

Food-EPI Singapore Report 2018

Benchmarking
policies in creating
healthier food
environments:
Current policies and
recommended
actions

ACKNOWLEDGEMENTS

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WHY FOOD-EPI FOR SINGAPORE?

Diabetes and obesity are becoming increasingly prevalent in Singapore

Like many countries in South East Asia, Singapore is facing growing threats from obesity and type-2 diabetes. In 2017, 8.7% of Singaporean adults were obese, 36.2% were overweight and 8.6% had type-2 diabetes (1). Using multiple national data sources, it has been projected that the figures will reach 15.9% for obesity and 15.0% for type-2 diabetes in 2050 (2). In 2016, obesity is estimated to have cost Singapore at least US\$400 million (approximately \$\$500 million), in terms of healthcare and productivity loss (3). The total economic burden of type-2 diabetes, specifically for working-age adults, was projected to increase from US\$787 million (approximately \$\$1 billion) in 2010 to US\$1,867 million (approximately \$\$2.5 billion) in 2050 (4).

Unhealthy food environments facilitate poor dietary choices and energy over-consumption

The food environment comprises the physical, economic, socio-cultural and policy structures that can influence food choices and dietary behaviors (5). Unhealthy food environments are characterized by a widespread availability of energy-dense and nutrient poor foods that are actively promoted and sold at affordable prices. Such food environments facilitate poor dietary choices and energy over-consumption, which in turn leads to excessive body weight and poor health (6).

Government actions and policies shape the food environment

Policies and actions by national governments are major influencers in shaping the food environment (3, 5). In Singapore, poor diet is the leading behavioral risk factor for premature death and ill health (**Figure 1**), including type-2 diabetes (7). In 2016, the Singapore government launched a multi-year plan to systematically tackle type-2 diabetes (8). Creating healthier food environments to support better dietary choices should therefore be a fundamental component of ongoing national efforts to prevent obesity and diabetes (5, 9).

In this report, we used the Food Environment Policy Index (Food-EPI) tool and process to compare government actions in Singapore against international examples of current best practices, and to propose recommendations address key policy gaps.

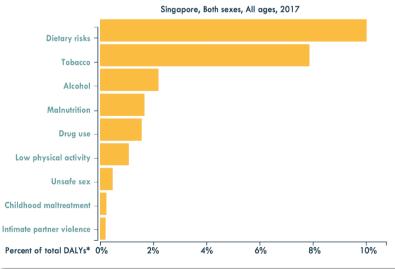


Figure 1 Behavioral risk factors contributing to disability-adjusted life years (DALYS), a measure of total disease burden. Source: Institute for Health Metrics and Evaluation (IHME). Singapore Profile. (7)

WHAT IS THE FOOD-EPI?

Developed by INFORMAS[^], the Food Environment Policy Index (Food-EPI) uses an evidence-based framework and standardized protocol to assess government policies and actions for creating healthier food environments (10). Globally, the Food-EPI has been adapted and implemented in over 10 countries (11).

The framework comprises of two components: 1) Food Policy and 2) Infrastructure support. There are 13 domains across these two components. These domains are policy areas identified by experts based on reports on reducing obesity and NCDs, as well as recommendations related to improving food environments and population diets.

Food Policy Component

Within the Food Policy component, there are 7 domains that can be implemented to create a healthier food environment. These include:



 Food Composition: There are government systems implemented to ensure that, where practicable, processed foods and out-ofhome meals minimize the energy density and the nutrients of concern (sodium, saturated fat, trans fat, added sugar)



5. Food Provision: The government ensures that there are healthy food service policies implemented in government-funded settings to ensure that food provision encourages healthy food choices, and the government actively encourages and supports private companies to implement similar policies



Pood Labelling: There is a regulatory system implemented by the government for consumer-oriented labelling on food packaging and menu boards in restaurants to enable consumers to easily make informed food choices and to prevent misleading claims



6. Food Retail: The government has the power to implement policies and programs to support the availability of healthy foods and limit the availability of unhealthy foods in communities (outlet density and locations) and instore (product placement)



3. Food Promotion: There is a comprehensive policy implemented by the government to reduce the impact (exposure and power) of promotion of unhealthy foods to children (<16 years) across all media</p>



7. Food Trade and Investment: The government ensures that trade and investment agreements protect food sovereignty, favour healthy food environments, are linked with domestic health and agricultural policies in ways that are consistent with health objectives, and do not promote unhealthy food environments



Food Prices: Food pricing policies (e.g., taxes and subsidies) are aligned with health outcomes by helping to make the healthy eating choices the easier, cheaper choices

Figure 2 Food policy domains. Source: Adapted with permission from Food-EPI Canada Team.

Infrastructure Support Component

Within the Infrastructure Support component, there are 6 domains that outline government infrastructure supports that enable the implementation of successful government policy and action. These include:



 Leadership: The political leadership ensures that there is strong support for the vision, planning, communication, implementation and evaluation of policies and actions to create healthy food environments, improve population nutrition, and reduce diet-related inequalities



Funding and Resources:
 Sufficient funding is invested in 'Population Nutrition' to create healthy food environments, improved population nutrition, and reductions in obesity, diet-related NCDs and related inequalities



 Governance: Governments have structures in place to ensure transparency and accountability, and encourage broad community participation and inclusion when formulating and implementing policies and actions to create healthy food environments, improve population nutrition, and reduce diet-related inequalities



5. Platforms for interaction:

There are coordination platforms and opportunities for synergies across government departments, levels of government, and other sectors (non-governmental organizations, private sector, and academia) such that policies and actions in food and nutrition are coherent, efficient and effective in improving food environments, population nutrition, diet-related NCDs and their related inequalities



8. Monitoring and Intelligence:

The government's monitoring and intelligence systems (surveillance, evaluation, research and reporting) are comprehensive and regular enough to assess the status of food environments, population nutrition and diet-related NCDs and their inequalities, and to measure progress on achieving the goals of nutrition and health plans



. Health-in-all-policies:

Processes are in place to ensure policy coherence and alignment, and that population health impacts are explicitly considered in the development of government policies

Figure 3 Infrastructure support domains. Source: Adapted with permission from Food-EPI Canada Team.

^The INFORMAS network (International Network for Food and Obesity/Non-Communicable Diseases Research, Monitoring and Action Support) was founded in 2013. It has since developed into a global network of public-interest organizations and researchers with an aim to monitor, benchmark and support efforts to create healthy food environments and reduce obesity and NCDs and their related inequalities. For more information on INFORMAS, please go to: https://www.informas.org/.

Policy indicators and International examples

There are 47 indicator areas across all 13 domains. Each indicator area is described by a Good Practice Statement.

Serving as examples of best practice, international examples under each indicator were used to benchmark the policies and actions in Singapore. These examples were identified and compiled by INFORMAS based on contemporary policies implemented by governments across the world. The international examples were

primarily obtained from the World Cancer Research Fund NOURISHING database (12), and were supplemented with examples sent by international experts in the fields of food, nutrition and obesity policy.

An example of indicator titles and international examples are shown in **Table**1. The full list of indicator titles, Good Practice Statement and international examples can be found in **Appendix A**.

Table 1 Example of Indicators and international examples (benchmarks of best practice) under Food Composition Domain

Indicator Title International examples

Food composition targets for processed foods

ARGENTINA: The government adopted a law on mandatory maximum levels of sodium permitted for several types of foods (e.g. meat products, breads, tinned foods) and restaurant dishes.

DENMARK: The sale of products containing any trans fats is prohibited by law.

SOUTH AFRICA: The Department of Health adopted mandatory targets for salt reduction in 13 food categories by means of regulation.

Food composition targets for out-of-home meals **NETHERLANDS:** The Dutch Ministry of Health, Welfare and Sport signed an agreement with trade organizations representing supermarkets, hotels, restaurants, caterers and the hospitality industry to lower the levels of salt, saturated fat and calories in food products. The agreement includes ambitions for the period up to 2020 and aims to increase the healthiness of the food supply. **NEW YORK (US):** The New York City's Health Code was amended to restrict trans-fat (max. 0.5g/serving) in all food service establishments. The National Salt Reduction Initiative encouraged sodium reduction by 25% in packaged and restaurant foods. **NEW ZEALAND:** The Chip Group, funded 50% by the Ministry of Health and 50% by industry, sets industry standards for deep-frying (maximum 28% saturated fat, 3% linolenic acid and 1% trans fat) and salt content.

