



Obesity 6

Strengthening of accountability systems to create healthy food environments and reduce global obesity

Boyd Swinburn, Vivica Kraak, Harry Rutter, Stefanie Vandevijvere, Tim Lobstein, Gary Sacks, Fabio Gomes, Tim Marsh, Roger Magnusson

Lancet 2015; 385: 2534–45

Published Online

February 19, 2015

[http://dx.doi.org/10.1016/S0140-6736\(14\)61747-5](http://dx.doi.org/10.1016/S0140-6736(14)61747-5)

See [Editorial](#) page 2434

See [Comment](#) *Lancet* 385: 2326–26

This is the sixth in a [Series](#) of six papers about obesity

School of Population Health, University of Auckland, Auckland, New Zealand (Prof B Swinburn MD, S Vandevijvere PhD); WHO Collaborating Centre for Obesity Prevention, Deakin University, Victoria, Australia (B Swinburn, V Kraak PhD, G Sacks PhD); Department of Human Nutrition, Foods & Exercise, Virginia Tech, Blacksburg, VA, USA (V Kraak); London School of Hygiene & Tropical Medicine, London, UK (H Rutter MBBChir); World Obesity Federation, London, UK (T Lobstein PhD); National Cancer Institute of Brazil, Ministry of Health, Rio de Janeiro, Brazil (F Gomes PhD); UK Health Forum, London, UK (T Marsh FFFH); and Sydney Law School, University of Sydney, Sydney, NSW, Australia (Prof R Magnusson PhD)

Correspondence to:

Prof Boyd Swinburn, School of Population Health, University of Auckland, Auckland 1142, New Zealand
boyd.swinburn@auckland.ac.nz

To achieve WHO's target to halt the rise in obesity and diabetes, dramatic actions are needed to improve the healthiness of food environments. Substantial debate surrounds who is responsible for delivering effective actions and what, specifically, these actions should entail. Arguments are often reduced to a debate between individual and collective responsibilities, and between hard regulatory or fiscal interventions and soft voluntary, education-based approaches. Genuine progress lies beyond the impasse of these entrenched dichotomies. We argue for a strengthening of accountability systems across all actors to substantially improve performance on obesity reduction. In view of the industry opposition and government reluctance to regulate for healthier food environments, quasiregulatory approaches might achieve progress. A four step accountability framework (take the account, share the account, hold to account, and respond to the account) is proposed. The framework identifies multiple levers for change, including quasiregulatory and other approaches that involve government-specified and government-monitored progress of private sector performance, government procurement mechanisms, improved transparency, monitoring of actions, and management of conflicts of interest. Strengthened accountability systems would support government leadership and stewardship, constrain the influence of private sector actors with major conflicts of interest on public policy development, and reinforce the engagement of civil society in creating demand for healthy food environments and in monitoring progress towards obesity action objectives.

Introduction

The WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases (NCDs) 2013–20¹ was adopted at the 66th World Health Assembly in May, 2013. The accompanying NCD Global Monitoring Framework² includes specific targets to halt the rise in obesity and type 2 diabetes in adults and adolescents. Although targets of no increase might sound modest, they are probably the most formidable of the WHO targets because no country has yet achieved them. These targets will not be achieved without improvements in food environments at local, national, and transnational levels because obesogenic food environments are the underlying drivers of the obesity epidemic.³ Food environments encompass the collective physical, economic, policy, and sociocultural surroundings, opportunities, and conditions that affect people's food and beverage choices and nutritional status.⁴

This Series paper focuses on the strengthening of accountability mechanisms that will create healthy food policies and environments. Strategies to improve physical activity were reviewed by Kohl and colleagues⁵ in the 2012 *Lancet* Series about physical activity. The paper by Roberto and colleagues,⁶ introducing this second *Lancet* Series about obesity, outlines several key reasons for the poor global progress on obesity prevention. Chiefly, the processed-food industry has been very successful in blocking governmental and societal efforts to implement food policies for obesity prevention.^{7–10} There is broad agreement, as noted by Gortmaker and colleagues¹¹ in the first *Lancet* Series about obesity, that government-led policies and regulations, such as

restrictions on unhealthy-food marketing to children, interpretive front-of-pack labelling, healthy food policies in schools and the public sector, and taxes on unhealthy products, such as sugar-sweetened beverages, are needed. These policies are of high priority and are included in the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–20¹ for several reasons: the policies are cost effective, feasible, and have population-wide effects; the policies reduce nutrition inequalities by improving benefits to more disadvantaged populations; once established, the policies are sustainable; the policies support other societal objectives, such as protecting children from exploitation and enabling consumers to make informed food choices; and regulations carry the strongest accountability levers.

