2017

Benchmarking Food Environments

Progress by the New Zealand Government on Implementing Recommended Food Environment Policies and Prioritised Recommendations

Report

Vandevijvere, S., Mackay, S., and Swinburn, B.

BENCHMARKING FOOD ENVIRONMENTS 2017: Progress by the New Zealand Government on implementing recommended food environment policies and priority recommendations, Auckland: The University of Auckland. 2017

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Further information on INFORMAS and the Food-EPI is available at: **www.informas.org**

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Results of the Food-EPI 2014 can be found here:

Swinburn, B., Dominick, C., and Vandevijvere, S. Benchmarking food environments: Experts' Assessments of Policy Gaps and Priorities for the New Zealand Government, Auckland: University of Auckland. 2014

Vandevijvere S, Dominick C, Devi A, Swinburn B. The healthy food environment policy index: findings of an expert panel in New Zealand. Bull World Health Organ. 2015 May 1;93(5):294-302. doi: 10.2471/BLT.14.145540.

Executive Summary

New Zealand has an unacceptably high prevalence of overweight and obesity. Two in three adults and one in three children are overweight or obese. Diet-related non-communicable diseases (NCDs) are the biggest preventable cause of death and ill-health in New Zealand.

Effective government policies and actions are essential to increase the healthiness of food environments[1] and to reduce these high levels of obesity, NCDs, and their related inequalities. It is critical that the Government implements widely recommended preventive policies and actions to match the magnitude of the burden that unhealthy diets are creating. Monitoring the degree of implementation of the policies and actions recommended by the World Health Organisation (WHO) is an important part of ensuring progress towards better nutritional health for all New Zealanders.

Approach

This report presents the results of the second Healthy Food Environment Policy Index (Food-EPI), which assessed the New Zealand Government's level of implementation of policies and infrastructure support systems for improving the healthiness of food environments against international best practice. The Food-EPI is an initiative of INFORMAS (**I**nternational **N**etwork for **F**ood and **O**besity / NCDs **R**esearch, **M**onitoring and **A**ction **S**upport) and was conducted in April-May 2017 with an Expert Panel of 71 independent and government public health experts. The first Food-EPI was conducted in 2014 and this report analyses progress on policy implementation since 2014.

The Expert Panel rated the extent of implementation of policies on food environments and infrastructure support systems by the New Zealand Government against international best practice, using an extensive evidence document validated by government officials. They also identified and prioritised actions needed to address critical gaps in government policies and infrastructure support.

Assessment results

The assessment showed some areas of strength. New Zealand and Australia have clearly set the international benchmark in preventing unhealthy foods carrying health claims. New Zealand is also at world standard, along with many other high income countries, in requiring nutrition information panels on packaged foods, having good monitoring systems for NCDs, their inequalities and risk factors, and high levels of transparency and access to government information. Although not rated at the level of international best practice, experts recognized progress since 2014 on the Health Star Ratings, systems-based approaches with communities, developing the Healthy Food and Drink Policy in the public sector, and improving platforms for interaction.

However, of major concern was the large number of food environment policies which were rated as having 'low' or 'very little, if any' implementation in New Zealand compared to international best practice. This was especially the case for healthy food policies in schools, fiscal policies to support healthy food choices, supporting communities to limit the density of unhealthy food outlets in their communities (for example, around schools), supporting the food retail and service industry to reduce unhealthy food practices and ensuring that trade and investment agreements do not negatively affect population nutrition and health. Although experts did recognize the review of the children's Code for Advertising Food as an area of progress, the extent of implementation of restrictions to protect children from unhealthy food marketing was still rated as 'low'.

The Experts also noted a large gap in leadership to reduce obesity and improve public health nutrition. The Government's plan to tackle childhood obesity, launched in October 2015, was recognized as an area of progress since 2014, but the lack of substantive actions to improve the healthiness of children's food environments in the plan was noted as a weakness. The level of funding to improve nutrition in New Zealand was rated as 'low'. Another important gap was the lack of targets to reduce childhood obesity rates and inequalities and achieve WHO recommendations for average population sugar, salt and saturated fat intakes. The Government is strongly urged to act on the top recommendations (next page) to improve the diets of New Zealanders, especially children, and reduce the rising health care costs from obesity and diet-related NCDs.

[1]Food environments are defined as the collective physical, economic, policy and socio-cultural surroundings, opportunities and conditions that influence people's food and beverage choices and nutritional status. New Zealand's high levels of obesity and diet-related NCDs are related to the food environments in which New Zealanders live. Unhealthy food environments lead to unhealthy diets and excess energy intake which have consequences in levels of morbidity and mortality. Dietary risk factors (high salt intake, high saturated fat intake and low fruit and vegetable intake) and excess energy intake (high body mass index) account for 11.4% of health loss in New Zealand.

Priority recommendations

The Expert Panel recommended 53 actions, prioritising 9 for immediate action. They are to:

1. Strengthen the Childhood Obesity Plan, including policy objectives and targets to reduce obesity prevalence and inequalities, and more and stronger policies to create healthy children's food environments, and increasing funding for the implementation and evaluation of the plan.

2. Set targets for

a. reducing childhood overweight and obesity by 8 percentage-points (from one-third to one-quarter) by 2025 with decreasing inequalities

b. reducing mean population intakes of salt, sugar & saturated fat based on World Health Organization recommendations

c. voluntary reformulation of composition (salt, sugar & saturated fat) in key food groups

3. Increase funding for population nutrition promotion to at least 10% of obesity/overweight health care costs.

4. Regulate unhealthy food marketing, as defined by the WHO nutrient profiling model, to children up to 18 years

a. in broadcast media, including during children's peak viewing times (e.g. up to 9pm)

b. in non-broadcast media, including food packaging, sport sponsorship and social media

c. in children's settings, including 'school food zones'.

5. Ensure healthy foods in schools and early childhood education services using the updated Ministry of Health Food and Beverage Classification System

6. Introduce a substantial (e.g. 20%) tax on sugar-sweetened beverages and explore using the revenue for programs to improve public health and wellbeing.

7. Strengthen the Health Star Rating System by urgently addressing anomalies in the design algorithm (especially for sugar), increasing funding for promotion and making it mandatory if there is not widespread uptake by 2019.

8. Implement the new Eating and Activity guidelines by increasing funding for their promotion and translating them for New Zealand's social, environmental and cultural contexts.

9. Conduct a new national nutrition survey for children within 3 years and institute a plan for future regular adult and children nutrition surveys.

Acknowledgements

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INFORMAS is the **I**nternational **N**etwork for **F**ood and **O**besity / non-communicable diseases (NCDs) **R**esearch, **M**onitoring and **A**ction **S**upport. The authors wish to thank all founding members of the network for their contributions to the development of the Healthy Food Environment Policy Index (Food-EPI). These members include (in alphabetical order): Simon Barquera (Mexican National Institute of Public Health, Mexico), Sharon Friel (Australian National University, Australia), Corinna Hawkes (World Cancer Research Fund, UK), Bridget Kelly (University of Wollongong, Australia), Shiriki Kumanyika (University of Pennsylvania, USA), Mary L'Abbe (University of Toronto, Canada), Amanda Lee (Queensland University of Technology, Australia), Tim Lobstein (World Obesity Federation, UK), Jixiang Ma (Centers for Disease Control, China), Justin Macmullan (Consumers International, UK), Sailesh Mohan (Public Health Foundation, India), Carlos Monteiro (University of Sao Paulo, Brazil), Bruce Neal (George Institute for Global Health, Australia), Mike Rayner (University of Oxford, UK), Gary Sacks (Deakin University, Australia), David Sanders (University of the Western Cape, South Africa), Wendy Snowdon (The Pacific Research Center for the Prevention of Obesity and Non-Communicable Diseases, Fiji), Chris Walker (Global Alliance for Improved Nutrition, Switzerland). Advice in the development phase of the Food-EPI was also obtained from Janice Albert (Food and Agricultural Organisation of the United Nations) and Francesco Branca and Godfrey Xuereb (World Health Organisation).

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Appendices

Online Appendices available to view and download at **www.informas.org**

List of abbreviations

BMI	Body Mass Index
ECE	Early Childhood Education
FAO	Food and Agriculture Organisation
FOOD-EPI	Healthy Food Environment Policy Index
HEHA	Healthy Eating, Healthy Action
HSR	Health Star Rating
INFORMAS	International Network for Food and Obesity/non-communicable diseases, Research, Monitoring and Action Support
NCD	Non-Communicable Diseases
NGOs	Non-Governmental Organization
OECD	Organisation for Economic Co-operation and Development
WHO	World Health Organisation
WCRF	World Cancer Research Fund

1. Why do we need to improve New Zealand's food environments?

New Zealand has very high levels of obesity with adults and children having the third highest rate of overweight and obesity within OECD countries (1). Overall, in 2015/2016, thirty-two percent of adults were obese, up from 27% in 2006/07. Adult obesity rates are higher for Māori and Pacific adults and for those living in areas of higher deprivation (2). One in nine children aged 2–14 years (11%) are obese. Twenty percent of children living in the most socioeconomically deprived areas are obese, compared with 4% living in the least deprived areas (2).

