.[11]

III. Conclusion

ICBA applauds the WHO's continued attention to the important issue of obesity and other non-communicable diseases but respectfully requests that the proposed intervention on reducing the consumption of sugar through the taxation of sugar-sweetened beverages be removed from the Draft Appendix. With all due respect, we believe it is time to move on from proposed interventions that have not demonstrated health outcomes. We do, however, stand ready to support WHO in its important effort to update Appendix 3 and appreciate this opportunity to provide input to the consultation. We thank you for your consideration of these comments.

Respectfully submitted,



Katherine W. Loatman
Executive Director

[8] "ICBA Guidelines for the Composition, Labelling and Responsible Marketing of Energy Drinks" available at https://icba-bigtree.s3.amazonaws.com/files/resources/icba-energy-drink-guidelines-final-adopted-26-marc.pdf.

[9] *Id.* Under these guidelines, many ICBA member companies also do not promote the mixing of energy drinks with alcohol.

[10] *Id.*

[11] *See e.g.*, PepsiCo Global Policy on the Sale of Beverages to Schools, *available at* https://www.pepsico.com/our-impact/esg-topics-a-z/advertising-and-marketing-to-children-and-school-sales; The Coca-Cola Company Global School Beverage Guidelines, *available at* http://www.coca-colacompany.com/stories/global-school-beverage-guidelines/.

Annex I

There is No Demonstrated Evidence That Taxation Addresses Obesity or other Non-Communicable Diseases.

The purported goal of a sugar-sweetened beverage (SSB) tax is to reduce obesity and associated NCDs such as diabetes. It is well-recognized, however, that obesity is largely the result of an imbalance in excess energy consumption and too little energy expenditure over time, and that all calories count.[12] Many public health bodies, including the WHO, have also long recognized that obesity has been fueled by a variety of complex environmental, social, economic, behavioral, and/or other factors.[13] There is simply no consistent and undisputed evidence on the effectiveness of SSB taxes to reduce obesity or positively impact NCDs. Obesity's complexity does not lend itself to simplistic solutions like an SSB tax. If such a tax did work, Mexico, Finland, Chile, the United Kingdom, France and many other countries with SSB taxes would not be facing limitations in their efforts to reduce obesity[14].

In Mexico, for example, any reduction in consumption of SSBs was brief and not sustained following the 2014 imposition of an SSB and snack tax in the country. Specifically, Government of Mexico data based on actual results (*i.e.*, the collection of sales receipts for their tax revenues) show that soft drink sales declined 1.9 percent in year one and ***grew*** the following years. Data from the Mexico government's tax receipts indicate that the trajectory for growth has continued upward, despite the tax. In addition, obesity has continued to rise in Mexico since the introduction of the tax. Data from Mexico's most recent national health and nutrition survey (2016 ENSANUT survey) has shown that the obesity rates have edged upward among adults from 2012-2016, especially among adult women (a statistically significant rise from 73 percent of the adult female population to 75.6 percent of that population).[15] And more recent data as of 2019 confirms the upward trend continues across age groups[16]. From a health/obesity perspective, these Mexican taxes have not yielded any positive health outcomes.

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[12] *See e.g.*, WHO, "Obesity and Overweight" (January 2015), *available at* http://www.who.int/mediacentre/factsheets/fs311/en/ (last accessed January 8, 2019)("The fundamental cause of obesity and overweight is an energy imbalance between calories consumed and calories expended.").

[13] *See e.g.*, WHO, "Draft Final Report of the Commission on Ending Childhood Obesity," at 9 (2015), *available at* http://www.who.int/end-childhood-obesity/commission-ending-childhood-obesity-draft-final-report-en.pdf (last accessed January 8, 2019)("Obesity arises from a combination of exposure of the child to an unhealthy lifestyle (the so-called obesogenic environment) and inadequate behavioral and biological responses to the obesogenic environment, which vary among individuals and which are strongly influenced by developmental or life course factors."); WHO, "Global Action Plan for the Prevention and Control of Noncommunicable Diseases, 2013-2020" (2013), *available at* http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf?ua=1; WHO, "Global Strategy on Diet, Physical Activity and Health" (2004), *available at* http://www.who.int/dietphysicalactivity/strategy/eb11344/strategy_english_web.pdf

[14] See OECD's 2017 Obesity Update, available at https://www.oecd.org/els/health-systems/Obesity-Update-2017.pdf

[15] This government tax receipt data can be reviewed at http://presto.hacienda.gob.mx/EstoporLayout/estadisticas.jsp.