The poor progress in the reduction of obesity requires explanation. Deregulation and the shift of health responsibilities to the individual are core narratives in the present dominant climate of neoliberal politics and economics.¹² The food industry's initiatives to reduce obesity have centred around the establishment of voluntary marketing codes and product reformulation, promotion of physical activity and community-based initiatives, and provision of information for consumers about the nutritional benefits of their food products through health and nutrition claims.¹³ Debate persists about whether the responsibility of taking action lies with the individual (the food industry offering more consumer choices) or with society (the government providing societal leadership). What those actions should entail is another matter of debate. Hard approaches

involve government regulatory and fiscal interventions, whereas soft approaches involve educational and industry voluntary codes.¹⁴ In view of the substantial political power of the processed-food industry, government approaches to obesity prevention largely favour industry's preferences for a focus on individual responsibilities and soft approaches. These approaches, which are close to business-as-usual, are perpetuating the conditions that drive obesity.

In this Series paper, we investigate these viewpoints and propose a wider perspective on how governments, the private sector, and civil society can be linked within an accountability framework to ensure progress on improving the healthiness of food policies and environments. We also examine a number of quasi-regulatory approaches that could be the first steps towards breaking the impasse between the regulatory and deregulatory positions.

Absence of appropriate accountability mechanisms

The 2011 UN high-level meeting on NCDs¹⁵ and WHO's 2004 Global Strategy on Diet, Physical Activity, and Health¹⁶ encouraged a multisectoral response, including voluntary partnerships among public, private, and civil society stakeholders as a core strategy to reduce obesity rates.^{17,18} Many national governments, as well as the transnational processed-food corporations, have made such partnerships a central feature of their response to obesity. Although many different interactions with the wide range of food industries will be central to the achievement of public health nutrition goals, the role of public-private partnerships with transnational processed-food corporations is highly contested, and most countries have no independent accountability mechanisms to ensure their effectiveness.¹⁹⁻²¹

For true partnerships to be successful, goals and principles should be aligned, and a clear understanding of who is accountable to whom, for what, why, by when, and what the sanctions are for non-compliance or poor performance.²² The economic and political power of transnational food corporations and the progressive deregulation of markets have loosened the accountability of the globalised food industry to national governments and consumers. Concurrently, the growing influence of commercial interests on public policy making has diminished the accountability of governments to their citizens. The serious threat that these shifts in power pose to public health and democratic processes has been emphasised by Margaret Chan,²³ Director-General of WHO, in warnings that "Big Food" and "Big Soda", so-called corporate disease vectors,⁸ pose enormous threats to the achievement of reductions in NCDs. Strengthening of accountability mechanisms needs to be a top priority if global progress is to be made towards reduction of obesity and diet-related NCDs.

Key messages

- Major improvements are needed in the healthiness of food environments if the global targets of halting the rise in obesity and type 2 diabetes are to be met
- The proposed four step accountability framework aims to ensure progress towards achievement of the WHO obesity and diabetes targets, which are to take the account (through independent assessment and benchmarking of progress), share the account (through communication of the evidence of progress), hold to account (to ensure accomplishments are acknowledged and non-compliance or poor performance is sanctioned), and respond to the account (through system-wide improvements to policies and actions)
- Although governments probably need improved regulatory mechanisms to ensure private sector accountability, several non-regulatory mechanisms (eg, quasiregulatory, political, market-based, and public and private communications) are underutilised; these mechanisms will help to strengthen the difficult step of holding private sector to account for performance
- The process of food policy development needs increased protection from the vested interests of the processed-food industry
- Where food systems are not yet highly dependent on transnational food corporations, efforts should concentrate on preservation and strengthening of national food sovereignty and agro-food-biodiversity and prevention of food systems from becoming highly dominated by big food corporations
- Civil society will need to increase its role substantially to independently monitor progress and create a large demand for changes to food environments
- Global and national food systems need to create sustainable diets, which are not only secure and economically viable, but also promote health, equity, and environmental sustainability; prominent features of the UN's Post-2015 Development Agenda should be global goals to reduce obesity and NCDs and achieve sustainable diets as climate change threatens to inflict major damage to global food systems

