

# IMPLEMENTING FISCAL AND PRICING POLICIES TO PROMOTE HEALTHY DIETS



## A REVIEW OF CONTEXTUAL FACTORS



World Health  
Organization



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Implementing fiscal and pricing policies to promote healthy diets: a review of contextual factors

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The review was prepared as part of the required process for WHO guideline development. It was presented to the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions at its second meeting, in December 2019.

Technical editing of the review was undertaken by Dr Andina Faragher at Biotext Pty Ltd.

# Abbreviations

BMI	body mass index
DALY	disability-adjusted life year
GRADE	Grading of Recommendations Assessment, Development and Evaluation
HALY	health-adjusted life year
HFSS	high fat, sugar and salt
HIC	high-income country
ICER	incremental cost-effectiveness ratio
LMIC	low- and middle-income country
NCD	noncommunicable disease
NGO	nongovernmental organization
NUGAG	Nutrition Guidance Expert Advisory Group
OECD	Organisation for Economic Co-operation and Development
QALY	quality-adjusted life year
SES	socioeconomic status <sup>1</sup>
SNAP	Supplemental Nutrition Assistance Program
SSB	sugar-sweetened beverage
VAT	value-added tax
WHO	World Health Organization
WIC	Special Supplemental Nutrition Program for Women, Infants, and Children

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<sup>1</sup> “Socioeconomic status” is used as a synonym for “socioeconomic position”, “socioeconomic strata” and “socioeconomic group”, which were all terms used in the identified literature.



# Executive summary

Healthy dietary practices starting early in life are the foundation for good nutrition, health and development during childhood and beyond. Yet, unhealthy diets are a leading global public health risk, contributing to a rise in unhealthy weight gain and noncommunicable diseases (NCDs), including diabetes, heart disease, stroke and cancer.

Governments play a leading role in reducing the burden of diet-related NCDs, addressing malnutrition in all its forms and promoting healthy diets. In 2014, the Second International Conference on Nutrition emphasized the importance of improving the food environment, which plays a critical role in shaping people's diets, including through policy actions.

Fiscal and pricing policies, including taxes and subsidies to promote healthy diets, are implemented within complex systems (including the food system) that are largely country specific. They are affected by each country's political, legal, economic, cultural and ethical contexts.

This review provides contextual information that was considered by the World Health Organization (WHO) Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions when formulating the WHO guideline on fiscal and pricing policies to promote healthy diets, and moving from evidence to policy recommendations. The factors considered in this review are:

- Factor 1 – values;
- Factor 2 – resource implications, including the costs and cost-effectiveness of interventions;
- Factor 3 – equity and human rights;
- Factor 4 – acceptability, reflecting the perspectives, attitudes and opinions of consumers, government and industry, and the support of these stakeholders for fiscal and pricing policies; and
- Factor 5 – feasibility, focusing on the feasibility of developing, implementing, administering, monitoring and evaluating policies.

Searches were conducted for information on each of these factors, for both taxes and subsidies.<sup>1</sup>

Types of literature to inform the review included systematic reviews, primary studies and grey literature, including government reports. Search terms were defined based on factors proposed in evidence to decision (EtD) frameworks used in the WHO guideline development process, including the GRADE (Grading of Recommendations Assessment, Development and Evaluation) EtD and the WHO-INTEGRATE EtD framework. Only literature published in English was included, and the search was restricted to publications after 2004.

A total of 301 publications were included in the review, the majority for Factors 4 (acceptability;  $n = 153$ ), 5 (feasibility;  $n = 78$ ) and 3 (equity and human rights;  $n = 70$ ). Overall, the majority of publications were identified from high-income countries. Relatively few publications were found for pricing policy, which reflects the lack of evidence in this area (no studies were identified on pricing policies in a systematic review commissioned by WHO on the effectiveness of fiscal and pricing policies).

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<sup>1</sup> Subsidies in the context of this review included cash-back rebates, vouchers, discounts and removal of subsidy/price support, but excluded agricultural subsidies (i.e. subsidies to manufacturers and farmers).

In relation to evidence identified on **values** about health outcomes, values about body weight status varied by study population. In high-income countries, overweight and obesity were generally perceived as a serious health problem. Women were more likely than men to perceive overweight and obesity (and especially childhood obesity) as a serious health problem, as were people of lower socioeconomic status (SES) when compared with their higher SES counterparts. In contrast, in many studies from low- and middle-income countries, overweight and obesity were perceived as indicating good health or interpreted as “normal weight”. However, in some countries that have perceived overweight and obesity as indicating good health, values are changing, and normal weight body mass index is increasingly considered healthy. In contrast to values about body weight status, there was no variability in values about diet-related NCDs, which were perceived negatively in all identified studies. No studies were identified on values and food prices.

Evidence on the **resource implications** of implementation of fiscal policies<sup>1</sup> to promote healthy diets was identified in modelling studies. All studies that presented cost-effectiveness analyses of modelled taxes on sugar-sweetened beverages (SSBs) found modelled taxes to be cost-effective or cost-saving. Studies that did not present cost-effectiveness analyses generally found that the intervention resulted in healthcare cost savings. Studies that modelled taxes on unhealthy foods, or a combination of subsidies and taxes, found the intervention to be cost-effective or cost-saving. Of the studies that presented cost-effectiveness analyses of modelled subsidies or rewards, all but two found the modelled scenarios to be cost-effective or cost-saving. Cost–benefit analyses of policy options to restrict volume promotions for products high in fat, sugar and salt estimated that all options analysed would have net benefits. In some instances, the revenue from SSB taxes has been used to finance healthcare programmes and salaries of healthcare professionals, or for healthy food incentives, school food programmes or community development.

The search for literature on how fiscal and pricing policies might affect **human rights** found that Special Rapporteurs on the right of everyone to the enjoyment of the highest attainable standard of health and on the right to food have called for healthy foods to be made economically accessible, and have recommended taxes on SSBs, and on foods high in saturated fats, trans-fatty acids, sodium and/or sugars; these taxes can be used to subsidize access to fruits and vegetables, and for educational campaigns on healthy diets. Some studies, however, report that taxes on foods and non-alcoholic beverages are perceived to be inappropriately intrusive.

Some evidence on the impact on **health equity** of fiscal and pricing policies to promote healthy diets was identified. Taxes on unhealthy foods and subsidies for healthier foods appear to be among the interventions to promote healthy eating that are most likely to decrease health inequalities, possibly as a result of upstream changes to the food environment. Although taxes on foods and non-alcoholic beverages are generally considered to be financially regressive, many studies found taxes to be equitable because of their progressive health benefits. Subsidies can also have an explicit focus on health equity, such as when they are targeted at people of lower SES. Three studies that examined employment changes associated with the implementation of taxes found no negative impacts on employment.

Evidence identified on acceptability showed that **acceptability** of fiscal and pricing policies to promote healthy diets varied by stakeholder. The existence of such policies, or national action plans that recommend implementation of such policies, indicates acceptability to government and policy-makers; the increasing number of countries implementing SSB taxes suggests that these taxes may be more acceptable than other fiscal and pricing policies. Evidence from a systematic review and meta-analysis showed that 39–66% of the public supported an SSB tax; studies reported variation in acceptability according to age, sex, parental status, education, SES, political beliefs and

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<sup>1</sup> If the text only refers to “fiscal policies”, only literature on fiscal policies was identified.

ethnicity. The use of tax revenue for health purposes is linked to greater public acceptability of taxes. Acceptability to industry of taxes on food and non-alcoholic beverages appeared very low. Limited evidence relating to environmental acceptability was found.

The existence of fiscal policies (particularly SSB taxes) in some countries points to their **feasibility**. Evidence identified on feasibility showed that facilitators of the development and implementation of policies include strong political leadership, intersectoral collaboration, supporting evidence, community support, and the use of existing governmental infrastructure and taxation mechanisms. Barriers to development and implementation include complexity of the development process, conflicting interests, industry interference and pressure, a weak evidence base and the (perceived) administrative burden. Facilitators of monitoring, evaluation and enforcement include establishment of independent advisory committees, support from academia or health institutions, and collaborative efforts between stakeholders. Barriers to monitoring, evaluation and enforcement include a lack of plans or programmes for monitoring, evaluation and enforcement; and actual or perceived costs related to monitoring, evaluation and enforcement.

The review of contextual factors showed some variability in resource implications, acceptability and feasibility of developing and implementing fiscal and pricing policies to promote healthy diets. Acknowledging that most of the identified information is from high-income and English-speaking countries, results suggest the need to consider the local context, including the regulatory and political environment, when developing and implementing fiscal and pricing policies to promote healthy diets. Overall, effective implementation of such policies could contribute to achievement of the right to health, a core WHO value.



# Background

Nutrition during childhood and adolescence is key to ensuring optimal growth, health and well-being during childhood and beyond (1–3). Healthy dietary practices – the foundation for good nutrition – are initiated early in life. Their impact on healthy growth during childhood is seen in rapid growth spurts. They also have long-term health impacts, including preventing noncommunicable diseases (NCDs) later in life. As well, they have an intergenerational impact through ensuring that mothers, particularly those who are adolescent girls, have an optimal nutrition status (1, 4).

Unhealthy diets are a leading global public health risk, contributing to a rise in unhealthy weight gain and NCDs, including diabetes, heart disease, stroke and cancer (5). NCDs now account for about 70% of all deaths globally (6). The dietary risks cluster<sup>1</sup> results in more than 10 million deaths from NCDs per year. It is responsible for 16.45% of all disability-adjusted life years (DALYs) lost to NCDs and 10.2% of DALYs lost to all causes worldwide.<sup>2</sup> Overweight and obesity in childhood is one of the most prominent global public health challenges today. Virtually no progress has been made in reducing the spread of overweight in more than 15 years (7). Globally, 38.3 million children under the age of 5 years are estimated to be overweight, and 36% of these children live in low- and middle-income countries (7). These numbers escalate by an order of magnitude in the age group 5–19 years: 337 million children in this age group were estimated to have overweight or obesity in 2016 (8). At the same time, 47 million children under 5 years of age are wasted, and 144 million are stunted (7).

Governments play a leading role in reducing the burden of diet-related NCDs, addressing malnutrition in all its forms and promoting healthy diets, including through policy actions (9, 10). The Second International Conference on Nutrition, held in 2014, emphasized the importance of improving the food environment, which shapes norms and values of food consumption, through the ways food is labelled, marketed and provided (11, 12). In the current food environment, dietary patterns have shifted, and people are consuming more foods high in saturated fats, trans-fatty acids, sodium or sugars. Many people do not eat enough dietary fibre such as that provided by fruit, vegetables, whole grains and legumes (13). It is timely to implement policy actions that contribute to creating a healthy food environment that promotes and enables healthy diets for all.

To support Member States in developing and implementing food and nutrition-related policy measures, as recommended by the Framework for Action from the Second International Conference on Nutrition (11, 12), the World Health Organization (WHO) Department of Nutrition and Food Safety started work to develop evidence-informed guidelines on fiscal and pricing policies to promote healthy diets.

As a first step in this process, the WHO Department of Nutrition and Food Safety established a guideline development group: the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions in 2018. Priority areas for policy guidelines included policies to protect children from the harmful impact of food marketing, nutrition labelling policies, fiscal and pricing policies, and school food and nutrition policies.

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<sup>1</sup> The “dietary risks cluster” includes diets that are low in whole grains, fruit, nuts and seeds, vegetables, fibre, legumes, polyunsaturated fatty acids, calcium or milk, and/or are high in sodium, trans-fatty acids, processed meat, red meat or sugary drinks (Global Burden of Disease risk factors).

<sup>2</sup> Global Burden of Disease statistics, 2017

It has become challenging for consumers “to make healthy and affordable food choices consistent with optimal nutrition outcomes” (14). The current cost and unaffordability of healthy diets have implications for the quality of diets, food security and nutrition outcomes (15, 16). The cost of a healthy diet differs across income levels and countries (17); healthy diets that reflect global guidelines are currently unaffordable for more than 3 million people (15).

In recent years, an increasing number of countries have considered implementing, or have implemented, fiscal policies (mainly taxes on sugar-sweetened beverages [SSBs]) to achieve health-related objectives, but far fewer countries are implementing fiscal policies that focus on subsidizing healthier foods and beverages, or removing taxes or subsidies to encourage healthier dietary patterns (18). In addition, in a systematic review commissioned by WHO on the effectiveness of fiscal and pricing policies (described further below), no studies were identified on countries implementing pricing policies.

Developing a more robust, evidence-informed policy guideline through the WHO guideline development process implemented since 2010 will help more countries to put in place effective actions on fiscal and pricing policies to promote healthy diets.

The process for developing the WHO guideline on fiscal and pricing policies to promote healthy diets follows the *WHO handbook for guideline development* (19) (the WHO Handbook).

The WHO Handbook requires that, when developing a guideline and its recommendations, explicit consideration must be given to decision criteria (i.e. contextual factors) when moving from the evidence on the impact of interventions; these contextual factors may affect the direction and strength of the recommendations. They include equity, human rights, resource implications, acceptability of the policy to the various stakeholders, and feasibility of adopting the recommendations, including the availability of infrastructure and mechanisms necessary for implementation, enforcement, monitoring and evaluation. (20). At its first meeting in December 2018, the NUGAG Subgroup on Policy Actions, therefore requested reviews of contextual factors to be conducted for all policy guidelines in addition to systematic reviews on the effectiveness of the policy measure, including fiscal and pricing policies<sup>1</sup>. This is because policy measures to promote healthy diets are implemented in complex systems (including the food system), which are country specific and unique to the interplay of contextual features. Contextual features are shaped and defined within each country’s political, legal, economic, cultural and ethical context.

The factors considered in these reviews include those outlined in the WHO Handbook: priority of the problem, values, resource implications, equity and human rights, acceptability, feasibility, and balance of benefits and harms (21). The reviews also include relevant subcriteria of the WHO-INTEGRATE evidence to decision framework (22) (e.g. the impact of the policy action on, or the policy action’s interaction with, existing health and food systems).

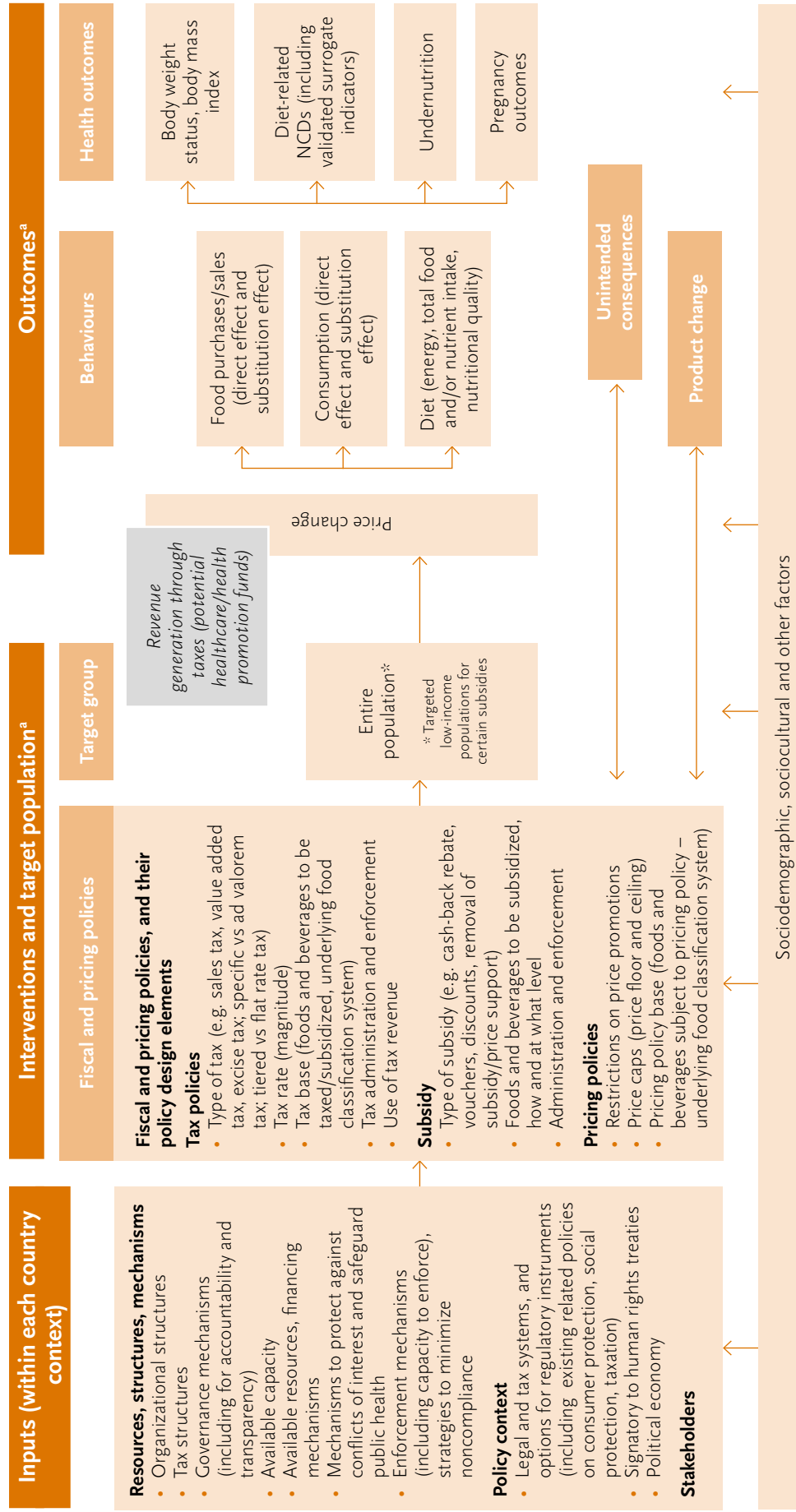
A logic model was developed to conceptualize the complexity of fiscal and pricing policies to promote healthy diets and to visualize the range of contextual factors that influence a policy’s impact on the outcomes of interest (Fig. 1).

The overall aim of this review was to search for, identify, summarize and present information on the impact of contextual factors on development and implementation of fiscal and pricing policies to promote healthy diets.

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<sup>1</sup> No studies were identified on pricing policies that met the inclusion criteria for the systematic review on the effectiveness of fiscal and pricing policies. The final guideline is on fiscal policies.

Fig. 1. Logic model depicting pathways from fiscal and pricing policies to behavioural, health and non-health outcomes



<sup>a</sup> Interventions, target population and outcomes shown in the figure are those prioritized by the members of the WHO Nutrition Guidance Expert Advisory Group (NUGAG) Subgroup on Policy Actions in formulating the research question for the evidence review to inform the guideline on fiscal policies.

# Methodology

The review of contextual factors for fiscal and pricing policies to promote healthy diets was conducted in line with the requirements of the WHO guideline development process, taking into consideration the complexity of the policy interventions (21, 23). Using best-practice methodologies for systematic reviews, rapid reviews and scoping reviews, the review process sought to respect the key principles of knowledge synthesis. These include a clear statement of objectives, predefinition of eligibility criteria, assessment of the validity of findings, and systematic presentation and synthesis of results.