[16] Rodriguez-Martinez A, Zhou B, Sophiea MK, Height and body-mass index trajectories of school-aged children and adolescents from 1985 to 2019 in 200 countries and territories: a pooled analysis of 2181 population-based studies with 65 million participants, *The Lancet*, Vol: 396, Pages: 1511-1524, ISSN: 0140-6736

There are four oft-cited studies led by researchers Colchero, Popkin, et al regarding Mexico[17], claiming that the tax has resulted in compounding decreased consumption of sugar-sweetened beverages. It is worth noting that all four of these studies are based on counterfactuals (models), not real-world results. These models inaccurately predicted significant decreased consumption would result from the tax in year 2 (2015) – but the actual sales receipts collected by the Mexican government showed increased consumption in 2015 and following years, highlighting that the SSB tax is ineffective policy.

The recent tax in Chile is simply too new for conclusions to be drawn. There have only been a couple of studies on the tax (a rate increase of a longstanding Chilean SSB tax), and they have drawn mixed conclusions. For example, the study from Caro et al. (2018) found that the "[t]he modifications of Chile's SSB tax were small and observed changes in prices and purchases of beverages after the tax were also small. Our results are consistent with previous evidence indicating that small increases in SSB taxes are unlikely to promote large enough changes in SSB purchases to reduce obesity and noncommunicable diseases (NCDs)." [18]

The study by Nakamura et al (2018) concludes that "[t]he results of subgroup analyses suggest that the policy may have been partially effective, though not necessarily in ways that are likely to reduce socioeconomic inequalities in diet-related health. It remains unclear whether the policy has had a major, overall population-level impact."[19]

Furthermore, the labeling and marketing restrictions affecting the same products as the tax came into effect only 8 months after the tax. And in fact, Chile has implemented many of the interventions WHO now proposes in the updated draft Appendix 3. However, there has been no measurable improvement in obesity or NCDs in Chile. In addition, the market trends and movement by the private sector is generally shifting towards lower-calorie, lower sugar beverages and consumer taste preferences change. This makes it nearly impossible to discern impacts that can attributed exclusively to the tax.

In Berkeley, CA, according to a study by Silver, Popkin et al, a tax on SSBs has caused caloric beverage intake to ***increase*** rather than decrease. While caloric consumption of taxed beverages dropped marginally by an average of six calories per day – the equivalent to a bite of an apple -- caloric consumption of untaxed, non-alcoholic beverages rose by an average of 32 calories per day, resulting

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[17] See the following four studies:

-Colchero, MA, Guerrero-Lopez CM, Molina M, Rivera JA, 2016 "Beverage sales in Mexico before and after implementation of a sugar-sweetened beverage tax. PLoS One. 11(9): e0163463.
-Colchero, MA, Rivera-Dommarco J., Popkin BM, Ng SW. 2017. "In Mexico, evidence of sustained consumer response two years after implementing." Health Affairs (Millwood). 36(3): 564-71
-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. 22 352:h6704.
-Colchero, MA, Molina M, Guerrero-Lopez CM. 2017. "After Mexico implemented a tax, purchases of sugar-sweetened beverages decreased and water increased: Difference by place of residence, household composition, and income level. J. Nutr. 147(8): 1552-57.

[18] Caro JC, Corvalan C, Reyes, M., Silva A, Popkin B, Taillie LS, "Chile's 2014 Sugar-sweetened beverage tax and changes in prices and purchases of sugar-sweetened beverages: An observational study in an urban environment. PLoS Med. 2018 Jul 3; 15(7): e1002597

[19] Nakamura R, Mirelman AJ, Cuadrado C, Silva-Illanes N, Dunstan J, Suhreke M. "Evaluating the 2014 sugar-sweetened beverage tax in Chile: An observational study in urban areas" PLoS Med. 2018 Jul 3; 15(7):e10002596

in a net ***increase*** of 26 calories per person per day resulting from the tax.[20] This is a real-world example of the unintended consequences of this seemingly simplistic fix (tax) to complex problems (overweight and obesity).