Unhealthy diets and excess energy intake are modifiable factors that contribute to disease and disability in New Zealand.[2] Recent analysis shows that, collectively, dietary risk factors (high salt intake, high saturated fat intake, low vegetable and fruit intake) and excess energy intake (high body mass index, BMI) account for 11.4% of health loss in New Zealand (3). This is greater than the estimated 9.1% of health loss from tobacco use. The main diet-related diseases include cardiovascular diseases, diabetes and many cancers. These diseases are the main killers of New Zealanders (3, 4) and the health costs they incur are rising rapidly. For example, overweight and obesity directly cost the health system $623.9 million or 4.5% of total health care expenditure in 2006, in addition to $225 million in lost productivity (calculated using the Human Capital Approach) (5). The health care costs and lost productivity are now probably about $1 billion annually. Currently, food environments[3] in New Zealand are characterised by highly accessible and heavily promoted energy-dense, often nutrient-poor, food products with high levels of salt, saturated fats and sugars. These environments are major drivers of unhealthy diets and energy overconsumption (6-8) and are shaped by governmental, food industry and societal mechanisms (Figure 1).

Who can help improve the healthiness of food environments and population diets?

National governments and the food industry are the two major stakeholders groups with the greatest capacity to modify food environments and population diets. Effective government policies and actions are essential to increase the healthiness of food environments and to reduce obesity, diet-related non-communicable diseases (NCDs), and their related inequalities (9).

Despite wide recognition of this major public health issue internationally, slow and insufficient action by governments and the food industry to improve food environments continues to fuel rising levels of obesity and diet-related NCDs such as type 2 diabetes. This is in part due to the pressure of the food industry on governments (10-12) as well as other factors, such as the challenges of providing robust evidence on policy effectiveness before its implementation and competition for resources between prevention efforts and health services delivery (13).

However, some governments internationally have demonstrated leadership and taken action to improve the healthiness of food environments, and these can serve as best practice exemplars or benchmarks for other countries. (The evidence document, online Appendix 1, lists examples of best practice internationally and related references.)

[2]Low physical activity is also important modifiable risk contributing to health loss in New Zealand, however the focus of this report is food environments, population diets and diet-related NCDs.
[3]Food environments are defined as the collective physical, economic, policy and socio-cultural surroundings, opportunities and conditions that influence people's food and beverage choices and nutritional status and include such things as such as food composition, food labelling, food promotion, food prices, food provision in schools and other settings, food availability and trade policies affecting food availability, price and quality.

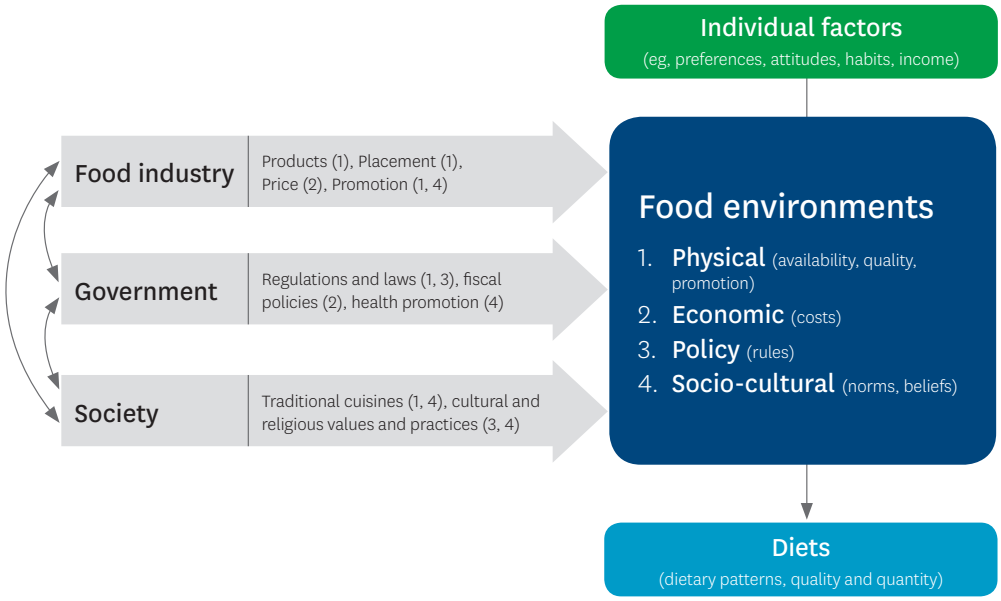

Figure 1 Food environments' components and the main influences on those environments

This report presents the results of the second Healthy Food Environment Policy Index (Food-EPI), conducted by a Panel of 71 New Zealand independent and government public health experts. The Food-EPI assesses the level of implementation of government policies and infrastructure support considered good practice for improving food environments and population diets. The Food-EPI was developed by the International Network for Food and Obesity/NCDs Research, Monitoring and Action Support (INFORMAS). The results analyse progress by the New Zealand Government compared to 2014 when the assessment was first conducted. The report includes recommendations for government actions needed to address the gaps in policy and infrastructure support to reduce obesity and diet-related NCDs in New Zealand.

2. How was the level of implementation of government policies and infrastructure support assessed?

Who conducted the assessment?

The study is an initiative of INFORMAS (7) and it was conducted with an Expert Panel of independent and government public health experts, including representatives from health organisations and NGOs.

INFORMAS was founded in 2013 by universities and global NGOs to monitor and benchmark food environments, government policies and private sector actions and practices in order to reduce obesity and diet-related NCDs and their related inequalities. INFORMAS aims to complement existing monitoring efforts of the World Health Organization (WHO), such as the global NCD monitoring framework, which only has a small focus on food environments and policies (14). Appendix 1 includes a more detailed description of INFORMAS's aims and objectives.

What tool was used to measure the level of implementation?

An index developed by INFORMAS (15) (called the 'Healthy Food Environment Policy Index' [Food-EPI]) was used to assess the extent of implementation by government of good practice policies and infrastructure support in New Zealand. The Food-EPI tool and process were designed to answer the question – How much progress has the government made towards addressing best practice in improving food environments and implementing obesity/NCDs prevention policies and actions?

The Food-EPI was developed to monitor and benchmark governments' policies and actions on creating healthier food environments. It is consistent with, and supportive of, the list of proposed policy options and actions for Member States included in the WHO's Global Action Plan for the Prevention and Control of Non-Communicable Diseases (2013–2020) (16) and the World Cancer Research Fund (WCRF) International NOURISHING Food Policy Framework for Healthy Diets (9, 17). The Food-EPI tool comprises a 'policy' component with seven domains on specific aspects of food environments and an 'infrastructure support' component with six domains to strengthen obesity and NCD prevention systems. Good practice indicators contained in these domains encompass policies and infrastructure support necessary to improve the healthiness of food environments and to help prevent obesity and diet-related NCDs (Figure 2).

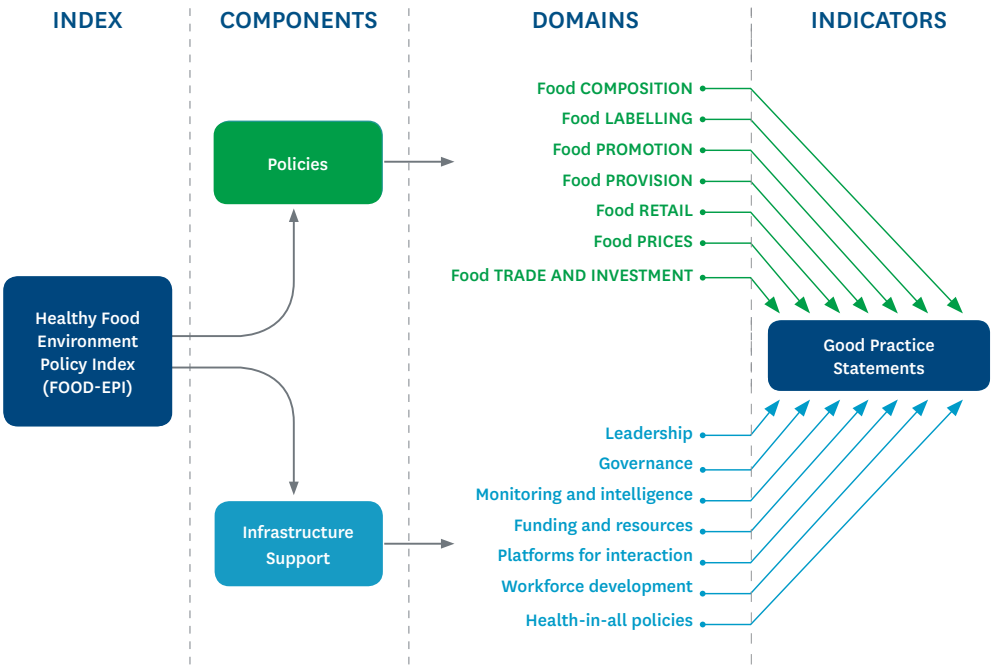

Figure 2 Components and domains of the 'Healthy Food Environment Policy Index' (Food-EPI)

The Food-EPI tool and process have been through several phases of development including an initial development based on a review of policy documents, subsequent revision by a group of international experts, from low, middle and high income countries, (15) and pilot testing in New Zealand in 2013 (18). The refined tool was then used in the baseline assessment of New Zealand's policies and infrastructure support in relation to international best practice in 2014 (19, 20) and in a range of other countries globally, such as Thailand (2015)(21), the UK (2016)(22), Australia (2017) (23) and others (not yet published). A detailed overview of the Food-EPI methodology is available in Appendix 1.