## Framework and guidance questions

A framework was developed to guide the review process (Annex 1). This was based on the guidance in the WHO Handbook to consider social determinants of health in the guideline process (20), the relevant decision criteria listed in Table 10.1 of the WHO Handbook (21), and discussions at the first meeting of the NUGAG Subgroup on Policy Actions (on 11–14 December 2018 in Geneva, Switzerland). The review for fiscal and pricing policies includes all factors (and criteria) listed as relevant for determining the direction and strength of recommendations in Table 10.1 of the WHO Handbook, with the exception of the “certainty of evidence”, which was assessed through the systematic review on the effectiveness of such policies on selected health and non-health outcomes. Building on evidence to decision frameworks proposed by the WHO Guidelines Review Committee (21, 22), guidance questions and search terms were developed to inform each of these factors.

The factors fall under the broader categories that will be used to inform discussion on the guidelines and decisions on the strength of the recommendations to be formulated by the WHO NUGAG Subgroup on Policy Actions for each of the three policy guidelines:

- Factor 1 – values, focusing on the values of health and non-health outcomes;
- Factor 2 – resource implications, including the costs and cost-effectiveness of interventions, as well as a description of the use of revenue and impacts on productivity;
- Factor 3 – equity and human rights, focusing on health equity (financial impacts and financial burden are discussed under Factor 4 – acceptability);
- Factor 4 – acceptability, reflecting the perspectives, attitudes and opinions of consumers, government and industry, and the support of these stakeholders for fiscal policies; and
- Factor 5 – feasibility, focusing on the feasibility of developing, implementing, administering, monitoring and evaluating fiscal and pricing policy.

## Literature search

Types of literature to inform the review included systematic reviews, primary studies and grey literature.

Only literature published in English was included. Editorials, commentaries, industry statements, blog posts, newspaper articles, posts from social media outlets and so on were not included in the review. Other relevant inclusion and exclusion criteria are listed under each of the following sections. In addition to the search strategies listed below, the review also applied the “snowballing technique” – that is, searching reference lists of eligible literature. This is a recommended method to identify additional relevant literature when conducting scoping reviews and rapid reviews (24).



Date of publication for all literature was restricted to 2004 and later. The WHO Global Strategy on Diet, Physical Activity and Health (25) was endorsed in 2004. Other initiatives that have occurred since 2004 include the 2008–2013 Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases (26), resolution WHA 63.14 endorsing the Set of Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children (27), the Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–2020 (28) and the Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition (29), which all recommended fiscal and/or pricing policies to promote healthy diets.

### **Systematic reviews**

Systematic reviews were searched for in the Cochrane Library, the Campbell Library and PubMed.

### **Primary studies**

Primary studies were searched for in PubMed. A total of 11 searches were conducted for the review of fiscal and pricing policies to promote healthy diets. All searches were made up of three parts: policy search terms, contextual factors search terms and exclusion terms. Part 1 included the search terms used for the relevant policy action, and were used across all searches for that particular policy action. Initially, the guidance questions were written to ensure that the decision criteria search terms (Part 2) were able to adequately identify literature that could inform each of the decision criteria. As the review progressed, a few of the guidance questions and searches were combined to yield a total of 11 different searches. Another reason for having multiple searches rather than a single search related to the combination of search terms needed. For example, to inform the criterion on development and implementation for Factor 5 (feasibility), it was decided that studies should include the MeSH term “Health Policy” together with different forms of the words “develop” or “implement” in the title or abstract. To make it feasible for one reviewer to scan and retrieve the results of all these searches (with oversight by, and consultation with, a second reviewer), a list of exclusion terms was added (Part 3) to exclude types of studies that were not relevant but were often part of the list of search hits (e.g. studies on taxing cigarettes or alcoholic beverages).

Finally, studies identified through each of the 11 searches informed multiple factors and criteria. For example, some studies identified as part of the search for the criterion on development and implementation for Factor 5 (feasibility) also contained findings relevant to the criterion on acceptability to stakeholders for Factor 4 (acceptability). If primary studies identified as relevant were part of systematic reviews also deemed relevant, the primary study was not included unless it contributed with relevant findings not captured by the systematic review.

Both qualitative studies (e.g. stakeholder interviews, focus groups, open-ended consumer surveys and interviews) and quantitative studies (including modelling studies of non-implemented policies) were included. In the WHO guideline development process, qualitative studies can provide important insights when assessing the values, perspectives and opinions of stakeholders, and may complement quantitative studies in informing acceptability of interventions and implementation considerations (30–32). As a result, additional searches were conducted in JSTOR and Scopus (databases recommended by NUGAG members, specifically for qualitative research) to inform Factor 1 (values) and Factor 4 (acceptability).

### **Grey literature**

Different search strategies were applied to identify relevant grey literature, including strategically searching for literature through relevant source sites (listed below). Types of grey literature retrieved and included in the review included reports, articles, reviews, case studies, policy briefs and, for human rights, declarations and constitutions.

Publications available through the **WHO Institutional Repository for Information Sharing**:

- WHO reports, case studies and policy briefs, published either by WHO headquarters or at a regional level. These also included literature developed and published with the support of WHO but where WHO was not the primary author.

Publications in journals by **WHO Regional Offices**:

- Articles published in the Bulletin of the World Health Organization, the WHO South-East Asian Journal of Public Health, the Pan American Journal of Public Health, the Eastern Mediterranean Health Journal and Public Health Panorama.

Publications by other **United Nations (UN) organizations**:

- UN General Assembly documents, declarations and constitutions, including General Comments on the Convention of the Rights of the Child published by the Committee on the Rights of the Child, reports by the Special Rapporteur on the Right to Food and the Special Rapporteur on the Right to Health, and literature published by the UN Standing Committee on Nutrition
- Publications by the United Nations Children's Fund (UNICEF)
- Publications by the Food and Agriculture Organization of the United Nations.

Publications by other **global intergovernmental organizations and research institutions**, including:

- World Cancer Research Fund International
- NCD Alliance
- Organisation for Economic Co-operation and Development (OECD)
- World Obesity Federation.

#### **Government reports:**

Government reports on implemented policies in a given country were considered relevant data sources by NUGAG members, as they may provide additional evidence for the resource implications, acceptability and feasibility of such policies.

Because of resource constraints, it was not possible to conduct a comprehensive search for government reports. Therefore, a strategic, targeted search for government reports was conducted based on the following two criteria:

- knowledge of existing policies or policies in a development phase<sup>1</sup> and ceased policies at a national or subnational level, informed by evidence retrieved from peer-reviewed journal articles and other grey literature, as well as suggestions, inputs and advice received from NUGAG members and WHO regional advisers; policies, whether existing or in a development phase, must be government led; and
- use of English language on government sites and in government reports.

For the purpose of this review, government reports were defined as reports authored, co-authored or commissioned by government departments or ministries. Examples are self-evaluations, implementation evaluations, treasury statements, impact analyses, cost analyses, and submissions to stakeholder or public consultations. To be eligible, reports had to:

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<sup>1</sup> To be eligible for inclusion as a "policy in a development phase", there must be official records of government-led action or consultations with the objective of drafting or implementing the policy. For example, Health Canada initiated consultations with stakeholders in 2016 on restricting food and beverage marketing to children. In 2018, the proposed Child Health Protection Act (Bill S-228) passed the third reading in the House of Commons and was sent to the Senate for consideration. Bill S-228 was not called for a vote before the end of the 2019 Senate session, and the Parliament later dissolved for the 2019 federal election.

- be publicly available in full-text versions on government websites; and
- provide information relevant to Factor 2 (resource implications), Factor 3 (equity and human rights), Factor 4 (acceptability) or Factor 5 (feasibility) for the respective policy guideline.

We aimed to include government reports from at least two countries in each of the six WHO regions for each policy guideline.<sup>1</sup> In addition to the criteria above, we aimed to include government reports from both low- and middle-income countries (LMICs) and high-income countries (HICs).<sup>2</sup>

The search for government reports was conducted in Google by:

- using the following search terms – “subsidy OR subsidies OR voucher OR vouchers (food OR foods OR fruit OR fruits OR vegetable OR vegetables OR staple OR staples) site:x filetype:pdf” or “tax (sugar OR sugars OR beverage OR beverages OR fat OR fats) site:x filetype:pdf”;
- if available, using the title (or abbreviation) of an implemented policy in addition to the search term; however, for some policy guidelines, including the title of policies was not applicable (e.g. when searching for reports on nutrient declarations), in which case only the list of search terms was used;
- restricting hits to government URLs of the countries included in this review;<sup>3</sup>
- restricting hits to PDF files (filetype:pdf);
- screening the first 100 hits sorted by relevance; and
- using snowballing<sup>4</sup> as needed to retrieve other relevant government reports for the identified country.

### Screening, data extraction and synthesis

Titles and abstracts of studies were screened by a single reviewer. Studies identified as relevant were screened by reading the full text, and one reviewer critically appraised the identified literature. A charting record was kept describing characteristics of the included studies, and the key information relevant to the guidance questions and decision criteria. A narrative synthesis for each factor was written. A second reviewer oversaw screening, data extraction and synthesis.

### Terms used in synthesis

Various uses, definitions and interpretations exist across the literature for terms such as “SSBs” and “unhealthy foods”. The synthesis of findings was written applying the original terms used in the included literature. This resulted in a heterogeneity of terms used, but ensured that the original findings in the literature were adequately conveyed.

<sup>1</sup> Policies to protect children from the harmful impact of food marketing, nutrition labelling policies, fiscal policies to promote healthy diets, and school food and nutrition policies.

<sup>2</sup> WHO groups countries into LMICs and HICs using the World Bank income classifications.

<sup>3</sup> For the countries search in this review, the following government sites were used: Australia (site:gov.au), Barbados (site:gov.bb), Bermuda (site:gov.bm), Canada (site:canada.ca), Dominica (site:gov.dm), India (site:gov.in), Ireland (site:gov.ie), Malawi (site:gov.mw), Philippines (site:gov.ph), South Africa (site:gov.za), Sri Lanka (site:gov.lk), United Kingdom (site:gov.uk) and United States (site:fda.gov or site:usda.gov).

<sup>4</sup> The use of snowballing in this review implies seeking out other relevant documents identified in the screened government reports.

# Factor 1: Values

This section presents a narrative synthesis of literature identified as relevant to the importance to affected populations (those affected by exposure and/or outcome) of the critical and important health outcomes of implementing or not implementing fiscal and pricing policies to promote healthy diets. These include body weight status and body mass index (BMI), diet-related NCDs (including validated surrogate indicators) and undernutrition. For the purpose of this review, “value” is also interpreted as a belief or a perception the affected population holds towards the health outcomes. However, this does not include the perceptions of the population about the intervention itself, which is discussed under “Acceptability of the intervention to the public and consumers”.

An in-depth exploration of how food values are shaped is beyond the scope of this review. However, it is important to recognize that values are central to consumers’ food choices, and that they go beyond the taste, safety, healthiness, convenience and price of foods. Values are shaped, for example, by cultural, social and environmental beliefs. Aspects relating to environmental concerns, including how foods are produced and distributed, shape food consumption values. From a rapid literature search on values and food price, no studies were identified.

To the extent possible, the section presents evidence on how values vary within and across population subgroups, and uncertainty in the importance or variability of values.

In HICs, overweight and obesity are generally perceived negatively and as a serious health problem by the majority of adults and children (33–41). Some studies have identified differences between subgroups. For example, women and parents in Australia were significantly more likely to consider overweight and obesity to be a serious issue than men and adults without children, respectively (37). In the United States, a study found that adults generally perceived childhood obesity as more serious than adult obesity. Compared with adults residing in communities of high socioeconomic status (SES), those residing in communities of lower SES were significantly more likely to perceive obesity as a very serious problem (36). Other studies from HICs have compared values and body size preferences between women of different ethnicity. For example, a study in the United Kingdom found that women of Caribbean and African descent, despite recognizing the risk of weight-related health problems, expressed less concern about weight in general, and had more favourable attitudes towards fatness and being overweight than Caucasian women of British descent (42). A United States study found similar differences, but also identified African Americans to be significantly less likely than whites or Hispanics to view obesity as a health problem (43).

In some cultures, particularly in LMICs, a large body size is often valued as indicating good health, wellbeing and wealth (44–49). For example, a study from Indonesia found a positive association between self-reported happiness and obesity, concluding that “fatness was admired” and that “thinness [was] a constant reminder of the immediate possibility of hunger and starvation” (44). Multiple studies from the African region provide similar findings. For example, indigenous men and women in Nigeria (46), adult Saharawi refugees in Algeria (47), black women in South Africa (48) and women in urban Senegal (49) all reported preferring a large body size (often overweight on the basis of BMI category; BMI >25 kg/m<sup>2</sup>). Overweight individuals in the Nigerian population generally accepted their excess weight and wanted to remain overweight, while normal weight individuals tended to prefer a bigger size – particularly when dissatisfied with their current body image (46). The study from Algeria presented very similar results, but also concluded that younger participants

(18–25 years old) had less of a desire to be overweight or obese than those who were older (47). In Senegal, study participants' definitions of overweight and normal weight differed substantially from BMI health definitions: one third of the sample regarded the overweight or obese BMI category (illustrated through images) as normal, and over one third of women with BMI >25 kg/m<sup>2</sup> wanted to gain more weight (49). However, although most participants regarded the overweight image (BMI >25 kg/m<sup>2</sup>) positively, people with obesity (BMI >30 kg/m<sup>2</sup>) shown in images were regarded as “greedy and having a large appetite”, indicating a shift in attitudes (49). Overweight in men was valued less positively than in women, with the former cited as a “sign of laziness” in a Zambian study (49, 50). The negativity towards a thin (normal weight) figure and the preference for overweight in some African cultures have been linked to poverty and the presence of diseases. For example, a recent qualitative study from Zambia found that thinness or weight loss was valued negatively, and often associated with diseases such as HIV/AIDS (50). Other studies from sub-Saharan Africa have reached similar conclusions (45, 51–54). However, some studies have identified a change in values towards “Westernized” perceptions of an ideal body size, in accordance with normal weight BMI (55, 56). Similar developments have been identified in the Pacific (38, 57). Whereas overweight traditionally was associated with high SES, authority and wealth among Pacific islanders (58, 59), more recent studies have identified how attitudes to body weight and size have changed over time, with an increased affinity for less overweight figures (38, 57). Economic development, globalization, and increased awareness of the association between overweight, obesity and diet-related NCDs are cited as reasons for the shift in values and preferences (38, 57). Studies from the eastern Mediterranean region have found a similar development, with the adoption of Western values of “thinness [as] a sign of beauty and health” (60) – concurrent with increased concerns and dissatisfactions with body weight, especially among the younger population (61, 62).

Whereas the values related to body weight status, undernutrition and obesity vary (as summarized above), the identified studies found that diet-related NCDs are perceived negatively and as health problems across both regions and subpopulations (50, 52, 53, 63).

Evidence exists on population subgroups' perceived determinants of body weight status, obesity and diet-related NCDs, including awareness of risk factors (36, 38, 39, 43, 64–69). Reporting on this was deemed outside the scope of this review. Importantly, however, the belief or opinion that the food environment is a determinant of body weight status (a factor beyond individual control) or that the government and food industry bear some responsibility was associated in studies with higher acceptability for government policies to prevent and treat obesity (70–72). This association is reviewed below in the section “Acceptability of the intervention to the public and consumers”.

## Factor 2: Resource implications

This section presents a narrative synthesis of literature identified to assess the resource implications of fiscal and pricing policies to promote healthy diets. Relevant criteria for resource implications included the ratio of costs and benefits for the intervention, costs of the intervention in the long and short terms, and the economic impact of the intervention on the national and global economies (including use of revenue from tax policies).

Multiple studies were identified that assessed the resource implications of fiscal and pricing policies to promote healthy diets. All were modelling studies, and most modelled resource implications of a tax on SSBs. Table 1 summarizes key measures and outcomes of the modelled scenarios. These included the cost of implementing the modelled intervention; the primary health outcome measure in disability-adjusted life years (DALYs), quality-adjusted life years (QALYs) or health-adjusted life years (HALYs) (a few studies that modelled the resource implications of an intervention that aimed to improve dental health reported other primary health outcome measures<sup>1</sup>); healthcare sector outcome measures (e.g. healthcare costs saved in the period modelled); annual tax revenue<sup>2</sup> (for taxes); and a cost–benefit measure (whether the intervention was cost-effective, or cost-saving, and the incremental cost-effectiveness ratio [ICER],<sup>3</sup> if available). However, the studies summarized in Table 1 are very heterogeneous, and therefore not directly comparable. For example, the studies differ in terms of the interventions modelled; the definition of target products (e.g. SSBs); the theoretical, economic and statistical methods used; the assumptions made; the sensitivity analyses conducted; and the outcome measures estimated and presented. Different approaches to, and variations in, these parameters have implications for the results obtained in modelling studies (73, 74). Additional relevant information that is not summarized in the table includes health gains by SES (74–76), productivity gains (77), tax burden and healthcare cost savings by income quintile (78), and results of sensitivity analyses.

The studies that presented cost-effectiveness analyses of modelled SSB taxes all found the modelled tax to be cost-effective or cost-saving (75, 79–86). Two studies that presented cost-effectiveness analyses of taxes on unhealthy foods, and two studies using a set of different LMIC and HIC countries to model both subsidies and taxes also concluded these to be cost-effective or cost-saving (87–91). The studies that modelled SSB taxes and did not present cost-effectiveness analyses concluded, generally, that the intervention resulted in healthcare cost savings (74, 77, 92–94). Three studies modelled the impact on dental health–related costs of a 20% tax on SSBs (76, 95, 96). None of these studies presented cost-effectiveness analyses, but all three found that the modelled scenarios would reduce poor dental health outcomes and associated healthcare costs while generating revenue (76, 95, 96). The findings of this review are very similar to a recent systematic review of modelling studies that also concluded that taxes on unhealthy foods and SSBs could lead to cost savings and improved health outcomes related to obesity and type 2 diabetes (97).

Nine studies were identified that modelled subsidies, discounts or other economic incentives for healthy foods for a defined target population. Two studies by the same research team in Australia

<sup>1</sup> Health outcome measures reported in studies modelling the impact of an intervention on oral health included decayed, missing or filled teeth; caries-free tooth years (representing a year spent without caries experience per tooth); and caries lesions prevented.

<sup>2</sup> Studies were not included in this section if they only reported on, or estimated, tax revenue.

<sup>3</sup> ICER is a statistic used in cost-effectiveness analysis. It is defined as the difference in cost between two scenarios divided by the difference in their effect (in DALYs, HALYs or QALYs). The two scenarios are usually the intervention compared with no intervention.

modelled 20% discounts on different healthy food groups for Aboriginal and Torres Strait Islander consumers in remote communities (98, 99). Based on 12 months of food sales data, the first study modelled six scenarios, of which five resulted in ICERs below the defined threshold (99). The authors thus concluded that these five scenarios were cost-effective. A later study with a similar discount strategy, but this time based on a 24-week trial, was found not to be cost-effective (98). The authors projected that the discount would result in increased dietary energy intake and increased BMI, which, over a lifetime, would result in lost DALYs and increased healthcare costs (98). One study did not present cost-effectiveness analyses (100). Five United States studies modelled proposed changes to an existing federal aid programme, the Supplemental Nutrition Assistance Program (SNAP), including variations of subsidies or rewards on fruit and vegetables for programme participants (82, 101–104). Four of the five studies concluded that the modelled SNAP scenarios were cost-effective or cost-saving (82, 101–103). Another study modelled two policy scenarios, also consisting of subsidies on fruits and vegetables and other healthy foods, for adults within the United States health insurance companies Medicaid and Medicare (105). The authors concluded that the modelled policy change would be cost-effective at 5 years and beyond (105).