In Philadelphia, PA, the imposition of a 1.5 cent per ounce beverage tax failed to provide any health outcomes or materially change consumption patterns: "[r]esults suggested that, one year after implementation, there was no major overall impact of the tax on general population-level consumption of sugar-sweetened or diet beverages, or bottled water."[21] This is not to say, however, that the tax has not left its mark on the city. There have been significant unintended economic impacts to Philadelphia: loss of an estimated 1,190 jobs, $54 million USD in labor income, and $80 million USD in annual GDP.[22]

The Philadelphia tax was never intended to reduce obesity; the city claimed that it was earmarked for early childhood education, but that promise to earmark has gone awry. According to a March 2018 report from the City Controller, the majority of the beverage tax has not been spent as intended, and "about 74 percent of the nearly $85 [23]million generated by the beverage tax since its inception has gone to the city's General Fund."

A number of other studies and reports further question the utility of such taxes. For example:

At the request of New Zealand's Ministry of Health, the New Zealand Institute of Economic Research conducted an analysis entitled "Sugar taxes: A review of the evidence," in which the authors ultimately concluded that "**[t]he evidence that sugar taxes improve health is weak**."[24] In their review of the 47 peer-reviewed studies and working papers on the topic of sugar taxes, the authors found, among other things, that: (1) estimates of reduced intake are often overstated due to methodological flaws and incomplete measurements; (2) there is insufficient evidence to judge whether consumers are substituting other sources of sugar or calories in the face of taxes on sugar in drinks; (3) studies using sound methods report reductions in intake that are likely too small to generate health benefits and could easily be cancelled out by substitution of other sources of sugar or calories; and (4) no study based on actual experience with sugar taxes has identified an impact on health outcomes.[25]

A 2019 BMJ editorial on taxing certain foods and beverages likewise cited the lack of evidence, noting that the use of taxation for such purposes is "relatively new" and that "long term data on obesity and

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[20] L. Silver et al., "Changes in prices, sales, consumer spending, and beverage consumption one year after a tax on sugar-sweetened beverages in Berkeley, California, US: A before-and-after study," *PLOS Medicine* (April 18, 2017).

[21] "**S**ugar-Sweetened and Diet Beverage Consumption in Philadelphia One Year after the Beverage Tax" Zhong, Auchincloss et al, International Journal of Environmental Research and Public Health, February 19, 2020.

[22] Oxford Economics, The Economic Impact of Philadelphia's Beverage Tax, December 2017.

[23] Philadelphia Business Journal, "Controller's new soda tax report 'misleading and inaccurate," says Mayor's Office (March 13, 2018)

[24] NZIER, "Sugar taxes: A review of the evidence," at ii (2017), *available at* https://nzier.org.nz/static/media/filer_public/f4/21/f421971a-27e8-4cb0-a8fc-95bc30ceda4e/sugar_tax_report.pdf (last accessed January 7, 2019) (emphasis added).

[25] *Id.* at i-ii.

diseases outcomes are still lacking." In addition the editorial also acknowledges the regressive nature of such taxation, stating that "[t]axes on food and beverages are regressive because families on lower incomes who spend a higher percentage of their income on food will be disproportionately affected."[26]

The unintended economic consequences of selective taxation may also have detrimental effects on health. It has been clearly demonstrated that socio-economic status plays a key role in health status. In 2017, **The Lancet published a study on socioeconomic status** as a risk factor for premature mortality.[27] This study of 1.7 million people across seven high-income WHO member countries[28] found that socioeconomic status is a more important driver of health outcomes than alcohol, obesity and other risk factors considered in the WHO 25 x 25 initiative (which did not consider socioeconomic factors). Participants with low socioeconomic status had greater mortality compared with those with high socioeconomic status.[29] By singling out sugar and/or SSBs for discriminatory tax treatment, governments (or tax advocates who advise them) are pursuing policies that have a disproportionate detrimental impact on the very populations they are supposed to help, and therefore may worsen health outcomes.