What process was used to rate the level of implementation?

The process used to rate the extent of implementation of policies and infrastructure support in New Zealand (more fully described in Appendix 1) involved 71 members of the Expert Panel (48 independent and 23 government public health experts) rating the New Zealand government against international best practice benchmarks of policies and actions for creating healthier food environments. The Expert Panel's ratings were informed by extensive documented evidence of current implementation in New Zealand and progress made since 2014 (refer to online Appendix 1 for the full evidence document and online Appendix 2 for the evidence summaries), validated by Government officials, and international best practice benchmarks. Out of the 71 experts, 28 participated in the Food-EPI 2014.

Using an online rating tool, the Expert Panel rated a total of 47 good practice indicators (23 of which related to policy and 24 of which related to infrastructure support) using Likert scales (1 to 5 with 1 meaning 0-20% implemented compared to international best practice and 5 being 80-100% of international best practice). Since 2014, five new good practice indicators were added (e.g. composition targets for out-of-home meals) (Refer to online Appendix 3 for the list of indicators). Before rating each indicator, a summary of the evidence on the extent of implementation in New Zealand, the international benchmarks and progress since 2014 were shown to the Expert Panel. The mean rating for each indicator was used to categorise the level of implementation as 'high', 'medium', 'low' or 'very little, if any'.

3. How were the recommended actions identified and prioritised?

Across the country, four workshops were organized (in Auckland, Christchurch, Dunedin and Wellington) to evaluate the 'implementation gaps' from the rating distributions for each good practice indicator. Concrete actions for implementation by the New Zealand Government to improve the healthiness of food environments were identified and prioritized. Policy and Infrastructure Support actions were prioritised separately.[4] Actions and priorities from the four workshops were then combined into a final list (more details on methodology in Appendix 1). In total 45 independent and government experts participated in the workshops.

Actions were identified for all but one of the good practice indicators and for some good practice indicators more than one action was proposed. In total 53 actions were identified as having the potential, in concert with other actions, to improve the healthiness of food environments and population nutrition and reduce obesity and diet-related NCDs in New Zealand. (Refer to Table 1 and 2 and online Appendix 4 for the full list of recommended actions and related good practice indicators).

At the workshops, the Expert Panel members were asked to separately prioritise the *importance* and likely *achievability* of the proposed actions. Importance took into account the relative need, impact, effects on equity, and any other positive and negative effects of the action. Achievability took into account the relative feasibility, acceptability, affordability, and efficiency of the action. Each proposed policy action was ranked from higher to lower importance and achievability. The same process was then applied for prioritizing the proposed infrastructure support actions.

The prioritized actions from the four workshops were then combined to identify the top recommendations for the New Zealand Government.

[4]Hence the rankings obtained for the Policy actions cannot be compared with those for the Infrastructure Support actions and vice versa.

4. How well is the New Zealand government performing compared with international best practice?

Figure 3 presents the 2017 Food-EPI scorecard for New Zealand and indicates progress compared to the 2014 assessment. There was no difference for any of the Food-EPI 2017 indicators between independent and government experts. The scorecard therefore presents the results including all 71 Expert Panel members. The inter-rater reliability (Gwet's AC2 > 0.8) for the 2017 assessment indicated good agreement between experts on the level of implementation of recommended food environment policies and infrastructure support systems in New Zealand.

New Zealand rated well against international best practice for several infrastructure support indicators. These included having policies and procedures in place for ensuring transparency in the development of food policies; the public having access to nutrition information and key documents; and regular monitoring of BMI, the prevalence of NCD risk factors and occurrence rates for the main diet-related NCDs and monitoring progress towards reducing health related inequalities. New Zealand was rated at the level of best practice for some policies, such as the provision of ingredient lists and nutrient declarations on packaged foods and regulating health claims on packaged foods. Although not rated at the level of international best practice, experts recognized progress since 2014 for implementation of the Health Star Ratings, initiating systems-based approaches with communities (Healthy Families NZ, Healthy Auckland Together and other regional platforms), developing and implementing the Healthy Food and Drink Policy in the public sector (especially in District Health Boards) and improving platforms for interaction between Government and other sectors and across Government. Experts recognized some progress for restricting unhealthy food marketing to children and the development and implementation of a childhood obesity plan, but the extent of implementation for those indicators compared to international best practice was still rated as 'low'.

About half (47%) of all the good practice indicators were rated as having 'low' or 'very little, if any' implementation compared with international benchmarks. This was not spread evenly across infrastructure support and policy indicators, with one third (29%) of the infrastructure support indicators and two-thirds (70%) of the policy indicators rated as having 'low' or 'very little, if any' implementation in New Zealand. The proportion of indicators that were rated as having 'low' or 'very little, if any' implementation decreased compared to 2014 when 60% of indicators were rated as having 'low' or 'very little if any' implementation.

Major implementation gaps ('very little if any' or 'low' implementation) were identified for food environment policies, especially for healthy food policies in schools, fiscal policies to support healthy food choices, implementing restrictions on unhealthy food marketing to children, supporting communities to limit the density of unhealthy food outlets in their communities (for example, around schools), supporting the food retail and service industry to reduce unhealthy food practices and ensuring that trade and investment agreements do not negatively affect population nutrition and health.

Food retail environments are increasingly considered influential in determining dietary behaviours and health outcomes (24) and recent New Zealand national studies indicated an overabundance of unhealthy food outlets in school food zones (25) or the presence of 'food swamps' in communities (26). However, ratings indicated that there was 'very little, if any' policy implementation relating to community food environments (e.g., type, availability and accessibility of food outlets) or consumer food environments (e.g., in-store availability, prices, promotion and nutritional quality of foods). For example, there was 'very little, if any' implementation of policies which would allow local governments and communities to make decisions about the density of outlets selling unhealthy foods within their communities, especially their proximity to schools and early childhood education (ECE) services. Similarly, there was 'very little, if any' implementation of support systems encouraging food stores to promote the in-store availability of healthy food and limit the in-store availability of unhealthy foods. Although the Government launched the Healthy Kids Industry Pledge, with several companies developing new pledges, the Expert Panel still rated this initiative as 'very little, if any' implementation compared to international best practice.

Food trade and investment agreements are an area of increasing concern as these have the potential to radically

influence the food supply within countries (27, 28) and, therefore, which foods are available, accessible and affordable for the population. There was 'very little, if any' implementation of policies which ensured that international trade and investment agreements are assessed for any direct and indirect impacts on food environments and population nutrition and health. Similarly, ratings indicated there was 'very little, if any' adoption of measures to manage foreign investment agreements and protect New Zealand's public health regulatory capacity to act to protect and promote public health nutrition.

In addition to the policies, several critical gaps were identified relating to government infrastructure support for obesity and diet-related NCD prevention. The Expert Panel mainly recognized a lack of government leadership. Although there is a plan of action to tackle childhood obesity in New Zealand, which was recognized as progress compared to 2014, the plan is not comprehensively addressing unhealthy children's food environments. Related to the lack of a comprehensive plan were the lack of targets to reduce prevalence of childhood obesity and inequalities and targets to improve average population intakes of sugar, saturated fat and salt towards WHO recommendations. Although the level of funding for population nutrition promotion increased and almost doubled since 2014, experts still evaluated this level of funding as too low to be able to tackle the burden of diet-related diseases in New Zealand.

In the recent Australian Food-EPI, experts recognized the same areas of strength as in New Zealand, but also evaluated Australia as being at the level of international best practice for leaving GST off fruit and vegetables and implementing evidence-based food-based dietary guidelines. Another area where Australia is doing better than New Zealand is school food policies with several of the states having implemented mandatory nutrition standards in schools. The implementation of the Health Star Ratings was rated at medium level of implementation in Australia, as it was in New Zealand (23).

In conclusion, there are some areas where New Zealand is at the level of best practice and there are some areas where there is progress compared to 2014. However, about half of the indicators on the Food-EPI scorecard show major implementation gaps still to be addressed to improve the healthiness of food environments in New Zealand.