In summary, all identified studies modelling various scenarios of taxes on food or SSBs found these to be cost-effective or cost-saving, or to result in reduced healthcare costs. All but two of the identified studies modelling subsidy programmes that presented cost-effective analyses found the modelled scenarios to be cost-saving or cost-effective.

Government documents also provide information (through modelling) about the resource implications of fiscal and pricing policies to promote healthy diets. Pricing policies included restricting volume promotion.

According to a 2016 South African policy paper on taxation of SSBs, fiscal measures (e.g. taxes) were considered one of the “best buys” for tackling diet, physical activity and obesity, and were estimated to cost R0.20 per head (106). Modelling from the country’s National Treasury estimated that a 20% tax on SSBs would have a negative, but relatively small, impact on the national economy, with real gross domestic product estimated to decrease by 0.02% compared with a no-tax baseline (107). It was noted, however, that health outcomes should also be considered in assessment of the proposed tax.

A draft United Kingdom impact assessment, published in 2018, estimated the costs and benefits of four policy options related to volume promotions for “high fat, sugar, and salt (HFSS) products” (108). Option 1 was to take no action. Option 2 was to end all volume offers for HFSS products in all retailers and the out-of-home sector. Option 3 was to end all volume offers for HFSS products included in Public Health England’s sugar and calorie reduction programme and the Soft Drinks Industry Levy in all retailers and the out-of-home sector. Finally, option 4 was that no more than 20% of sales from volume offers on foods and beverages per year could come from HFSS products included in Public Health England’s sugar and calorie reduction programme and the Soft Drinks Industry Levy. Options 2, 3 and 4 were all estimated to have net benefits, of £5,190 million, £2,940 million and £660 million, respectively. In each option, benefits included health and social care benefits, and additional economic output from reduced premature mortality. Costs included lost retailer and manufacturer profits, familiarization and product assessment costs for the out-of-home sector and retailers, and the opportunity cost of enforcement of regulations.

**Table 1. Summary of identified modelling studies<sup>a</sup>**

Reference	Modelled intervention	Period and population	Cost of the intervention	Primary health outcome measure	Healthcare sector outcome measure	Tax revenue	Cost–benefit measure
<b>Multiple countries: Canada, England, Italy, Japan, Mexico</b>							
Sassi, 2010 (88)	Fiscal measures altering the prices of fruits and vegetables, and foods high in fats	Lifetime in whole population of included countries	US\$ PPPs 0.03–0.13 per capita	DALYs averted, shown in graphs	Not reported	Not reported	Cost-saving for all countries
<b>Multiple countries: Brazil, China, India, Mexico, Russian Federation, South Africa, United Kingdom</b>							
Cecchini, 2010 (89)	Fiscal measures that increase the price of unhealthy food content or reduce the cost of healthy foods rich in fibre	Lifetime in whole population of included countries	US\$ >0.01–0.11 per capita	139–1696 DALYs averted after 20 years; 355–6049 DALYs averted after 50 years	Not reported	Not reported	Cost-saving for all countries
<b>Australia</b>							
Lal, 2017 (75)	20% tax on SSBs	Lifetime of the 2010 Australian population (aged ≥2 years)	A\$ 12.7 million (over 10 years)	175 300 HALYs saved	Savings of A\$ 83 per capita over lifetime	A\$ 642.9 million per year	Cost-saving
Veerman, 2016 (94)	20% tax on SSBs	Lifetime of the 2010 Australian population (aged ≥20 years)	A\$ 27.6 million (implementation costs)	112 000 HALYs saved for men and 56 000 HALYs saved for women	Savings of A\$ 609 million	A\$ 400 million per year	Not reported
Magnus, 2018 (98)	20% price discounts on fruits, vegetables, diet drinks and water (trials in remote northern Australia)	Lifetime of trial population (8515 Aboriginal and Torres Strait Islander Australians living in 20 remote communities)	A\$ 0.2 million (24 weeks)	DALYs lost (due to increased dietary energy intake and increased BMI)	Costs of A\$ 0.5 million (due to increased dietary energy intake, increased BMI and DALYs lost)	NA	Not cost-effective



Magnus, 2016 (99)	(1) 20% discount on all fruits (fresh, dried, frozen and tinned) (2) 20% discount on fresh vegetables only (3) 20% discount on all vegetables (fresh, dried, frozen and tinned) (4) 20% discount on all fruits and vegetables (5) 20% discount on diet drinks and water (6) 20% discount on all fruits and vegetables, diet drinks and water	Lifetime of the 2011 Aboriginal and Torres Strait Islander population	Only net costs reported  (1) A\$ 2.1 million (2) A\$ 2.1 million (3) A\$ 3.6 million (4) A\$ 5.7 million (5) A\$ 3.0 million (6) A\$ 8.2 million	(1) 77 DALYs averted (2) 61 DALYs averted (3) 53 DALYs averted (4) 130 DALYs averted (5) 38 DALYs averted (6) 210 DALYs averted	Not reported	NA	(1) Cost-effective (ICER of A\$ 27 000 per DALY averted) (2) Cost-effective (ICER of A\$ 34 000 per DALY averted) (3) Not cost-effective (ICER of A\$ 69 000 per DALY averted) (4) Cost-effective (ICER of A\$ 44 000 per DALY averted) (5) Cost-effective (ICER of A\$ 21 000 per DALY averted) (6) Cost-effective (ICER of A\$ 36 000 per DALY averted)
Nomaguchi, 2017 (77)	20% tax on SSBs	Lifetime of the 2010 Australian population (aged ≥20 years)	Not reported	63 127 DALYs gained	Savings of A\$ 427 million	Not reported	Not reported
Sacks, 2011 (87)	Taxes on foods in selected unhealthy food categories (biscuits, cakes, pastries, pies, snack foods, confectionery and soft drinks)	Lifetime of the 2003 Australian population (aged ≥20 years)	A\$ 18 million (one-time cost)	559 000 DALYs averted	Savings of A\$ 555 million	A\$ 855 million per year	Cost-effective (below threshold of A\$ 50 000 per DALY averted)
Carter, 2019 (91)	10% tax on unhealthy foods	27-year period (2003–2030) for the Australian population	Not reported	DALYs averted, shown in graphs	Savings of A\$ 604 million (within healthcare system alone)	Not reported	Cost-saving
Cobiac, 2017 (90)	Taxes on saturated fats, salt, sugars and SSBs, and a subsidy on fruits and vegetables	Lifetime of the 2010 Australian population	A\$ 22 million (one-time cost)	470 000 DALYs averted	Savings of A\$ 3.4 billion	Not reported	A\$ 18 000 per DALY averted (54% chance of being below threshold of A\$ 50 000 per DALY averted)

Sowa, 2019 (96)	20% tax on SSBs	10-year period for the Australian population (aged ≥18 years)	Not reported	3.9 million DMFT units averted (0.21 per individual in the simulated population)	Savings of A\$ 666 million	Not reported	Not reported
<b>Canada</b>							
Kao, 2020 (78)	20% tax on SSBs	Lifetime of the 2016 Canadian population (aged ≥20 years)	Not reported	760 000 DALYs averted	Savings of Can\$ 11.9 billion (direct healthcare savings)	Can\$ 1.4 billion per year	Not reported
<b>Estonia</b>							
Veerman, 2017 (86)	€0.20 tax per litre of SSB	Lifetime of the 2015 Estonian population	Not reported	2787 HALYs saved	Savings of €43.3 million	€17 million for the first year	Cost-effective
<b>Germany</b>							
Schwendicke, 2016 (76)	20% tax on SSBs	10-year period for the 2015 German population (aged 14–79 years)	Not reported	0.75 million caries lesions averted	Savings of €8 billion	€38.0 billion (10-year period)	Not reported
<b>Netherlands</b>							
Jevdjovic, 2019 (95)	20% tax on SSBs	Lifetime of the 2016 Dutch population (aged 6–79 years)	€37.3 million (administrative cost for tax collection)	2.13 caries-free tooth years gained per individual in the simulated population	Savings of €159 million caries-related treatment costs	€3.49 billion (lifetime)	Not reported
<b>New Zealand</b>							
Blakely, 2020 (100)	(1) 20% subsidy on fruits and vegetables (2) 8% tax on “junk food” (non-essential energy-dense food) (3) Taxes increasing the total price by the same magnitude of decrease from subsidy in (1), for: (a) saturated fats (b) sugars (c) salt	Lifetime of the 2011 New Zealand population	(1) US\$ 145 million for fruit and US\$ 220 million for vegetables per year (2, 3a–c) Not reported	(1) 258 000 HALYs saved (2) 156 000 HALYs saved (3a) 436 000 HALYs saved (3b) 697 000 HALYs saved (3c) 453 000 HALYs saved	(1) US\$ 2110 million (2) US\$ 2170 million (3a) US\$ 5870 million (3b) US\$ 9530 million (3c) US\$ 5900 million	(1) NA (2) Not reported (3a) US\$ 260 million per year (3b–c) Not reported	Not reported

<b>Philippines</b>									
Saxena, 2019 (92)	13% tax on SSBs	Lifetime of the 2013 Philippines population	Not reported	Not reported	Savings of US\$ 627 million (over 20 years)	US\$ 813 million per year	Not reported	Not reported	
<b>South Africa</b>									
Manyerna, 2015 (85)	20% tax on SSBs	Lifetime of the 2012 South African population (aged ≥15 years)	Not reported	374 000 DALYs averted	Savings of R10 billion in healthcare costs (over 20 years)	Not reported	Cost-saving		
Saxena, 2019 (74)	10% tax on SSBs	Lifetime of the South African population	Not reported	Not reported	Savings of R1690 million in subsidized health care (over 20 years)	R5490 million per year	Not reported	Not reported	
<b>United Kingdom</b>									
Breeze, 2017 (84)	20% tax on SSBs	Lifetime of the English population	Not reported	0.0003 QALYs gained (per individual in the simulated population)	Savings of 4.8 (per individual in the simulated population)	Not reported	Cost-saving		
<b>United States</b>									
Wilde, 2019 (83)	US\$ 0.01 tax per ounce of SSB	Lifetime of the US population (aged 35–85 years)	US\$ 1.8–1.9 billion (lifetime implementation costs)	1.8–3.4 million QALYs gained	Savings of US\$ 23.05–45.00 billion	US\$ 3 billion per year	Cost-saving	ICERs of US\$ 20 247–42 662 per QALY	
Wang, 2012 (93)	US\$ 0.01 tax per ounce of SSB	10-year period, US population (aged 25–64 years)	Not reported	Not reported	Savings of US\$ 17.1 billion (over 10 years)	US\$ 13 billion per year	Not reported	Not reported	
Long, 2019 (82)	(1) US\$ 0.01 tax per ounce of SSB (2) Removing SSBs as SNAP-eligible products	(1) 10-year period, US population (Maine) (2) 10-year period, SNAP participants (Maine)	(1) US\$ 4.4 million (2) US\$ 4.3 million	(1) 3560 QALYs saved (2) 749 QALYs saved	(1) Savings of US\$ 78.3 million (2) Savings of US\$ 15.3 million	Not reported	(1) Cost-saving (2) Cost-saving		
Gortmaker, 2015; Long, 2015; Gortmaker, 2015 (79–81)	US\$ 0.01 tax per ounce of SSB	10-year period, 2015 US population	US\$ 51 million (first year)	101,000 DALYs averted and 871,000 QALYs gained	Savings of US\$ 23.6 billion	US\$ 12.5 billion per year	Cost-saving		

Mozaffarian, 2018 (101)	All interventions modelled for SNAP (1) 30% incentive for fruits and vegetables (2) 30% incentive for fruits and vegetables with a restriction of SSBs (3) 30% incentive for fruits and vegetables, nuts, whole grains, fish and plant-based oils, and 30% disincentive for SSBs, junk food and processed meats	5-year period, 10-year period, 20-year period and lifetime for 14.5 million US adults (aged 35–80 years) in SNAP	Not reported	(1) 18 928 QALYs gained (5-year period) and 649 000 QALYs gained (lifetime) (2) 45 864 QALYs gained (5-year period) and 2.11 million QALYs gained (lifetime) (3) 56 056 QALYs gained (5-year period) and 2.47 million QALYs gained (lifetime)	(1) Savings of US\$ 1.2 billion (5-year period) and US\$ 6.8 billion (lifetime) (2) Savings of US\$ 4.3 billion (5-year period) and US\$ 39.2 billion (lifetime) (3) Savings of US\$ 5.3 billion (5-year period) and US\$ 41.9 billion (lifetime)	NA	All three scenarios cost-saving
Choi, 2017 (102)	30% subsidy on fruits and vegetables in SNAP	Lifetime, 10 000 SNAP participants (0–85 years of age)	US\$ 1324 per SNAP user, and US\$ 202 per capita for the general US population (lifetime costs)	0.52 QALYs gained per SNAP user, and 0.24 QALYs gained per capita for the general US population	Graphs in the study's Appendix Figure 5	NA	Cost-effective. ICER of US\$ 3432 per QALY
Basu, 2013 (104)	All interventions modelled for SNAP (1) Ban on using SNAP dollars on SSB purchases (2) US\$ 0.01 tax per ounce of SSB purchased using SNAP dollars (3) Subsidy of US\$ 0.30 for every US\$ 1.00 of fruits and vegetables purchased using SNAP purchase cards (4) Rewards of US\$ 0.30 for each US\$ 1.00 of fruits and vegetables purchased using SNAP purchase cards	10-year period, SNAP participants (aged 25–65 years)	(1) US\$ 0 (10-year period) (2) US\$ 13.0 billion, reported as gains in revenue (10-year period) (3) US\$ 5.6 billion (10-year period) (4) US\$ 4.2 billion (10-year period)	(1) 99 000 QALYs saved (2) 26 000 QALYs saved (3) 7700 QALYs saved (4) Not significantly different from zero	(1) Savings of US\$ 285 million (2) Savings of US\$ 94 million (3) Savings of US\$ 24 million (4) Not significantly different from zero	NA	(1) US\$ 2900 per QALY (2) US\$ 513 300 per QALY (3) US\$ 876 500 per QALY (4) NA

An, 2015 (103)	Subsidy of US\$ 0.30 for every US\$ 1.00 of fruits and vegetables purchased using SNAP purchase cards	Lifetime, all SNAP participants	US\$ 89.8 million (one-time implementation cost), equivalent to about US\$ 5.00 per SNAP household Ongoing costs of US\$ 3.65 per SNAP household per month after the first year Estimated as lifetime costs of US\$ 1323 per capita	0.082 QALYs gained per SNAP user	Not reported	NA	Cost-effective. ICER of US\$ 16 172 per QALY
Lee, 2019 (105)	Both interventions modelled for Medicare and Medicaid (1) 30% subsidy on fruits and vegetables (2) 30% subsidy on broader healthy foods, including fruits and vegetables, whole grains, nuts/seeds, seafood and plant oils	Lifetime, 82 million US adults within Medicare and Medicaid (aged 35–80 years)	Not reported	(1) 4.6 million QALYs gained (2) 8.4 million QALYs gained	(1) Savings of US\$ 39.7 billion (2) Savings of US\$ 100.2 billion	NA	Both cost-effective at 5 years and beyond Incorporating policy costs and formal healthcare costs: (1) ICER of US\$ 18 184 per QALY (2) ICER of US\$ 13 194 per QALY Further incorporating informal healthcare and productivity costs: (1) ICER of US\$ 14 576 per QALY (2) ICER of US\$ 9497 per QALY

BMI: body mass index; DALY: disability-adjusted life year; DMFT: decayed, missing or filled teeth; HALY: health-adjusted life year; ICER: incremental cost-effectiveness ratio; NA: not applicable; PPP: purchasing power parity; QALY: quality-adjusted life year; SNAP: Supplemental Nutrition Assistance Program; SSB: sugar-sweetened beverage; US: United States.

<sup>a</sup> The modelled interventions differ on a variety of parameters and are not directly comparable. The studies vary in the interventions modelled; the definition of target products (e.g. SSBs); the theoretical, economic and statistical methods used; the assumptions made; the sensitivity analyses conducted; and the outcome measures estimated and presented. See the specific studies for further details on the modelled interventions

An updated impact assessment, published in 2020, estimated the costs and benefits of five policy options (109). Option 0 was to take no action. Option 1 was to end all volume offers for “HFSS products included in a narrow list of Discretionary Food and Drink product categories” in the retail sector, excluding small and micro businesses. Option 2 was to end all volume offers for “HFSS products which contribute significant sugar and calories to children’s diets and are of most concern for childhood obesity” in the retail sector, excluding small and micro businesses. Option 3 was to end all volume offers for “HFSS products which contribute significant sugar and calories to children’s diets and are of most concern for childhood obesity” in the retail sector, excluding micro businesses only. Option 4 was to end all volume offers for “HFSS products included in [the] original list of categories consulted on in all retailers who sell food and drink” in the retail sector, excluding small and micro businesses. Options 1, 2, 3 and 4 were all estimated to have net benefits, of £2,488 million, £2,916 million, £2,881 million and £3,364 million, respectively.

In the United States, a 2009 report of the United States Department of Agriculture modelled the effect and cost of a 10% subsidy on fruit and vegetables for low-income households (110). Fruit consumption by low-income households was estimated to increase by 2.1–5.2%, while vegetable consumption was estimated to increase by 2.1–4.9%. The annual cost of the hypothetical subsidy was estimated at around US\$ 310 million for fruits and US\$ 270 million for vegetables.

### Use of tax revenue

Taxes on SSBs or unhealthy foods can increase government revenue. How the revenue of such a tax would be used has been identified as a major driver of public opinion about the tax (see “Acceptability of the intervention to the public and consumers”). Examples of revenue use are provided below. The amount of revenue generated through taxation of foods or beverages was not part of the review, and none of the studies below reported on the amount. Some government reports did include some information on the amount of revenue generated (see Box 1), but this information is not exhaustive.

In the United States, existing state SSB taxes have been dedicated to a medical trust fund (Arkansas), state-funded medical schools (West Virginia), litter control and recycling (Virginia), universal pre-kindergarten and community development (Philadelphia), healthy food incentives (Seattle, Washington), health programmes promoting nutrition and physical activity (Boulder, Colorado), and nutrition programmes for school children (Berkeley, California) (111–113). Some jurisdictions have placed the revenue from SSB taxes in general funds (Albany, New York; and San Francisco, California) (112). In Fiji, Samoa and Nauru, SSB taxes have contributed to the general government budget (114). In French Polynesia, all revenue was earmarked for a preventive health fund (114). In South Africa, the National Treasury committed use of some of the revenue from an SSB tax to supporting the health sector (115). A study on regulatory measures in Barbados reported that the SSB tax revenue was “deposited directly into the Consolidated Fund, with no earmarking of funds for health-related programs” (116), although an earlier statement from the Minister of Finance indicated that SSB tax revenue could contribute to financing health care in the country (117). In Mexico, SSB tax revenue was not specifically earmarked when the tax was implemented<sup>1</sup> (118), but the senate later passed a resolution to use part of the revenue to provide potable drinking-water to public schools, particularly in low-income areas (119). In the United Kingdom, revenue from the SSB tax was to be used for school breakfast clubs and school sports, according to the 2016 national budget (120). The revenue generated from the Hungarian public health product tax has been earmarked for the healthcare budget and was used to increase the salaries of healthcare professionals in 2012 and 2013 (121). In the Philippines, half of the revenue from the SSB tax was earmarked for implementation of

<sup>1</sup> A report by the Pan American Health Organization and WHO on the development and implementation of Mexico’s SSB tax described how it was a challenge to legally earmark the revenue collected through the tax, as Mexican fiscal policy usually does not provide for earmarking of collected resources.