FOOD-EPI SINGAPORE 2018 METHODS

At the onset of the project, a steering committee was set up to obtain advice on contextualizing the Food-EPI process to improve its implementation and relevance for Singapore. The steering committee comprised of academics (A/Prof Helena Legido-Quigley, Prof Rob M van Dam, and Prof Chia Kee Seng) who had expertise in the fields of policy and nutrition.

The overall Food-EPI Singapore process is summarized in **Figure 4**.

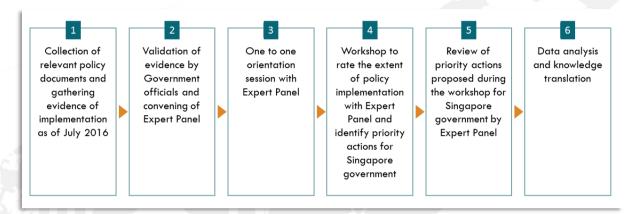


Figure 4 Steps of the Food-EPI Singapore 2018 process, which has been adapted from the INFORMAS Food-EPI process with an additional one-to-one orientation session.

Evidence compilation and validation

Information on Singapore's government actions and policies was compiled using publicly available, online information. Information sources generally included (i) government documents (press releases, governmental websites, parliamentary sessions, and budget speeches) and (ii) Singapore newspapers (TODAY and The Straits Times). These data were collected between May to December 2017. Prior to the full day workshop, information collected through personal communication (oral/email) with government officials was also included in the document. For the purpose of this study, government policies, actions and plans introduced from July 2016 onwards were included.

The evidence collected was sent to government officials in relevant ministries (Ministry of Health, Ministry of Social and Family Development, Ministry of Trade and Industry) and statutory boards (Health Promotion Board, Agri-food and Veterinary Authority, and SPRING Singapore) to verify its completeness and accuracy. Relevant input from the government officials were further incorporated into the evidence document. This process took place from May 2017 to March 2018. The document was shared with raters two weeks prior to the workshop.

Expert panel and Rating process

An expert panel who represented the 'public health nutrition community' within Singapore was convened for a full day workshop on the 29 March 2018. Members of the expert panel had relevant expertise on the various areas of the food environment. The group included non-governmental public health and nutrition experts from academia, non-governmental organizations, and medical/professional associations. Persons working for the food industry or the government were excluded due to potential conflicts of interest. All experts who agreed to participate declared potential conflicts of interest and were given a 1-hour orientation session. In the orientation session, each expert was provided with the study background and the evidence for a policy domain to rate so as to facilitate familiarity with the rating process.

A total of 47 experts were invited to be part of the Food-EPI Singapore expert panel. Of these, 44 were eligible based on inclusion criteria. Reasons for ineligibility included working for the food industry (n=1), working overseas (n=1), and no longer working in a relevant field (n=1). Of those who were eligible, 21 provided informed consent and were oriented, and 20 participated in the full day workshop (1 was not able to participate due to medical reasons). Reasons for non-participation included (i) prior commitments (n=11), (ii) decline to participate (n=3) and (iii) did not respond to the invitation (n=9). Among the 20, 13 (65%) were academics, 4 (20%) were from non-governmental organizations and 3 (15%) were from medical/professional organizations. A list of the experts that participated can be found at the end of the report.

The full day workshop was conducted in Singapore in March 2018. All experts recruited were invited to participate in the workshop and government officials were invited as observers*.

In the first half of the workshop, experts rated the current level of government policy implementation in Singapore against international best practices using a Likert scale from 1 to 10 (1 being 'very little, if any' implementation and 10 being 'high' implementation as compared with the benchmarks). When rating, experts were told to consider the various steps of the policy cycle. This included intention and plans of the government, such as the establishment of working and advisory groups, as

*As observers, government officials were given opportunities throughout the workshop to provide updates related to government actions in Singapore and clarify questions from the expert panel.

well as government funding for implementation of actions. Differences in how the panel members interpreted the evidence presented may have introduced subjectivity. We addressed this by clarifying that assessment of the level of implementation should be based on documented evidence. However, it is possible that participants considered other information, based on personal and professional experiences, during their assessments.

/

Proposing policy and infrastructure support actions

Following the rating session, the median rating scores for all 47 indicators were provided to both experts and government observers. The expert panel was then asked to select up to 10 indicators to prioritize for further discussion on recommended actions. In selecting indicators, participants were asked to consider (i) the implementation gap identified from the rating session (ii) indicator areas that are viewed as being currently important and (iii) actions perceived to be feasible to implement by the Singapore government in the near future. Discussions were audio recorded, transcribed, and all proposed actions were compiled and sent to the expert panel for review. Changes suggested by the expert panel were incorporated into the action list.

FINDINGS

Expert ratings of implementation

The median rating scores were categorized into 4 levels of implementation: no or very little implementation (≤ 2.5), low implementation (2.6-5.0), moderate implementation (5.1-7.5) and high implementation (≥ 7.6). The Gwet's AC2 inter-rater reliability coefficient was 0.71 95% CI (0.64-0.78), indicating good agreement between experts on the level of implementation of food environment policies and infrastructure support systems in Singapore (13).

Majority of the indicator areas, when compared with the international examples, were assessed as 'moderate' implementation (46.8%), followed by 'high' implementation (23.4%), 'very little, if any' implementation (17.0%) and 'low' implementation (12.8%). Overall, the infrastructure support indicators obtained higher median ratings as compared to the food policy indicators; 8 out of 11 assessed as 'high' implementation were infrastructure support indicators.

Figure 5 Expert panel's evaluation of Singapore's food environment policies to improve dietary quality and mitigate obesity and chronic diseases¹

COMPOSITION	Food composition targets for processed foods	6
	Food composition targets for out-of-home meals	6
LABELLING	Ingredient lists/nutrient declarations	5.5
	Regulatory systems for health and nutrition claims	7
	Front-of-pack labelling	6
	Menu labelling	4.5
PROMOTION	Restrict promotion of unhealthy foods (broadcast media)	6
	Restrict promotion of unhealthy foods (non-broadcast media)	5
	Restrict promotion of unhealthy foods (children's' settings)	5
PRICE	Reduce taxes on healthy foods	2
	Increase taxes on unhealthy foods	2
	Existing food subsidies favour healthy foods	9
	Food-related income support is for healthy foods	2.5
PROVISION	Policies in schools promote healthy food choices	8
	Policies in public settings promote healthy food choices	8
	Support and training systems (public sector settings)	7
	Support and training systems (private companies)	7.5
RETAIL Robus	t local government policies and zoning laws (unhealthy foods)	1
Rob	ust local government policies and zoning laws (healthy foods)	3
	In-store availability of healthy foods	6.5
F	ood service outlet availability of healthy and unhealthy foods	7
TRADE &	Trade agreement impacts assessed	1
INVESTMENT	Protect regulatory capacity–nutrition	1
LEADERSHIP	Strong visible political support	8
	Population intake targets established	7
	Food-based dietary guidelines implemented	8
	Comprehensive implementation plan linked to national needs	8
	Priorities for reducing inequalities	5.5
GOVERNANCE	Restricting commercial influence on policy development	8.5
	Use of evidence in food policies	6
Tre	ansparency for the public in the development of food policies	5.5
	Access to government information	4
MONITORING	Monitoring food environments	6
INTELLIGENCE	Monitoring nutrition status and intakes	7
	Monitoring BMI	7.5
	Monitoring NCD risk factors and prevalence	8
	Evaluation of major programmes	7
	Monitoring progress on reducing health inequalities	7
FUNDING &	Population nutrition promotion budget	7
RESOURCES	Research funding for obesity & NCD prevention	7
	Health Promotion Agency	8
PLATFORMS	Coordination mechanisms across government	8
FOR	Platforms for government and food sector interaction	8
INTERACTION	Platforms for government and civil society interaction	7.5
	Systems-based approach to obesity prevention	3
HEALTH-IN-ALL	Assessing the health impacts of food policies	2
POLICIES	Assessing the health impacts of non-food policies	2

 $^{^{1}}$ Scores are color-coded based level of implementation. The value within the bar represents the median rating score received for each indicator.

