

# DEVELOPING POLICY ON SUGAR-SWEETENED BEVERAGES FOR CHILDREN AND ADOLESCENTS IN CHINA

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## How this policy brief was developed:

This policy brief is based on the research project “Developing policy on sugar-sweetened beverages for children and adolescents in China: a qualitative study of stakeholder views and perceptions”. The research was conducted under the guidance of the Duke Kunshan University, China, and benefited from the incentive grant for young researchers provided by the World Health Organization Global NCD Platform and UNITAR’s Defeat-NCD Partnership in collaboration with the Alliance for Health Policy and Systems Research.



## What is this policy brief about?

This policy brief summarizes the findings of a qualitative study to explore stakeholder perceptions of the introduction of policies on sugar-sweetened beverages in China, as well as facilitators and challenges to implementation.

## Who is this policy brief for?

This policy brief primarily targets national, regional and local health policy-makers in China, however other decision-makers, practitioners and researchers interested in policies on sugar-sweetened beverages in general, and in China specifically, may find the content of this policy brief relevant.

## This policy brief includes:

- Perceived opportunities, barriers and challenges for the introduction of policies regulating sugar-sweetened beverages in China
- General policy implications and recommendations

## This policy brief does not include:

- Strategies to implement the provided recommendations
- Comparison of several viable policy options and recommendations on the best option

## PROBLEM STATEMENT

- Excessive consumption of sugar-sweetened beverages (SSBs) may lead to an increased risk of oral caries, and increased prevalence of obesity and diabetes, which may further trigger other noncommunicable diseases and increase the risk of mortality.
- Consumption of SSBs among children and adolescents in China has increased rapidly in recent years. However, no national SSB policy has been enacted, exposing great health risks to children and adolescents.
- Various stakeholders representing the health policy sector, industry and consumers believe that health education is the most appropriate strategy to address this issue.
- Policy-makers and consumers' nutrition knowledge and policy awareness were found to be insufficient or inaccurate.
- Considering the strong interest of the food and beverages industry in the matter, the views on the dangers of SSB, and the importance of regulating the market can be conflicting among key stakeholders.

## IMPLICATIONS

- Effective policies regulating SSB at the national level would require reforms of national standards, as well as improved awareness among policy-makers and nutrition literacy among Chinese consumers.
- Strategies to improve health literacy and nutrition awareness among policy-makers and consumers can include such channels as school education, the National Basic Health and Medical Service, and public service announcements.
- Existing policies can be further improved to support SSB policy development and ensure a smoother transition period.
- The gradual development of SSB policy initiation would allow more time for industries to innovate and transform and more time for the public to accept the policy change.
- More formative and implementation evidence is needed to implement SSB policies at the national level in China. Once available, the produced evidence should be combined to create a supportive niche for consumers to adopt healthier habits.

# 1. FRAMING THE PROBLEM

## BACKGROUND

Noncommunicable diseases (NCDs), including cardiovascular diseases, cancer, chronic respiratory diseases and diabetes (known as NCDs), together account for 71% of all deaths worldwide, with 77% of these deaths occurring in low- and middle-income countries (LMICs) [1]. NCDs can result from multiple risk factors, such as unhealthy diets, including excessive sugar intake. Consumption of sugar-sweetened beverages (SSBs) is a major source of dietary sugar, as its liquid form is not compensated by food [2], and its consumption is increasing worldwide, especially among children and adolescents. According to the Chinese Dietary Guidelines 2022, SSBs are defined as beverages in which monosaccharides and disaccharides are

artificially added during the manufacturing process and the sugar content is greater than 5% [3]. SSBs are calorie-dense foods with little nutritional value. Several studies have shown that excessive consumption of SSBs may lead to increased risk of oral caries [4], increased prevalence of obesity [5-9] and diabetes [10], which may trigger other NCDs and increase the risk of mortality [10, 11].

The WHO Global Action Plan 2013-2020 lists nine NCD-related global targets to be achieved by 2025, including "halving the rate of increase in diabetes and obesity" [12]. Some international communities have published guidelines to regulate sugar intake [13], as well as proposals to implement policies

such as taxation, labelling or marketing restrictions as effective interventions to reduce SSB consumption for NCD prevention, especially in LMICs [14-16]. The effects have mainly been positive. For example, two years after the introduction of an SSB tax in Mexico, purchases of taxed beverages decreased by 7.6% [17].