### BOX 1. REVENUE GENERATED BY TAXES ON SSBs AND UNHEALTHY FOODS

In South Africa, revenue from the Health Promotion Levy (a tax on SSBs) was reported to be R2446 million from domestic taxes and R67 million from taxes on imports in 2019–2020, and R3195 million and R53 million, correspondingly, in 2018–2019 (124).

In Ireland, the total yield from the Sugar Sweetened Drinks Tax was reported to be €16.3 million in 2018 (125). This was reportedly less than was originally forecast; the difference was believed to be due to reformulation of products and slightly delayed commencement of the tax.

In the United Kingdom, the total Soft Drinks Industry Levy receipts for the financial year 2019–2020 were reported to be £336 million (126). The corresponding figure for 2018–2019 was reported to be £240 million, but reflected only three quarters of a year because the levy was introduced in April 2018, and the January–March 2019 liabilities were not due until April 2019.

In the Philippines, ₱35.50 billion in excise tax was raised from SSBs in 2018 (127).

In Bermuda, the Sugar Tax had raised an additional BD\$ 4.7 million in revenue in the 2019–2020 fiscal year up to 31 December 2019 (128).

the Universal Health Care Act and the Health Facilities Enhancement Program (122). A portion of revenue from the sugar tax in Bermuda was earmarked for health initiatives (123).

#### Impact on productivity

Two studies from Australia modelled the productivity gains associated with implementation of taxes: a 20% tax on SSBs (77) and a 10% tax on unhealthy foods (91). For the SSB tax, the authors examined the impact on total lifetime productivity, and found that the modelled scenario would result in productivity gains in both the paid and unpaid sectors of the economy (77). Through a reduction in premature deaths and an increase in labour force participation, the productivity gains associated with the tax on unhealthy foods were found to be “substantial”, accounting for almost twice the value of the estimated savings to the healthcare system (91).

The impact of fiscal policies on jobs or employment is summarized under “Impact on (health) (in) equity and (health) (in)equality”.

# Factor 3: Equity and human rights

This section presents a narrative synthesis of literature identified as part of separate searches conducted for two criteria: universal human rights standards, and impact on (health) (in)equity and (health) (in)equality (including social and socioeconomic impact). The first of these criteria includes, to the extent possible based on the identified literature, both an assessment of whether fiscal and pricing policies to promote healthy diets are in accordance with human rights standards (using human rights documents such as conventions, declarations and general comments), and a synthesis of studies examining fiscal and pricing policies to promote healthy diets from a human rights perspective.

Equity in this review is defined as a situation in which there are no unfair or avoidable differences in health among population groups irrespective of gender, age, race, ethnicity, disability, income, migratory status, geographic location and other characteristics. Equality in this review is defined as the absence of differences, variations and disparities in living conditions of individuals and groups.

## Universal human rights standards

Human rights define the entitlements of all human beings and the corresponding obligations of governments as the primary duty bearers. Human rights have been negotiated by governments and agreed upon in human rights treaties, such as conventions and covenants, which are legally binding to states that are parties to them (20, 129). This section describes whether fiscal policies to promote healthy diets<sup>1</sup> are in accordance with human rights standards and may affect human rights.

### Accordance with international and regional human rights standards

The right to health comprises both freedoms and entitlements. Freedoms include the right to control one's health. Entitlements include the right to a system of health protection and promotion that gives everyone an equal opportunity to enjoy the highest attainable level of health (20). The right to health is well established in international treaties such as the Universal Declaration of Human Rights; the International Covenant on Economic, Social and Cultural Rights (ICESCR); the Convention on the Rights of the Child; and major regional human rights agreements (129–134). On a national level, many countries have recognized the right to health in their constitutions (135, 136).

The right to food is also recognized in several instruments under international law. In particular, the ICESCR and pursuant General Comments on the articles of the ICESCR provide a legal framework for a rights-based approach to optimal nutrition and health (131, 137, 138).

Both the Special Rapporteur on the right to food (2008–2014) and the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health (“the right to health”; 2008–2014) have recommended the implementation of fiscal policies to realize the right to health and the right to food (139–141). In 2014, the Special Rapporteur on the right to health, in his report to the Human Rights Council, called for governments to implement taxes on unhealthy foods and to reduce the price of nutritious foods (140). With a view to respect, protect and fulfil the right to health, the Special Rapporteur recommended that governments “increase availability and accessibility of healthier food alternatives through fiscal ... policies that discourage

<sup>1</sup> No studies were found on pricing policies.



production of unhealthy foods”, “make nutritious and healthy foods available and geographically and economically accessible, especially to low-income groups” and “encourage transnational corporations, through incentives and other fiscal measures, to manufacture and sell healthier alternatives of foods and beverages that are not harmful to the people’s health” (140). The Special Rapporteur also emphasized the responsibility of the food and beverage industry with regard to the realization of the right to health, and to complying with national laws and agendas, stating that “where States have enacted legislation as part of national health policies to discourage consumption of unhealthy foods and promote healthier options, the food industry has the responsibility to comply with such laws and desist from undertaking activities that would undermine these policies” (140). In 2011, in a report to the Human Rights Council, the Special Rapporteur on the right to food had emphasized the need for a life-course approach to reshaping food systems: “combating the different faces of malnutrition requires adopting a life-course approach guaranteeing the right to adequate diets for all, and reforming agricultural and food policies, including taxation, in order to reshape food systems for the promotion of sustainable diets” (141). In accordance with governments’ obligation to respect, protect and fulfil the right to adequate food for all, the Special Rapporteur on the right to food called on governments in both 2011 and 2014 to “impose taxes on soft drinks (sodas), and on HFSS foods [foods high in saturated fats, trans-fatty acids, sodium and/or sugars], in order to subsidize access to fruits and vegetables and educational campaigns on healthy diets” (139, 141).

### **Studies on fiscal and pricing policies with a human rights element**

Fiscal policies are a viable policy option to promote healthy diets, and their implementation contributes to fulfilling the right to health and to adequate food for all. No studies were found that assessed the implementation of fiscal policies from a human rights perspective. Public opinion surveys were identified that explored perceptions of SSB taxes, and some reported respondents perceiving taxes as being “inappropriately intrusive”. These issues are discussed under Factor 4 (acceptability).

### **Impact on (health) (in)equity and (health) (in)equality**

Substantial inequities exist in nutrition status and diet-related health status, with lower income populations bearing a disproportionate burden of disease. This social gradient of health (including diet-related NCDs) means that individuals of lower SES have worse health (and shorter lives) than individuals of higher SES. For diet-related NCDs, individuals of lower SES are at higher risk for excess weight gain, obesity and development of NCDs.

In general, as with most public health interventions, fiscal and pricing policies to promote healthy diets have the potential to instigate, increase or reduce inequities and inequalities. In recent years, an increasing number of studies have sought to provide evidence on the impact of policies on consumption or purchase patterns and subsequent health outcomes across different population subgroups; these include studies evaluating implemented fiscal and pricing policies, and studies modelling various policies, with the majority of studies focusing on taxation of SSBs. Although not all studies explicitly make the link between population health outcomes and inequities or inequalities, interventions with the potential to balance the social gradient of diet-related NCDs are relevant to reducing health inequities and inequalities. Tackling the social gradient of diet-related NCDs has been identified as a rationale for governments to view obesity prevention interventions as part of protecting the health of vulnerable groups and preventing the widening of health gaps between population groups (88). For example, in Mexico, a tax was implemented to reduce national consumption of SSBs, but also with an explicit purpose “to reduce consumption ... even further in the poorest quintile of the population” (118). In Barbados, the need to protect vulnerable populations, including the poor, was a consideration in the development and implementation of the SSB tax (117).

The health impacts of fiscal and pricing policies are partly determined by the degree to which consumers respond to price changes; consequently, different responses by people in different socioeconomic groups may have effects on the distribution of health gains (142). For example, changes in food prices have the largest effect on consumption in low-income countries (where expenditure on food takes up a much larger proportion of income) and among lower-income households (143, 144). Taxes on SSBs and unhealthy foods are generally agreed to be financially regressive, which has been used as an argument against them (113, 142, 145–149). This is considered an acceptability issue rather than an issue of equity or equality, and is thus discussed under Factor 4 (acceptability).

### Reviews and government reports explicitly mentioning equity or equality

An OECD review of obesity prevention policies found that fiscal measures were “the only intervention producing consistently larger health gains in the less well-off” across the countries studied (88). Similarly, a systematic review of the impact on socioeconomic inequalities of different interventions to promote healthy eating found that taxes on unhealthy foods and subsidies for healthier foods were the most likely to decrease health inequalities (150). The review found that structural and universally delivered upstream interventions creating a healthier environment reduced inequalities by circumventing the voluntary behaviour change element (150). However, a systematic review published in the same year (2015) concluded that “the need to consider and take into account the socio-economic inequalities in nutrition because of changes in prices from food tax and/or subsidies ... remains”, and emphasized the need to “rigorously evaluate” such policies (151).

A review of food and beverage price promotions as an “untapped policy target” noted that the impact of such promotions by SES is unclear (152).

In the United Kingdom, an inequality assessment included in a draft impact assessment, published in 2018, of policy options to restrict volume promotions for “high fat, sugar, and salt (HFSS) products” considered data on the uptake of pricing promotions by SES (108). The evidence was mixed, and the report noted that it was “not possible to assess the overall likely impact on inequalities at this stage”. The issue brief for a 2018 consultation on a sugar tax in Bermuda, on the other hand, noted that it was not anticipated that the tax would have a negative impact on those with limited income, citing evidence from other jurisdictions that increased prices led to decreased consumption, and noting that people of low income are disproportionately affected by poor health (123).

Other government reports have addressed the impact on equity of policies that have already been implemented. Data from the United Kingdom, for example, showed that the volume of soft drinks subject to the Soft Drinks Industry Levy purchased per household increased across all SES groups between 2015 and 2019; the total sugar purchased per household from soft drinks subject to the levy, however, decreased across all SES groups over the same period (153).

In the United States, a 2019 report published by the United States Department of Agriculture found that households with a participant in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) acquired more whole grains in bread per household member over the age of 1 year than WIC-eligible households that did not participate in WIC (154). A 2020 report indicated similar average total scores on the 2015 Healthy Eating Index among a sample of 4-year-old WIC participants and a nationally representative sample of children aged 2–5 years (155). Another report, however, found that, although all WIC packages included a fixed-value voucher for purchasing fruits and vegetables, regional variation in the price of fruits and vegetables meant that “WIC participants in more expensive areas might be able to purchase fewer fruits and vegetables than those living where these items are cheaper” (156).

### Primary studies: implemented policies and consumption or sales/purchases across population subgroups

Several studies from Mexico have consistently shown that the decrease in purchase of taxed SSBs (119, 157, 158) and taxed non-essential energy-dense foods (159) was largest among consumers of lower SES or households that showed greater preferences for taxed foods before the intervention (160). Another recent study from Mexico examined changes in household purchases of taxed non-essential energy-dense foods and found a “remarkable heterogeneity”, with the largest relative reductions in urban areas, households with children, and households where the household head had an intermediate education level (junior high school) (161). The authors also found greater consumption of taxed food in households with higher per capita income (161). The authors highlighted their finding of an inverse (although not statistically significant) association between household income and relative reduction in consumption of taxed foods in urban areas (161). Also in Mexico, a longitudinal cohort study examined changes in probability of belonging to four different categories of SSB consumption after implementation of the SSB tax (162). The authors found that the probability of being a nonconsumer or low consumer of SSBs was greater for participants with higher education levels (both secondary school and high school, and college and higher levels of education) than for participants with education to elementary school level or less (162).

A United States study found some differences in food consumption between infants and young children participating in WIC, lower-income nonparticipants (who were likely WIC eligible) and higher-income nonparticipants (who were likely WIC ineligible), although the authors cautioned against “potential confounding factors”, including self-selection into WIC (163). Among the differences were that 6–11.9-month-old infants participating in WIC were more likely to have consumed a vegetable on the day of recall than lower-income nonparticipants. Among 12–23.9-month-old young children, however, WIC participants were less likely to have consumed fruit than lower-income nonparticipants and higher-income nonparticipants.

The systematic review identified other studies and included these in a subgroup analysis for SES (164).

### Primary studies: modelling consumption or purchases across population subgroups

Using global dietary data, gross domestic product data and price data, a recent study simulated how a 20% tax on SSBs would affect global SSB consumption (165). The results indicated that SSB intake would become less responsive to price change with increasing income, and thus that potential reductions in SSB intake from the modelled 20% tax were largest for countries in the lowest income decile (165). A study from Chile modelled changes in purchases and consumer welfare<sup>1</sup> by quintiles of household income distribution for three different fiscal policy scenarios: a 5 percentage point additional tax on SSBs (currently taxed at 18%) and a new 18% tax on sweets and snacks; removal of existing value-added tax (VAT; 19%) on fruits and vegetables; and a combined policy (additional tax on SSBs, new tax on sweets and snacks, and removal of VAT on fruits and vegetables) (166). For the combined policy, the authors found that low-income households were less price responsive (except for sweets and snacks) than high-income households; also, low-income households would experience the largest relative welfare loss from the tax and the largest relative gain from VAT removal (166). Overall, the combined policy would create welfare transfers from high-income households to low-income households. Households in the top 40% of the income distribution would experience

<sup>1</sup> Consumer welfare refers to individual, household and population benefits derived from consumption of goods and services. The study estimated the compensating variation for each household as a measure of change in household welfare due to a change in market prices as a result of a fiscal policy. Thus, compensating variation in the study measures how much money a household needs to receive or give away to be as well-off after an increase or decrease in a price as they were before the price change.

a welfare loss from the combined policy, whereas households in the lowest 40% of the distribution would experience a welfare gain from the combined policy (166).

### Reviews and primary studies: modelling health benefits across population subgroups

A systematic review on the impact of an SSB tax by SES in HICs found that the tax delivered similar population weight benefits<sup>1</sup> across SES or, in some cases, greater benefits for groups of lower SES (167). This finding is consistent with two other reviews that also concluded that the relative health benefits conferred following a tax on SSBs were greater for consumers of lower income than for consumers of higher income (168, 169). Similarly, another review found that health effects of taxes and subsidies were greater for the young, the poor, and those most at risk of being overweight (170).

A recent modelling study from the United Kingdom found that a 20% price increase in “high sugar snacks” could make an important contribution to reducing health inequalities driven by diet-related NCDs, given the potential for the greatest reduction in sugar consumption in households classified as obese and with low income (171). Another United Kingdom modelling study conducted before the implementation of the national SSB tax concluded that the “most deprived socioeconomic group” was likely to experience the greatest benefits of the tax (84). A Colombian study also predicted that a national SSB tax would reduce overweight and obesity prevalence most in lower SES households (172). An Australian study modelling health benefits of an SSB tax also found the greatest health gains among groups of lowest SES (75). Similarly, a recent study from Canada that modelled the health impacts of a 20% tax on SSBs across income groups found the greatest reduction in consumption of SSBs and mean BMI among the lowest income quintiles (78). The authors concluded that low-income Canadians would gain the most health benefit from the proposed tax, which would create “a distribution of health that [would be] more equitable than in the absence of the tax” (78). Also modelling a 20% tax on SSBs, a German study examined its projected effect on oral health, and found that the highest reduction in dental caries would be among low-income individuals (76). Modelled health effects of SSB taxes across population groups have been found to vary by tax design (74, 173) and tax rate (78).

Some studies have modelled the health effects of multiple fiscal policies or a combination of fiscal policies. For example, a United States study modelled various scenarios for subsidies on healthy foods (fruits, vegetables, whole grains and nuts/seeds) and taxes on less healthy foods (processed meat, unprocessed red meats and SSBs), and concluded that all scenarios would reduce disparities in mortality from diabetes, coronary heart disease and stroke (174). However, a similar study from the United States that modelled different fiscal policies found that the individual policies alone would not significantly reduce health disparities, but that this could be achieved through a combined fiscal policy approach (175). A New Zealand study modelled the effects of five different tax and subsidy scenarios on deaths prevented or postponed from diet-related diseases (176). The authors found that all five scenarios would produce similar or greater effects for Maori<sup>2</sup> and low-income households in relative terms (compared with non-Maori and higher-income households) and likely greater effects for Maori households in absolute terms (176). A more recent study reached a similar conclusion: modelling various tax and subsidy scenarios, the authors found that all policies would generate as much or more age-standardized HALYs per capita for Maori than for non-Maori people (100).

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<sup>1</sup> The impact of an SSB tax on population weight results from a balance between own-price elasticity, product substitution, and the distribution of SSB consumption and weight within a population.

<sup>2</sup> Indigenous Polynesian people of mainland New Zealand, and an ethnic minority.

## Studies with results indicating no effect on, or an increase in, inequalities from fiscal and pricing policies

Other studies have found evidence suggesting that fiscal and pricing policies would have no effect on health inequalities or might even increase health inequalities (177, 178). For example, by analysing food purchases in response to price promotions in the United Kingdom, the authors of one study concluded that attempts to limit promotions on less healthy foods could improve the population diet but would be unlikely to reduce health inequalities arising from poorer diets in groups of lower SES (177). A French study using experimental economics recruited participants to select a “daily food basket”, first at current prices and then at manipulated prices, where fruit and vegetables in the basket were subsidized and unhealthy foods were taxed. Based on the food basket experiment, the authors found that low-income women would derive fewer financial and nutritional benefits from the combination of the subsidy and tax than medium-income women<sup>1</sup> (178). The authors concluded that the combined subsidy and tax “may improve diet quality while increasing socio-economic inequalities in nutrition” (178).

### Impact on employment

Three studies were identified that examined changes in employment associated with implementation of fiscal policies to promote healthy diets (179–181). All three found no negative impacts on employment (179–181). A study from Mexico assessed changes in employment in the manufacturing industry and the commercial sector, and national unemployment rates that could be associated with the fiscal policies implemented in 2014 (a tax on SSBs and non-essential energy-dense food) (179). No significant changes in employment in the manufacturing industry were identified. A very small trend of increasing employment in commercial stores and a similarly small trend of a decrease in the overall unemployment rate were identified. However, the authors concluded that these changes were negligible and unlikely to be caused by implementation of the taxes. Thus, no employment reductions were associated with the fiscal policies implemented in Mexico in 2014 (179). A study using a macroeconomic simulation model to assess the employment impact of a 20% tax on SSBs in two states in the United States (Illinois and California) concluded that such a tax would have a small positive impact on state-level employment (180). The study accounted for changes in SSB demand, substitution to non-SSBs, income effects, and government expenditure of tax revenues. Declines in employment within the SSB industry were offset by new employment created in the non-SSB industry and in government; the model estimated a net gain in employment of 4406 jobs in Illinois and 6654 jobs in California, representing a respective 0.06% and 0.03% change in employment (180). Another recent United States study examined changes in unemployment in Philadelphia following implementation of a county-level SSB tax of US\$ 0.15 per ounce (181). Using interrupted time-series analysis, the authors compared unemployment benefit claims filings in a Philadelphia county 2 years before and 14 months after implementation of the tax with 10 surrounding counties in Pennsylvania. Compared with the other counties, the study found no statistically significant changes in unemployment following implementation of the SSB tax (181).