Table 2 Indicators where Singapore was highly rated against international best practices.

Food policy indicators

Food Price

High level of policy implementation

 Funding support for food manufacturers to develop healthier ingredients

Food Provision

 Programmes that limit provision of unhealthy foods, and promote healthier food choices in educational institutions and public settings

Infrastructure support indicators

Leadership

- Strong and visible political leadership from the Prime Minister and Minister of Health supporting policies to improve food environments and diet-related non-communicable diseases (such as diabetes)
- Presence of evidence-based dietary guidelines established for different age groups
- Implementation plans that are linked to national needs and priorities and aim to improve food environments through accessibility to and affordability of healthy food choices

Governance

 Policies to restrict commercial influence on policy development

Monitoring & Intelligence

 Monitoring non-communicable disease prevalence and related mortality, and surveillance of noncommunicable disease risk-factors

Funding & Resources

 Statutory health promotion agency in place, with secure funding stream that oversees national health promotion and disease prevention programmes (such as through the improvement of population nutrition)

Platforms for interaction

 Inter-ministry working groups to support coordination and planning for food, obesity and diet-related non-communicable disease prevention policies on an ad-hoc basis, as well as formal platforms between government and food sector to support implementation of healthy food policies

Table 3 Indicators where Singapore was rated little or no policy implementation against international best practices.

Food policy indicators

Infrastructure support indicators

Food Price

Little or no policy implementation

- Food pricing policies or strategies that favor healthy foods over unhealthy foods (such as reduced taxes for healthy foods or increased taxes on unhealthy foods)
- Policies or programmes that provide food-related income support for healthy foods in retail settings

Food Retail

 Zoning laws or policies to limit the density or placement of retail establishments that serve mainly unhealthy foods

Trade & Investment

- Policies or procedures to guide the assessment of trade and investment agreements on population nutrition and health, to minimize potentially negative impacts.
- Measures to ensure that trade or economic agreements do not limit the capacity of the government to implement domestic policies to improve the food environment

Health-in-all policies

 Assessing the health impacts of food policies and non-food policies.

Prioritized Indicators

All 20 experts took part in the selection of indicators. Out of all 47 indicators, 37 had at least one vote. Indicators voted for were ranked based on number of votes received and a total of 11 indicators were selected. 9 out of the 11 indicators selected for discussion were from the food policy component.

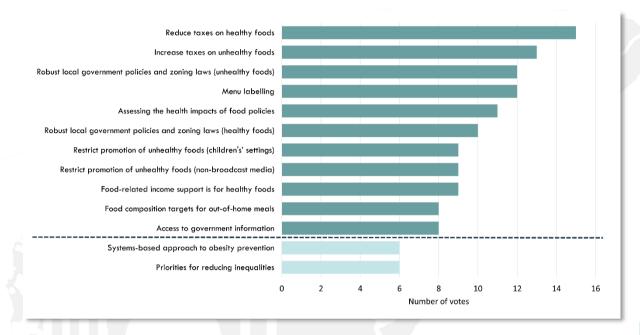


Figure 6 Top 13 indicators ranked according to number of votes received. The dotted line shows the cut off at the 11th indicator.

With the exception of Food composition targets for out-of-home meals, all of the indicator areas that were selected for discussion were previously assessed as 'low' implementation' or 'very little, if any' implementation as compared to international examples. With strong consideration of the Singapore context, the expert panel proposed concrete actions for each indicator. While the discussion was largely guided by the prioritized indicators, suggested actions outside of the indicators were also included as part of the recommendations.

Indicators that were rated "very little, if any" or "low" implementation, but were not selected for discussion included (i) Trade agreements impacts assessed, (ii) Protect regulatory capacity with respect to public health nutrition, (iii) Systems-based approach with civil organizations to improve food environments, and (iv) Assessing the health impacts of non-food policies.

Recommended actions

All recommended actions by the Expert Panel for the Singapore government to improve food environments are listed in Table 4 (25 food policy actions) and **Table 5** (6 infrastructure support actions).

Table 4 List of food policy actions recommended to support healthy food environments

Recommended Actions

FOOD LABELING FOOD COMPOSITION

- To establish minimum standards for nutrients of concern (e.g. energy, sodium, saturated fat, trans-fat, added sugar) across all food categories (i.e. packaged foods and out-of-home meals) for the food to be considered "healthier" rather than have standards that are category specific. This definition of healthier can then serve as the basis for informing future programme actions (e.g. labelling or marketing restrictions).
- To include guidance related to sodium, added sugar and portion size for "My Healthy Plate", Singapore's food group based dietary intake recommendations.

- To consider highlighting foods with high amounts of nutrients of concern (e.g. warning labels) rather than highlighting healthier food options.
- Adopt a nutrition labelling system that considers minimum standards of nutrients 4 of concern consistently across all food categories (e.g. by using a nutrition profiling system) that must be implemented for all packaged foods.
- 5 Menu labelling for energy and nutrients of concern (e.g. sodium, saturated fat) at the point-of-sale should be made mandatory for certain types of food establishments (e.g. chain-restaurants/eateries).
- To consider the use of healthier ingredients in food preparation as a regulatory requirement in educational institutions.

FOOD PROMOTION

- To introduce a more systematic and robust process to monitor compliance with the Children's code, with oversight by an independent body (instead of the Advertising Standards Authority of Singapore, the self-regulatory body of the advertising industry).
- To extend the timing in the TV programming schedule under the Children's Code to include family time (i.e. 5pm to 7pm) at the very least. It is recommended that the guideline is extended to cover prime time as well.
- To extend the outdoor advertising regulations to beyond 50 meters radius around schools as well as to other places where children and youth gather such as sports areas, parks, SCAPE, tuition centers and community centers.
- To introduce regulations that only allow the promotion of meals or products that meet certain nutritional guidelines with toys/games/incentives.
- 11 To consider regulating product-placements in TV shows. One suggestion is to consider a ratio-based restriction where a certain minimum proportion of product placements must be for healthy food options.
- To commission studies that aim to characterize the nature and the extent of some of the newer methods of advertising to children (e.g. new media advertising using internet or social media)

- To consider a **tiered system where commodities that are healthier are subsidized or not taxed**. For example, the GST increase from 7% to 9% which is planned to be implemented between 2021 to 2025 should not be applied to healthier commodities. Some examples of healthier commodities may include foods such as wholegrain staples, cooking oils low in saturated fat and trans-fat free, fresh fruits and fresh vegetables. Processed foods are taxed but to varying extents based on their healthfulness. The panel recommended that a committee look into the definition of healthier and less healthier foods in more detail prior to implementation.
- 14 To commission studies that assess the impact of fiscal measures on consumer behavior and potential health outcomes in Singapore.
- 15 To commission studies that characterize the relationship between price and willingness to purchase foods.
- 16 Although constraints such as logistic feasibility and cultural acceptability are recognized, efforts must be made to ensure that **food rations for vulnerable populations meet a minimum criteria for healthfulness**.
- 17 To consider the mechanism of providing food vouchers that subsidize the purchase of selected healthier foods for low-income groups.
- 18 To establish monitoring systems to evaluate the utilization of food rations among lower income groups.

OOD RETAIL

- The overall healthfulness of the food service mix in retail space should be considered and regulated. For example, the number of "unhealthy restaurants" or the ratio of unhealthy to healthy restaurants should be limited in food service settings. A higher standard of healthfulness should be applied around settings that serve children and youth (e.g. SCAPE, community centers).
- To regulate the type of foods that can be made available in vending machines in educational settings such that unhealthy foods are not sold or at the very least their proportion is limited.
- 21 To consider **limitations on the discounts/promotions that quick service restaurants can offer** in certain locations (for example schools, campuses, universities)
- 22 To consider offering rental subsidies and/or other benefits (e.g. prime locations) to stalls that sell healthier foods.
- 23 To introduce **initiatives that facilitate setting up of Farmer's Markets** in Singapore (e.g. rental subsidy).
- To consider **offering support** (e.g. space, tools and resources) **to encourage urban farming** with a view to sustainably increase access to, and engagement with, healthier foods.