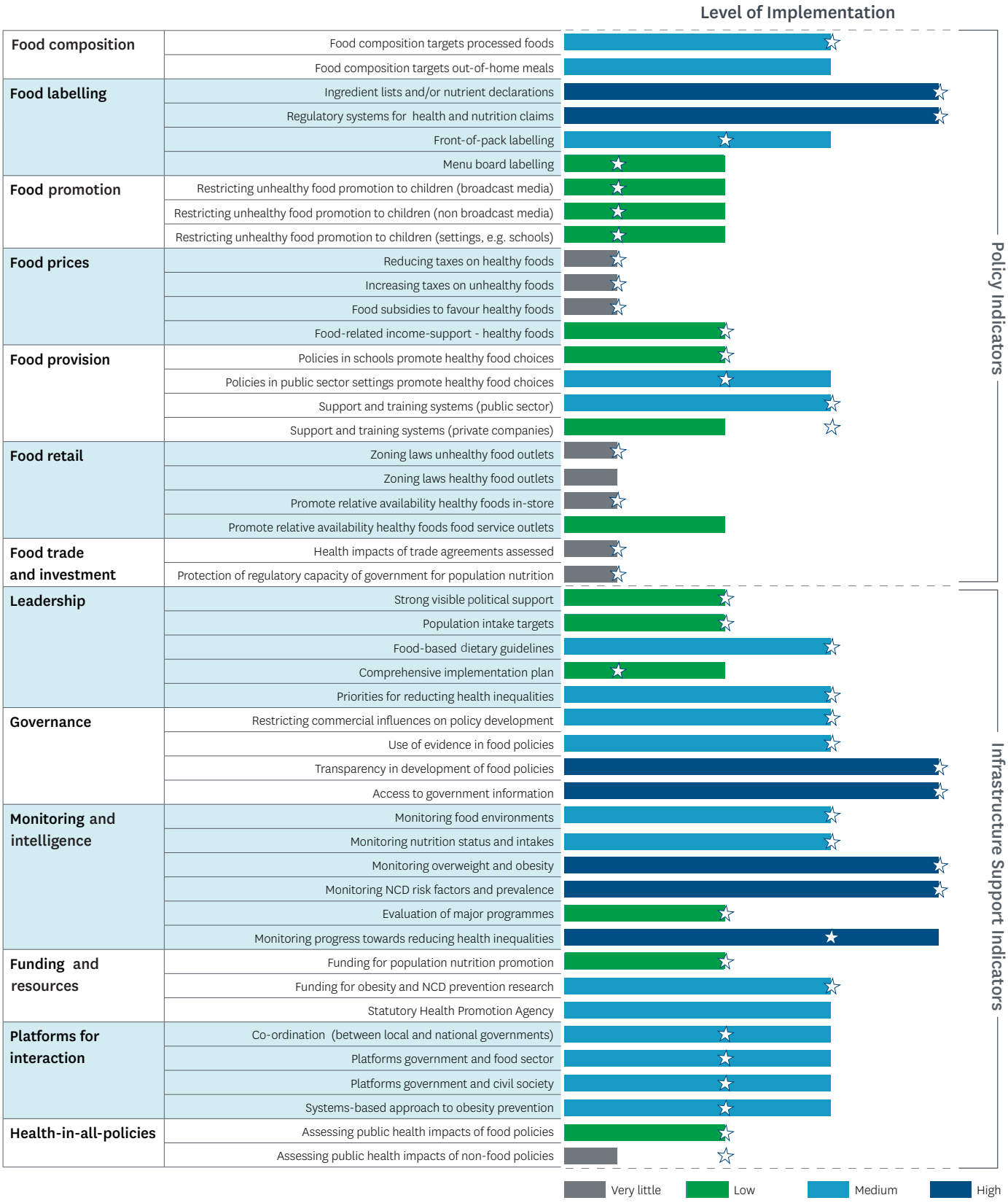

Figure 3 Level of implementation of food environment policies and infrastructure support by the New Zealand Government (☆ marks the 2014 rating)

5. Which actions did the Expert Panel prioritise for implementation by the New Zealand Government?

Of the 53 actions proposed by the four workshops (Tables 1 and 2), eight infrastructure support actions and eight policy actions were ranked by the Expert Panel in the top third for importance. Since two priority policy actions and two priority infrastructure support actions related to the same Food-EPI indicator, the more achievable options were retained as top recommendations (i.e. voluntary instead of mandatory food composition targets and improving the childhood obesity plan rather than creating a new nutrition plan). The top seven food policy and top seven infrastructure support actions were further condensed into nine key recommendations for the Government:

1. Strengthen the Childhood Obesity Plan, including policy objectives and targets to reduce obesity prevalence and inequalities, and more and stronger policies to create healthy children's food environments, and increasing funding for the implementation and evaluation of the plan.	
2. Set targets for	a. reducing childhood overweight and obesity by 8 percentage-points (from one-third to one-quarter) by 2025 with decreasing inequalities
	b. reducing mean population intakes of salt, sugar & saturated fat based on World Health Organization recommendations
	c. voluntary reformulation of composition (salt, sugar & saturated fat) in key food groups
3. Increase funding for population nutrition promotion to at least 10% of obesity/overweight health care costs.	
4. Regulate unhealthy food marketing, as defined by the WHO nutrient profiling model, to children up to 18 years	a. in broadcast media, including during children's peak viewing times (e.g. up to 9pm)
	b. in non-broadcast media, including food packaging, sport sponsorship and social media
	c. in children's settings, including 'school food zones'.
5. Ensure healthy foods in schools and early childhood education services using the updated Ministry of Health Food and Beverage Classification System	
6. Introduce a substantial (e.g. 20%) tax on sugar-sweetened beverages and explore using the revenue for programs to improve public health and wellbeing.	
7. Strengthen the Health Star Rating System by urgently addressing anomalies in the design algorithm (especially for sugar), increasing funding for promotion and making it mandatory if there is not widespread uptake by 2019.	
8. Implement the new Eating and Activity guidelines by increasing funding for their promotion and translating them for New Zealand's social, environmental and cultural contexts.	
9. Conduct a new national nutrition survey for children within 3 years and institute a plan for future regular adult and children nutrition surveys.	

The list of all final recommended food policy and infrastructure support actions is in Tables 1 and 2 and their importance and achievability is indicated in Figures 4 and 5 and online Appendix 4.

Domain	Label	Action
PROMOTION	**PROMO1**	**The Government introduces regulations to restrict unhealthy food marketing, as defined by the WHO nutrient profiling model, to children up to 18 years through broadcast media, including during children's peak viewing times (e.g. evening period up to 9pm), and investigates the incorporation/nutrient profiling of brands/companies in the restriction of unhealthy food marketing**
PROMOTION	**PROMO2**	**The Government introduces regulations to restrict unhealthy food marketing, as defined by the WHO nutrient profiling model, to children up to 18 years through non- broadcast media, including food packaging, sport sponsorship and social media, and investigates the incorporation/nutrient profiling of brands/companies in the restriction of unhealthy food marketing**
PRICES	**PRICES2**	**The Government introduces a 20% tax on sugar-sweetened beverages and explores use of revenue for programs to improve public health and/or wellbeing**
COMPOSITION	**COMP1V**	**The Government strongly endorses existing/new sodium and sugar targets for the processed food groups that are major contributors to sodium and sugar intakes, consistent with international best practice targets**
PROMOTION	**PROMO3**	**The Government introduces regulations to restrict unhealthy food marketing, as defined by the WHO nutrient profiling model, in children's settings (covering children up to 18 years), and investigates the incorporation/ nutrient profiling of brands/companies in the restriction of unhealthy food marketing**
COMPOSITION	COMP1M	The Government sets mandatory sodium and sugar targets for the processed food groups that are major contributors to population sodium and sugar intakes, based on international best practice targets, and examines targets for saturated fat in processed foods
LABELING	**LABEL3**	**The Government urgently addresses anomalies (especially sugar) in the design of the Health Star Ratings, including the algorithm, increases promotion and makes the HSR mandatory if not widespread uptake by 2019**
PROVISION	**PROV1**	**The Government enacts policies that ensure schools/early childhood education services provide/sell foods that meet the MOH food and beverage classification system (updated in March 2016)**
RETAIL	RETAIL1	The Government enacts legislation to allow local Government to create healthy community food environments for children (e.g. school zones)
PRICES	PRICES1	The Government removes GST from unprocessed fruits and vegetables
COMPOSITION	COMP2a	The Government sets a mandatory target for frying oils for out-of-home meals and recommends targets for energy, sodium, saturated fat and sugar in Quick Service Restaurant meals
PROVISION	PROV2	The Government makes the developed healthy food and drink policy (including the green/amber/red food classification system) mandatory throughout the Government health sector and recommends the policy for other public settings
PRICES	PRICES3	The Government requires government programs that subsidize/supply food for children to meet food and nutrition guidelines
LABELING	LABEL1a	The Government requires added sugars to be added on the Nutrition Information Panel
COMPOSITION	COMP2b	The Government explores the incorporation of nutrition into the Food Safety requirements
TRADE	TRADE2	The Government ensures that specific and explicit provisions are included in trade and investment agreements, allowing the New Zealand government to preserve its regulatory capacity to protect and promote public health
LABELING	LABEL4a	The Government requires all Quick Service Restaurants to display kJ labelling on their menu boards
PRICES	PRICES4	The Government explores subsidies for low income people for healthy foods and ensures emergency benefits includes healthy foods
TRADE	TRADE1	The Government includes formal and explicit population nutrition and health risk assessments as part of their national interest analysis on trade and investment agreements
LABELING	LABEL2	The Government investigates the application of the Nutrient Profiling Scoring Criterion (NPSC) to restrict the use of nutrient content claims on packaged unhealthy foods (especially 'irrelevant claims' such as 'no cholesterol' claims on plant-based foods)
PROVISION	PROV3	The Government increases funding for support/training of Government and children's settings to remove barriers and stimulate implementation of policies to create healthy food environments
RETAIL	RETAIL4	The Government engages with and supports the food service industry to phase out unhealthy food practices (e.g. refill cups, large portion sizes)
LABELING	LABEL1b	The Government requires the types of fats that are used to be added in the ingredient list
LABELING	LABEL1c	The Government requires trans fats to be added in the Nutrition Information Panel where they exceed a particular level
PROVISION	PROV4	The Government increases funding for support and training of private sector settings and organizations to develop policies and actions to create healthy food environments
RETAIL	RETAIL2	The Government investigates the options for removing the barriers and restrictions for outlets selling fresh fruit and vegetables
RETAIL	RETAIL3	The Government supports the food industry to develop SMART (Specific, Measurable, Achievable, Relevant, Time Bound) pledges as part of the Healthy Kids Industry Pledge and evaluates those pledges
LABELING	LABEL4b	The Government investigates KJ labelling on menu boards in independent fast food outlets