Accountability and governance of food systems

Whereas responsibility refers to the obligations to be fulfilled by one actor, accountability involves one actor answering to another actor, the account holder, who is empowered with the authority to assess how well the former fulfils obligations to achieve specific goals.²⁴ Accountability also involves recognition of achievements and enforcement of performance through the application of sanctions for poor performance or non-compliance. As such, accountability is ultimately about governance and power and determines how and why decisions are made, who makes decisions, how power is used, shared, and balanced, whose opinions are important, and who holds whom to account.²⁵ Over the past few decades, the globalisation of food systems has meant that governance has become more complex with large transnational corporations, international trade and investment agreements, and international agencies, such as the World Trade Organization, reducing the policy space within which national governments, the traditional governance authority, can operate.^{8,26-31}

Voluntary partnerships, such as the Public Health Responsibility Deal in England³² and the USA's Healthy Weight Commitment Foundation,³³ have been embraced by industry and government leaders as a way to improve the healthiness of food environments in these countries,

where food systems and diets are already dominated by large food transnationals and ultra-processed products. These approaches are driven by a belief that governments, the private sector, civil society groups, donors, and other stakeholders could have a greater effect on obesity by joining their efforts.^{15,16,34} However, these partnerships have been criticised for an absence of transparency, public accountability, and management of conflicts of interest.¹⁸ There is little independent evidence that these public–private partnerships make any meaningful contribution to reverse rates of obesity and NCDs.^{19,21,35,36}

An accountability framework to create healthy food environments

An accountability framework to improve the healthiness of food environments has been proposed by Kraak and colleagues,²⁴ following a comprehensive review of 15 interdisciplinary conceptual frameworks for institutional accountability. One example of an institutional accountability framework was developed by the Commission on Information and Accountability for Women’s and Children’s Health (“Monitor, Review, and Act” three step framework).³⁷ Another accountability framework was developed by the *Lancet* NCD Action Group (“Monitor, Review, and Remedy” three step framework).³⁸ These steps capture important actions that are necessary to create accountability between two parties. However, the element related to holding to account or enforcement is implicit rather than explicit. Since the implicit nature of enforcement was the most problematic and confronting aspect of the accountability process identified in the review, enforcement was included as an explicit step in the framework by Kraak and colleagues (figure).²⁴ The absence of concrete

See Online for appendix

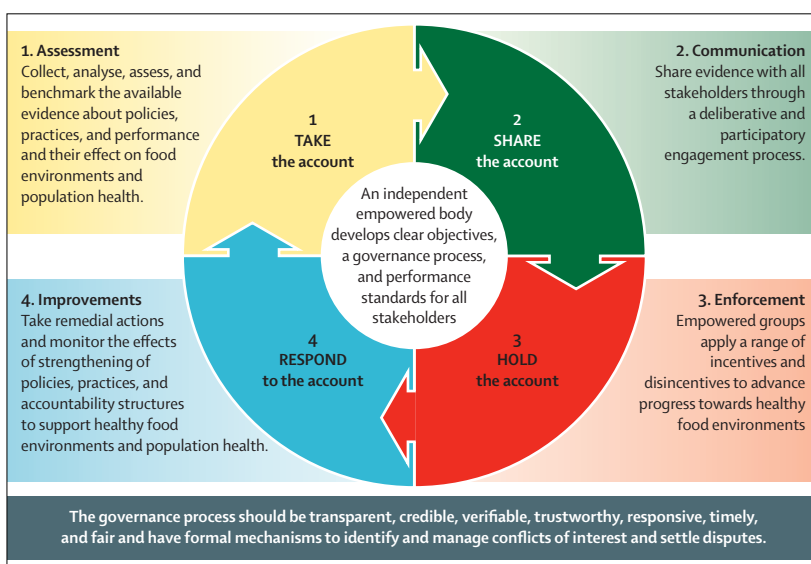


Figure: Accountability framework to promote healthy food environments
Adapted from Kraak and colleagues²⁴ by permission of the authors.

mechanisms for holding to account has also been very problematic in the UN framework for improvement of the human rights performance of transnational corporations (“Protect, Respect, and Remedy”).³⁹