THERS

25 To offer a larger variety of comfortable settings (e.g. with wi-fi/aircon) for care-givers of young children (e.g. grandparents) and youth to limit exposure to food advertising and cues to eat.

Recommended Actions

GOVERNANCE

- To increase accessibility to government data. Some proposed examples include (i) to enhance access to data for certain types of agencies/institutions, and (ii) to tier data based on level of sensitivity such that data with low sensitivity could be made publicly available.
- To improve transparency during policy decision-making processes in a timely manner (e.g. scientific evidence and the rationale for developing and implementing a policy should be made publicly available).
- 3 To be transparent in the assessment of programmes or policies with regards to both process evaluation and outcome/impact evaluation, including cost-effectiveness of such programmes/policies.

HIAP

4 To commission natural experiments to **observe the impact of policies** implemented on population behavior and related health impact.

THERS

- 5 To create more accessible and well-defined platforms for data sharing, at both the inter-governmental level, and between government and academia/think-tanks/NGOs.
- 6 Funding should be made available for rapid assessment of policies implemented (for instance with regards to tax/subsidy policies) so that policy evaluation is done in a scientifically rigorous yet timely manner.

STRENGTHS

Comprehensive: The Food-EPI tool has a comprehensive set of indicators, covering a wide range of policy and infrastructure support areas. This allows for the identification of government actions that are most needed.

Completeness: Compiled evidence was validated by the government officials for accuracy and completeness. Aside from implemented policies and actions, information related to intentions and upcoming plans were also requested and shared with the expert panel.

Orientation: The orientation session was one of the main adaptations of the Singapore Food-EPI process. We introduced this to familiarize participants with the Food-EPI method. Relevant feedback obtained from the experts during the orientation was used to clarify and adapt workshop materials.

Broad expertise: The expert panel had wide representation in terms of areas of expertise in both the food policy domains (except Food Trade) as well as public health nutrition areas. While majority of the experts who attended the workshop are academics (65.0%), some academics had co-existing roles in nongovernmental and medical/professional organizations.

Transparency: The full day workshop provided an engagement process that brought both government officials and the experts together and facilitated a transparent rating and discussion process.

CHALLENGES

Completeness: The evidence document is based on publicly available information and restricted information that the government was willing to share with the expert panel. It is possible that there was privileged information that could not be shared. However, this was mitigated by the presence of government observers at the workshop who provided clarifications as required.

International examples: Experts were concerned that some of the international benchmarks of the Food-EPI tool, did not have all the features of an ideal policy in that area. However, although imperfect, these policies reflected actions that have been implemented by governments and provide more realistic standards for assessment.

Social desirability: It is possible that the presence of government officials in the workshop may have influenced the ratings provided by experts. To help mitigate this, ratings were kept anonymous.

IMPLICATIONS FOR POLICY

With a comprehensive view of the food policy space in Singapore, the expert panel was able to systematically assess the level of implementation of these policies against international examples and recommend important and timely government actions to address identified gaps of implementation. Such systematic and timely monitoring of the food policy space is crucial for nurturing the vitality of our food environment. Creating food environments that encourage healthier dietary behaviors is an essential component of public health efforts to address the growing challenges of obesity and diabetes in Singapore. This work is one of the first efforts to systematically characterize the food environment policy space in Singapore, and can serve as the foundation for continuous monitoring of public sector foodenvironment policies to track progress in this area.

LIST OF EXPERTS

Name	Affiliation ²
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APPENDIX A: GOOD PRACTICE STATEMENTS

	Indicator Title	Good Practice Statement	International Examples
FOOD COMPOSITION	Food composition targets for processed foods	Food composition targets/standards have been established for processed foods by the government for the content of the nutrients of concern in certain foods or food groups if they are major contributors to population intakes of these nutrients of concern (trans fats and added sugars in processed foods, salt in bread, saturated fat in commercial frying fats)	ARGENTINA: The government adopted a law on mandatory maximum levels of sodium permitted for several types of foods (e.g. meat products, breads, tinned foods) and restaurant dishes. DENMARK: The sale of products containing any trans fats is prohibited by law. SOUTH AFRICA: The Department of Health adopted mandatory targets for salt reduction in 13 food categories by means of regulation.
	Food composition targets for out-of-home meals	Food composition targets/standards have been established for out-of-home meals in food service outlets by the government for the content of the nutrients of concern in certain foods or food groups if they are major contributors to population intakes of these nutrients of concern (trans fats, added sugars, salt, saturated fat)	NETHERLANDS: The Dutch Ministry of Health, Welfare and Sport signed an agreement with trade organizations representing supermarkets, hotels, restaurants, caterers and the hospitality industry to lower the levels of salt, saturated fat and calories in food products. The agreement includes ambitions for the period up to 2020 and aims to increase the healthiness of the food supply. NEW YORK (US): The New York City's Health Code was amended to restrict trans-fat (max. 0.5g/serving) in all food service establishments. The National Salt Reduction Initiative encouraged sodium reduction by 25% in packaged and restaurant foods. NEW ZEALAND: The Chip Group, funded 50% by the Ministry of Health and 50% by industry, sets industry standards for deep-frying (maximum 28% saturated fat, 3% linolenic acid and 1% trans fat) and salt content.

FOOD LABELLING

Ingredient lists/nutrient declarations Ingredient lists and nutrient declarations in line with Codex recommendations are present on the labels of all packaged foods **MANY COUNTRIES:** Producers and retailers are required by low to provide a comprehensive nutrient list on pre-packaged food products (with limited exceptions), even in the absence of a nutrition or health claim (e.g. nutrients must be listed in 100g/serving).

some countries: About 10 countries require that nutrient lists on pre-packaged food must, by law, include the trans-fat content of the food.

US: The Nutrition Facts label on packaged food products was updated to include information on added sugars (in grams and as Percent Daily Value), below the line for total sugars.

Regulatory systems for health and nutrition claims Robust, evidencebased regulatory systems are in place for approving/reviewing claims on foods, so that consumers are protected against unsubstantiated and misleading nutrition and health claims AUSTRALIA/ NEW ZEALAND: The use of health and nutrient content claims on food labels is regulated by law in Australia and New Zealand. Health claims must be based on pre-approved food-health relationships or self-substantiated according to government requirements and they are only permitted on foods that meet nutritional criteria, as defined by a nutrient profiling model. Although nutrition content claims also need to meet certain criteria set out in the Standard, there are no generalized nutritional criteria that restrict their use on "unhealthy" foods such as for health claims.

INDONESIA: A regulation establishes rules on use of claim on any food product or beverage which has been processed. Nutrition or health claim may be used if they do not exceed a certain level of fat, saturated fat, cholesterol and sodium per serving. Nutrient content claims must meet claimspecific nutrient standards.

US: Health claims are not permitted if a food contains more than 13g of fat, 4g of saturated fat, 60mg of cholesterol, or 480mg of sodium. Nutrient-content claims are generally limited to an FDA-authorized list of nutrients. Packages containing a nutrient-content claim must include a disclosure statement if a serving of food contains more than the cut-off criteria above.

FOOD LABELLING

Front-of-pack labelling

A single, consistent, interpretive, evidence-informed front-of-pack supplementary nutrition information system, which readily allows consumers to assess a product's healthiness, is applied to all packaged foods

AUSTRALIA/ NEW ZEALAND: The government approved a 'Health Star Rating' (HSR) system as a voluntary scheme for industry adoption. The system takes into account energy, saturated fat, sodium, total sugar, as well as 'positive' aspects, including dietary fibre and protein content. Star ratings range from $\frac{1}{2}$ star to 5 stars (most healthy). **CHILE:** The regulatory norms approved under the Law of Nutritional Composition of Food & Advertising define limits for energy (275 calories/100g or 70 calories/100mL), saturated fat (4g/100g or 3g/100mL), sugar (10g/100g or 3g/100mL)5g/100mL) and sodium (400mg/100g or 100mg/100mL) and provide specifications for the size, font, and placement of the warning message on products. All foods that exceed these limits need to have a front-of-package black and white

ECUADOR: A regulation of the Ministry of Public Health requires packaged foods to carry a "traffic light" label in which the levels of fats, sugar and salt are indicated by green (low), amber (medium) and red (high).

warning message inside a stop sign that reads "HIGH IN" followed by CALORIES, SATURATED FAT, SUGAR or SODIUM, as well as "Ministry of

Health".