Table 1 Prioritised recommended actions (top priorities in green) for the New Zealand Government: Policy actions targeting food environments

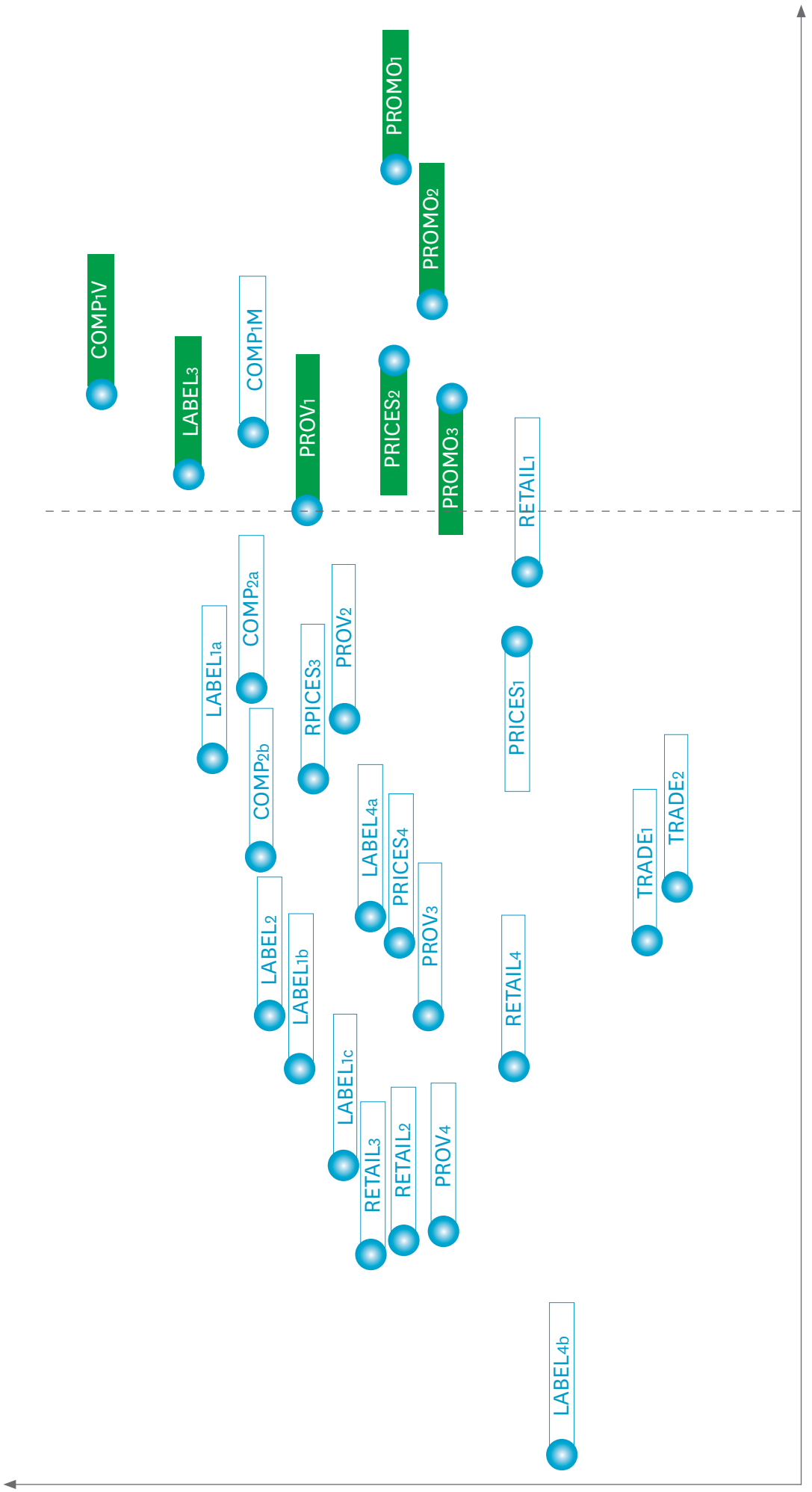

Figure 4 Importance and achievability of recommended actions (top priorities in green) for the New Zealand Government: Policy actions targeting food environments

Domain	Label	Action
LEADERSHIP	**LEAD1**	**The Government sets a target to reduce childhood overweight and obesity by 8 percentage-points (from one-third to one-quarter) by 2025 with decreasing inequalities**
LEADERSHIP	**LEAD4a**	**The Government revises and strengthens the childhood obesity plan through including more actions focused on creating healthy children's food environments and increases funding for the implementation and evaluation of the plan**
LEADERSHIP	**LEAD5a**	**The Government includes specific policy objectives and targets within the childhood obesity plan to more directly reduce health inequities and inequalities**
LEADERSHIP	**LEAD2**	**The Government sets clear targets for the reduction of population salt, sugar and saturated fat intake based on WHO recommendations**
MONITORING	**MONIT2**	**The Government conducts a new national nutrition survey for children to be organized in the next 3 years**
FUNDING	**FUND1**	**The Government increases funding for population nutrition promotion to at least 10% of obesity/overweight health care costs**
LEADERSHIP	**LEAD3**	**The Government actively implements and increases funding to promote the new Eating and Activity Guidelines fully and translates them into the social, environmental and cultural context**
LEADERSHIP	LEAD4b	The Government develops, funds and implements a comprehensive national nutrition action plan to prevent dietary related NCDs in NZ
MONITORING	MONIT1	The Government regularly monitors food environments with a focus on food composition, food marketing, food in schools and public sector settings and the price of healthy versus unhealthy foods using CPI data
GOVERNANCE	GOVER2	The Science Advisors to Ministers that are engaged in policy development related to food and nutrition, work with a government appointed nutrition scientific committee to ensure that policies are evidence based
GOVERNANCE	GOVER1	The Government strengthens the conflict of interest procedures to ensure that food industry representatives with direct conflicts are not included in setting food-related policy objectives and principles (this does not apply to their participation in policy implementation)
MONITORING	MONIT5	The Government includes robust programme evaluations in any major investment made to improve population nutrition
MONITORING	MONIT3	The Government develops a system to deliver regular fine-grained estimates of overweight and obesity prevalence (especially for children and adolescents) e.g. in-school check in addition to B4 school check
LEADERSHIP	LEAD5b	The Government includes specific objectives and targets within the national nutrition plan to more directly reduce health inequities and inequalities
MONITORING	MONIT6	The Government funds regular monitoring reports on the underlying societal and economic determinants of health and the related progress on the reduction of health inequalities
FUNDING	FUND3	The level of Health Promotion Agency funding allows a focus on high profile hard-hitting social marketing campaigns on healthy eating
MONITORING	MONIT4	The Government continues to invest in CVD and diabetes risk assessments and investigates the inclusion of height and weight measurements and the use of the data for population monitoring
GOVERNANCE	GOVER3	The Government creates a government lobby register to require detailed reporting on lobbying and introduces public declaration of political donations
FUNDING	FUND2	The Government ensures that improving nutrition and reducing nutrition inequalities is a priority funding stream within the Science Challenges
HEALTH IN ALL POLICIES	HIAP1	The MPI and the MBIE assess the wider health impact of food policies (not only from a safety point of view) on long-term population health, to ensure that food policies are compatible with the objectives of improving population nutrition and reducing obesity and diet-related NCDs and their inequalities.
PLATFORMS	PLATF3	The Government ensures formal platforms with civil society, including a nutrition advisory committee
PLATFORMS	PLATF4	The Government takes lessons from Healthy Families New Zealand and other regional systems platforms to expand systems approaches and to create more sustainable systems platforms
PLATFORMS	PLATF1	The Government strengthens and expands platforms for engagement for food-related prevention policies across Government (national and local)
HEALTH IN ALL POLICIES	HIAP2	The Government establishes a health impact assessment (HIA) capacity, including funding for HIAs at the national and local level, to ensure that government policies in general are compatible with the objectives of improving health.
PLATFORMS	PLATF2	The Government strengthens the engagement platform around the industry pledges as part of the Healthy Kids Industry Pledge

Table 2 Prioritised recommended actions (top priorities in green) for the New Zealand Government: Infrastructure support actions