The core of the framework by Kraak and colleagues²⁴ is the agreed objectives, processes, and outcomes. For governments, these are the global and national action plans they create or endorse, especially the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013–20.¹ To the private sector, the primary accountabilities are to maximise shareholder returns and to obey the laws of the countries they operate in. However, many transnational food corporations have also voluntarily committed to pledges, which, in addition to societal expectations of corporate behaviours, can be included as accountability objectives. The accountability system needs to be credible, and a strong case is made by the *Lancet* NCD Action Group for key components to be assessed by independent and credible third parties empowered with authority and enforcement capabilities.⁴⁰ If actors are working too closely with one another, “too often, mutual accountability translates into mutual appreciation”.^{38,40}

The first step of the accountability cycle is to take the account through the measurement of progress towards agreed goals. High body-mass index (BMI) is rapidly increasing its contribution to the burden of disease in most countries and is even overtaking smoking in many instances.⁴¹ This burden emphasises the importance of regular monitoring of BMI, especially in children in whom the prevalence rates seem to be changing most rapidly. The WHO Europe Child Obesity Surveillance Initiative⁴² provides a good example of a regional effort to increase regular monitoring of children’s weight status. With 19 participating countries, more than 170 000 children across Europe were measured in the last round of data collection in 2011–12. At the national level, the National Child Measurement Programme⁴³ in England is the largest single child obesity monitoring programme in place (appendix). Such fine-grained data readily allows the identification of trends in micro-areas for local feedback and the tracking of changes in inequalities as the epidemic evolves (appendix).

Another monitoring initiative underway is the International Network for Food and Obesity/NCDs Research, Monitoring and Action Support⁴ (INFORMAS, panel 1). INFORMAS will provide data on food environments (eg, food composition, promotion, labelling, prices, provision in schools and other settings, availability in communities and stores, and food in trade and investment agreements) to complement WHO’s NCD Global Monitoring Framework. Importantly, INFORMAS will provide independent assessments of the extent of policy implementation by governments and the actions of the corporate food sector.

The second step of the accountability framework is to share the account and involves wide dissemination of

progress made by governments and food corporations in the implementation and meeting of targets set in national and global plans for action against NCDs.⁴⁵ For example, the Access to Nutrition Index⁴⁶ has rated and benchmarked 25 of the largest food and beverage manufacturers on the basis of their commitments, performance, and disclosure practices related to obesity and undernutrition worldwide. The first Access to Nutrition Index report in 2013 showed that most companies were not transparent, did not publicly share their nutrition-related practices, and did not adhere to many publicly shared commitments.⁴⁷ These results support the findings in a systematic review⁴⁸ that high levels of industry compliance with their own performance criteria has done little to reduce children's exposure to food marketing, showing that their own criteria are insufficiently robust. The Access to Nutrition Index aims to be published every 2 years to track and encourage improvements in company practices.

Another example of efforts to track government action on nutrition is the Hunger and Nutrition Commitment Index,⁴⁹ which compares the performance of 45 low-income and middle-income countries on 22 indicators across three areas of government action to address hunger and undernutrition: policies and programmes, legal frameworks, and public expenditure. The index improves transparency and public accountability by measuring what governments achieve and where they fail. To share the account can also refer to the provision of evidence on recommended actions (eg, from the WHO Global Action Plan for the Prevention and Control of Noncommunicable diseases'), which are yet to be widely adopted. A tax on sugar-sweetened beverages is one such recommended and cost-effective intervention. The appendix outlines the several different types of evidence that need to be communicated to decision makers and the public.

A further example of improvement of communications of key policies for obesity prevention is the decision by the EU Trade Commissioner to consult the public on the investment provisions within a proposed EU–USA trade deal, the Transatlantic Trade and Investment Partnership.⁵⁰ The provisions in these agreements run the real risk of reducing the policy space for future governments to regulate for healthier food environments in cases where those regulations would substantially reduce the profit for foreign investors from their asset investments in the food system.⁵¹ Negotiations for such trade deals (and the arbitration of disputes) are usually conducted in secret, so the decision to open up the proposed deal to public scrutiny is a very welcome sign of accountability.

The third step of the accountability framework is to hold to account. This step involves affected stakeholders acknowledging the achievements and sanctioning the poor performance of other stakeholders. This step, especially the application of sanctions, is often the weakest component of the accountability framework.⁵² An analysis of potential leverage points that enable governments to hold the private sector to account and

Panel 1: INFORMAS (International Network for Food and Obesity/NCDs Research, Monitoring, and Action Support)

INFORMAS⁴ is a global network of public-interest organisations and researchers that aims to monitor, benchmark, and support public and private sector actions to create healthy food environments and reduce obesity, diet-related NCDs, and their related inequalities. INFORMAS seeks to strengthen accountability systems for actions and inactions on food environments by the government and private sector by measuring and comparing the key characteristics of food environments over time and in different countries and of the public and private sector policies and actions that influence them.