UK: National guidance was published for voluntary 'traffic light' labelling use on the front of prepackaged food products. The label uses green, amber and red to identify whether products contain low, medium or high levels of energy, fat, saturated fat, salt and sugar.

Menu Labelling

A consistent, single, simple, clearly-visible system of labelling the menu boards of all quick service restaurants (i.e. fast food chains) is applied by the government, which allows consumers to interpret the nutrient quality and energy content of foods and meals on sale

AUSTRALIA: Legislation in Australian Capital Territory, and the States of NSW and South Australia requires restaurant chains (e.g. fast food chains, ice cream bars) with ≥ 20 outlets in the state or ≥ 50 across Australia, to display the kilojoule content of food products on their menu boards. **NEW YORK:** The New York City Health Code requires chain restaurants (≥ 15 locations nationwide) to put a salt-shaker symbol on menus and menu boards, when dishes contain $\geq 2,300$ mg of sodium. In addition, a warning statement is required to be posted at point of purchase to explain the symbol.

SOUTH KOREA: The Special Act on Safety Control of Children's Dietary Life requires all chain restaurants with ≥100 establishments to display nutrient information on menus including energy, total sugars, protein, saturated fat and sodium.

TAIWAN: Under the Food Safety and Sanitation Act, convenience store chains, drink vendor chains and fast food chains have to label the sugar and caffeine content of prepared-when-ordered drinks as per regulation in the Act.

US: Under the Patient Protection and Affordable Care Act, all chain restaurants with ≥20 establishments are required to display energy information on menus. This is implemented in Two states (e.g. California), seven counties and two municipalities (e.g. New York City).

Restrict
promotion of
unhealthy
food
(broadcast
media)

Effective policies are implemented by the government to restrict exposure and power of promotion of unhealthy foods to children through broadcast media (TV, radio)

CHILE: The Law of Nutritional Composition of Food & Advertising restricts advertising of foods that are high in calories (275 calories/100g or 70 calories/100mL), saturated fat (4g/100g or 3g/100mL), sugar (10g/100g or 5g/100mL) and sodium (400mg/100g or 100mg/100mL) content to children (<14 years). The regulatory norms define advertising targeted to children as programmes directed to children or with an audience of greater than 20% children, and according to the design of the advertisement. NORWAY/ SWEDEN: Under the Broadcasting Act, advertisements (food and non-food) may not be broadcast on television directed to children (≤ 12 years) or in connection with children's programmes. QUEBEC (CANADA): The Consumer Protection Act prohibits commercial advertising (food/non-food) to children (< 13 years) on broadcast media, based on 15% audience share.

SOUTH KOREA: Under the Special Act on the Safety Management of Children's Dietary Life, TV advertising to children (<18 years) prohibited for specific categories of food before, during and after programmes shown between 5-7pm and during other children's programmes.

Restrict promotion of unhealthy food (nonbroadcast media) Effective policies are implemented by the government to restrict exposure and power of promotion of unhealthy foods to children through non-broadcast media (e.g. Internet, social media, food packaging, sponsorship, outdoor advertising including around schools)

CHILE: Similar to above, the Law of Nutritional Composition of Food & Advertising restricts advertising of foods that are high in calories, saturated fat, sugar and sodium to children (<14 years). Child-oriented promotional strategies (cartoons and toys) are also not permitted. Kinder surprise eggs have been outlawed and toys in McDonald's Happy Meals are prohibited. The regulatory norms include websites targeted to children in their definition of child-directed advertising.

QUEBEC (CANADA): Similar to above, the Consumer Protection Act also prohibits advertising directed at children (<13 years) on non-broadcast media.

Restrict promotion of unhealthy food (children's setting) Effective policies are implemented by the government to ensure that unhealthy foods are not commercially promoted to children in settings where children gather (e.g. preschools, schools, sport and cultural events)

CHILE: Similar to above, the Law of Nutritional Composition of Food & Advertising restricts advertising of foods that are high in calories, saturated fat, sugar and sodium to children (<14 years), including school premises (preschools, primary and secondary schools). Child-oriented promotion strategies (cartoons, animations and toys) are also not permitted.

HUNGARY: Section 8 of Act XLVIII on Basic Requirements and Certain Restrictions of Commercial Advertising Activities prohibits all advertising directed at children (<18 years) in child welfare and child protection institutes, kindergartens, elementary schools and their dormitories.

URUGUAY: The Healthy Foods in Schools Law prohibits food marketing (e.g. posters, billboards, logos or brands, sponsorship, free sample) that do not meet the nutrition standards.

Reduce taxes on healthy foods Taxes or levies on healthy foods are minimised to encourage healthy food choices where possible (e.g. low or no sales tax, excise, value-added or import duties on fruit and vegetables) **AUSTRALIA:** Goods and services tax exemption exists for basic foods including fresh fruits and vegetables.

FIJI: Excise duty was removed on imported fruits and vegetables. Import tax for most varieties decreased from the original 32% to 5% (exceptions: 32% remains on tomatoes, cucumbers, potatoes, squash, pumpkin and 15% remains on coconuts, pineapples, guavas, mangosteens) and removed for garlic and onions.

POLAND: Rate of tax for unprocessed and minimally processed food products is much lower (3% as compared to the usual 22% on goods and services).

TONGA: Import duties were lowered from 20% to 5% for imported fresh, tinned or frozen fish to promote healthier diets.

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Increase taxes on unhealthy foods

Taxes or levies on unhealthy foods (e.g. sugar-sweetened beverages, foods high in nutrients of concern) are in place and increase the retail prices of these foods by at least 10% to discourage unhealthy food choices where possible, and these taxes are reinvested to improve population health

FRENCH POLYNESIA: Various food and beverage taxes have been in place to discourage consumption and raise revenue, including a domestic excise duty on sweetened drinks (~\$\$0.52/litre) and import tax on imported sweetened drinks (~\$\$0.78/litre). Between 2002 – 2006, tax revenue went to a preventive health fund; from 2006, 80% has been allocated to the general budget and earmarked for health.

HUNGARY: A public health tax is applied on salt, sugar and caffeine content of various categories of ready-to-eat foods. Soft drinks, for example, are taxed at \sim \$\$0.34/litre and other sweetened products at \sim \$\$0.64/litre. The tax also applies to products high in salt, including salty snacks (>1g/100g), condiments (>5g/100g) and flavorings (>15g/100g).

MEXICO: An excise duty of 1 peso/litre (\sim S\$0.07) applies to all drinks with added sugars (except milks or yoghurts), leading 10% increase in price. An 8% ad valorem excise duty applies to foods with high caloric density (\geq 275 kcal/100g, e.g. chips and snacks; confectionary).

ST HELENA: A £0.75/litre ($\sim S$1.40$) excise duty is applied to high-sugar carbonated drinks (defined as $\geq 15g$ sugar/litre).

UK: The soft drinks industry is sugar taxed as per the volume of the sugar-sweetened drinks produced or imported. There are two bands; drinks with >5g/100ml are taxed at 18 pence/litre (~\$\$0.32) and drinks with >8g/100ml are taxed at 24 pence/litre (~\$\$0.42). Pure fruit juices and milk-based drinks are excluded.

Existing food subsidies favor healthy foods

The intent of existing subsidies on foods, including infrastructure funding support (e.g. research and development, supporting markets or transport systems), is to favor healthy rather than unhealthy foods

SINGAPORE: The Healthier Ingredient Scheme provides transitional support to oil manufacturers and importers to help them increase the sale of healthier oils to the food service industry. The scheme offers a subsidy to suppliers stocking healthier items. Cooking oil is the first ingredient under the scheme, which subsidises oils with a saturated fat $\leq 35\%$.