China faces a high burden of NCDs. It is estimated that 82% of deaths are attributable to NCDs [18]. China has seen an increase in the prevalence of diabetes and childhood obesity in recent decades, with an alarming rise in consumption of free sugars, particularly SSBs. From 2003 to 2014, the annual per capita consumption of SSBs by the Chinese population increased from 12 kg to 119 kg [19]. Children and adolescents are the biggest consumers. The trend is still increasing for this age group in both rural and urban China [20]. On average, school-aged children and adolescents aged 6-17 years consume SSBs 3.9 times per week, while this rate increases with age - adolescents aged 15-17 years consume SSBs 4.8 times per week on average [20]. In line with the health-related SDGs, China published a national health plan, Health China 2030, in 2016, which aims to

reduce premature deaths from NCDs by 30% by 2030 [21].

However, China has not adopted a national policy to restrict SSB consumption, and unrestricted SSB consumption exposes children and adolescents to greater health risks. In December 2020, Shenzhen became the first city in China to issue a standard on the production and placement of health warnings for carbonated beverages, which stipulates that shelves containing carbonated SSBs should be labelled with standard health warnings. However, given China's geography, demographic structure and level of economic development, the feasibility of promoting the SSB policy in China is unclear.

In addition, there is very little research on the implementation of SSB policies in China. There is insufficient evidence on the facilitators and barriers of SSB policy in China, thus calling for more research to address this knowledge gap among various stakeholders for better prevention and control of NCDs. Our study aimed to explore stakeholder perceptions of the introduction of SSB policies in China, as well as facilitators and challenges to implementation.

## Where can I find out more about NCDs globally?

The **Global Health Observatory**, a public health observatory established by the World Health Organization, monitors and shares data on global health, including statistics by country and information about specific diseases and health measures. It has a dedicated section on **Noncommunicable diseases** with further data and proposed actions for prevention and management of NCDs.

For information about high-level policy and action on NCDs, visit the **WHO Global Noncommunicable Diseases Platform (GNP)**, a department under the guidance of the WHO Deputy Director-General that brings together the Global Coordination Mechanism on NCDs and the UN Interagency Task Force on the Prevention and Control of NCDs, and oversees other multi-stakeholder cross-cutting initiatives on NCDs and related health challenges.



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## METHODS AND DATA SOURCES

### Study setting

This qualitative study was conducted in two municipalities in China, Shanghai and Chongqing. Shanghai is located on the east coast of China and has a GDP per capita of 179,900 RMB (equivalent to 24580 USD) in 2022. Shanghai plans to introduce a restriction policy on SSBs through warning labels. It has a high prevalence of overweight and obesity in children (45.0% and 19.0%). It is China's largest city, located on the east coast of China. Chongqing is located in the western central region of China, with a GDP per capita of 90,663 RMB (equivalent to 12,387 USD) in 2022. Chongqing does not have any SSB-related policies. It is located in the less developed western part of China with a higher proportion of rural areas, while the prevalence of overweight and obesity in children is at a medium level (9.6% and 17.0%).

### Study design

The study design is adapted from the theoretical framework 'Analysing and addressing governance in sector operations' [22], with context analysis, qualitative interviews and stakeholder analysis.

The context analysis was first conducted to gather information and evidence on existing SSB policies and other nutrition-related policy documents in China and globally from documents and literature reviews. Based on the context analysis and expert consultations, the study team identified and approached key stakeholders for qualitative interviews.

Semi-structured interviews were conducted with 37 stakeholders in Shanghai and Chongqing, China, including policy-makers (Health Commission, Centre for Disease Control and Prevention, Market Regulation), nutrition experts (academia and nutrition association), industry (SSB manufacturers and artificially sweetened beverage manufacturers) and consumers. Policy-makers and nutrition experts participated

in key informant interviews, industry stakeholders participated in individual in-depth interviews and consumers took part in focus group discussions. All interviews were conducted in Chinese, and then transcribed verbatim into Chinese. The data were analysed using a framework approach. All transcripts were coded in Chinese by one analyst using NVivo 12 version 12.6.1.

informed, context-specific intervention prototype with a multi-stakeholder design team which is delivered to end users. Intercept interviews are conducted by a team of social scientists and summarized for the design team. The design team then uses the Nominal Group Technique to generate and prioritize adaptations for the intervention. This process is repeated at least three times to generate the final context-optimized intervention.

The first iteration of the prototype was distributed among study participants who used it for up to two weeks at two TB clinics in Kampala, Uganda. Semi-structured focus group discussions and in-depth interviews were carried out to understand participant experiences with the initial prototype. An international multi-stakeholder team was debriefed with the findings of these interviews. A semi-structured focus group discussion was also carried out with a group of Ugandan physicians and TB clinic nurses to understand the feasibility of the use of the informational box during the DM counselling process in TB clinics.