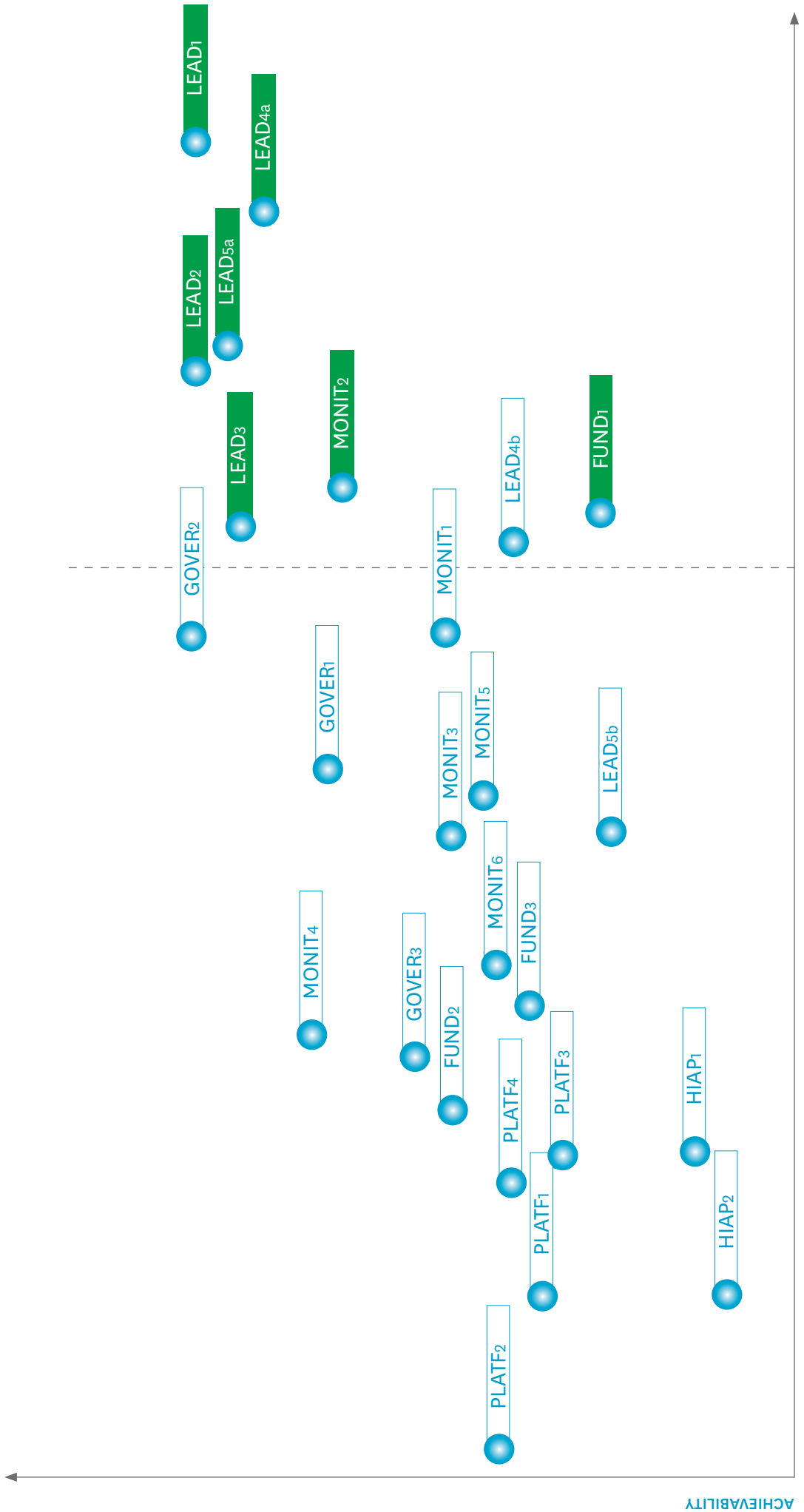

Figure 5 Importance and achievability of recommended actions (top priorities in green) for the New Zealand Government: Infrastructure support actions

1. Strengthen the Childhood Obesity Plan

The plan to tackle childhood obesity launched by the Minister of Health in 2015 (29) was recognized as an area of progress by the experts, as in 2014 there was no plan to improve population nutrition. However, the level of implementation compared to best practice was still rated low by the Panel. They recommend to significantly strengthen the current plan and include strong actions to improve the healthiness of children's food environments in line with the recommendations in the report of WHO's Commission on Ending Childhood Obesity (30)(see below). The Panel also recommended to include specific targets in the plan to reduce childhood obesity and related inequalities.

Some of the workshops additionally recommended the development and implementation of a comprehensive nutrition plan or healthy eating strategy, but this was rated as less achievable than improving the current childhood obesity plan. New Zealand has previously shown leadership in this area, for example, with the Healthy Eating Healthy Action strategy and its associated implementation plan. Canada is currently developing a comprehensive Healthy Eating Strategy (31), including strengthening labelling and claims, improving nutrition quality standards, supporting increased access to and availability of nutritious foods and comprehensive marketing restrictions.

Improving the healthiness of food environments and reducing obesity and diet-related NCDs requires integrated action by government across a wide range of effective policy areas and infrastructure support systems.

2. Set targets

Setting targets is increasingly seen as an effective way of focusing and mobilising resources for public health issues. Although policy mechanisms of the New Zealand Government include Statements of Intent and setting targets, it has not developed targets to reduce obesity prevalence, improve food composition or population intakes of salt, sugar, and saturated fats. This recommendation was also included as a top priority in the 2014 Food-EPI report but no actions have been taken by the Government since 2014.

Obesity: Internationally, several countries include targets for obesity and NCDs in their national action plans. For example, South Africa's strategic plan for the prevention and control of NCDs has a target for reducing the percentage of people who are obese and/or overweight by 10% by 2020 and reducing premature mortality from NCDs of those aged under 60 years by at least 25% (32). The Brazilian Strategic Action Plan for Confronting NCDs 2011-2022 also specifies national targets, such as halving the prevalence of obesity in children and adolescents by 2022 and halting the rise in obesity in adults (33). It has previously been assessed that reducing childhood overweight and obesity by 8 percentage-points (from one-third to one-quarter) by 2025 with decreasing inequalities is an achievable target with the implementation of recommended policy actions (see below) (34).

Population intakes: Many countries have set population intake targets for salt. The WHO's NCD action plan also specifies a target to reduce population salt intake to 5g/day (35). The WHO has also set population targets for sugar and saturated fat intakes (36, 37). These targets provide a focus for policies and actions as well as a mechanism for assessing progress.

Food composition: Countries have also set reformulation targets for sodium in food products. For example, Argentina and South Africa have specified, in law, mandatory maximum levels of sodium in a range of food categories (38). The UK salt reduction programme, initiated in 2003/04 has led to reductions in the salt content of many processed foods and a significant (15%) reduction in urinary sodium levels (39). There is less international experience with targets for sugar and saturated fat in certain food groups. The workshops were divided on whether such targets should be mandatory or voluntary, with the final recommendation being for voluntary targets in the first instance.

3. Increase investment in population nutrition promotion

Sufficient investment in population nutrition promotion policies, programmes and their evaluation is required. Although the investment in population nutrition promotion nearly doubled since 2014 (from $29m to $48m annually), this was not recognized as substantial progress by the Panel. Current levels of funding are still substantially below the levels of a decade ago (about $67m). The Panel suggested benchmarking this investment in prevention against the direct costs of overweight and obesity. At 10% of current costs, this would equate to about a doubling of current investment to about $90m annually.

4. Regulate unhealthy food marketing to children and adolescents

Restricting the high levels of marketing of unhealthy foods to children and adolescents is critical to addressing the high levels of obesity in New Zealand's children and adolescents (40). Children's food preferences, purchase requests, and consumption patterns are influenced by food marketing (41-44). Internationally and in New Zealand, self-regulation by industry has not led to reductions in the overall exposure of children to unhealthy food marketing (45). The Panel considered restricting marketing through ***broadcast media***, ***non-broadcast media*** and in ***children's settings***, such as within schools and early childhood education services and around schools ('school food zones'). In addition, company and brand advertising (e.g. sponsorship) was recognized as an issue that needs urgent consideration since this will be a marketing loophole that companies will exploit. It is likely that the Advertising Standards Authority's new Code will not notably reduce exposure of children to unhealthy food advertising, therefore, comprehensive regulations are needed (46, 47).

Internationally, a range of countries and regions have restricted marketing of unhealthy foods to children and adolescents. For example, in 1980, Quebec banned all advertising of any products to children aged under 13 years (48). Chile's regulations prohibit unhealthy food marketing to children under 14 years through any medium including broadcast, websites and product packaging (48).

5. Ensure healthy foods in schools and early childhood education services

Ensuring healthy food choices are available within school and ECE services was a priority identified by the Expert Panel in 2014 and 2017. It is remarkable that the 2015 childhood obesity plan did not include any actions to directly improve the healthiness of school food environments, while actions were included to improve the healthiness of food environments in other public sector settings (through the Healthy Food and Drink Policy). The Ministry of Education suggests that schools have a water and milk only approach to beverages. In 2016, this was implemented in 69% of primary schools, but only 13% of secondary schools. In Australia, several of the states have implemented mandatory nutrition standards in schools.

6. Introduce a substantial (e.g. 20%) tax on sugar-sweetened beverages

Discouraging consumption of sugar-sweetened beverages by increasing the price through an excise tax was also prioritised by the Panel. Over 20 jurisdictions have implemented sugary drink taxes and the momentum is building as more countries, states and cities consider implementing them (49). A recent systematic review of the evidence from 80 studies which assessed the impact of food taxes concluded that 'If the primary policy goal of a health tax is to reduce consumption of unhealthy products, then current evidence supports the implementation of taxes that increase the price of products by 20% or more' (50). Further research has also shown that such a tax is likely to improve health and probably reduce health inequalities (51). A 20% tax on carbonated drinks was estimated to reduce daily energy intakes by 0.2% (20kJ/day) and avert or postpone 67 (95% CI, 60 to 73) deaths from cardiovascular disease, diabetes and diet-related cancers, which equates to 0.2% of all deaths in New Zealand per year (51). Other research showed that increasing the price of sugar sweetened beverages led to a significant reduction in purchases of those beverages but did not significantly affect purchases in other beverage or snack food categories (52). A tax on sugar sweetened beverages with the funding used for health promotion was also recommended by the New Zealand Beverage Guidance Panel in their six-point policy brief (53). A range of other countries globally (e.g., Mexico, Tonga, France, Hungary, French Polynesia) introduced taxes on sugar-sweetened beverages and several use the revenue for improving population health (e.g., Mexico, Hungary, French Polynesia) (38).