Reports identified via the search for government reports also provide information about the impact on employment of fiscal policies to promote healthy diets. National Treasury modelling from South Africa, for example, estimated potential employment losses of around 5000–7000 associated with a 2.1c/gram tax on SSBs; however, in the scenario in which reformulation occurred and the sugar content of all taxable products was reduced by 37%, potential employment losses were estimated

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<sup>1</sup> The dietary quality differences observed at baseline between the two income groups (low-income women purchased less fruit, vegetables and other healthy products, and more unhealthy products, than medium-income women) were still present or increased under both conditions, and the implemented price manipulations were found to be regressive.

to be as low as 1475 (182). The document also noted that National Treasury estimates of the net negative economic impact of the proposed tax were significantly lower than in studies commissioned by industry. Conversely, a 2018 economic commentary from the Department of Agriculture, Forestry and Fisheries stated that the tax would have “huge implications” on South Africa’s economy (183). The commentary cited a study from the Bureau for Food and Agricultural Policy (commissioned by the South African Sugar Association) that estimated that 3129 jobs in the sugar industry would be lost due to an assumed 200 000 ton reduction in demand for sugar as a result of the SSB tax.

In Ireland, a 2016 submission by the Irish Heart Foundation to the Department of Finance on an SSB tax argued that a tax on SSBs and a subsidy on fruit and vegetables would be likely to have a neutral impact at worst, and potentially a positive impact, on employment due to the higher labour intensity of the fruit and vegetable sector than the SSB sector (184).

# Factor 4: Acceptability

This section presents a narrative synthesis of the literature identified to assess the acceptability of fiscal and pricing policies to promote healthy diets. Separate searches were conducted for the following criteria: acceptability to stakeholders (divided into government and policy-makers, the public and consumers, and industry), sociocultural acceptability and environmental acceptability. For the purpose of this review, “acceptability” was interpreted as support for a fiscal or pricing policy, expression of a need for a policy or for strengthening existing measures, or preference for such a policy compared with other measures. Literature was also identified that analysed media coverage, and the framing and frequency of arguments in favour of or against fiscal policies, particularly on SSB taxes (185, 186). How the media covers such policies may influence the public’s awareness of arguments for and against these policies, and contribute to public attitudes (185, 186).

## Acceptability to stakeholders

In general, and considering the increasing number of countries implementing fiscal policies (18, 187), especially SSB taxes (18, 187–190), such measures appear to be acceptable to government stakeholders. However, acceptability varies greatly within and across stakeholder groups. The degree of acceptability depends on the overall aim of the policy and the policy design, including what foods and non-alcoholic beverages are taxed or subsidized, and at what rates.

Studies have identified how levels of acceptability of fiscal policies to governments and policy-makers, the public and consumers, and industry may change over time (82, 148, 191, 192).

For taxes on SSBs and unhealthy foods, “financial regressivity” means that lower-income households pay a greater proportion of their income in tax than higher-income households; it is commonly used as an argument against such taxes (113, 145–149, 193). However, the WHO Regional Office for Europe reported in 2015 that there was “no strong evidence to suggest that corrective taxes that generate revenue for a government cannot also have a positive and progressive public health outcome at the same time ... revenue generation alongside positive health outcomes could actually further increase societal benefits” (190). Further, both obesity prevalence and consumption of unhealthy foods and SSBs are generally higher among groups with lower SES (78, 169, 194). Studies from multiple countries and regions – examining both implemented policies and simulation models – have concluded that taxes on SSBs and unhealthy foods have a stronger deterrent effect in groups of lower SES, and are therefore equitable because of their progressive health benefits (75, 80, 88, 112, 142, 150, 167–170, 190, 191). Combining taxes and subsidies may further attenuate concerns about regressivity and inequity (190, 195).

An Irish health impact assessment of a proposed SSB tax noted that SSBs are not an essential food product, because a free alternative (water) is available, and concluded that, although a tax would place a greater burden on low-income households (where SSB consumption is common), any health benefits would also be greater among these households (196). A consultation brief on a sugar tax in Bermuda likewise noted that SSBs and “sugar items” are “luxury items that provide no nutritional value and therefore are not needed” and that the health effects from these items are disproportionately felt by vulnerable populations (123). A government paper from the Philippines on the feasibility of imposing a “junk food” tax noted that investing the revenue from such a tax in subsidies of healthy foods and educational programmes could “help offset the costs that are borne by low-income consumers” (197).



## Acceptability of the intervention to government and policy-makers

In recent years, an increasing number of countries have implemented fiscal policies to promote healthy diets (18, 187). More than half of the countries with fiscal policies have increased taxes on unhealthy foods and beverages, and almost a quarter have introduced subsidies on healthier foods and beverages (18). Imposing taxes on SSBs especially is a policy action taken by governments (18, 187–190); 74 countries<sup>1</sup> to date have such taxes in place at a national level, and three countries at a subnational or municipal level. However, few countries have implemented policies to subsidize healthier foods and beverages,<sup>2</sup> or remove taxes<sup>3</sup> or subsidies<sup>4</sup> as a means of encouraging healthier dietary patterns (18).

The results of the targeted search for government reports similarly provide some indication of acceptability of fiscal policies to governments and policy-makers. These include policy papers, strategies, action plans, budget speeches and other reports from South Africa (106), Canada (198), Ireland (199), the United Kingdom (200–203) and Sri Lanka (204) that recommend implementation of, or consideration of, fiscal policies to promote healthy diets, as well as bills seeking to introduce, and legislation introducing, such policies (205–212).

No evidence was found of countries that have implemented pricing policies, although some countries have proposed legislation, indicating some degree of acceptability (152).

The existence of fiscal policies shows that they are an acceptable policy option for governments. However, fiscal policies remain a topic of political debate and diverging views. A recent systematic review and meta-analysis that attempted to synthesize political acceptability of SSB taxes noted several elements that shape acceptability, including beliefs about effectiveness and cost-effectiveness, beliefs about appropriateness, and beliefs about economic and socioeconomic benefits (213). The findings of the systematic review and meta-analysis support the findings of this review and highlight the interlinkages with other contextual factors (e.g. values, resource implications, feasibility). Evidence found in this review also shows that acceptability of fiscal and pricing policies to the government and policy-makers appears to be closely linked to factors affecting the feasibility of such policies (see “Elements that hinder or support development and implementation”).

A study on “fatty meat taxes” in Tonga found that policy-makers directly involved in development and implementation of the taxes were positive about the initiative (214). Pricing reforms to decrease fruit and vegetable prices and increase prices of unhealthy foods were one of four main approaches suggested by senior representatives from state and territory governments, statutory authorities and nongovernmental organizations (NGOs) in Australia to promote healthier food environments (215).

A few studies have identified elements associated with changes in acceptability of fiscal policies to the government and policy-makers. For example, an Estonian case study reported that, up to 2016, the government was not ready to advance on an SSB tax, but that a change in government<sup>5</sup> later that year allowed for the topic to be addressed again; the tax was approved by parliament in 2017 and introduced in 2018 (216). In the United Kingdom, the Conservative Party initially opposed an SSB tax, but later shifted to a position supporting the tax (and thus closely aligned with Public Health

<sup>1</sup> This number was collated by WHO from the WHO Country Capacity Survey 2017, the WHO Global Nutrition Policy Review 2016–2017, the WHO Global database on the Implementation of Nutrition Action (GINA) and the Global Health Observatory. One area (non-WHO Member State) has also adopted such taxes.

<sup>2</sup> Subsidies on healthier foods and beverages were reported by nine countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>3</sup> Removing taxes from healthier foods and beverages was reported by six countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>4</sup> Removing subsidies on unhealthy foods and beverages was reported by four countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>5</sup> Estonia's government collapsed on 9 November 2016 after the Prime Minister lost a confidence vote in the parliament. A new government coalition was formed and sworn in on 23 November 2016.



England and Food Standards Scotland, which also supported the tax proposal) (217). The change in support for the tax was attributed to publication of “persuasive evidence of health harms” and intense campaigning by civil society (217). A study on the introduction and subsequent abolition of the Danish tax on saturated fats found that acceptability to government changed within a year after the tax was introduced. A majority of the parliament had voted for implementation of the tax, but the tax was later repealed by a majority of the same parliament (148). Industry pressure and strong lobby organizations were found to have played a major role in changing the government’s views (see also “Acceptability of the intervention to industry”) (148). Similarly, key stakeholders<sup>1</sup> interviewed in a qualitative study from New Zealand agreed that an SSB tax would not be acceptable to the current government,<sup>2</sup> citing “powerful opposition” from the food industry as a reason (218). A study on SSB taxes in the Pacific region found that the benefit of the tax to the administering agency influenced the acceptability of the tax (114). SSB taxes in Fiji, Samoa and Nauru all contributed to the general government budget (thus benefiting the administering agency). In contrast, all revenue collected from the tax in French Polynesia was initially earmarked for a prevention fund, but the majority of the tax revenue was later diverted to the general fund, following a change in government (114).

Despite the general acceptability of fiscal policies to governments, those proceeding with taxes on unhealthier foods face considerable opposition from both within and outside government during development and implementation of taxes. For example, the searches for government reports identified two bills in the Philippines seeking to repeal the SSB tax (and a range of other taxes) (219, 220). In Israel, one of the arguments put forward (by legislators) against an SSB tax was that such an action would be “a paternalistic move that would impede the freedom of the individual” (145). In Mexico, Congress, Cabinet and other regulatory entities faced “intense lobbying” by the SSB industry during development of its SSB tax. As well, there were industry strategies to sway public opinion and create uncertainty about the impact of the tax (e.g. on layoffs and lost revenue), threats by foreign entrepreneurs that they would divest from the country, and offers of funding from industry for physical activity and other programmes (118). For further evidence on industry interference and opposition, see “Acceptability of the intervention to industry” and “Elements that hinder or support development and implementation”.

Very limited evidence was identified on the acceptability of subsidies to governments and policy-makers. One reason for this was the lack of differentiation between different stakeholders or between fiscal policies in otherwise relevant studies (221).

### Acceptability of the intervention to the public and consumers

Most of the studies identified in the search on acceptability of fiscal and pricing policies to the public and consumers were conducted in HICs and examined acceptability of a tax on SSBs or unhealthy foods. For example, a recent systematic review and meta-analysis of political and public acceptability of SSB taxes found that 39–66% of the public in the included studies supported an SSB tax (213). The included studies were very heterogeneous, and the pooled variation in acceptance was linked to tax framing and hypothecation (213); these factors are discussed in more detail below. Support for taxes on unhealthy foods appears to lie within a similar range in other identified studies (37, 65, 70, 72, 222–225). Poll results cited in an Irish Heart Foundation submission to a public consultation on a proposed SSB tax showed that almost 6 out of 10 respondents supported the introduction of an SSB tax (184). Similarly, in the United Kingdom, 61% of respondents to an online survey in the Isle of Wight supported a voluntary 10 p levy on SSBs; some respondents, however, felt that a levy was “unfair on those who are sensible and treat themselves” (226). In interviews conducted in the same

<sup>1</sup> Key stakeholders included politicians, bureaucrats, public health experts, food industry leaders and consumer representatives.

<sup>2</sup> The interviews were conducted from November 2014 to May 2015.

region, most interviewees supported the introduction of an SSB tax by the national government, with some believing the tax should be extended to other foods and beverages. Some interviewees, however, did not believe it would change behaviour. Also in the United Kingdom, the authors of a thematic analysis of reader comments in response to online news coverage of a proposal for an SSB tax found that a key overarching theme was the autonomy of the individual, specifically to make their own “dietary choices” and, more generally, “not to be overly intruded on by government and other authorities” (147). An SSB tax was considered unfair because it impinged on what was felt to be “individuals’ right to choose” to drink SSBs (147). In Bermuda, there were similar proportions of support for (44.1%) and opposition to (43.4%) a sugar tax among respondents to a consultation on a sugar tax who identified as individuals (227). In the United States, a national public opinion survey (assessing agreement with pro-tax and anti-tax arguments) in 2011 found that just over half of participants agreed with the anti-tax argument that an SSB tax was an “unacceptable intrusion of government into people’s lives” (228).

Less evidence was available on the acceptability of, or support for, subsidies. The studies identified, however, showed high acceptability to the public and consumers of subsidies on healthy foods (65, 223, 229, 230). For example, subsidies on fruits and vegetables to promote healthy eating were acceptable among a group of socioeconomically and ethnically diverse participants in a qualitative study in New Zealand (230). Two studies examined opinions and general support for SNAP (82, 231). The vast majority of respondents in a survey (both SNAP participants and nonparticipants) supported financial incentives for fruits, vegetables or other healthy foods to improve the nutritional impact of SNAP, and policies to expand SNAP eligibility (231). In the United Kingdom, data on the uptake of the Healthy Start scheme provide some indication about its acceptability to consumers, although uptake is likely to be influenced by factors other than acceptability, such as awareness of the scheme. The Healthy Start scheme provides low-income pregnant women, and families with children under the age of 4 years with vouchers to purchase healthy foods (e.g. fruit and vegetables). In reports found via the targeted search for government reports, uptake among those eligible for the Healthy Start scheme varied from 66% nationally in 2018 to 71% in Southwark in 2018 (232), 73% in Halton (described as a “high level of uptake”) (233), 52% in Lewisham (234), 61% in Tameside (235), 55% in Redbridge (236) and 44% in Lambeth (237). In Barnet, uptake of the scheme was described as “low” (238). Research in 2005 on the introduction of the Healthy Start scheme in Devon and Cornwall found that beneficiaries felt that voucher exchange at retailers generally worked well (239). However, a 2020 explanatory memorandum to the Healthy Start scheme regulations, which made amendments to provide for the digitization of the scheme, noted that beneficiaries reported stigma associated with spending paper vouchers (240). A 2019 policy note on Best Start Foods regulations (a scheme to replace the Healthy Start scheme in Scotland) similarly noted stigma associated with spending paper vouchers and noted that respondents to a consultation welcomed a move from paper vouchers to a payment card (241).

Only three studies were identified with findings relevant to the acceptability of pricing policies to the public and consumers (242–244). In one of these, three different pricing interventions in community retail settings in Australia were found to be acceptable overall, with “customers [reporting] a high level of acceptability” (242). In Scotland, a 2019 analysis considered responses to a consultation on reducing the health harms of foods high in fats, sugars and salt; interventions included policy options to restrict multi-buy price promotions and sale of unlimited amounts for a fixed charge, among other policy options to restrict promotion and marketing (244). Close to half of individual respondents agreed with the policy options to restrict multi-buy price promotions and sale of unlimited amounts for a fixed charge (49% and 47%, respectively), while 44% disagreed with restricting multi-buy price promotions, and 42% disagreed with restricting sale of unlimited amounts for a fixed charge. Individual respondents who disagreed with restrictions on promotions

expressed views that low-income consumers would be disproportionately disadvantaged, that such restrictions were “unfair to those who eat sensibly”, and that restrictions would be ineffective (due to continued purchase of “unhealthy” foods or retailers finding work-arounds).

### **Sociodemographic variations in acceptability**

Many studies have examined variations in support for, or acceptability of, fiscal and pricing policies across population groups, including by age, sex, parental status, education level, SES and income level, political views and ethnicity.

A study from Australia found that about half of the sampled adults agreed that governments should tax SSBs and unhealthy foods (55% and 49%, respectively). Younger respondents (18–24 years) were more supportive of a hypothecated tax (37). Other Australian studies found that older survey participants were less likely to favour an SSB tax to fund obesity prevention than younger survey participants (192). Similarly, support for subsidies on fruits and vegetables, albeit still high, also decreased with age: support was 91% among adults aged 18–59 years, compared with 81% among those aged 60–82 years (223). A study from the United States also found younger respondents to be more supportive of an SSB tax (72). Conversely, studies from France and the United Kingdom have found higher support for SSB taxes among older respondents (245, 246). In the United Kingdom, a survey conducted before implementation of the SSB tax found age to be positively associated with support for the tax (246). A survey conducted shortly after introduction of an SSB tax in France concluded that participants above 65 years of age were more likely to support the tax than those aged 26–45 years (245).

In the United Kingdom, respondents with dependent children were less likely to support an SSB tax than those without dependent children (246). The opposite association was observed in Australia for support for government taxation of unhealthy foods, where respondents with children were significantly more likely to support the tax than those without children (37). However, this relationship was not observed for SSB taxation (37). Studies from the United States and Australia found women to be more likely than men to support subsidies on fruits and vegetables (223), and taxes on SSBs and unhealthy foods (37, 41). One study found higher support among men than women for taxes on unhealthy foods (223). Other studies have not found levels of support or acceptability to differ significantly by sex (72, 192, 224, 247).

Many studies from the United States and Australia have identified a positive association between years of education and support for SSB taxes (37, 41, 192, 248, 249). For example, an Australian study found that respondents who had completed a university degree were significantly more likely than those who did not complete high school to support taxation of unhealthy foods and SSBs (37). A survey conducted shortly after the introduction of the SSB tax in France found that participants with lower educational levels were less likely to support the tax than those with more formal education (245). Some studies have also found high SES to be positively associated with greater support for fiscal policies. For example, an Australian study found that acceptability of a tax on “high fat foods” and a tax on SSBs followed a socioeconomic gradient: more than half of those in the lowest SES quintile opposed a tax on high-fat foods and SSBs, compared with around one third of those in the highest SES quintile (224). In Turkey, higher SES was positively associated with greater support for both subsidies on fresh fruits and vegetables, and a tax on junk foods and SSBs (65). In a survey on support for the implemented SSB tax in Seattle, United States, lower-income respondents were less supportive (approval rate of 59%) than higher-income respondents (approval rate of 63%) (250).

The acceptability of SSB taxes also depends on political beliefs. Three United States studies consistently found that individuals reportedly voting for a particular party were more likely to support an SSB tax than those voting for the other party (41, 228, 248).

Also in the United States, multiple studies have found higher levels of support for fiscal and pricing policies among non-Caucasian groups. For example, levels of support for a “junk food” tax (40, 72), SSB taxes (41, 251) and a policy requiring grocers to add a surcharge to high-sugar, high-fat foods and use the revenues to reduce their prices for fresh fruits and vegetables (72) were all higher among non-Caucasian respondents. Another United States study found no difference by ethnicity in support for the implemented SSB tax in Seattle (250).

### **Acceptability associated with view on food environment and perceived determinants of nutritional status**

The perceived role of the food environment as a determinant of health and nutritional status (especially the risk of overweight and obesity) has been linked to increased support for fiscal and pricing policies to promote healthy diets (41, 70, 72). For example, in the United Kingdom, adults who agreed with the statement “people are overweight because there are so many unhealthy foods around” were significantly more likely to also agree that “the government should increase taxes on the sale of unhealthy foods” (70). In the United States, respondents who agreed that “obesity is a result of a toxic food environment” or that “obesity is a consequence of manipulation by commercial interests” were significantly more likely to support a tax on “junk foods” or a policy requiring grocers to add a surcharge to high-sugar, high-fat foods and use the revenues to reduce their prices for fresh fruits and vegetables (72). Another United States study identified higher support for an SSB tax among respondents who perceived childhood obesity to be a societal issue than among those perceiving it as a parental issue (41).