For example, in Mexico 63.7 percent of the collected Mexican tax came from low socioeconomic households, and of these, households living in poverty paid 37.5 percent of the total tax collected.[30] The regressive or unfair nature of such taxes is often overlooked in policy design. Moreover, according to data from the National Household Income and Expenditure Survey ("ENIGH"), and the Monthly Survey of the Manufacturing Industry ("EMIM"), the tax reportedly cost the country 10,815 jobs both in the non-alcoholic beverage industry directly and in agricultural companies that are the major suppliers to the industry.[31] These losses mean that an unintended consequence of the tax is that low-income families are being directly and negatively affected in their daily lives.

A recent study in the Journal of Epidemiology and Community Health found using an economic model that an increase in the price of high-sugar drinks leads to an increase in the purchase of lager, an increase in the price of medium-sugar drinks reduces purchases of alcoholic drinks, while an increase in the price of diet/low-sugar drinks increases purchases of beer, cider, and wines. Overall, the effects of price rises are greatest in the low-income group. **Thus, changes in the price of soft drinks may lead to higher consumption of alcoholic beverages[32]**

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[26] Moore and Fielding, "Taxing confectionary, biscuits and cakes to control obesity," *BMJ* 2019;366:l5298 doi: 10.1136/bmj.l5298 (4 September 2019)

[27] S. Stringhini et al., "Socioeconomic status and the 25 × 25 risk factors as determinants of premature mortality: a multicohort study and meta-analysis of 1.7 million men and women," The Lancet, Volume 389, No. 10075, at 1229-1237 (March 25, 2017).

[28] UK, France, Switzerland, Portugal, Italy, USA, and Australia.

[29] Low socioeconomic status was associated with a 2.1-year reduction in life expectancy between ages 40 and 85 years, the corresponding years-of-life-lost were 0.5 years for high alcohol intake, 0.7 years for obesity, 3.9 years for diabetes, 1.6 years for hypertension, 2.4 years for physical inactivity, and 4.8 years for current smoking.

[30] Kantar World Panel Mexico Report (December 2014)

[31] J. Cantu, D. Curiel, and L. Valero, "The Non-Alcoholic Beverage Industry in Mexico, Centro de Investigaciones Económicas," at 58 (2015).

[32] Journal of Epidemiology and Community Health, "Effect of increasing the price of sugar-sweetened beverages on alcoholic beverage purchases: an economic analysis of sales data," Jan 23 2018.

A June 2016 paper by the International Tax and Investment Center and Oxford Economics entitled "The Impact of Selective Food and Non-Alcoholic Beverage Taxes,"[33] evaluated the different factors that influence the effectiveness of selective food and non-alcoholic beverage taxes ("SFBT") on two policy objectives: improving public health and raising government revenues. It concluded that the evidence "**suggests that the impact of introducing SFBT can be wide-ranging and highly uncertain**. Very few studies provide a robust and complete account of the effects of such taxes, meaning that **governments seeking to introduce them are doing so in a highly speculative context**."[34]

A 2016 systematic review paper on the effectiveness of SSB taxation in middle income countries found **no evidence that taxing SSBs would reduce population weight permanently**.[35]

Denmark repealed its "fat tax" after a year of "near universal opposition and widespread evasion,"[36] and scrapped plans to extend a sugar tax after failure of the "fat tax." Some of the reasons for rescinding the "fat tax" included the negative impact on jobs (1,000 job losses), increase in the cost of certain grocery cart staples by 20 percent, administrative costs on businesses (to the tune of 27 million dollars), and the lack of a meaningful impact on consumption patterns or dietary habits. Denmark also repealed its longstanding soft drink excise tax.

In the **United Kingdom**, the UK soft drink tax accelerated an already existing decline of sugar in soft drinks. The decline was double digits prior to the tax and accelerated to roughly 35% reduction in sugar over 5 years (ending 2019) per Public Health England. The figures have continued since that time. However, overall sugar consumption in the UK has not moved as other sugar categories have increased. An item pointed out in BMJ is soft drink sales overall have not declined as soft drinks have been successfully reformulated (5g/100mL being key) and able to keep the consumer with them. Without tools such as low-calorie sweeteners, such positive reformulation action would not be possible.