Food-related income support is for healthy foods The government ensures that foodrelated income support programs are for healthy foods **UK:** The British Healthy Start Programme provides pregnant women and/or families with children (<4 years) with weekly food vouchers to spend on milk, plain yoghurt, and fresh and frozen fruit and vegetables. Participants must be receiving income support, job seeker allowance or child tax credits. US: Under the Healthy Incentives Pilot, participants received an incentive of US\$0.30 per US\$1 spent on targeted fruit and vegetables. Revisions were implemented to the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) to improve the composition and quantities of WIC-provided foods from a health perspective (e.g. increase fruits and vegetables, expand whole-grain options, allow for yoghurt as a partial milk substitute, allow parents of older infants to buy fresh produce).

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Policies in schools promote healthy food choices

The government ensures that there are clear, consistent policies (including nutrition standards) implemented in schools and early childhood education services for food service activities (canteens, food at events, fundraising, promotions, vending machines etc.) to provide and promote healthy food choices

AUSTRALIA: Six states and territories (e.g. New South Wales (NSW)) have implemented mandatory standards. All of these states and territories identify 'red category' foods, which are either completely banned in schools or heavily restricted (e.g. offered no more than one or two times per term). Under the NSW policy, foods provided in school canteens should be at least 50% green foods, which include low-fat carbohydrates, fruits and vegetables, and lean meat as well as small portions of pure fruit juice. **BRAZIL:** The national school feeding programme places great emphasis on the availability of fresh, traditional and minimally processed foods. A school food procurement law limits the amount of processed foods purchased by schools to 30% and bans the procurement of drinks with low nutritional value, such as sugary drinks. Resolution no. 38 sets food and nutrition standards for foods available in the national school meal programme and prohibits foods that exceed a set threshold for sodium and saturated fat (e.g. sodas, canned meats, confectionaries, and processed foods). MAURITIUS: A regulation was passed banning soft drinks, including diet soft drinks, and unhealthy snacks from canteens of preelementary, elementary and secondary schools. UK: England, Scotland, Wales and Northern Ireland mandate nutritional standards (e.g. restrict foods high in fat, salt and sugar) for school foods.

Policies in public settings promote healthy food choices The government ensures that there are clear, consistent policies in other public sector settings for food service activities (canteens, food at events, fundraising, promotions, vending machines, public procurement standards etc.) to provide and promote healthy food choices.

BERMUDA: The Government Vending Machine Policy was implemented in government offices and facilities to ensure access to healthy snacks and beverages for staff. The policy requires all food and beverages to meet specific criteria based on levels of total fat, saturated fat, trans fat, sodium and sugar (exclude nuts and 100% fruit juices).

LATVIA: The government set salt levels for all foods (i.e. $\leq 1.25g/100g$ except fish product $\leq 1.5g/100g$) served in hospitals and long-term social care institutions.

NEW YORK (US): New York City's Food Standards set nutritional standards for food procurement, which applies to prisons, hospitals and senior care centres. Standards include maximum and minimum levels of nutrients per serving, standards for specific foods (1% milk or no-fat milk), portion size requirements, offering water with meals, and prohibition on deep-fried foods.

UK: The Government Buying Standard for Food and Catering Services sets out standards for the public sector for food and catering services; the standards apply to schools, hospitals, care homes, communities and the armed forces. Standards include maximum levels for saturated fat, salt, and sugar (cereal) and minimum levels of fibre (cereal) and fruit (desserts).

WALES: Vending machines dispensing crisps, chocolate and sugary drinks are prohibited in National Health Service hospitals in Wales. The Health Promoting Hospital Vending Directions and Guide defines what is allowed and not allowed; government liaised with major vending providers to introduce healthier options.

Support and training sector settings)

The Government ensures that there systems (public are good support and training systems to help schools and other public sector organisations and their caterers meet the healthy food service policies and **auidelines**

JAPAN: Under the Basic Law on Shokuiku, at least one registered dietitian should be assigned at any government-owned facility with mass food service over 100 meals/sitting or over 250 meals/day. Under the Diet and Nutrition Teacher System, diet and nutrition teachers supervise school lunch programs, formulate menus in accordance with needs of local communities. The Revised School Lunch Act included School Lunch Practice Standard which stipulates that school lunches must take account of reference intake values of energy and each nutrient as per age groups.

VICTORIA (AUSTRALIA): The Healthy Eating Advisory Service is delivered by dietitians and nutritionists to support stakeholders in providing healthy foods and drinks to public in line with Victorian government policies and guidelines. The stakeholders include chefs, food service personnel and key staff in setting such as childcare centers, schools, workplace, health services, food outlets, parks and sporting centers. The support includes training cooks, chefs, foods service and other key staff, discovering healthier recipes, food ideas and other helpful resources to provide healthier menus and products.

Support and training systems (private companies)

The Government actively encourages and supports private companies to provide and promote healthy foods and meals in their workplaces

UK: The UK responsibility deal included collective pledges on health at work, which set out the specific actions that partners agree to take in support of the core commitments. One of the pledges is on healthier staff restaurants. VICTORIA (AUSTRALIA): 'Healthy choices: healthy eating policy and catering guide for workplaces' is a guideline supported by the Healthy Eating Advisory Service to help workplaces (including private sector settings) in providing and promoting healthier food options to their staff. Menu assessments and cook/caterer training are available free of charge to

workplaces.

Robust government policies and zoning laws (Unhealthy foods) Zoning laws and policies are robust enough and are being used, where needed, by local governments to place limits on the density or placement of quick serve restaurants or other outlets selling mainly unhealthy foods in communities

Robust government policies and zoning laws (Healthy foods) Zoning laws and policies are robust enough and are being used, where needed, by local governments to encourage the availability of outlets selling fresh fruit and vegetables

DETROIT (US): The zoning code prohibits the building of fast food restaurants within 500 ft. $(\sim 150m)$ of all elementary, junior and senior high schools.

SOUTH KOREA: The Special Act on Children's Dietary Life Safety Management established the creation of 'Green Food Zones' around schools, banning the sale of foods deemed unhealthy by the Food and Drug Administration of Korea within 200m of schools.

UK: Some local authorities have developed "supplementary planning documents" related to hot food takeaways. The policies typically do not allow hot food takeaways from a 400m zone around the target location (e.g. primary schools).

NEW YORK (US): The 'Green Cart Permit' was developed with reduced restrictions on zoning requirements to increase the availability of fresh fruits and vegetables in designated, underserved neighborhoods. In addition, a food retail expansion was established to support the health program, FRESH. Under the programme, financial (e.g. exemption/ reduction of taxes) and zoning incentive (e.g. additional floor area) are offered to promote neighborhood grocery stores offering fresh meat, fruit and vegetables in under-served communities.

SCOTLAND: Supplier and retailers established a pilot project called "Healthy Living Neighbourhood Shops" which received government funding. Through a number of different trials, the programme established criteria for increasing sales of healthier foods and developed bespoke point of sale materials which were given to participating retailers free of charge.

US: The Healthy Food Financing Initiative provides grants or loans to states to provide financial and/or other types of assistance to attract healthier retail outlets to underserved areas.

In-store
availability of
healthy foods

The Government ensures existing support systems are in place to encourage food stores to promote the in-store availability of healthy foods and to limit the in-store availability of unhealthy foods

US: The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) requires WIC authorised stores to stock certain healthier products (e.g. wholegrain bread).

Food service outlet availability of healthy and unhealthy foods The government ensures existing support systems are in place to encourage food service outlets to increase the promotion and availability of healthy foods and to decrease the promotion and availability of unhealthy foods

FRANCE: Unlimited offers of sweetened beverages for free or at a fixed price are banned in public restaurants and other facilities accommodating or receiving children (<18 years). Sweetened beverages are defined as any drink sweetened with sugar or artificial (caloric and non-caloric) sweeteners, including flavoured carbonated and still beverages, fruit syrups, sport and energy drinks, fruit- and vegetable-based drinks, as well as water- milk- or cereal-based beverages.

SAN FRANCISCO (US): The Health Food Incentives Ordinance bans restaurants, including takeaway restaurants, to give away toys and other free incentive items with children's meals unless the meals meet nutritional standards (i.e. meals must not contain more than 600 calories, 640mg sodium, 0.5g trans fat, 35% total calories from fat and 10% calories from saturated fat and include a minimum amount of fruits and vegetables). Single food items and beverages must have <35% total calories from fat and <10% of calories from added caloric sweeteners. **SINGAPORE:** Under the Healthier Dining Programme, food service operators are encouraged to offer lower calorie meals and use healthier ingredients (e.g. oils with reduced saturated fat content, and/or whole grains). "Healthier Choice Symbol Identifiers" can be used next to the healthier dishes in all menu and marketing materials (e.g. "We serve lower-calorie options", "We use healthier oil").