The INFORMAS monitoring framework includes two modules about benchmarking the policies and actions of governments and the private sector with respect to food environments, seven modules about the effect of those policies and actions on key aspects of food environments (food composition, labelling, promotion, price, provision, retail, trade and investment), and three modules about the resultant population health outcomes (including population diet quality). The first comprehensive rating of government performance on implementing food policies and related infrastructure support was conducted for New Zealand in May, 2014.⁴⁴ It showed the size of the food policy implementation gaps that were then translated and prioritised into recommended actions for the New Zealand Government. Once established worldwide, INFORMAS will contribute to all steps in the accountability framework, thereby helping to make government and private sector organisations more accountable to civil society for their actions, and complementing the work of WHO and the UN.

that allow civil society (the least economically powerful stakeholder) to hold both public and private sectors to account is summarised in the table.

The strongest accountability lever for the government to hold the private sector to account is through legal mechanisms. It is this strength of the legal levers that explains why public health experts consistently call for a regulatory approach to improve the healthiness of food environments, especially where existing deregulated conditions have created market failures, such as with childhood obesity.⁸ At the international level, an important disjunction exists between the soft obligations that fall on governments to implement the WHO recommendations approved at the World Health Assembly and the hard (legally binding) trade and investment agreements. These agreements can both restrict the regulatory space in which governments can act and impose demanding evidentiary hurdles before proposed public health regulations can be implemented, if such regulations affect trade and foreign investment.^{31,53,54}

Nevertheless, governments in several countries have adopted food regulations to improve support for population nutrition objectives.⁶ Between 1987 and 1992, Mauritius placed restrictions on the amount of palm oil contained in its ration oil, replacing it with soya bean oil, and achieved an average 15% reduction in cholesterol in adults during this period.⁵⁵ Pacific Island countries have debated and trialled regulatory restrictions on some meat products with a high content of saturated fat. For example, Samoa banned turkey tail imports in 2007, but was forced to surrender this measure as part of its accession to the World Trade Organization.⁵⁶ In 2000, Fiji

	Governments holding private sector companies to account	Civil society holding governments to account	Civil society holding private sector companies to account
Legal	Direct regulation through laws and regulations specifying required conduct Regulatory institutions through monitoring of compliance, investigation of complaints, and law enforcement by designated agencies, auditors, inspectors, commissioners Procurement contracts and grant requirements for government agreements requiring food supplies (eg, to schools and hospitals) to meet nutrition standards Litigation against food industry for breaches of the law	Formal submissions to official inquiries, policy development, and law reform processes Litigation against government policies (or inactions) that violate constitutionally-protected rights (eg, the right to health) or international human rights obligations (eg, Convention on the Rights of the Child)	Consumer protection through regulatory agencies, which have a mandate to protect consumer health and welfare, against harmful practices and deceptive claims by food companies Litigation for injuries caused by harmful products in order to vindicate constitutionally protected rights (eg, the right to health or the right to food)
Quasiregulatory	Legislative and regulatory support to strengthen and improve private sector initiatives so they are more accountable, credible, and better able to achieve public interests and objectives Regulatory probability, in which governments create a credible expectation that, unless measurable improvements in voluntary performance are achieved, more direct forms of regulation will be introduced	Codes of conduct and ethics guidelines can be invoked to maintain the integrity of the political process and to avoid corruption (eg, conflict of interest policies, registers of financial interests, public disclosure of all interactions between government, and food industry to ensure transparency)	Codes of conduct and ethics guidelines: invoking the maintenance of professional ethics and standards of conduct within the private sector (eg, for marketers and researchers working for or within the food industry) Voluntary commitments: invoking unilateral or multilateral pledges or commitments by food companies as a measure of performance
Political	Policy directions in which government clearly communicates its policy directions and expectations of food industry stakeholders Access to policy processes by promoting civil society access to policy-making processes (eg, membership on government committees) but restricting food industry if potential conflicts of interest exist	Formal policy processes to give governments feedback on performance through formal channels (eg, policy advisory committees) Political party processes to gain support through party membership, campaign contributions, etc Elections and referenda in democratic processes at all levels of government	Shareholder activism including proposing resolutions at companies' annual general meetings
Market-based	Fiscal instruments such as taxes, subsidies, and concessions to influence market behaviour through their impact on price and by changing the costs of corporate and individual behaviour Government procurement to stimulate market dynamics in favour of healthier foods	..	Investment or disinvestment behaviours alter company share prices Consumer demand strengthened or weakened (eg, through a boycott) for a company's products and services
Public communications	Public feedback (praise or criticism) through the media from politicians on the performance of food companies	Public feedback on performance of governments and politicians by civil society (eg, through the media, advocacy campaigns, opinion polls, social media, public forums, watchdog organisations, petitions, league tables, and demonstrations)	Public feedback on performance to food companies with praise or criticism by civil society (eg, through the media, advocacy campaigns, opinion polls, social media, public forums, watchdog organisations, petitions, league tables, and demonstrations)
Private communications	Private feedback on performance to key people within companies or industry bodies from politicians or civil servants	Private feedback on performance to key people within government from civil society organisations or individuals	Private feedback on performance to key people within companies or industry bodies from civil society organisations or individuals