7. Strengthen the Health Star Rating (HSR) System

All workshops agreed on the need for urgent action to improve the performance and integrity of the HSR. This should be done by addressing the anomalies in the algorithms which currently do not give sufficient weighting for sugar content, meaning that many high-sugar products receive high star ratings. This is damaging the credibility of whole system and warrants urgent attention. More consumer education is needed to promote the HSR system but some workshop participants said that this should only occur after the anomalies have been addressed. Experts considered the HSR should be mandatory by 2019 if the slow uptake by the food industry continues. The same priority action was recommended by Australian experts as part of the recent Food-EPI in Australia (23).

8. Implement new Eating and Activity guidelines

The Panel agreed on the need to actively implement and promote all aspects of the new guidelines. More investment is needed to achieve this and in addition, the guidelines need to be translated for different socio-cultural and education contexts and for environmental sustainability. This holistic approach to food and eating guidelines is becoming common in other countries.

9. Conduct a new national nutrition survey for children

A new national nutrition survey for children is urgently needed and was considered the most important priority for improving monitoring. The previous survey was conducted in 2002 and the size of the nutritional problems in childhood and adolescence warrant up-to-date data on dietary intake and nutritional status. Planning is however also required for a new adult nutrition survey along with mechanisms and funding plans for regular adult and child nutrition surveys in the future.

6. Evaluation of process by Expert Panel

Before leaving the workshops, experts were asked to fill out an evaluation questionnaire, completed by 25 participants (Figure 6). Most experts agreed that participating in the Food-EPI process increased their knowledge about food environments and policies, agreed that the Food-EPI is likely to contribute to beneficial policy change and that it is important to repeat the Food-EPI every three years to monitor progress of implementing recommended food environment policies compared to international best practice.

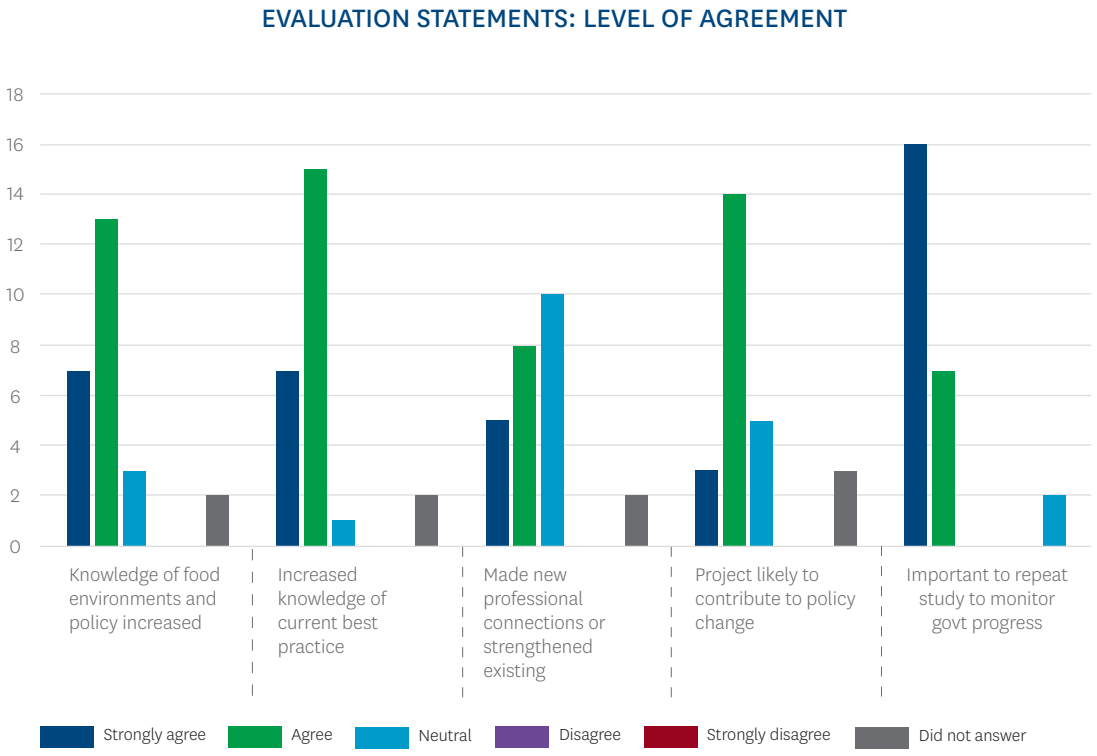

Figure 6 Level of agreement by experts with a range of evaluation statements

7. Conclusions

Effective government policies and actions are essential to increase the healthiness of food environments and to reduce the high levels of obesity, diet-related NCDs, and their related inequalities. Internationally, there is wide recognition of this major public health issue and New Zealand is lagging behind other nations in implementing several major policies to improve food environments and reduce levels of obesity and diet-related NCDs.

New Zealand has clearly set the international benchmark in one area by applying a nutrient profiling system to prevent unhealthy foods carrying health claims. New Zealand is at world standard in other areas such as nutrition information panels and monitoring systems for NCDs. Several initiatives are showing good progress, such as the Health Star Rating system, the Healthy Food and Drink Policy, platforms for interaction and community-based approaches (for example, Healthy Families NZ).

Of major concern were the continuation of major gaps in implementation for half of the Food-EPI indicators, especially for healthy food policies in schools, fiscal policies to support healthy food choices, implementing restrictions on unhealthy food marketing to children, supporting communities to limit the density of unhealthy food outlets in their communities (for example, around schools), supporting the food retail and service industry to reduce unhealthy food practices and ensuring that trade and investment agreements do not negatively affect population nutrition and health.

New Zealand has an excellent opportunity to take the prevention of obesity and diet-related NCDs seriously and invest in highly cost-effective policies and programs to become a leader in the field. It will clearly require a much greater government effort than has recently been evident.

The top priority actions are recommended by the Expert Panel for immediate implementation but all 53 recommended actions are achievable with sufficient government commitment.

The Food-EPI will be conducted every three years towards the end of each government's term of office to measure progress made towards improving food environments over that term. The Expert Panel hopes that substantial progress will be made by 2020 to bring New Zealand towards the progressive, innovative and world leader in public health that it clearly can be.

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Appendix 1: Research approach and methods

The International Network for Food and Obesity/NCDs Research, Monitoring and Action Support (INFORMAS) (7) was founded in 2013 to monitor and benchmark food environments, government policies and private sector actions and practices globally.

INFORMAS aims to: (1) develop a global network of public-interest organizations and researchers to monitor, benchmark and support efforts to create healthy food environments and reduce obesity, non-communicable diseases (NCDs) and their related inequalities; (2) collect, collate and analyse data on public and private sector policies and actions, food environments, population diets, obesity and NCDs: (3) compare and communicate the progress on improving food environments against good practice benchmarks between countries and over time; (4) use the results to strengthen public health efforts, particularly by supporting the translation of relevant evidence into public and private sector actions.

INFORMAS complements existing monitoring efforts of the World Health Organization (WHO), such as the global NCD monitoring framework, which does not focus on food environment indicators (14). INFORMAS produces evidence that is highly policy-relevant in order to help increase the accountability of governments and the private sector through the provision of regular direct evidence on their levels of action or inaction and the healthiness of food environments.

Methods overview

The purpose of the Healthy Food Policy Index (Food-EPI) tool and process is to monitor and benchmark public sector (national government) policies and actions. It aims to answer the overarching question – How much progress have governments made towards good practice in improving food environments and implementing obesity/NCD prevention policies and actions?

A mixed methods design was used to obtain the ratings of the level of implementation of good practice policies and infrastructure support and to identify and prioritise actions. The methods used to obtain the rating followed the steps outlined in Figure 7 with the exception of weighting the scores outlined in step 6. Unweighted rating results are presented as appropriate weights for the good practice domains and their indicators are in development.

In New Zealand in 2014, an Expert Panel was formed by invitations being sent to a wide range of public health experts (academics, researchers and practitioners) and public health non-governmental organisations (including medical associations, professional bodies and service providers). Where possible, these experts were invited to participate in the Food-EPI 2017. Unlike in 2014, government experts (e.g. experts from different Ministries, Health Promotion Agency and District Health Boards) were also invited to participate in the Food-EPI 2017 ratings and workshops. In 2014 their role was restricted to verifying the evidence document and participating in the workshops as observers.