## 2. KEY FINDINGS

### Current SSB and SSB-Related Policies in China

Our context analysis showed that although China has no national policy directly addressing SSB intake, it has national policy directly addressing SSB intake, it has also advocated the harm of excessive SSB consumption and currently has more extensive control over the sale of beverages in the school environment.

### SSB Consumption Trends, Knowledge and Awareness of SSB Policies from Stakeholders

Both context analysis and qualitative interviews revealed that there is an increasing trend of SSB consumption among children and adolescents in China [19, 20, 23], and the stakeholders interviewed were aware of the change in behaviour. They all believed that children and adolescents drink SSBs because of their good taste. In addition, all stakeholders believed that the developed economic status in China makes it affordable for more people to try SSBs.

***“If a kid drinks too much of this kind of sugary drink, it may hurt their teeth, also causing obesity, poor appetite, affecting digestive function and so on.” – Consumer, Chongqing***

In terms of knowledge of SSB-related policies, most policy-makers and nutrition experts were aware of the international SSB policy and the pilot SSB policy in Shenzhen, China. All industrial manufacturers surveyed were also aware of the details of both the international and national SSB pilot policies. However, only a small proportion of the caregivers interviewed in Shanghai (n=2) had heard of the global SSB policy (SSB tax) and none of them had heard of the Shenzhen pilot. Consumers also showed a misunderstanding of the definition of SSB.

### Perceived Importance of SSB Policies from Stakeholders

Stakeholders were asked about their perceived importance of SSB policies and whether these policies should be implemented in China now. Most health commission officers, CDC officers, market regulation officers, academia and nutrition association stakeholders supported the introduction of SSB policies in China and thought it could be a good way to control SSB intake in children and adolescents, as it could improve health outcomes through consumer education and industry innovation.

***“Tax, I think it may ultimately come down to the consumer end. And people’s purchasing power is still quite good now. I don’t think the effect of SSB tax will be very good.” – Health Commission, Chongqing***

However, market regulation officials interviewed in Shanghai and Chongqing believed that the industry wouldn’t be willing to reformulate because it would increase their innovation costs. In addition, both a CDC officer and a Shanghai market regulation officer agreed that sugar is an essential nutrient that humans need for normal maintenance. Therefore, they felt that the control of SSBs should be different from other unhealthy products such as tobacco and alcohol.

Industry stakeholders are neutral on SSB policy. All industry respondents said: “We are willing to follow government policy decisions”. However, all manufacturers who sell both SSBs and ASBs claim that they would like to see the policy act as a guide to educate consumers to make healthy choices, rather than taking away their right to choose, as they believe that most consumers would recognize the importance of reducing sugar intake while still hoping that SSB products are available for them to enjoy occasionally.

Consumers surveyed had mixed views on whether an SSB policy should be introduced

in their city or across the country. Some consumers believe that policies are a good way to control their children's SSB intake, as they feel that as carers it is a challenge to educate their children. On the other hand, some consumers feel that SSB policies are just government interfering with their personal preferences, and that some policies, such as taxation, would have no benefit and would just cost them more money.

### Stakeholder Perception of Specific SSB Policies and Strategies

Stakeholders also expressed different views on specific types of SSB control policies and strategies. Most stakeholders, except market regulators, were against SSB taxes, the main reason being that greater economic development allows more families to afford SSB products, so a small increase in price may not discourage them from consuming SSBs. In addition, most policy-makers and nutrition experts agreed that health education is the most important and appropriate strategy to control SSB consumption among Chinese children and adolescents, and market regulators believe that stricter policies such as taxes and mandatory front-of-pack labelling would be effective, but not including marketing restrictions as it's unfair to the industries.

Nutrition experts also suggested that introducing supply restrictions on SSBs is a smart way to raise health awareness if the public doesn't accept stricter SSB policies. On the other hand, industry stakeholders would prefer a gradual policy, including a multi-stage policy and voluntary labelling, in order to provide a better transition period for the market to respond. In addition, the caregivers interviewed prefer colour-coded labelling as it would be easy for their children to understand.

**“Technical challenge we face: Can artificially-sweetened food taste as good or better than sugar-sweetened food?... Consumers also need education, and (SSB) policy is also a tough way to educate them...policies should guide consumers to make positive choices.” – R&D Manager, Industry**

### Perceived Barriers and Facilitators for Adopting SSB Policies in China

All key informants emphasized the need for a well-defined and comprehensive national standard or law to facilitate the implementation of SSB policies in China, regardless of the specific type of policy introduced. Speaking about perceived facilitators for the introduction of SSB policies, informants highlighted the (i) establishment or reform of standards, (ii) cross-sectoral cooperation between health, market regulation and education departments, and (iii) gradual adaptation of SSB policies.