A study commissioned by the **European Commission** revealed that taxes on foods and beverages that were considered high in fat, sugar, and salt in certain European Union member states led to increased administrative costs, reduced jobs in some cases, higher food prices, and no apparent improvement to public health.[37]

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[33] Oxford Economics and International Tax and Investment Center, "The Impact of Selective Food and Non-Alcoholic Beverage Taxes" (June, 2016), *available at* http://www.oxfordeconomics.com/my-oxford/projects/341055 (last accessed January 7, 2019) (emphasis added).

[34] *Id.* (emphasis added).

[35] S. Nakhimovsky et al., "Taxes on Sugar-Sweetened Beverages to Reduce Overweight and Obesity in Middle-Income Countries: A Systematic Review" (September 2016), *available at* https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0163358 (last accessed January 8, 2019) (emphasis added).

[36] S. Sarlio-Lähteenkorva and J. Winkler, "Could a Sugar Tax Help Combat Obesity," *BMJ* 2015; 351: h4047.

[37] ECSIP Consortium, "Food taxes and their impact on competitiveness in the agri-food sector, a study" (June 2014), *available at* http://ec.europa.eu/growth/tools-databases/newsroom/cf/itemdetail.cfm?item_id=7668

A University of Bath study[38] from an international team of economists published in the journal *Social Science & Medicine* focused on the impact of a sugar tax on people's shopping baskets comparing customer spending in Catalonia in Spain (where a tax had been introduced), with the rest of the country (where it had not been) from May 2016 - April 2018. The research found that despite a 16% price increase this ensuing sugar reduction from beverages was very modest. Overall, they calculated this tax led to an average sugar reduction on a per person basis equaled only a ***tiny 0.12 calories per person per day*** (or 3.7 calories per person per month), a caloric reduction so small that it cannot be weighed on a bathroom scale.

[38] https://www.sciencedirect.com/science/article/pii/S0277953621001313?via%3Dihub

Annex II

TECHNICAL BRIEFING

DIETARY INTERVENTIONS FOR THE APPENDIX 3 OF THE GLOBAL ACTION PLAN FOR NON COMMUNICABLE DISEASE

SALT REDUCTION

IDENTIFICATION OF INTERVENTIONS

The package of interventions for salt reduction is based on the WHO-SHAKE package of interventions[1]. This package consists of 5 interventions, namely: Surveillance, Harness the industry for reformulation, Adopt labelling, Knowledge and Environment.

METHODOLOGICAL ASSUMPTIONS

- Population level sodium intake by country is sourced from the Global Burden of Disease Analysis.[2]
- For each 100mmol change in sodium intake caused by the intervention, systolic blood pressure changes[3] as shown below.

TABLE-1 CHANGES IN BLOOD PRESSURE AND 100 MMOL CHANGE IN SODIUM INTAKE IN DIFFERENT AGE GROUPS

Age group	Observed SBP change
15-19	5.0mmHg
20-29	4.9mmHg
30-39	5.5mmHg
40-49	6.6mmHg
50-59	9.2mmHg
60-69	10.3mmHg

- The WHO risk prediction equation for CVD is re-calculated based on a change in population level SBP leading to a health impact.[4]

TABLE 2- IMPACT SIZES USED IN WHO CHOICE ANALYSIS

Intervention	**Effect Size on salt consumption**	**Comments on evidence**
Surveillance	-	Although surveillance is an important component of any programme, we do not directly allocate impacts to it.
Reduce salt intake by engaging the industry in a voluntary	2.2 g/day salt reduction	Based on Argentina experience[5]

[1] SHAKE the salt habit: The SHAKE Technical Package for Salt Reduction http://apps.who.int/iris/bitstream/10665/250135/1/9789241511346-eng.pdf?ua=1

[2] Powles J, Fahimi S, Micha R*, et al* Global, regional and national sodium intakes in 1990 and 2010: a systematic analysis of 24 h urinary sodium excretion and dietary surveys worldwide *BMJ Open* 2013;**3:**e003733

[3] Law MR, Frost CE, Wald NJ. By how much does dietary salt reduction lower blood pressure? 1-Analysis of observational data among populations. BMJ 1991;302:811-815.