Table: Accountability relations and mechanisms for enforcing accountability by governments and the private sector for actions and policies on food environments

banned the sale of mutton flaps, but faced criticism from New Zealand on the basis that it amounted to a trade-distorting import ban.⁵⁷ The Ghana Standards Authority has prescribed a maximum percentage of fat for various cuts of meat,⁵⁸ with the intention of reducing the availability of turkey tails, chicken feet, and other animal products of low nutrition value in the national food supply. In 2013, South Africa introduced regulations that impose maximum permitted salt concentrations in 13 food categories, including breakfast cereals, butter and fat spreads, bread, and processed meat.⁵⁹ These examples show that food regulations can be means to achieve public health nutrition objectives, as well as food safety objectives.

The first paper by Roberto and colleagues⁶ in this *Lancet* Series provides many other examples of regulatory actions. New York City, NY, USA, has undertaken the most comprehensive regulatory approach^{60,61} to improve the healthiness of food environments, using the Board of Health's legal mandate for public health under the New York City Charter, which includes the right to amend, add, or repeal regulations in the Health Code (appendix).

Without laws or regulations holding the food industry directly accountable for improvement of the healthiness of food environments, quasiregulatory approaches provide some leverage. Voluntary food industry initiatives are frequently compromised by weak standards and commitments and a lack of both transparency and enforcement mechanisms.^{19,20,62} However, governments can strengthen these initiatives by establishing a clear policy framework that includes goals, targets, and policy directions for prevention of obesity and improvement of food environments, and by identifying the measurable contributions that private sector stakeholders are expected to make. Where industry is under-performing in its contributions to publicly declared goals, governments can create a credible expectation that more direct forms of regulation (eg, laws, coregulatory arrangements) will follow. Such so-called legislative scaffolding⁶³ to improve the accountability and credibility of private sector initiatives provides a way forward when governments remain reluctant to take a more comprehensive regulatory approach. Examples of specific government interventions include adoption of formal

targets and indicators for progress, regulations requiring the registration of industry-administered codes for food marketing to children, while broadening the administration of these codes to include government and civil society representatives, and mandatory, independently appointed assessment and public reporting of food industry pledges to a national body that includes multiple stakeholders.³⁸

Political processes might also provide potential leverage points for increasing accountability towards policy goals. As an example, participatory approaches to policy development could include participation from civil society but restrict participation from private sector actors where there are substantial conflicts of interest between public health and commercial gains.³⁸ Guarantee of a seat at the policy table for those population groups most affected by unhealthy food environments (eg, consumers, small farmers, and indigenous people) helps to strengthen democratic systems, rebalance power towards public benefits, improve inequalities, and provide the public context for food policies. Other accountability levers at a government's disposal include the use of fiscal instruments to change relative prices, government procurement to increase the demand for healthy foods, and public and private communications about food industry performance.