The authors of a thematic analysis of public responses on newspaper websites to the United Kingdom SSB tax found that opponents of the tax regarded food and drink choices as the responsibility of individuals, and “not something that should be of concern to society or government” (147). However, the belief that unhealthy diets and obesity were results of “failure of personal responsibility” was associated with support for the tax: if people were unable to take responsibility for their own behaviour, they must “face the consequences” (147). The study also reported that supporters of the tax identified SSBs as an appropriate target product for the intervention because they perceived them as harmful to health, non-essential and disproportionately consumed by children (147).

A study in the United States found that favourable attitudes of the public towards SSB companies independently predicted opposition to strategies to reduce SSB consumption, including taxation (248). Similar findings were observed in the United Kingdom, where respondents who reported to “trust messages from the food and beverage industry” were significantly less likely to support an SSB tax than those who reported that they did not trust industry messages (246).

### **Acceptability associated with use of revenue**

The use of tax revenue for health purposes – for example, prevention programmes, obesity treatment, public health awareness campaigns, and subsidies on healthy foods – has been linked to higher public acceptability of taxes on SSBs or unhealthy foods (37, 145–147, 192, 213, 224, 252, 253). For example, a systematic review and meta-analysis found that public acceptability in the United Kingdom, the United States, France and Australia was highest (66%) if revenue was “appropriately used [for health initiatives]” (213). Another systematic review concluded more generally that “earmarking health taxes for health spending tends to increase public support so long as policymakers follow through on specified spending commitments” (146). A 2008 New York State poll showed that 52% of respondents supported an SSB tax; this increased to 72% if the revenue was earmarked to support programmes for the prevention of obesity in children and adults (93). Young adults in Australia agreed that “a tax on SSBs should be introduced”; the level of support increased to 74% if the tax revenue was “used to subsidize fruit and vegetables” and 72% if it

was “used to fund community exercise facilities” (254). Similarly, another Australian study found that the level of support for an SSB tax increased from 60% to 77% if revenue was reinvested into obesity prevention (192). In France, a public survey conducted shortly after implementation of the national SSB tax in 2012 found that support for the tax increased from 60% to 73% if the tax revenue generated would be used for healthcare system improvements, and to 72% if the tax was associated with a corresponding decrease in the prices of healthier foods (245). According to poll results cited in an Irish Heart Foundation submission to a public consultation on a proposed SSB tax, the proportion of respondents supporting the introduction of an SSB tax rose from almost 60% to 76% if the revenue was to be spent on initiatives to fund healthy diets among children (184). In the United Kingdom, there was support for an SSB tax to be introduced to raise revenue to support strategies to prevent childhood obesity, with more than 150 000 signatories to a 2015 petition on the United Kingdom Government and Parliament e-petition website calling for such a tax (255).

Studies have also found that the stated purpose of a policy (including how the policy is framed) is associated with public acceptability (147, 192, 254, 256). For example, the authors of a policy review concluded that “taxes with clear and unambiguous intent used to promote the health of key groups, such as children, are more likely to receive public support” (256).

### Acceptability of different fiscal policies to promote healthy diets

A few studies have compared support for different types of fiscal and pricing policies to promote healthy diets. For example, three studies have identified higher levels of support for subsidies than for taxes (65, 223, 257), and three studies have identified higher support for taxes on SSBs than taxes on unhealthy foods (37, 247, 253). A study from Turkey reported that, out of nine policy options to curb childhood obesity, subsidies to reduce the price of fresh fruit and vegetables received the most support, whereas taxing “junk food” and SSBs received the lowest level of support (65). Similarly, in a study from New Zealand, a 20% tax on foods high in fats or sugars received the least support out of 15 proposed measures to reduce overweight and obesity; subsidies on fresh fruits and vegetables ranked third (257). An Australian study found higher levels of support for subsidies on fresh fruits and vegetables than for a tax on foods high in fats, salt and sugars, with the stated objective to “generate more money to spend on advertising campaigns for fruit and vegetables” (223). Another Australian study found higher support for a tax on SSBs (55%) than for a tax on unhealthy foods (49%) (37). Participants in a “citizens’ jury” from Australia strongly supported a tax on SSBs as a strategy for reducing childhood obesity, but opposed a tax on processed meats or snack foods presented with the same objectives (253). Also in Australia, a study on appropriate strategies for reducing childhood obesity amongst 0–5-year-old children reported somewhat weaker support for taxing snack foods than for taxing SSBs (247).

### Acceptability of fiscal and pricing policies compared with other interventions to promote healthy diets

Studies were also identified that compared public and consumer acceptability of, or support for, fiscal and pricing policies with other policy actions to promote healthy diets. In general, acceptability to the public and consumers of taxes on SSBs or unhealthy foods appeared to be lower than acceptability of nutrition labelling policies, and policies to restrict marketing of foods and non-alcoholic beverages to children (37, 70, 192, 223, 225, 258, 259).

In Australia, a study on obesity prevention regulations found highest support for mandatory front-of-pack labelling (90%), and lowest support for taxes on unhealthy, high-fat foods (40%) and SSBs (42%) (224). Another study on measures to address the incidence of childhood obesity also found much higher support for traffic-light front-of-pack labelling or “teaspoon labelling” than taxes (247). Menu labelling (258) has also received higher levels of support than taxation as an obesity

prevention policy. A citizens' jury on regulatory approaches to address childhood obesity rated taxes on foods and beverages high in fats or sugars third (lower than labelling policies but higher than regulation of food marketing) (259). Similarly, another Australian study found lower support for a tax on unhealthy foods and SSBs (although still supported by 49% and 55%, respectively) than for regulation of sponsorships for children's sports, and regulation of food and beverage advertising on television, the internet and in public spaces (37). Likewise, another study identified higher levels of support for a ban on television advertising of foods high in fats, salt and sugars than for a tax on foods high in fats, salt and sugars (223).

In the United States, a study on policies to reduce consumption of SSBs identified the lowest level of support for taxation, whereas school-based restrictions and labelling received the highest levels of support (248). Similarly, a study comparing public support for several policy options to reduce obesity rates found much higher levels of support for mandatory warning labels on foods with high sugar or fat content (63%), and prohibiting all advertising of high-fat, high-sugar foods on media watched primarily by children (53%), than for a policy requiring grocers to add a surcharge to high-fat, high-sugar food and use the revenues to reduce their prices for fresh fruits and vegetables (29%), or a "junk food tax similar to existing government taxes on cigarettes and alcohol" (72). In another United States study, 60% of sampled adults supported an SSB tax "as a way to discourage kids and others from drinking too many of them"; this was lower than support for restrictions on advertising of unhealthy foods and beverages (74%) (251).

In Europe, public support for policy strategies across 29 countries (using 2005 Eurobarometer survey data) was much higher for restricting marketing (to improve children's diets and reduce childhood obesity) than imposing taxes on unhealthy foods (260). Taxing unhealthy foods received the lowest support (32%) in the United Kingdom, compared with healthy lifestyle campaigns (71%), menu labelling (66%) and government policies to restrict marketing of unhealthy foods (56%) (70).

### Acceptability of fiscal policies reflected in public voting

As with acceptability to governments, acceptability to the public of fiscal policies is to some extent reflected in the existence of such policies. For example, public acceptability was high in Berkeley (California, United States), where the tax on SSBs was passed with 76% of the public voting in favour of the tax (261, 262). In San Francisco (California, United States), the majority of voters were also in favour of a similar tax, but votes fell short of the required 67% to pass (261, 263). Polling data in the United States have demonstrated, with a few exceptions, that the public supports SSB taxes – particularly when the funds are earmarked for obesity prevention programmes (264) (as described above under "Acceptability associated with use of revenue").

### Acceptability of the intervention to industry

Based on the identified studies, acceptability to industry of fiscal policies to promote healthy diets varies with policy design. Numerous studies describe industry opposition to development and implementation of taxes on unhealthy foods and non-alcoholic beverages, especially SSBs (82, 113, 114, 116, 118, 146, 148, 186, 191, 193, 216, 218, 252, 256, 265–274), indicating low acceptability to industry of such taxes. A policy analysis of global initiatives to tax unhealthy foods concluded that "the food industry is likely to oppose any idea of taxes" (256), and a report on lessons learned in countries and jurisdictions globally stated that "SSB taxes are often, but not always, met with significant opposition, and even interference, from stakeholders whose interests conflict with the SSB tax" (188). Globally, arguments commonly put forward by the food industry is that taxes would be ineffective and unfair, and would lead to job losses (189, 191, 256). Identified studies on acceptability to industry of fiscal and pricing policies are summarized below.



In South America, the SSB industry has strongly opposed SSB tax proposals using a wide array of arguments, including the potential for job and other economic losses, disproportionate impact on the poorest populations and illegitimacy of government market intervention (252, 270). Multiple studies have reported on the very low acceptability to industry of Mexico's tax on SSBs and non-essential energy-dense foods, detailing strong opposition, lobbying and interference in the policy processes (118, 267, 270, 274–276). For example, in a qualitative study, high-level government officials and informants from academia reported how the SSB industry had “systematically obstructed” efforts to tax SSBs (275). Informants from the industry often mentioned a “lack of clear evidence linking SSB consumption and childhood obesity” and argued that an SSB tax would have “catastrophic” consequences on local sugar industry profits (275). Negative economic impacts of an SSB tax, including layoffs and lost revenue, were one of industry's major arguments against the tax. Foreign entrepreneurs also “threatened to divest from the country” (118). In Colombia and Argentina, the authors of a study concluded that industry's strong lobbying practices led to the defeat in Congress of proposals for an SSB tax in 2016 and 2017, respectively (252). Multiple studies from the United States have also reported on strong industry opposition to implementation of SSB taxes at the national level (273) or state level (113, 185, 265).

The sugar industry in the Philippines lobbied against the SSB tax, leading to several redefinitions of what beverages should be covered by the tax (266). In Fiji, an SSB tax was reduced and revised after the SSB industry “complained” about the irregularity of enforcement of the tax (114). In a qualitative study from New Zealand, key stakeholders agreed that an SSB tax would not be acceptable to the food industry. The stakeholders expected major opposition from the industry association representing manufacturers and suppliers of New Zealand's food, beverage and grocery brands; the “big brand” soft drink manufacturers; and the advertising industry (218). The study reported similar findings for acceptability of a tax on saturated fats, highlighting the importance of the dairy and meat industry for the national economy (218).

A case study on the Estonian SSB tax reported how industry used an array of false claims to argue against the tax. These included that the policy violated European Union law, and would be harmful to local industry and result in job losses (citing their own research) (216). Similar industry arguments against SSB taxes were reported in a qualitative content analysis of lobbying practices in the European Union (272). For example, industry in the European Union was found to have framed the debate and shaped the evidence on sugar-related issues; promoted deregulation; and criticized public health advocates, institutions and organizations (272). In the United Kingdom, studies have reported how the SSB tax was not acceptable to industry (217, 277–279). In opposing the SSB tax, industry has emphasized consumer choice and individual responsibility (278), and made use of “corporate social responsibility rhetoric to soften anti-legislation messages”, leading to greater consumer agreement with, and understanding of, industry “concerns” (217). Through content analyses of newspaper coverage before and after announcement and implementation of the SSB tax in the United Kingdom, two studies identified multiple arguments used against the SSB tax, as well as varying levels of opposition within industry (217, 279). Retail organizations were less consistent in their opposition to the SSB tax; the authors hypothesized that this reflected the degree to which specific industry stakeholders considered themselves directly threatened by the policy (217). In Denmark, a study analysing the introduction and repeal of the saturated fat tax found that strong lobby organizations, especially in the food industry, argued heavily against the tax before and after it was introduced (148). In a consultation with stakeholders following the Danish government's decision to implement a nutrient tax on saturated fats, the food industry and trade associations sent in “what was described as the most critical consultation responses ever seen” (268). In the consultation responses, the food industry threatened law suits if the tax was passed, citing violation of European Union law through “discriminatory internal taxation”; predicted welfare losses, arguing

that the tax would place immense administrative burdens on food corporations, which would damage Denmark's competitiveness internationally (e.g. by increasing inflation and border shopping); cast doubt on the evidence on the association between saturated fat intake and obesity and diet-related NCDs (sometimes citing evidence commissioned, financed or generated by themselves or other food industry stakeholders); diverted focus by arguing that other products should be taxed instead (e.g. alcohol, tobacco, SSBs), or suggesting alternative tax models, such as the collection of the tax at retail level rather than production level; and, finally, requested a postponement of the fat tax (268). Continuing strong opposition and lobbying from the food industry and trade associations after the tax on saturated fats was implemented were attributed as one of the primary causes for the later abolition of the policy (148, 268, 269).

In South Africa, the food industry lobbied against the development of an SSB tax, claiming that it would have a negative economic impact, and arguing that industry-led measures and self-regulation were adequate to protect population health (115). By examining industry submissions to the South African Government's consultation on a proposed SSB tax, a case study also reported strong industry opposition, underpinned by several strategies involving the misrepresentation of evidence (271). Industry strategies identified in the case study included using references in a misleading way; misusing raw data to dispute both the premise of targeting sugars for special attention and the impact of SSB taxes on SSB consumption; selecting evidence to promote an alternative narrative to that supported by the weight of peer-reviewed research; and exaggerating the effects of SSB taxation on jobs, public revenue generation and gross domestic product (271).

The targeted search for government reports similarly provided information about the acceptability to industry of fiscal policies to promote healthy diets. In Canada, for example, a 2016 report of the Standing Senate Committee on Social Affairs, Science and Technology noted that the food industry opposed taxation of unhealthy foods and non-alcoholic beverages on the basis that such an approach would likely be ineffective on its own. One industry association also stated that a provincial government (Manitoba) had considered taxation and determined that it would be too arduous to administer (198).

Opposition from industry was also evident in Ireland. A general excises paper from Ireland's Department of Finance noted that "the soft drinks industry and retailers of soft drinks have been publicly critical of the proposal" (280). Submissions from industry to a public consultation on an SSB tax in Ireland also overwhelmingly opposed the introduction of such a tax. In submissions, industry opposed "discriminatory" taxation of specific food and beverages (281) or taxation that ignored other sources of sugar in diets (282); claimed that there was lack of, or inconclusive, evidence on the effectiveness of taxation (281–285); argued that taxation was economically regressive (281, 284, 286); claimed that taxation would be difficult to monitor and enforce (282); claimed that taxation would create uncertainty for investment plans and trade agreements (281); claimed that taxation would lead to employment losses (286, 287); and argued that taxation would not be effective as a single measure (287, 288) or set "not drinking soft drinks as the magical solution to an extremely complex problem" (289). One quick service restaurant welcomed the government's obesity policy and action plan but expressed concern that SSB producers may pass the cost of the tax on to retailers and urged the government to implement measures to ensure that producers instead absorbed the cost (290). A retail association similarly welcomed the proposed administration of the tax at the earliest possible point in the distribution chain but was concerned that the tax may affect retailers (291).

Similarly, in the United Kingdom, in interviews conducted by Public Health England in 2015, industry stakeholders stated that there was limited evidence to support fiscal strategies to reduce obesity (292). In a 2016 consultation on introduction of the Soft Drinks Industry Levy in the United Kingdom, the majority (78%) of responses from manufacturers and associated trade bodies opposed the levy (293). When interviewed in 2016, some small producers and exporters of "soft drinks" with



added sugar were in favour of the levy; the majority, however, believed that the levy “would not be beneficial”, with some not understanding why soft drinks were the target of the levy (294). A 2016 letter from a beverage company to the Chancellor of the Exchequer stated that the company felt that the levy was “not necessary and that there is no evidence to show it will work”, cited concern about negative impacts for businesses and consumers, and highlighted past voluntary reformulation, among other arguments (295). In a survey in the city of Brighton and Hove, 31% of surveyed food outlets agreed or strongly agreed with a voluntary levy on soft drinks, while 50% disagreed or strongly disagreed, and 19% neither agreed nor disagreed (296).

In the Philippines, a 2015 government publication noted that the beverage industry opposed a proposed tax on SSBs, arguing that it would cause a decrease in sales, and direct and indirect job losses in the beverage, packaging, trucking and retail industries (297). Around half (54%) the respondents to a consultation on a “sugar tax” in Bermuda who identified as businesses opposed taxing the items identified for taxation (227).

In South Africa, 113 identical one-page petitions were received in response to a draft policy paper on an SSB tax published in 2016 (298). The petitions from employees and owner–drivers at an SSB company, which (according to the report authors) may have been initiated by industry, expressed concern at potential reductions in employment that might occur if an SSB tax was implemented and recommended that the Minister of Finance “re-considers the implementation of the sugar tax and finds better and more sustainable ways of addressing obesity”.

With regard to subsidies, in the United Kingdom, 2011 research on retailer perspectives of the Healthy Start scheme (a scheme providing low-income pregnant women and families with children under the age of 4 years with vouchers to buy, for example, fruit and vegetables) described the scheme as “generally well-received”, with retailers valuing the opportunity to help low-income families purchase healthy foods (299). Other benefits for retailers included financial benefits and the opportunity to show corporate social responsibility. Earlier research (2005) on the introduction of the same scheme in Devon and Cornwall found that processes were regarded as smooth and the impact on participating retailers tended to be positive or neutral; benefits included new customers being brought to the retailer and customers spending above the value of the voucher (239).

With regard to pricing policies, a 2019 consultation analysis from Scotland considered responses to a consultation on reducing the health harms of foods high in fats, sugars and salt. Policy options to restrict promotion and marketing included restricting multi-buy price promotions and sale of unlimited amounts for a fixed charge (244). Among industry respondents, 41% and 44% did not express a specific view on the policy options to restrict multi-buy price promotions and sale of unlimited amounts for a fixed charge, respectively, while close to a third (31% for both options) agreed with the proposed options, and 28% and 21%, respectively, disagreed.

## Sociocultural acceptability

The degree to which “healthier” substitutes<sup>1</sup> are available and/or accessible may affect the sociocultural acceptability of taxes on “unhealthy” foods. For example, a qualitative study on Tonga’s taxes on fatty meat products (turkey tails, chicken leg quarters, mutton flaps, lamb breast and lamb flaps) found that participants perceived the lack of affordable healthier food alternatives (e.g. lean meats) to be a major issue (214). The authors of the study reported that taxes were removed on other leaner meats, crustaceans and molluscs, but that “not much [was] available in supermarkets and stores”, and that current efforts to make tinned fish available had not yet succeeded (214). The authors recommended that Tongan culture and traditions must be acknowledged and taken into account in future “decision-making processes” (214).

<sup>1</sup> “Consumption of targeted products, including direct effects and substitution effects” is an outcome in the systematic review.

## Environmental acceptability

Two impact assessments examining the environmental acceptability of fiscal and pricing policies to promote healthy diets were identified. A draft impact assessment, published in 2018, of policy options to restrict volume promotions for “high fat, sugar, and salt (HFSS) products” in the United Kingdom suggested that restricting price promotions would not have a “substantial impact on the environment”, but did note that restricting volume promotions may make it more difficult for supermarkets to sell products that were close to their expiry date, and may therefore increase the amount of food waste (108). However, a final impact assessment, published in 2020, noted that “restricting volume promotions could also have an impact on the amount of plastic and packaging used in the food and drink industry” due to the expected decrease in consumption of HFSS products and increase in consumption of non-HFSS products – non-HFSS products are expected to have less plastic and packaging (109).