[4] WHO/ISH risk prediction chart http://www.who.int/cardiovascular_diseases/guidelines/Chart_predictions/en/

[5] Menos Sal + Vida. Buenos Aires: Ministry of Health; 2015 (http://www.msal.gob.ar/ent/index.php/informacion-para- ciudadanos/menos-sal--vida).

reformulation process		
Reduce salt intake through implementation of front-of-pack labelling	1.8g/day salt reduction men 1.0 g/day salt reduction women[6]	The experience in Finland indicated that salt intake reduced by 15% following implementation of a labelling system[7]. This translates to the gram per day reductions indicated.[6]
Reduce salt intake through a behaviour change communication mass media campaign	5% reduction in salt intake per day[8]	Movement from 8.48 to 8.05 g/day via urinary excretion in Viet Nam following BCC campaign. The same campaign in Australia saw a 10% reduction in sodium intake.[9] We have taken the conservative option.
Reduce salt intake through establishment of a supportive environment in public institutions such as hospitals, schools and nursing homes to enable low sodium meals to be provided	7% reduction in salt intake per day	A British study on implementing standards for school meals shows a 30% reduction in sodium intake.[10] An Australian study shows a 20% reduction in sodium intake.[11] We take the more conservative Australian study as the base, along with the assumption that with one out of three daily meals eaten in public places, the overall impact on daily sodium intake would be one third of that observed in the school lunches

TABLE- 3 COSTING ASSUMPTIONS USED IN WHO CHOICE ANALYSIS

Intervention	Major costing assumptions
Surveillance	The costs of surveillance are incorporated into each of the interventions with an associated impact size
Reduce salt intake by engaging the industry in a voluntary reformulation process	Voluntary intervention assumptions are published in previous work on the costs of scaling up NCD action[12]
Reduce salt intake through implementation of front-of-pack labelling	Legislative intervention assumptions are published in previous work on the costs of scaling up NCD action[14]
Reduce salt intake through a behaviour change communication mass media campaign	Behaviour change communication is considered as an intensive mass media campaign. Costs have been developed based on literature reviews across public health and marketing to ensure adequate viewership is reached[13]
Reduce salt intake through establishment of a supportive environment in public institutions such as hospitals, schools and nursing homes to enable low sodium meals to be provided	Legislative intervention assumptions are published in previous work on the costs of scaling up NCD action[14]

[6] Pietinen P, Valsta LM, Hirvonen T, Sinkko H. Labelling the salt content in foods: a useful tool in reducing sodium intake in Finland. *Public Health Nutr* 2008; **11**(4): 335-40.
[7] Laatikainen T, Pietinen P, Valsta L, Sundvall J, Reinivuo H, Tuomilehto J. Sodium in the Finnish diet: 20-year trends in urinary sodium excretion among the adult population. Eur J Clin Nutr 2006; 60: 965–970.
[8] Do, Santos, Trieu, et al. Effectiveness of a Communication for Behavioral Impact (COMBI) Intervention to Reduce Salt Intake in a Vietnamese Province Based on Estimations From Spot Urine Samples. J Clin Hypertens. 18 (11):1135-1142
[9] Land MA, Jeffery P, Webster J, Crino M, Chalmers J, Woodward M, et al. Protocol for the implementation and evaluation of a community-based intervention seeking to reduce dietary salt intake in Lithgow, Australia. BMC public health. 2014;14:357.
[10] Nelson M, Nicholas, J., Haroun, D., Harper, C., Wood, L., Storey, C., Pearce, J. The impact of school food standards on children's eating habits in England. Improving diets and nutrition: food-based approaches. Rome, Italy: Food and Agriculture Organization of the United Nations; 2014. p. 137
[11] Grimes CA, Campbell KJ, Riddell LJ, Nowson CA. Sources of sodium in Australian children's diets and the effect of the application of sodium targets to food products to reduce sodium intake. Br J Nutr. 2011 Feb;105(3):468-77
[12] World Health Organization. Scaling up action against noncommunicable diseases: How much will it cost? 2011
[13] Forthcoming article on Programme Costing from WHO CHOICE

TRANSFAT ELIMINATION

IDENTIFICATION OF INTERVENTIONS

WHO has published the results of a systematic review which shows that replacing trans-fatty acids, particularly with polyunsaturated fatty acids, has a favourable effect on the blood lipid profile, including lowering of LDL cholesterol levels.[14]