Levers available for civil society to hold government and the private sector to account are outlined in the table. These levers are relatively weak, even in countries with democratic political systems, an independent media, an independent judicial system, and a low tolerance for corruption.⁵² In countries where these conditions are all met, civil society has had very little success in pressuring governments and the private sector to act strongly enough to reduce obesity. The main levers used by civil society are public communications through media, formal channels of policy development through government committees, and invoking of mechanisms to increase transparency of government processes. The pressure exerted by the processed-food industry against strong obesity-prevention policies has been far more effective than have civil society and public health organisations in influencing politicians.⁶

Theoretically, the most powerful lever for consumers to exert influence on the private sector is to buy healthy foods instead of unhealthy foods, letting the demand drive supply. However, as pointed out by Hawkes and colleagues⁶⁴ in this Series, in practice, the food industry shapes consumer preferences and drives consumer demand for unhealthy foods by promoting highly palatable, affordable, and readily accessible food products.³ Other opportunities for civil society to leverage change in the private sector are included in the table and include shareholder advocacy⁶⁵ (eg, protesting corporate practices and proposing resolutions at annual general meetings), public communication through

media advocacy⁶⁶ (eg, parents' juries naming and shaming to expose unacceptable industry practices⁶⁷), and grassroots campaigns (eg, petitions and letter-writing campaigns to senior corporate staff⁶⁸). Complaints to independent consumer protection agencies or supervisory authorities, such as a supermarket ombudsman or consumer and competition commissions, are important and underutilised levers for change. Another potentially important lever is investment or disinvestment in company shares. A significant example of this is the Investor Statement from 39 investment firms, with more than US\$2.6 trillion in assets under their management, which commits them to support the Access to Nutrition Index process by factoring nutritional practices of companies into their investment decisions.⁶⁹

The fourth step of the accountability framework aims to ensure a response to the account and involves changes in policies and practices by governments and the food industry. Consumers also need to change their food purchasing practices and to impose collective pressure on governments and food companies to create healthy food environments. Resistance to change, however, has been well documented and includes extensive food industry lobbying opposing voluntary and government-initiated food marketing guidelines in the USA,⁷⁰⁻⁷³ McDonalds' shareholders voting down a resolution requesting the company to evaluate its policies in light of the growing burden of childhood obesity,⁷⁴ lobbying by the Confederation of Food and Drink Industries against the introduction of traffic light labelling in Europe,⁷⁵ and PepsiCo's struggle with its shareholders when its campaign to dispel the notion of it being a so-called junk-food pusher did not convert into profitability.⁷⁶

Even with some willingness to change policies and practices, governments and food companies are often overruled by the dominant economic model that perpetuates the commercial determinants of ill health.⁷⁷ Some actions, such as the reformulation of ultra-processed products, might seem more progressive than they actually are. Food products carrying claims, such as reduced fat, might have, on average, a worse nutrient profile than the average population diet⁷⁸ or traditional healthy diets.

Illustrations of accountability of national approaches to food policy

Two approaches to improving the healthiness of food environments are illustrated using the four step accountability framework (figure): the Public Health Responsibility Deal Food Network in England^{32,79,80} (panel 2) and the National Food and Nutrition Security System in Brazil (panel 3). Voluntarism is the key feature of the Responsibility Deal in England. Here the government's position is to encourage but not require food industry actors to implement pledges to improve food environments. By contrast, government remains at

Panel 2: Calorie reduction pledge from the Public Health Responsibility Deal Food Network in England