Respondents believed that the establishment of standards would outline specific requirements for the policies, as a standard would cover specific requirements such as SSB definition, product types, sugar content definition, labelling requirements, etc. Secondly, standards would make it easier for manufacturers to learn the new guidelines, thus ensuring a better and smoother transition.

**“The current standard includes a definition of low sugar and sugar-free claims. If we want to go further (to implement SSB policies), I suggest refining this standard, adding more details like the type of sweetening agents used.”- CDC, Chongqing**

Informants also stressed that implementing SSB policies in China will require the combined efforts of several government departments. While stating the importance of clearly dividing responsibilities among the relevant departments, some respondents expressed concern that achieving effective distribution of responsibilities requires effective communication between departments.

With the exception of consumers, all stakeholders agreed on a gradual introduction of the SSB policy in China for the following reasons. First, a gradual introduction allows the public to gain health knowledge so that they can better adapt to the policy. Second, market regulators mentioned that the industry will benefit from the gradual implementation of SSB policies. Third, the gradual implementation of the policy will help

different regions in China to slowly adapt the SSB policy.

**“Different regions are facing different nutrition burdens...some remote regions still live off nutrition supplements subsidies, they need sugar. While the obesity prevalence in Shanghai is high.”** – Health Commission, Shanghai

Perceived challenges for adopting SSB policies in China include the division of responsibilities between different departments, industry resistance and consumer resistance.

### Comparison of Policy Makers from Shanghai and Chongqing

Although the policy-makers interviewed in this study were aware of how increasing

SSB consumption could directly lead to an increase in the prevalence of obesity, different levels of awareness of SSB policies were observed among policy-makers. Policy-makers in Shanghai showed more knowledge and understanding of SSB restriction policies than policy-makers in Chongqing. This may be due to the higher prevalence of obesity and overweight in Shanghai, as well as the urban context of Shanghai as one of the most internationally developed regions in China. In terms of policy, Shanghai has also taken more action. For instance, Shanghai has started to conduct shelf-label effectiveness trials in preparation for the implementation of the SSB policy. On the other hand, Chongqing's policy actions are still at the advocacy level. This finding suggests that further awareness-raising among policy-makers is needed, especially in less developed regions.

## 3. IMPLICATIONS AND RECOMMENDATIONS

Our study examined the perceptions of different Chinese stakeholders, including policy-makers, nutrition experts, industry and consumers, regarding the introduction of SSB policies. We found that although SSB consumption among Chinese children and adolescents is increasing, the stakeholders interviewed showed insufficient knowledge and awareness of SSB policies.

Effective policies at the national level would require reforms of national standards, as well as improved awareness among policy makers and nutrition literacy among Chinese consumers. Future studies could conduct formative research and collect implementation evidence to better facilitate the establishment of SSB policies in China.

Current policies could also be further improved to support SSB policy development and ensure a smoother transition period. More specifically, China could plan a series of steps to initiate SSB policies.

- Strategies that help **improve health literacy and nutrition awareness among policy-makers and consumers** can be initiated. The results showed that awareness among policy-makers is uneven across

China, suggesting that further awareness promotion would help implement SSB policies. Meanwhile, the interview results also suggested that improving health awareness among consumers could take the form of health education. Multiple channels, including school education, the National Basic Health and Medical Service, and public service announcements, could be used to provide health education to more people. In addition, public education could be provided through SSB policies that restrict the supply of SSBs and provide health warnings on labels.

- **Existing policy resources can then be further used to develop SSB policies.** Firstly, the campus restriction of SSBs could be continued as it has achieved good results and public support, and health warning labels on shelves could also be promoted to further emphasize the health risk of SSBs in retail outlets.

In addition, the National Nutrition Plan (2017-2030) has announced criteria for the establishment of 'nutritionally awarded schools and canteens'. Restricting SSBs in these institutions could be added as another criterion for establishment to encourage more institutions to create healthier food environments.

- **Other strategies** (e.g. SSB taxes) that **require national legislative reforms** could be initiated after they have gained more public acceptance. The gradual development of SSB policy initiation would allow more time for industries to innovate and transform and more time for the public to accept the policy change.
- Our study also demonstrated that **more formative and implementation evidence is needed** to implement SSB policies at the national level in China. When more evidence is available to support the implementation of SSB policies in China, multiple policies targeting different aspects such as health education, SSB supply restriction, SSB health warnings and marketing restrictions should be combined to create a supportive niche for consumers to adopt healthier habits.
- Finally, a **policy evaluation plan** with short-, medium- and long-term objectives and outcomes should be formulated prior to the implementation of any SSB policy, and the plan should be followed throughout the implementation of the policy.

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