METHODOLOGICAL ASSUMPTIONS

- Trans-fat elimination from the food chain is expected to impact directly on cardiovascular disease mortality.[15] [16]

TABLE- 1 IMPACT SIZES USED IN WHO CHOICE ANALYSIS

Intervention	**Effect Size on CVD mortality**	**Comments on evidence**
Complete elimination of industrial trans-fats through the development of legislation banning their use in the food chain	Reduction in CVD mortality of 13 deaths per 100,000[17]	Impact size taken from example in New York where trans-fats has been eliminated in food served in restaurants. Additional supportive evidence from Denmark indicates impact of a similar magnitude[18]

- TABLE -2 COSTING ASSUMPTIONS USED IN WHO CHOICE ANALYSIS

Intervention	Major costing assumption
Complete elimination of industrial trans-fats through the development of legislation banning their use in the food chain	Legislative intervention assumptions are published in previous work on the costs of scaling up NCD action[14], and assumed to apply to new legislation on trans-fats

[14] Brouwer IA. Effects of *trans*-fatty acid intake on blood lipids and lipoproteins: a systematic review and meta-regression analysis. WHO, Geneva 2016 (http://www.who.int/nutrition/publications/nutrientrequirements/tfa_systematic_review/en/)

[15] Restrepo BJ, Rieger M. Denmark's Policy on Artificial Trans Fat and Cardiovascular Disease. Am J Prev Med. 2016 Jan;50(1):69-76. doi: 10.1016/j.amepre.2015.06.018. Epub 2015 Aug 28.

[16] Restrepo BJ, Rieger M. Trans fat and cardiovascular disease mortality: Evidence from bans in restaurants in New York. J Health Econ. 2016 Jan;45:176-96. doi: 10.1016/j.jhealeco.2015.09.005. Epub 2015 Nov 24.

[17] Restrepo BJ et al. Trans fat and cardiovascular disease mortality: Evidence from bans in restaurants in New York. J Health Econ. 2016 Jan;45:176-96

[18] Restrepo BJ et al. Denmark's Policy on Artificial Trans Fat and Cardiovascular Disease. Am J Prev Med. 2016 Jan;50(1):69-76

SUGAR-SWEETENED BEVERAGE (SSB) TAXATION

IDENTIFICATION OF INTERVENTIONS

Implementing a tax on sugar-sweetened beverages (SSB) is proposed as a policy option to support a reduction in consumption of free sugars in accordance with WHO Guideline on Sugars Intake[19] and as part of a comprehensive approach to addressing the prevention of obesity as recommended by the WHO Commission on Ending Childhood Obesity (ECHO),[20] in addition to other general recommendations on the use of fiscal policies (such as taxation and subsidies) being an important policy measure to promote healthy diet as outlined in the WHO Global NCD Action Plan[21] and other official documents previously endorsed by the World Health Assembly.[22] [23]

METHODOLOGICAL ASSUMPTIONS

I. Sugar-sweetened beverages (SSB) are defined as all types of beverages containing free sugars[24] and these include carbonated or non-carbonated soft drinks, fruit/vegetable juices and drinks, liquid and powder concentrates, flavoured water, energy and sports drinks, ready-to-drink tea, ready-to-drink coffee, and flavoured milk drinks. Available SSB sales data were extracted from Euromonitor database in order to use as a proxy for consumption to carry out these analyses.[25]

II. In the absence of global data on the differential consumption pattern of SSB by BMI status, within and between countries, allocation of SSB consumption was applied equally across each category of BMI using WHO BMI definitions.

III. Existing evidence indicates that price influences intake of SSB using a measure called elasticity.[26,27,28,29,30,31] For these analyses, the estimate of SSB price elasticity was taken from a published meta-analysis of SSB studies undertaken in the USA[32] which reported an elasticity of -1.21. This can be interpreted as follows: for each 10% change in price, a -12.1% change in consumption.

IV. Evidence from longitudinal studies measuring change in weight associated with SSB intake indicate a 25% lower impact than reported in cross-sectional studies of weight loss.[33] This 25% reduction was applied to the impact size associated with reduced SSB consumption. It was assumed that this lowered impact provides a proxy estimate, and adjustment, for the potential substitution effect by other food and beverage products.