Trade
agreement
impacts
assessed

FOOD TRADE

The government undertakes risk impact assessments, before and during the negotiation of trade and investment agreements, to identify and evaluate the direct and indirect impacts of such agreements on population nutrition and health

US/ EUROPEAN UNION (EU): It is mandatory in the US and countries of the EU to undertake Environmental Impact Assessments for all new trade agreements. These assessments sometimes incorporate Health Impact Assessments.

Protect regulatory capacity -Nutrition The government adopts measures to manage investment and protect their regulatory capacity with respect to public health nutrition

MANY COUNTRIES: Sanitary and phytosanitary clauses in World Trade Organization agreements. However, this usually does not apply to public health nutrition.

GHANA: Set standards to limit the level of fats in beef, pork, mutton and poultry. The relevant standards establish maximum percentage fat content for de-boned carcasses/cuts for beef (<25%), pork (<25%) and mutton (<25% or <30% where back fat is not removed), and maximum percentage fat content for dressed poultry and/or poultry parts (<15%).

LEADERSHIP

Strong, visible, political support

There is strong, visible, political support (at the Head of

Government/Cabinet level) for improving food environments, population nutrition, diet-related NCDs and their related inequalities developing new dietary guidelines that are drastically different from the majority of dietary guidelines created by any nation to date, and align with some of the most commonly cited recommendations for healthy eating, such as making minimally processed foods the basis of the diet.

CARICOM COUNTRIES: Active NCD commissions exist in six of the 20 CARICOM member states
(Bahamas, Barbados, Bermuda, British Virgin Islands, Dominica, Grenada) which are all housed in their Ministries of Health, with members recommended by the Minister of Health and appointed by the Cabinet of Government for a fixed duration; all include government agencies and to a varying degree, civil

BRAZIL: The Minister of Health showed leadership in

NEW YORK: Michael Bloomberg (Mayor of NY) prioritised food policy and introduced a number of ground breaking policy initiatives. Examples include 'Health Bucks', a restriction on *trans* fats, establishment of an obesity taskforce, a portion size restriction on sugar-sweetened beverages, and public awareness campaigns.

society and the private sector.

Population intake targets established

Clear population intake targets have been established by the government for the nutrients of concern to meet WHO and national recommended dietary intake levels **BRAZIL:** 'Strategic Action Plan for Confronting NCDs 2011-2022'

Targets specified includes (i) increase adequate consumption of fruits and vegetables, from 18.2% to 24.3 % between 2010 and 2022 and (ii) reduce average salt intake of 12 g to 5g, between 2010 and 2022.

SOUTH AFRICA: Plan for the prevention and control of NCDs includes a target on reducing mean population intake of salt to <5 grams per day by 2020.

UK: In July 2015, the government adopted as official dietary advice the recommendation of the Advisory Committee on Nutrition that sugar should make up \leq 5% of daily calorie intake.

Food-based dietary guidelines implemented

Clear, interpretive, evidence-informed food-based dietary guidelines have been established and implemented

Comprehensive There is a plan linked to national needs

implementation comprehensive, transparent, up-todate implementation plan (including priority policy and program strategies) linked to national needs and priorities, to improve food environments, reduce the intake of the nutrients of concern to meet WHO and national recommended dietary intake levels, and reduce diet-related **NCDs**

BRAZIL: The national dietary guidelines of Brazil address healthy eating from a cultural, ethical and environmental perspective.

Main recommendations include 'Make natural or minimally processed foods the basis of your diet', 'Use oils, fats, salt, and sugar in small amounts for seasoning and cooking foods', 'Use processed foods in small amounts' and 'Avoid ultra-processed foods'. They also provide advice on planning, shopping and sharing meals, as well as warning people to be wary of food marketing and advertising.

EU: The European Food and Nutrition Action Plan 2015 – 2020 outlines clear strategic goals, guiding principles, objectives, priorities and tools. The Plan aligns with the WHO Global Action Plan and under 'Objective 1 - Create healthy food and drink environments' there are clear policy and program actions identified.

Priorities for reducing inequalities

Government priorities have been established to reduce inequalities or protect vulnerable populations in relation to diet, nutrition, obesity and NCDs

AUSTRALIA: The National Indigenous Reform Agreement (Closing the Gap) is an agreement between the Commonwealth of Australia and the States and Territories. The objective is to work together with Indigenous Australians to Close the Gap in Indigenous disadvantage. For the target 'Closing the life expectancy gap within a generation (by 2031)', one of the performance indicators is the prevalence of overweight and obesity.

NEW ZEALAND: The Ministry of Health reports the estimates derived from health surveys and nutrition surveys by 4 sub-groups: age, gender, ethnicity and area level deprivation index. The contracts between MOH and NGOs or other institutions include a section on Maori Health. For instance: "An overarching aim of the health and disability sector is the improvement of Maori health outcomes and the reduction of Maori health inequalities that must comply with any Maori specific service/ quality/ monitoring requirements."

Restricting commercial influence on policy development There are robust procedures to restrict commercial influences on the development of policies related to food environments where they have conflicts of interest with improving population nutrition

AUSTRALIA: The Australian Public Service
Commission's Values and Code of Conduct includes a number of relevant sections: (i) Conflict of Interest, (ii)
Working with the Private Sector and other
Stakeholders and (iii) Lobbying Code of Conduct.
NEW ZEALAND: The State Services Commission has published "Best Practice Guidelines for Departments Responsible for Regulatory Processes with Significant Commercial Implications". It covers the development, operation of a regulatory process and include specific references to principles around stakeholder relationship management.

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US: Mandatory and publicly accessible lobby registers exist at the federal level, as well as in nearly every state. Financial information must be disclosed. A number of pieces of legislation uphold compliance with the register including Lobbying Disclosure Act of 1995 and Honest Leadership and Open Government Act 2007.

Use of evidence in food policies

Policies and procedures are implemented for using evidence in the development of food policies AUSTRALIA: The National Health and Medical Research Council (NHMRC) Act (1992) requires the NHMRC to develop evidence-based guidelines. These national guidelines are developed by teams of specialists following a rigorous nine-step development process.

Use of evidence in food policies Policies and procedures are implemented for ensuring transparency in the development of food policies AUSTRALIA/ NEW ZEALAND: Food Standards
Australia New Zealand (FSANZ) is required by the
FSANZ Act 1991 to engage stakeholders in the
development of new standards. The Stakeholder
Engagement Strategy 2013-16 outlines the scope
and processes for engagement. Process is open to
everyone in the community including consumers, public
health professionals, and industry and government
representatives.

Access to government information

The government ensures public access to comprehensive nutrition information and key documents (e.g. budget documents, annual performance reviews and health indicators) related to public health nutrition and food environments

AUSTRALIA: The Freedom of Information Act provides a legally enforceable right of the public to access documents of government departments and most agencies.

NEW ZEALAND: Ranked number 1 in the 2015 Open Budget Survey conducted by the International Budget Partnership.

MANY COUNTRIES: Food composition databases

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Monitoring food environments

Monitoring systems, implemented by the government, are in place to regularly monitor food environments (especially for food composition for nutrients of concern, food promotion to children, and nutritional quality of food in schools and other public sector settings), against codes/guidelines/ standards/targets

provided.

available. Example: New Zealand - a comprehensive collection of nutrient data for more than 2600 foods.

NEW ZEALAND: A national School and Early
Childhood Education Services (ECES) Food and
Nutrition Environment Survey was organised in all
Schools and ECES across New Zealand in 2007 and
2009 by the Ministry of Health to measure the food
environments in schools and ECEs in New Zealand.

UK: The School Food Trust 2005 (now as Children's
Food Trust) provides independent support and advice
to schools, caterers, manufacturers and others on
improving the standard of school meals. Annual
surveys are performed, including the latest
information e.g. how many children are having school
meals, how much they cost and how they're being

Monitoring MONITORING AND INTELLIGENCE nutrition status and intakes

There is regular monitoring of adult and childhood nutrition status and population intakes against specified intake targets or recommended daily intake levels

US: The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the US though interviews and physical examinations. The survey examines a nationally representative sample of about 5,000 persons each year.