# Factor 5: Feasibility

This section presents a narrative synthesis of the literature identified to assess the feasibility of fiscal and pricing policies to promote healthy diets. Separate searches were conducted for the following criteria: development and implementation; monitoring and enforcement; and impact on health systems, food systems and the policy environment. For the purpose of this review, “feasibility” was not assessed as a clear-cut “yes” or “no”, but instead treated as a continuum – barriers to, and facilitators of, development, implementation, monitoring and enforcement of fiscal and pricing policies can make the policy action more or less feasible. This section takes the form of a thematic analysis, where barriers and facilitators are grouped in themes identified and emerging from the literature.

In recent years, an increasing number of countries have taken action to implement fiscal policies to promote healthy diets (18, 187). More than half of the countries with fiscal policies have increased taxes on unhealthy foods and beverages, and almost a quarter have introduced subsidies on healthier foods and beverages (18). Imposing taxes on SSBs especially is a policy action taken by governments (18, 187–190); 74 countries<sup>1</sup> to date have such taxes in place at national level, and three countries at subnational or municipal level. However, few countries have implemented policies to subsidize healthier foods and beverages,<sup>2</sup> or remove taxes<sup>3</sup> or subsidies<sup>4</sup> as a means of encouraging healthier dietary patterns (18).

The existence of fiscal policies in countries indicates the feasibility of such policies. For example, as a systematic review concluded, “the fact that [policies examined] survived the policy-making process” is “proof of feasibility” (300). However, as many countries have not yet taken action or may want to strengthen action, this synthesis of studies identified as part of the search on feasibility adds perspectives on elements that have been found to increase or decrease feasibility. These are described as challenges/barriers and opportunities/facilitators to development and implementation, and monitoring and enforcement of policies.

No countries were identified that implemented national pricing policies for foods. Although the target food is beyond the scope of this review, it is worth noting that the International Code of Marketing of Breast-milk Substitutes, adopted by the World Health Assembly in 1981 (the Code) prohibits price promotions of breast-milk substitutes (301). Thus, the countries that have implemented the Code, including the article<sup>5</sup> prohibiting price promotions, can be said to have a pricing policy in place. However, no evaluations of this specific element of the Code of relevance to this review were identified. Further, evidence from interventions of subnational or regional pricing policies of relevance to the review is very scarce. The few studies identified with findings relevant to

<sup>1</sup> This number was collated by WHO from WHO Country Capacity Survey 2017, the WHO Global Nutrition Policy Review 2016–2017, the WHO Global database on the Implementation of Nutrition Action (GINA) and the Global Health Observatory. One area (non-WHO Member State) has also adopted such taxes.

<sup>2</sup> Subsidies on healthier foods and beverages were reported by nine countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>3</sup> Removing taxes from healthier foods and beverages was reported by six countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>4</sup> Removing subsidies on unhealthy foods and beverages was reported by four countries in the WHO Global Nutrition Policy Review 2016–2017, of which four provided details.

<sup>5</sup> Article 5.3 in the International Code of Marketing of Breast-milk Substitutes states: “in conformity with paragraphs 1 and 2 of this Article, there should be no point-of-sale advertising, giving of samples, or any other promotion device to induce sales directly to the consumer at the retail level, such as special displays, discount coupons, premiums, special sales, loss-leaders and tie-in sales, for products within the scope of this Code. This provision should not restrict the establishment of pricing policies and practices intended to provide products at lower prices on a long-term basis”.

the feasibility of pricing policies are included in the following subsections, together with evidence on fiscal policies.

### **Elements that hinder or support development and implementation**

A range of studies were identified that described facilitators of, and challenges or barriers to, the development and implementation of fiscal and pricing policies – thus affecting the overall feasibility of such policy actions. Facilitators included strong political leadership, intersectoral collaboration, supporting evidence, community support, and the use of existing governmental infrastructure and taxation mechanisms (114, 188, 189, 213, 252, 261, 277, 302). Challenges or barriers included complexity of the development process, conflicting interests, industry interference and pressure, a weak evidence base, the (perceived) administrative burden, and lack of financial and human resources (88, 145, 148, 188, 215, 218, 229, 252, 266, 267, 303).

### **Political leadership, government coherence and stakeholder support**

A wide range of literature has identified strong political leadership, coherence among government sectors and existing policies, and support from stakeholders (e.g. the public, health experts, health institutions) as elements affecting the feasibility of development and implementation of fiscal and pricing policies. The presence of these elements will likely increase feasibility, whereas their absence may decrease feasibility.

In an Australian case study on factors generating or hindering political priority for the regulation of pricing of energy-dense foods and beverages (and marketing restrictions and labelling content), government agencies working in “silos” were mentioned as a barrier to change (215). The lack of government coherence was reportedly also an issue in Thailand, limiting the capacity of the Department of Excise Tax to increase taxes on “soft drinks” (304). Although the Barbados SSB tax was successfully enacted and implemented, one criticism was that the tax policy process was mainly led by the Ministry of Finance, with very little engagement with other government departments. The Healthy Caribbean Coalition considers this to be a missed opportunity because the tax could have formed part of a wider and more comprehensive public health campaign to reduce SSB consumption in Barbados (117). In Hungary, intersectoral action was reported to have enabled accurate problem definition, development of an appropriate policy solution, and effective implementation. Public health experts from the Ministry of Health, the National Institute for Health Development, the National Institute for Food and Nutrition Science, the Ministry of Finance and WHO worked closely together to formulate the final version of the tax and to see the legislation through a number of revisions (305). Development and implementation of the Estonian SSB tax was similarly enabled through intersectoral collaboration between the Ministry of Finance, the Ministry of Social Affairs and the WHO Country Office for Estonia (216). A case study on the SSB tax in the Philippines found that implementation of the tax greatly benefited from visible, high-level, sustained commitment from both legislative and executive branches of government, which counterbalanced opposition led by industry (266). In addition, the “soft power” represented by the presence of former health ministers, incumbent Cabinet officials, development partners and legislators at public hearings increased the political desirability of the tax reform (266).

A systematic review and meta-analysis of political and public acceptability of SSB taxes described how lack of stakeholder support in Israel, Mexico, New Zealand, the Pacific countries, the United Kingdom and the United States complicated policy adoption and implementation of SSB taxes (213). However, the Mexican tax on SSBs and non-essential energy-dense foods was made possible through the successful cooperation of academia, civil society, and the legislative and executive branches of government (267, 270). The role of civil society and health professionals has been

identified as critical, not only to counteract pressure from industry, but also to ensure appropriate implementation and monitoring of policies (189) (see also “Elements that hinder or support monitoring, evaluation and enforcement”).

Lack of engagement with public health experts has been identified as an element limiting feasibility of fiscal and pricing policies (268). However, some governments have increased feasibility by collaborating with health institutions to facilitate the development and implementation of fiscal policies. For example, Mexico worked closely with the National Institute of Public Health to develop and implement an SSB tax (118, 274). Also in Mexico, the Pan American Health Organization/WHO Representative Office invited a group of public and private institutions interested in the matter to attend periodic technical discussions, thus establishing an intersectoral working group (118). The working group persisted in its joint efforts to promote the proposal for an SSB tax after it was first rejected in 2012. WHO Country Offices helped gather evidence, and provided technical assistance and policy advice to support development of an SSB tax in Estonia (216) and Sri Lanka (306). Technical support from WHO was also instrumental in the development of the South African SSB tax, both to assist with health financing reforms and to gather evidence on the burden of diet-related NCDs (115). The OECD used data from South Africa to model the impact of the tax on population health and healthcare costs savings, which contributed to a strong evidence base and increased the feasibility of the policy development process (115).

### Evidence base

A strong evidence base (including national data to support the rationale for action) has been shown to increase the feasibility of policy development and implementation. International and global evidence on the effectiveness (and feasibility) of fiscal and pricing policies to promote healthy diets is emerging and can support initiation of country action. Absence of national evidence has been shown to reduce feasibility.

Case studies on the Mexican tax on SSBs and non-essential energy-dense foods have reported that evidence on the consumption of SSBs and unhealthy foods, the increasing rates of obesity and diet-related NCDs, and the association between diet and health was key in the public debate and decision-making process (118, 270, 274). Both the Institute for Public Health and the WHO Country Office in Mexico provided technical information and scientific evidence that were instrumental in setting the stage for approval of the tax (118, 270). “Translating” the evidence for policy-makers who were not experts in public health, economics or statistics into “robustly supported technical arguments [that] played an important role in the adoption of the tax” was reported as a challenge (118). Estonia (86, 216), the United Kingdom (217), Hungary (121, 305), Mexico (118, 267, 270, 274) and South Africa (115) have made use of strong and relevant evidence in policy development and implementation, thus increasing the feasibility of the policies.

Two studies from Australia and New Zealand identified a weak evidence base to support regulatory interventions as a significant barrier to development and implementation of fiscal policies (218, 303), decreasing the feasibility of such policies. The “absence of evidence” rationale was often used to defer decisions on regulatory interventions, and the issue was more likely to be given political priority if an “evidence-informed and practice-based” rather than strictly “evidence-based” approach to policy was adopted (303). In a qualitative study from New Zealand, key stakeholders<sup>1</sup> did not consider a tax on saturated fats to be feasible, citing debates in the media on the effects of saturated fats on health, and the lack of good international evidence on the effectiveness and feasibility of such a tax (218).

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<sup>1</sup> Key stakeholders included politicians, bureaucrats, public health experts, food industry leaders and consumer representatives.

## Policy framing and earmarking of revenue

Some studies found that the ease or difficulty of developing and implementing fiscal policies is associated with how the policy is framed, including (for taxes) the intended use of revenue generated. A systematic review of health taxes concluded that policy-makers should be clear about the policy objective of any health tax and frame the tax accordingly, as not doing so leaves taxes vulnerable to criticism and interference (146). The Danish tax on saturated fats is an example of how poor policy framing limited its feasibility: the tax was abolished after only a year, with different motives existing for its implementation and repeal<sup>1</sup> (148, 268). Studies evaluating the short-lived policy found that the ambiguous objectives of the tax and its weak framing had left the policy vulnerable to criticism and, in effect, decreased its feasibility (148, 268). Framing a policy can play an important role in increasing feasibility (see also “Acceptability of the intervention to the public and consumers”). For example, a study on SSB taxation in the Pacific found that framing the tax in line with the priorities of health and finance facilitated uptake (114). In Philadelphia, an SSB tax was deliberately not framed as a health intervention (to shift claims on government involvement in individual behaviour), but instead introduced with the explicit objective of generating revenue and financing universal pre-kindergarten – an objective that received broad support (112, 113). Earmarking of tax revenue has been found to increase acceptability of the policy to the general public (see “Acceptability of the intervention to the public and consumers”).

## Industry interference and opposition

A wide range of literature has identified industry interference and opposition as major barriers to the development and implementation of fiscal and pricing policies (especially SSB taxes), which may affect the feasibility of such policies. This section is closely linked to the section “Acceptability of the intervention to industry”.

A policy survey in an OECD review of obesity prevention interventions reported that governments were often reluctant to use regulatory measures (including fiscal policies) because of the potential to “spark a confrontation” with industry (88). A case study on factors facilitating or hindering political priority for the regulation of prices of energy-dense foods and beverages (and marketing restrictions and labelling content) in Australia between 1990 and 2011 found that the food, beverage and advertising industries powerfully shaped political priority (303). The power stemmed from the industries’ economic importance as large industries and employers, and their reach into food systems (303). Similarly, in Australia, senior representatives from state and territory governments, statutory authorities and NGOs perceived the lobbying power and influence of the food industry on government decision-making as barriers to the development and implementation of fiscal and pricing policies (215). Economic considerations “prevailing” over health concerns were also mentioned as a barrier to change (215).

The beverage industry has reportedly claimed that SSB taxes breach constitutional rights and has threatened to withhold investment in a region in response to a proposed SSB tax (307). Similarly, threats of legal action by the food and beverage industry in relation to various articles of the Treaty on the Functioning of the European Union were purported to contribute to the abolition of Denmark’s saturated fat tax (307). These challenges mirror those previously brought by the tobacco industry against tobacco control measures (307).

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<sup>1</sup> Health motives were prominent in passing the tax on saturated fats, but the revenue motive dominated its design. The authors suggested that, for the major political parties, revenue was in fact the main motive for supporting the tax, and health motives may have been used to placate opponents or legitimize the decision. The effects of the tax on people’s behaviour (consumption of saturated fats) did not have a substantial role in the decision to repeal the tax, thus underlining that health was not a crucial issue, and that “the fat tax was more a matter of a healthy economy than a healthy population”.

In the United Kingdom, a draft impact assessment, published in 2018, of policy options to restrict volume promotions for “high fat, sugar, and salt (HFSS) products” noted that “there may be an impact on businesses in terms of Articles 10, 14, and Article 1 of Protocol 1 of the European Convention on Human Rights” and welcomed “submissions addressing this” (108). However, the final consultation published in 2020 considered “any potential impact from the restriction on promotions on freedom of expression and use of property ... justified for the protection of health as provided for in Article 10 (2) and ... therefore in the general public interest as outlined in Article 1 of Protocol 1” (109).

For further evidence on industry opposition and industry pressure limiting the feasibility of development and implementation of fiscal policies, see “Acceptability of the intervention to industry”.

In terms of implementation, in the Philippines, members of the House of Representatives reported that high-fructose corn syrup was found at companies that had declared that they were not using this ingredient and had thus been exempted from the SSB tax. One member expressed concern that companies were providing false declarations that they did not use high-fructose corn syrup to avoid paying the tax and suggested that, to combat this, products should not be exempted unless the Food and Drug Administration had completed product testing (308).

### Administration

A high administrative burden, or the perception of one, has been identified as an element limiting the feasibility of developing and implementing fiscal policies (168, 193, 213, 218, 309). For example, in a qualitative study from New Zealand, key stakeholders<sup>1</sup> identified the perceived administrative burden of an SSB tax as a concern regarding its feasibility (218). Similarly, a study from South Africa found that representatives from the participating sectors<sup>2</sup> were reluctant to carry the responsibility of implementing taxes and subsidies because they were seen as “cumbersome” and “costly to administer” (309).

A systematic review on the effectiveness of food taxes and subsidies to improve diets concluded that how the tax base (target food) is defined can increase or reduce the administrative burden (168). The authors reported that taxes based on nutrient content were more likely to include “burdensome” administrative requirements (168). In a qualitative study from New Zealand, a tax on saturated fats was found to not be feasible; key stakeholders<sup>3</sup> highlighted practical challenges, such as saturated fats being a component of many “core foods” (218). Similarly, the perceived administrative burden of a tax based on nutrient content was one of the reasons for the government of Barbados to implement the SSB tax as a product tax (meaning that all SSBs as defined by custom tariff codes were taxed at the same rate), which made implementation feasible. Alternative methods requiring the establishment of thresholds for sugar content or measurement of caloric values would reportedly have drawn “heavily on the already scarce human resources of the implementing agency”<sup>4</sup> (117). However, taxes based on nutrient contents have been found to be feasible in countries with strong tax administrations (111, 189).

A general excises paper from Ireland’s Department of Finance noted that a volumetric tax would be easier to administer than an ad valorem tax (a tax based on the value of the product being taxed); the paper noted that the tax should be collected at the earliest possible point in the distribution chain

<sup>1</sup> Key stakeholders included politicians, bureaucrats, public health experts, food industry leaders and consumer representatives.

<sup>2</sup> Represented sectors in the study included academic research, agribusiness (food processing, industry, retail, agriculture), policy-makers, public interest organizations, NGOs and consumer organizations.

<sup>3</sup> Key stakeholders included politicians, bureaucrats, public health experts, food industry leaders and consumer representatives.

<sup>4</sup> Barbados Revenue Authority

for administrative efficiency and to minimize the compliance burden for taxpayers (280). Similarly, a 2016 consultation document for the United Kingdom Soft Drinks Industry Levy proposed that the levy be applied at the point of production or importation, as this would be easiest to administer (310). In the Philippines, a government paper on the feasibility of imposing a “junk food” tax noted that specific taxes were simpler to administer but would require regular evaluation and adjustment to remain in line with inflation, whereas ad valorem taxes would automatically adjust to inflation (197). A South African policy paper on a proposed SSB tax similarly noted that specific taxes were simpler to administer but required regular updates to keep up with inflation (106).

A study on SSB taxation in the Pacific found that the use of existing taxation mechanisms (customs/port taxes and domestic excise tax strategies) was critical to facilitate implementation of SSB taxes in the region (114).

With regard to subsidies, farmers markets in Michigan, United States, that took part in food assistance programmes that offered benefits that could be redeemed for certain foods reported “significant challenges with adapting to the administrative burdens of these programs” (311). These included the challenges of participating in multiple food assistance programmes that had different rules and accountability requirements, as well as requirements for point-of-sale devices for redemption of benefits on state-issued cards.

### Public pro-tax campaigns and community support

Several studies have identified how media campaigns have generated public and political support for a tax, and have increased feasibility of tax development and implementation, especially SSB taxes. For example, the pro-tax campaign “Berkeley vs. Big Soda” was identified as an important driver behind the passing of the Berkeley SSB tax in 2014 (261, 302). The success of the Berkeley campaign has been attributed to early and diverse coalition building, reflected in the campaign having high-level community representatives and celebrity endorsements (302). As well as focusing on health harms of SSBs, campaign messages highlighted and denounced tactics used by the SSB industry in opposing the tax proposal (302). In the United Kingdom, strong and outspoken support for an SSB tax by a British chef is said to have increased both political and public support (217). Also in the United Kingdom, media coverage characterizing SSB consumption and obesity as industry-driven problems is hypothesized to have contributed strongly to the successful implementation of the national SSB tax (277). In a qualitative study from New Zealand, key stakeholders<sup>1</sup> agreed on the need to increase public support for an SSB tax to shift political support, and proposed campaigns to raise public awareness of sugar content in SSBs, build media support and galvanize political support, including from “undecided politicians” (218). Analyses of the SSB tax in Mexico reported on how public health advocates successfully used media campaigns to raise the public and political profile of the issue and increase community support (118, 274). In turn, general community support has been identified as important for the feasibility of developing policies (267).

Only one study on subsidies of relevance to this section was identified, which reported how a lack of public awareness limited the implementation of subsidies to promote fruit and vegetable consumption in a remote Aboriginal community in Australia (229).

### Retailer practices and capacity

In the United Kingdom, research on retailer perspectives of the Healthy Start scheme (a scheme providing low-income pregnant women and families with children under 4 years of age with food vouchers) identified factors in place for good operation of the scheme (299). These included formal

<sup>1</sup> Key stakeholders included politicians, bureaucrats, public health experts, food industry leaders and consumer representatives.



training of retail staff on the scheme, monitoring of staff acceptance of vouchers, staff knowledge of product range, staff motivation to check products purchased, and reminder communications to prevent the scheme from “slipping below the radar”.