V. SSB taxation is considered as a potentially beneficial intervention in settings where SSB consumption is a significant contributor to free sugars intake. Notwithstanding that each country should analyse

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[19] WHO Guideline on Sugars Intake for Adults and Children, 2015

[20] WHO, Report of the Commission on Ending Childhood Obesity, 2016

[21] WHO, Global NCD Action Plan 2013 – 2020

[22] WHO, Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition, 2012

[23] FAO/WHO, Rome Declaration and Framework for Action adopted by the 2nd International Conference on Nutrition, 2014

[24] Free sugars include monosaccharide and disaccharides added to foods and beverages by the manufacturer, cook or consumer, and sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates (WHO Guideline: Sugars intake for adults and children, 2015 http://www.who.int/nutrition/publications/guidelines/sugars_intake/en/)

[25] http://www.euromonitor.com/

[26] Andreyeva T, Long MW, Brownell KD. The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food. Am J Public Health, 2010; 100(2):216–22.

[27] Chriqui JF, Chaloupka FJ, Powell LM, Eidson SS. A typology of beverage taxation: multiple approaches for obesity prevention and obesity prevention-related revenue generation. J Public Health Policy, 2013; 34:403–423

[28] Cecchini M, Sassi F, Lauer JA, Lee YY, Guajardo-Barron V, Chisholm D. Tackling of unhealthy diets, physical inactivity, and obesity: health effects and cost-effectiveness. The Lancet. 2010;376(9754):1775-84.

[29] Eyles H, Ni Mhurchu C, Nghiem N, Blakely T (2012) Food Pricing Strategies, Population Diets, and Non-Communicable Disease: A Systematic Review of Simulation Studies. PLoS Med 9(12): e1001353

[30] Lin BH, Smith TA, Lee JY, Hall KD. Measuring weight outcomes for obesity intervention strategies: the case of a sugar-sweetened beverage tax. Econ Hum Biol 2011;9:329-41.18.

[31] Nnoaham K, Sacks G, Rayner M, Mytton O, Gray A. Modelling income group differences in the health and economic impacts of targeted food taxes and subsidies. Int J Epidemiol 2009:38;1324-33.

[32] Powell et al. 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. 2013 Feb; 14(2): 110–128.

[33] Powell, LM. Fast food costs and adolescent body mass index: Evidence from panel data. Journal of Health Economics 28 (2009) 963–970

the contribution of SSB to free sugars intake, and noting the positive association between consumption of SSB and population-levels of obesity,[34,35,36] this analysis of SSB taxation was assessed for countries where the intake of SSB was greater than 20 litres per person per year.

VI. A change of weight is modelled as a change in population level BMI. BMI data are sourced from the WHO GHO.[37]

TABLE- 1 IMPACT SIZES USED IN WHO CHOICE ANALYSIS

Intervention	**Effect Size on weight**	**Comments on evidence**
Reduce sugars consumption through taxation on sugar-sweetened beverages	Reduction of 0.74 kg per serving of SSB per day[38]	

- TABLE -2 COSTING ASSUMPTIONS USED IN WHO CHOICE ANALYSIS

Intervention	Major costing assumption
Reduce sugars consumption through taxation on sugar-sweetened beverages	Taxation intervention assumptions in relation to tobacco and alcohol are published in previous work on the costs of scaling up NCD action[14]. These assumptions have been assumed to hold for introduction of a new SSB tax. The major components included in the costing are development and passing of legislation, implementation of a taxation system, enforcement and monitoring and evaluation

[34] Malik VS, Popkin BM, Bray GA, Despres JP, Willett WC, Hu FB. Sugar-sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. Diabetes Care. 2010;33:2477-83.

[35] Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. Am. J. Clin. Nutr. 2006; 84(2):274–288

[36] Lin BH, Smith TA, Lee JY, Hall KD. Measuring weight outcomes for obesity intervention strategies: the case of a sugar-sweetened beverage tax. Econ Hum Biol 2011;9:329-41.18.

[37] World Health Organization Global Health Observatory http://www.who.int/gho/en/

[38] Te Morenga et al. Dietary sugars and body weight: systematic review and meta-analyses of randomised controlled trials and cohort studies. BMJ 2013;346:e7492