Monitoring **Body Mass** Index (BMI) There is regular monitoring of adult and childhood overweight and obesity prevalence using anthropometric measurements

UK: The National Child Measurement Programme measures the height and weight of children in reception class (aged 4 to 5 years) and year 6 (aged 10 to 11 years) to assess overweight and obesity levels in children within primary schools. Participation is not compulsory, but non-participation is on an optout basis only, resulting in more accurate data.

Monitoring NCD risk factors and prevalence

There is regular monitoring of the prevalence of NCD risk factors and occurrence rates (e.g. prevalence, incidence, mortality) for the main diet-related NCDs

OECD COUNTRIES: Most OECD countries have regular and robust prevalence, incidence and mortality data for the main diet-related NCDs and NCD risk factors.

Evaluation of major programmes

There is sufficient evaluation of major programs and policies to assess effectiveness and contribution to achieving the goals of the nutrition and health plans

US: The National Institutes for Health (NIH) provide funding for rapid assessments of natural experiments. The funding establishes an accelerated review/award process to support time-sensitive research to evaluate a new policy or program expected to influence obesity related behaviours (e.g., dietary intake, physical activity, or sedentary behaviour) and/or weight outcomes in an effort to prevent or reduce obesity.

Monitoring progress on reducing health inequalities

Progress towards reducing health inequalities or health impacts in vulnerable populations and societal and economic determinants of health are regularly monitored

NEW ZEALAND: All Ministry of Health Surveys report estimates by subpopulations in particular by ethnicity (including Māori and Pacific peoples), age, gender and Socioeconomic Deprivation Indexes.

Population nutrition promotion budget

FUNDING AND RESOURCES

The 'Population Nutrition Promotion' budget, as a proportion of total health spending and/or in relation to the diet-related NCD burden is sufficient to reduce diet-related NCDs **NEW ZEALAND:** The total funding for population nutrition was estimated at about \$67 million NZD (2008-2009). Equivalent to 0.6% of the health budget during 2008/09 Healthy Eating Healthy Action period. Dietary risk factors account for 11.4% of health loss in New Zealand.

Research funding for obesity & NCD prevention Government funded research is targeted for improving food environments, reducing obesity, NCDs and their related inequalities AUSTRALIA: The National Health and Medical Research Council (NHMRC) Act requires the CEO to identify major national health issues likely to arise. The National Health Priority Areas (NHPAs) articulate priorities for research and investment and have been designated by Australian governments as key targets because of their contribution to the burden of disease in Australia. For the 2015-16 Corporate Plan, obesity, diabetes and cardiovascular health are three of these NHPAs.

THAILAND: The National Research Council funded more research projects on obesity and diet-related chronic diseases (such as diabetes, cardiovascular diseases and hypertension) in 2014, accountable for almost six times over the research funding in 2013.

Health Promotion Agency There is a statutory health promotion agency in place, with a secure funding stream, that includes an objective to improve population nutrition

VICTORIA (AUSTRALIA): The Victorian Health Promotion Foundation (VicHealth) was the world's first health promotion foundation, established by the Victorian Parliament as part of the Tobacco Act of 1987 (for the first 10 years through a hypothecated tobacco tax) through which the objectives of VicHealth are stipulated. VicHealth continues to maintain bipartisan support.

There are robust coordination mechanisms across departments and levels of government to ensure policy coherence, alignment, and integration of food, obesity and diet-related NCD prevention policies across governments

AUSTRALIA: Several forums and committees for the purpose of strengthening food regulation with representation from New Zealand and Health Ministers from Australian States and Territories, the Australian Government, as well as other Ministers from related portfolios (e.g. Primary Industries). Where relevant, there is also representation from the Australian Local Government Association.

FINLAND: Finnish National Nutrition Council is an inter-governmental expert body under the Ministry of Agriculture and Forestry with advisory, coordinating and monitoring functions. Representatives elected for three-year terms from government authorities dealing with nutrition, food safety, health promotion, catering, food industry, trade and agriculture.

MALTA: Established an inter-ministerial Advisory
Council on Healthy Lifestyles 2016 (based on Healthy
Lifestyle Promotion and Care of NCDs Act) to advise
the Minister of Health on any matter related to
healthy lifestyles. The Advisory Council advises on a
life course approach to physical activity and nutrition,
and on policies, action plans and regulations intended
to reduce the occurrence of NCDs. The chair and the
secretary of the Advisory Council is appointed by the
Prime Minister, while the Ministers of Education,
Health, Finance, Social Policy, Sports, Local
Government, and Home Affairs appoint one member
each.

Platforms for government and food sector interaction There are formal platforms between government and the commercial food sector to implement healthy food policies **UK:** UK 'Responsibility Deal' was a UK government initiative to bring together food companies and NGOs to take steps (through voluntary pledges) to address NCDs during 2010-2015. Chaired by the Secretary of State for Health, it included senior representatives from the business community (NGOs, public health organisations and local government). A number of other subgroups were responsible for driving specific programs relevant to the commercial food sector.

HEALTH-IN-ALL POLICIES

Platforms for government and civil society interaction

PLATFORMS FOR INTERACTION

There are formal platforms for regular interactions between government and civil society on food policies and other strategies to improve population nutrition **BRAZIL:** The National Council of Food and Nutrition Security is a body made up of civil society and government representatives that advises the President's office on matters involving food and nutrition security.

Systems-based approach to obesity prevention

The government leads a broad, coherent, effective, integrated and sustainable systems-based approach with local organisations to improve the healthiness of food environments at a national level

AUSTRALIA: Healthy together Victoria aims to improve people's health where they live, learn, work and play. It focuses on addressing the underlying causes of poor health in children's settings, workplaces and communities by encouraging healthy eating and physical activity, and reducing smoking and harmful alcohol use. Healthy together Victoria incorporates policies and strategies to support good health across Victoria, and locally-led Healthy Together Communities. The initiative was originally jointly funded by the Government of Victoria and the Australian Government through the National Partnership Agreement on Preventive Health. However, it is unclear at this stage whether funding will continue or not.

Assessing the health impacts of food policies There are processes in place to ensure that population nutrition, health outcomes and reducing health inequalities or health impacts in vulnerable populations are considered and prioritised in the development of all government policies relating to food

SLOVENIA: Undertook Health Impact Assessment (HIA) in relation to agricultural policy at the national level (2001). This was the first time that the health effects of an agricultural policy were assessed at the country level. The six-stage process includes (i) policy analysis, (ii) rapid appraisal workshops with stakeholders from a range of backgrounds, (iii) review of research evidence relevant to the agricultural policy, (iv) analysis of Slovenian data for key health-related indicators, (v) a report on the findings to a key cross-government group, and (vi) evaluation.

Assessing the health impacts of non-food policies

There are processes (e.g. health impact assessments) to assess and consider health impacts during the development of other non-food policies

FINLAND: Worked towards a Health in All Policies (HiAP) approach over the past four decades. In the early 1970s, improving public health became a political priority, and the need to influence key determinants of health through sectors beyond the health sector became evident. The work began with policy on nutrition, smoking and accident prevention. Finland adopted HiAP as the health theme for its EU Presidency in 2006.

SOUTH AUSTRALIA (AUSTRALIA): Established in 2007, the successful implementation of HiAP in South Australia has been supported by a high-level mandate from central government, an overarching framework which is supportive of a diverse program of work, a commitment to work collaboratively and in partnership across agencies, and a strong evaluation process. A dedicated HiAP team within South Australia Health to build workforce capacity and support Health Lens Analysis projects. Since 2007, the South Australian HiAP approach has evolved to remain relevant in a changing context. However, the purpose and core principles of the approach remain unchanged. There were five phases of work between 2007 and 2016: (i) Prove concept and practice emerges (2007-2008), (ii) Establish and apply methodology (2008-2009), (iii) Consolidate and grow (2009-2013), (iv) Adapt and review (2014) and (v) Strengthen and systematise (2015-2016).