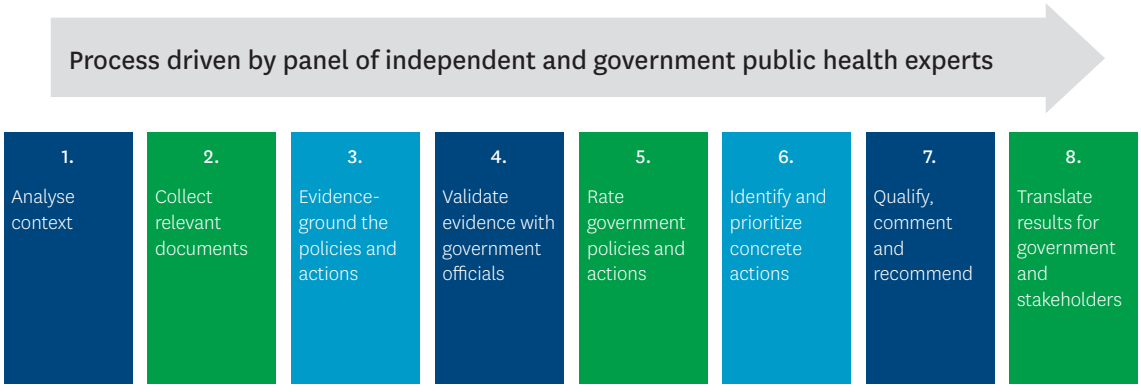

Figure 7 Process for assessing the policies and actions of governments for creating healthy food environments

Development of the Healthy Food Environment Policy Index (Food-EPI)

The Food-EPI was based on a review of the evidence and policy documents and revised by a group of international experts, including experts from low, middle and high income countries as well as senior representatives from the World Health Organisation (WHO) and the Food and Agriculture Organisation (FAO). Evidence-based or expert committee reports from international agencies such as WHO and FAO, national government agencies, non-governmental organisations, professional societies and expert advisory groups were reviewed for their recommendations for improving food environments and population diets (15). The WHO approach to strengthening healthy systems (54) was adapted for incorporation into the infrastructure support component of the tool. The structure of the Food-EPI tool is provided in the body of the report (Figure 2) and the process that was used to implement the tool in New Zealand is outlined below.

Piloting and refining the Food-EPI tool and process

The Food-EPI tool and processes were pilot tested and revised for New Zealand and international implementation in 2013 (18). The main elements of the piloting process were to:

- collect evidence on the extent of government implementation of different policies and infrastructure support systems in New Zealand and validate with government officials
- present the evidence to informed independent public health experts and NGO representatives in a workshop setting
- ask experts participating in the workshop to rate the performance of their government on the good practice statements covering the policy and infrastructure support domains
- ask experts participating in the workshop to evaluate
    - the level of difficulty of rating each indicator
    - the appropriateness and completeness of the evidence presented.
    - For the pilot study, two whole-day workshops were convened.

Thirty-nine independent public health experts and NGO representatives rated the good practice statements within the 7 policy and 7 infrastructure support domains. The difficulty of rating the indicators and the comprehensiveness of the evidence base was also assessed by the experts. Based on their assessments and comments and the inter-rater reliability scores (overall score of 0.85, CI=0.81-0.88), the main changes to the Food-EPI tool included strengthening the leadership domain, removing the workforce development domain (because professional training was mainly outside the government jurisdiction), strengthening the equity focus, and adding community-based programs and government funding for research on obesity and NCD prevention as good practice indicators (18). The modified tool and the revised good practice statements and evidence were used in the baseline Food-EPI study in April-May 2014 and in a range of other countries globally.

FOOD-EPI 2017 – rating the levels of implementation in New Zealand

An evidence document (available in online Appendix 1) on the current extent of implementation of good practice policies and infrastructure support in New Zealand was compiled from policy documents and budgets retrieved from websites and through Official Information Act requests. The evidence was comprehensively documented and returned to government officials to verify its completeness and accuracy. International best practice exemplars (benchmarks) were extracted from the World Cancer Research Funding NOURISHING framework and from other sources detailed in online Appendix 1. In addition, a summary of evidence of implementation, international best practice benchmarks and progress since 2014 was compiled (available in online Appendix 2).

In 2014, two workshops were convened to obtain ratings for the level of implementation for each good practice indicator. Prior to the rating workshops, the experts were provided with a written summary of New Zealand evidence on the extent of implementation of good practice policies and infrastructure support and international benchmarks for each indicator. Based on the evaluation of the Food-EPI 2014 by the experts and experience from applying the Food-EPI internationally, this time, an online rating tool was used and experts completed the ratings individually before the organization of the workshops. Experts were sent a paper version of the full evidence document and the evidence summaries (as presented in online Appendix 2) were presented to them online before they rated each of the good practice indicators. An example for the first indicator is presented in Figure 8.

Seventy-one New Zealand-based independent (n=48) and government (n=23) public health experts and representatives from medical associations and NGOs independently scored the degree of implementation of policy and infrastructure support in New Zealand against international best practice. A total of 47 indicators were rated using Likert scales (1 to 5) comprising 23 policy indicators and 24 infrastructure support indicators (refer to Appendix 3 for a full list of the good practice indicators). A rating of 1 means between 0 and 20% implementation compared to international best practice and a rating of 5 means between 80 and 100% implementation compared to best practice.

The mean rating for each indicator was used to determine an overall percentage level of implementation. These ratings were then categorised into High, Medium, Low, or Very Little, if any levels of implementation based on the following cut-points: >75% = High; 51 to 75% = Medium; 26 to 50% = Low; <25% = Very little, if any.

COMP1 *Food composition targets/standards have been established 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).*

Evidence of implementation by the New Zealand government 2017:

- No food composition targets have been specified by the Ministry of Health (MoH) or the Ministry for Primary Industries for the nutrients of concern (sodium, saturated fat, trans fat, added sugar).
- As part of the Healthy Kids Industry Pledge, stimulated by MoH, several companies, including the retailers FoodStuffs and Countdown, have set reformulation targets.
- National Heart Foundation programme (HeartSafe) since 2007, focusing on setting voluntary targets and timeframes in partnership with industry for specific food categories, under a contract from MoH, mainly focusing on reducing sodium levels in packaged foods. Recently the first sugar reduction targets were set for breakfast cereals, tomato sauce, canned baked beans and canned spaghetti. In total targets have been set for 13 food categories.
- FSANZ leads work on the status of *trans* fats in NZ and decided previously based on surveys in 2007 and 2009 that regulatory intervention is not required and the non-regulatory approach is sufficient to further reduce levels.

International Best Practice Examples (Benchmarks) 2017:

- **Argentina/South Africa:** Recent laws on max levels of sodium in a broad range of food categories
- **Denmark:** A law prohibits the sale of products containing *trans* fats since 2003.
- **Europe/UK:** The addition of sugar is no longer authorised in fruit juice.
- **France:** Under a Charter of Engagement with the food industry (2008), companies can make voluntary commitments to reduce salt, sugar, total and saturated fats and increase fibre.

Summary

The median rating by experts for **COMP1** was **3** in 2014.

There is new evidence of implementation by the New Zealand Government since 2014. The benchmark has not substantially improved since 2014.

Figure 8 Example evidence summary presented to the Expert panel online

Identifying and prioritising actions for implementation in New Zealand

Four workshops were organized across the country (Auckland, Wellington, Christchurch and Dunedin) to evaluate the implementation gaps as identified from the ratings, assess progress since 2014, and identify and prioritize concrete actions for implementation by the New Zealand Government.

Experts participating in the workshops (n=45 in total) were presented with the distribution of the rating score for each indicator. They discussed the need for any action in relation to the indicator and, if a need was considered, identified actions to improve food environments and population nutrition and reduce NCDs in New Zealand.

Actions were proposed for 46 of the 47 good practice indicators. For some indicators, more than one action was proposed. The workshops mostly agreed on the content of the actions to be put forward, but there were some differences.

In online Appendix 4 the actions proposed in each workshop and the final compiled actions with some commentary are listed. There was a total of 53 actions proposed across the four workshops. These were identified as having the potential, in concert with other actions, to help improve food environments and population nutrition and reduce obesity and diet-related NCDs in New Zealand.

After compiling a full list of proposed actions, in the workshops, the Expert Panel members were asked to separately prioritise the importance and achievability (Table 3). Importance took into account the relative need, impact, effects on equity, and any other positive and negative effects of the action. Achievability took into account the relative feasibility, acceptability, affordability, and efficiency of the action. Participants were asked to consider 'acceptability to government' as pertaining to New Zealand governments in general, not the particular government of the day.

Each proposed policy action was ranked from higher to lower importance and achievability. The same process was then applied for prioritizing the proposed infrastructure support actions. Actions with the highest rank received the maximum score while actions ranked at the bottom received a score of 1. For each action, the scores were summed per workshop and expressed as a percentage out of 100 (normalization since the number of experts in each workshop was different) and for each action the average score across workshops was calculated for both importance and achievability. Graphs were created to plot importance against achievability. Actions in the top third for importance where selected as top priorities.

Importance	Achievability
Need The size of the implementation gap	**Feasibility** How easy or hard the action is to implement
Impact The effectiveness of the action on improving food environments and diets (including reach and effect size)	**Acceptability** The level of support from key stakeholders including government, the public, public health, and industry
Equity Progressive / regressive effects on reducing food/diet-related health inequalities	**Affordability** The cost of implementing the action
Other positive effects (e.g., on protecting rights of children and consumers)	**Efficiency** The cost-effectiveness of the action
Other negative effects (e.g., regressive effects on household income, infringement of personal liberties)	

Table 3 Criteria for prioritising the recommended actions: Importance and Achievability

Full report is available at **www.informas.org**