With regard to subsidies, four factors related to organizational capacity were identified as crucial for successful participation of farmers markets in Michigan, United States, in food assistance programmes that offered benefits that could be redeemed for certain foods (311). The four factors were an ability to obtain resources important to the programme (e.g. via grants or donors for resources such as point-of-sale devices), individual leadership to establish and prioritize the new programmes, alignment of the programmes’ goals with the mission of the market (e.g. serving the local community), and involvement in professional and community networks.

### Feasibility of pricing interventions

A few studies relevant to pricing policies were identified. A randomized controlled trial conducted in the United Kingdom concluded that it was “feasible to develop and implement a direct marketing price promotion intervention”<sup>1</sup> targeted at low-income consumers who were known not to be purchasing “healthy products” at the time of the intervention (312). Another pricing intervention in the United Kingdom incentivized meals at workplaces over 10 weeks (243). The research team contacted 37 work sites, of which two agreed to participate in the intervention. Initiation and development of the intervention programme required “substantial support” and “notable time” from the research team. Additionally, caterers at the participating work sites reported some barriers to the intervention, including workload, sourcing ingredients and tracking sales. However, the continuation of the intervention was perceived as likely to be feasible at one of the included work sites (243). In Australia, a 15-week pricing intervention in cafes at three community retail settings, co-developed with retail staff and management, was found to be feasible (242). Before implementation, cafe management expressed concerns that changing the prices of selected foods and beverages might affect revenue, and data did reveal a lower weekly revenue after implementation. Nevertheless, management reported that the changes were “relatively simple”, and the authors reported that the price changes were maintained after the intervention period (242).

### Elements that hinder or support monitoring, evaluation and enforcement

Monitoring, evaluation and enforcement are key elements for regulatory action, including for fiscal and pricing policies. Ensuring that these are integral components of a policy affects overall feasibility of the policy action (28, 188, 189, 313, 314).

Lack of robust data from monitoring and evaluation has been identified as a barrier to determining the impact of fiscal policies on food choice, or identifying shifts in consumption patterns linked to positive health outcomes (188, 190). For example, a review concluded that the biggest gap in the evidence base for taxes on food and beverages to promote healthy diets was not a lack of practical examples of implemented policies, but a lack of formal evaluations of these examples (315).

Studies have identified barriers to the monitoring, evaluation and enforcement of policies – for example, lack of plans or programmes (for monitoring, evaluation and enforcement), or constrained human and financial resources. A review of obesity prevention interventions implemented in Canada, England, Italy, Japan and Mexico conducted by the OECD reported that imposing taxes on foods and SSBs may generate costs related to enforcement (88). Examples of enforcement costs included the regulation and/or repression of parallel trade and smuggling, which the policy survey concluded were potential consequences of keeping prices of foods and SSBs “artificially high by taxation” (88).

<sup>1</sup> The intervention consisted of a combination of discount coupons on healthy foods, healthy eating advice and recipe suggestions mailed out to regular low-income consumers.

Some countries have established independent advisory committees to provide oversight of the evaluation, or have support from academia or health institutions. For example, Mexico's Evaluation Advisory Committee oversees the monitoring and evaluation of the taxes on SSBs and non-essential energy-dense foods (188), which is undertaken as a collaborative effort between the Ministry of Health, academic institutions, NGOs and the National Institute of Public Health (270). In announcing the tax on SSBs, the Minister of Finance in Barbados indicated that the policy would be evaluated and reviewed 2 years after coming into force; however, there was no mention of mechanisms to monitor implementation of the tax within the first 2-year period through existing structures in the Ministry of Finance. Academic groups in Barbados later pledged to undertake evaluations of the policy (117).

Monitoring of policies can increase their overall feasibility, by tracking progress and examining whether the policies are on track to achieve their objectives. For example, Hungary undertook iterative refinement of its tax after implementation to ensure that it was effective in achieving the defined objective (121, 305). This reportedly helped remove any loopholes in the definition of the tax that producers and manufacturers had earlier exploited to avoid the tax (121, 305).

### **Impact on health systems, food systems and the policy environment**

Although a wide range of literature emphasizes the need for a comprehensive approach or “systems approach” to promote healthier food environments, of which fiscal and pricing policies are one of several interventions, limited evidence exists on the impact, interaction or leverage that such a policy may have on health systems, food systems and the general policy environment (316).

One reason for the lack of evidence on the impact of interventions or the interaction between multiple interventions may be that it is difficult to predict or measure whether combinations of interventions create synergies that translate into an overall effect larger than the sum of individual intervention effects, or whether the opposite is true (88). However, a large modelling study found that a multiple-intervention strategy (including health information and communication strategies that improve population awareness about the benefits of healthy eating and physical activity, fiscal measures that increase the price of unhealthy food content or reduce the cost of healthy foods rich in fibre, and regulatory measures that improve nutritional information or restrict the marketing of unhealthy foods to children) would achieve substantially larger health gains than would individual interventions, often with an even more favourable cost-effectiveness profile (89). Introducing fiscal and pricing policies as part of a wider suite of measures with clear public health objectives may also help defend policies against challenges to their legitimacy (188, 307).

A systematic review evaluating the evidence base on the effect of subsidies on healthy foods and taxes on unhealthy foods recommended implementing and evaluating healthy food subsidies and unhealthy food taxation in a variety of populations and settings (151). The authors of the review also emphasized how prior or simultaneous implementation of an education campaign about healthy eating could be a critical success factor (151). Another systematic review on the effectiveness of food taxes and subsidies to improve diets argued a similar point: the application of taxes should be reinforced by consumer education to increase public awareness of why products are taxed (168). Knowing that a product has been taxed because it is unhealthy may discourage purchases and increase support for the tax (168). Results of studies evaluating implemented SSB taxes supported this argument (317, 318). For example, in Mexico, adults who were aware of the national SSB tax were 23% more likely to report a decrease in consumption of SSBs than adults who were not aware of the tax (317). Thus, the authors concluded that the implementation of the SSB tax and the publicity that surrounded it may have had a “signalling effect”, making consumers more conscious about their beverage choices (317). In Spain, almost one third of sampled adults reported that their stated

change in consumption of SSBs was due to an increased awareness of the health effects of SSBs (318). Examining public perceptions of a potential SSB tax in Australia among young adults (18–30 years of age), a study found that 82% identified SSBs as being “unhealthy” or “very unhealthy”; of these, 41% reported that they would consider SSBs as even more unhealthy if a tax was introduced (254). Similar findings were obtained among young adults in the United States (319). A study evaluating the Chilean SSB tax identified, contrary to the authors’ hypothesis, the greatest overall purchasing change among high-SES households (320). The authors speculated that, because the SSB tax was a minor part of a major tax reform, thus limiting its public visibility, population groups with better access to information and media (which tend to be groups of higher SES in Chile), were more likely to be aware of the SSB tax and react to it by reducing purchases once the tax was implemented (320). Awareness of an implemented SSB tax, or the lack thereof, was also a topic in a qualitative study with adolescents in north-west Mexico (321). Participants in the study were largely unaware of the tax and, when informed of its existence, reported that it had not and would not affect their own SSB intake (321). The authors speculated that the SSB tax in Mexico might have been framed in a way that made it less salient to adolescents, possibly affecting its effectiveness (321).

In Hungary, an impact assessment of a tax on unhealthy non-staple food products identified improved nutrition literacy as an additional outcome of the tax, beyond the direct impact of price increases (121, 305). Depending on food category, 22–38% of consumers reportedly reduced their intake of taxed food products because of an increased health consciousness (121, 305). The impact assessment attributed this finding to the tax and the public discourse around its introduction indirectly changing population attitudes to unhealthy foods and influencing consumer decisions to consciously avoid unhealthy products (121, 305). Similarly, in Berkeley (California, United States), a higher than expected reduction in consumption of SSBs after the passing of an SSB tax was, according to the authors, partly attributable to the pro-tax media campaign, which likely shifted social norms and increased overall health consciousness (261). A case study of the SSB tax in the Philippines found that implementation of the tax catalysed “substantial policy changes in the food system” (218). For example, prepacked concentrates sold to food retailers that were used in unlimited SSB refill dispensers were subject to the newly introduced SSB tax; as a result, unlimited refills offered in some food outlets were discontinued (218). In addition, following the passing of the SSB tax, the President issued a directive for health warning labels to be put on SSBs to help consumers make an informed choice (218). The authors of the study commented that this provided an opportunity to regulate front-of-pack labelling and to counter misleading brand messages from manufacturers (266). In a qualitative study from New Zealand, public health experts considered an SSB tax to be a “good starting point” for other national health-related food taxes (218).

Several studies have found evidence of reformulation or changes in product size after the implementation of SSB taxes (322–325). For example, a recent study examining sugar and energy content on SSB labels before and after implementation of the United Kingdom SSB tax found a significant reduction in sugar content. The authors attributed this “substantial reformulation” to the SSB tax (323). Similarly, a study from South Africa found that significant reformulation had taken place since implementation of the national SSB tax in early 2018 (324). “Product change (portion size, food reformulation, portfolio mix)” is an outcome examined in the systematic review, and is discussed in more detail there (164).

Government documents from the United Kingdom similarly reported reductions in the sugar content of SSBs following the announcement and implementation of the United Kingdom’s SSB tax (153, 326–328).

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# Annex 1. Framework for review of contextual factors

Factor	Criteria	Guidance questions	Total number of studies included for each criterion
1. Values	Relative importance the population (those affected by exposure and/or outcome) assigns to the intervention health outcomes	What are the values people affected by the intervention assign to the intervention health outcomes?	41
2. Resource implications	Ratio of costs and benefits of the intervention, including costs of the intervention in the long and short terms, and the economic impact of the intervention on national and global economies	What is the value for money of the intervention in terms of cost–benefit/cost-effectiveness/cost-utility, including the impact on national/global healthcare costs in the short term and long term, and the impact on government revenue (including the use of additional revenue; and issues of noncompliance, inflation, black market or cross-border trade)?	56
3. Equity and human rights	Universal human rights standards	Is the intervention in accordance with human rights standards, and what is the impact of the intervention on human rights (including the ability to make a competent, informed and voluntary decision)?	14
	Impact on (health) (in)equality and/or (health) (in)equality	What is the impact of the intervention on (health) (in)equality and/or (health) (in)equality, including food and nutrition security (unequal and/or unfair access to food)?	56

			Is the intervention sensitive to sex, age, ethnicity, religion, culture, language, sexual orientation/ gender identity, disability status, education, SES, place of residence (including issues of social stigma, household expenditure, financial regressivity, and jobs/ employment)?	
4. Acceptability	Acceptability to stakeholders		Is the intervention acceptable to governments and policy-makers, the public and consumers, and industry?	151
	Sociocultural acceptability		Is the intervention acceptable to, and in agreement with, existing cultural and religious norms and beliefs?	1
	Environmental acceptability		Is the intervention aligned with environmental goals and considerations?	2
5. Feasibility	Development and implementation		What is the feasibility of developing and implementing the intervention (including barriers and facilitators)?	50
	Monitoring and enforcement		What is the feasibility of monitoring and enforcement of the intervention (including barriers and facilitators)?	12
	Impact on health systems, food systems and policy environment		Does the intervention have an impact on existing health or food systems (including resulting in additional interventions to improve the nutrition and health of populations)?	27

## Annex 2. Summary tables

To inform decisions on the strength of the recommendation to be formulated on fiscal and pricing policies to promote healthy diets, a summary table for each factor was prepared based on the identified literature for that factor. The summary tables were developed to closely align with the GRADE evidence to decision tables.

### Summary table for Factor 1: Values

<b>Noncommunicable diseases</b>	There was no variability in values on diet-related NCDs in the identified studies. Diet-related NCDs were perceived as being negative.
<b>Overweight/obesity (body weight status)</b>	<p>Values on body weight status varied by study population.</p> <p>In HICs, overweight and obesity are generally perceived negatively and as a serious health problem.</p> <p>In HICs, women (more so than men) perceive overweight/obesity (especially childhood obesity) to be a serious health concern.</p> <p>In HICs, people of lower SES perceive overweight/obesity to be a greater health concern than people of higher SES.</p> <p>Many studies from LMICs show that overweight/obesity is perceived as indicating good health, or interpreted as being “normal weight”.</p> <p>In some countries that have perceived overweight/obesity as indicating good health, values are changing, and normal weight BMI is increasingly considered healthy.</p>

### Summary table for Factor 2: Resource implications

<b>Ratio of costs and benefits for the intervention, costs of the intervention in the long and short terms, and the economic impact of the intervention on national and global economies</b>	<p>Multiple studies were identified that assessed the resource implications of fiscal and pricing policies. All were modelling studies, and most modelled resource implications of a tax on SSBs.</p> <p>The cost of implementing the modelled interventions, the health benefits and the healthcare cost savings differed across the studies.</p> <p>The studies that presented cost-effectiveness analyses of modelled SSB taxes all found the modelled tax to be cost-effective or cost-saving. The studies that modelled SSB taxes and did not present cost-effectiveness analyses generally concluded that the intervention resulted in healthcare cost savings.</p> <p>The studies that modelled only taxes on unhealthy foods, or a combination of both subsidies and taxes, also concluded these to be cost-effective or cost-saving.</p> <p>Of the studies that presented cost-effectiveness analyses of modelled subsidies or rewards, all but two found the modelled scenarios to be cost-effective or cost-saving.</p> <p>Modelling of the impact of an SSB tax in South Africa found a negative, but relatively small, impact on the national economy and estimated 5000–7000 job losses, which decreased to 1475 if reformulation occurred.</p>
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	<p>Impact assessments that estimated the costs and benefits of policy options to restrict volume promotions for “high fat, sugar, and salt (HFSS) products” in the United Kingdom estimated that all options analysed would have net benefits.</p> <p>Revenue generated from taxes on SSBs and unhealthy foods is used in various ways, including to finance healthcare programmes and salaries of healthcare professionals, healthy food incentives, school food programmes and community development.</p>
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### Summary table for Factor 3: Equity and human rights

<b>Accordance with human rights standards</b>	<p>Fiscal and pricing policies to promote healthy diets seem to be in accordance with human rights standards. For example, both the Special Rapporteur on the right to food (2008–2014) and the Special Rapporteur on the right of everyone to the enjoyment of the highest attainable standard of physical and mental health (2008–2014) have recommended the implementation of fiscal policies to realize the right to health and the right to food.</p> <p>However, some studies report that taxes on foods and non-alcoholic beverages are perceived to be inappropriately intrusive.</p>
<b>Impact on (health) (in) equity and (health) (in) equality</b>	<p>Taxes on unhealthy foods and subsidies for healthier foods appear to be among the interventions to promote healthy eating that are most likely to decrease health inequalities; this is possibly due to upstream changes to the food environment.</p> <p>Taxes on foods and non-alcoholic beverages are generally considered to be financially regressive, which was reported as a concern in some studies. However, as both obesity prevalence and consumption of unhealthy foods and SSBs are higher among groups of lower SES/income, many studies found taxes to be equitable because of the progressive health benefits (i.e. greater benefits in groups of lower SES).</p> <p>Three studies (of which one was a modelling study) examined employment changes associated with implementation of taxes. All three studies found no negative impacts on employment.</p>

### Summary table for Factor 4: Acceptability

<b>Overall acceptability</b>	Acceptability was found to vary within and between stakeholder groups, and is very context dependent.
<b>Government</b>	The number of countries with fiscal and pricing policies in place affirms acceptability of such policies to governments. Based on the increasing number of countries implementing SSB taxes, this action appears to be more acceptable than other fiscal and pricing policies.
<b>Industry</b>	<p>Acceptability to industry of taxes on foods and non-alcoholic beverages appears to be very low.</p> <p>No information on acceptability to industry of subsidies was found.</p>

<p><b>Public</b></p>	<p>Acceptability to the public of fiscal and pricing policies varies.</p> <p>In a systematic review and meta-analysis, 39–66% of the public supported an SSB tax. Studies reported on variations in acceptability according to age, sex and parental status. Education and SES appear to be positively associated with support for taxes on foods and non-alcoholic beverages. Variations were also found depending on political beliefs and ethnicity.</p> <p>The perceived role of the food environment as a determinant of health and nutritional status (especially the risk of overweight and obesity) was found to be linked to increased support for fiscal and pricing policies to promote healthy diets.</p> <p>The use of tax revenue for health purposes (e.g. prevention programmes, obesity treatment, public health awareness campaigns, subsidizing healthy foods) was found to be linked to higher public acceptability of taxes on foods and non-alcoholic beverages.</p> <p>Acceptability of taxes on foods and non-alcoholic beverages appeared to be lower than acceptability of policies to restrict marketing of foods and non-alcoholic beverages to children, and nutrition labelling policies.</p>
<p><b>Sociocultural acceptability</b></p>	<p>The degree to which “healthier” substitutes are available and/or accessible may affect the sociocultural acceptability of taxes on “unhealthy” foods.</p>
<p><b>Environmental acceptability</b></p>	<p>A draft impact assessment for policy options to restrict volume promotions for “high fat, sugar, and salt (HFSS) products” suggested that restricting price promotions would not have a substantial impact on the environment, but could make it more difficult for supermarkets to sell products that were close to their expiry date and may therefore increase the amount of food waste. However, the final impact assessment noted that restricting volume promotions could affect the amount of plastic and packaging used in the food and drink industry, due to an expected decrease in HFSS product consumption and increase in non-HFSS product consumption (non-HFSS products are expected to have less plastic and packaging).</p>



## Summary table for Factor 5: Feasibility

<p><b>Overall feasibility</b></p>	<p>The increasing number of countries that have taken action to implement fiscal and pricing policies in recent years, especially SSB taxes, speaks to the feasibility of such policies.</p> <p>Elements that make fiscal and pricing policies more feasible (opportunities/facilitators) or less feasible (challenges/barriers) are summarized below, under “Development and implementation” and “Monitoring and enforcement”.</p>
<p><b>Development and implementation</b></p>	<p>Opportunities/facilitators to development and implementation:</p> <p>Strong political leadership, intersectoral collaboration, supporting evidence, community support, use of existing governmental infrastructure and taxation mechanisms.</p> <p>Challenges/barriers to development and implementation:</p> <p>Complexity of the development process, conflicting interests, industry interference and pressure, a weak evidence base, (perceived) administrative burden.</p>
<p><b>Monitoring, evaluation and enforcement</b></p>	<p>Frameworks or programmes for monitoring and evaluation (and, when relevant, enforcement) are key elements in health policy, including fiscal and pricing policies. Ensuring that these are integral components of the policy affects overall feasibility of policy action.</p> <p>Opportunities/facilitators for monitoring, evaluation and enforcement:</p> <p>Establishment of independent advisory committees, support from academia or health institutions, collaborative efforts between stakeholders.</p> <p>Challenges/barriers to monitoring and enforcement:</p> <p>Lack of plans or programmes for monitoring, evaluation and enforcement; actual or perceived costs related to monitoring, evaluation and enforcement.</p>
<p><b>Impact on health systems, food systems and the policy environment</b></p>	<p>Implementing fiscal and pricing policies as one of several interventions with clear public health objectives may have larger impacts than the sum of the effects of individual interventions, and help defend policies against challenges to their legitimacy.</p> <p>If supplemented by health/educational campaigns, implementation of fiscal and pricing policies to promote healthy diets may increase health literacy, and make consumers more conscious about purchases and dietary habits.</p> <p>Implementation of fiscal and pricing policies may also catalyse changes in the food system, and be a starting point for development and implementation of other policy actions to promote healthy diets.</p>







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