- In March, 2011, the UK Coalition Government launched five Public Health Responsibility Deal Networks to address major public health challenges in England²¹
 - The underlying philosophy of the Responsibility Deal was inspired by “nudge theory” or libertarian paternalism that aims to make small changes in people’s environments to affect their choices and facilitate healthy lifestyles
 - The Food Network’s core commitment is to support and enable people to adopt a healthy diet and includes a ten member high level steering group advising and representing the interests of industry, trade associations, non-governmental organisations, and professional societies
 - In March, 2012, the UK Coalition Government officially launched a 5 billion daily calorie-reduction pledge to help consumers reduce their total calorie consumption (representing about 100 calories per person per day)
- 1: Take the account**
- Companies are encouraged to sign the pledge and subsequently self-monitor and report their progress to the Department of Health yearly
 - During 2011 and 2012, consumer advocacy watchdog groups, Which? and Sustain, released assessments of progress related to the calorie-reduction pledge and identified several shortcomings, including non-participating companies
 - The absence of an independent verification and monitoring system from the beginning is problematic and substantially reduces the credibility of the self-reported information provided by companies
 - No independent assessment has been made of the UK Coalition Government’s goal to reduce the population’s total daily calorie consumption by 5 billion
- 2: Share the account**
- By January, 2015, 41 food manufacturers, distributors, retailers, and restaurants or caterers had signed up for the calorie-reduction pledge and provided descriptive, rather than quantitative, evidence, which was posted on the Department of Health website
 - Media coverage of the implications of the Food Network’s calorie-reduction pledge accomplishments and necessary actions has been scarce
- The Food Network has stimulated both support and criticism for the government for use of voluntary partnerships with industry as the central strategy to tackle unhealthy food environments, obesity, and diet-related NCDs instead of combining partnerships with legislation and regulatory policies to achieve measurable public health impacts
- 3: Hold to account**
- The government has yet to publicly implement an action plan to hold non-compliant and under-performing companies to account through incentives or disincentives
 - Commissioned work by the government shows that some of the most effective voluntary agreements on other public health issues include disincentives and reputational costs for non-participation and sanctions for non-compliance
 - The government has yet to articulate how the present actions of the engaged industry will contribute in a meaningful way to reduction of population obesity and diet-related NCD rates by translating supply-side calorie changes into consumption changes
 - Watchdog non-governmental organisations have questioned the legitimacy of the Food Network and use reputational mechanisms to improve accountability; these approaches have included praise of participating companies for achieving their performance goals and naming and shaming of non-participating companies that have yet to sign the calorie-reduction pledge; shareholder advocacy, investigative journalism, or litigation has not been used in England.
- 4: Respond to the account**
- Government policies, corporate practices, and accountability systems will need to become more transparent and respond to civil society pressure and evaluations as they emerge
 - An independent appointed body (eg, ombudsman) is needed to monitor the fidelity of the UK Government’s provision of incentives and disincentives to industry and the enforcement of policies, regulations, and laws

the centre of Brazil’s food and nutrition policy. Not only do formal mechanisms exist to give civil society a strong voice in government policy-making in Brazil, but a government council with two thirds representation from civil society translates resolutions from the national conference on food and nutrition security into political proposals. These proposals are received by a cross-ministerial government body that is charged with translating them into government programmes and implementing them. Thus, while Brazil has formal governance structures that assist civil society to hold government to account, the government in England relies

upon the voluntary cooperation of the food industry, ignoring or minimising the tensions that persist between public health goals to reduce obesity (ie, reduced food consumption) and industry’s need to maximise shareholder returns. At least in the case of the calorie reduction pledge, the absence of any mechanism to compel compliance appears to have given multinational food companies the capacity to weaken the content of the pledge, showing how collaboration without accountability is at high risk of yielding little public health benefit.²¹

Lessons from these examples suggest that power and accountability structures need to be aligned in such a

way that governments and civil society, acting on behalf of public interest, outweigh the interests of the private sector. Robust monitoring and assessment systems will have to be put in place to achieve this alignment. The Brazilian example also draws attention to representativeness and equity in policy-making processes across the country's socially, culturally, and ethnically diverse

populations. The principles and formal structures of the Brazilian system facilitate democracy by including a broad range of interests and converging them into public policies. Each member has the same voting power in the council, but there are many more members from the public interest sector than from big food industries.

Panel 3: The Brazilian Food and Nutrition Security System

- Brazilian society has historically established democratic policy-making and decision-taking processes that ensure public systems and services are built to fulfil human rights; the National Food and Nutrition Security System is no exception
- The National Food and Nutrition Security System was established by law in 2006⁸² and was based, in qualitative and quantitative terms, on the right of all citizens to regular and permanent access to adequate food and ensured that the promotion of healthy eating practices incorporated respect for Brazil's cultural diversity and the need to be environmentally, economically and socially sustainable⁸²
- The strategies and implementation plans for attaining the goals of the policy were set out in an action plan⁸³
- The entities responsible for the National Food and Nutrition Security System include a national conference⁸⁴ (comprised of government and civil society delegates and convened every 4 years⁸²), a national council (comprised of one-third government and two-thirds civil society representatives), a cross-ministerial chamber; food and nutrition security governmental entities at federal, state, and municipal levels, and private institutions that meet the principles, guidelines, and objectives of the policy and the National Food and Nutrition Security System⁸⁴

1: Take the account

- The government is generally required to enact policies and actions that are necessary to promote and guarantee the population's food and nutrition security
- By law, the national conference is responsible for assessing, every four years, the priorities for the policy and action plan and for assessing their implementation and progress
- The executive power at federal level participates in the monitoring and evaluation of the action plan and the implementation of programmes and actions under their competency; they also provide information to the federal organisations (ie, the cross-ministerial chamber and national council)^{82,84}
- State and municipal level entities are responsible for conceiving, implementing, monitoring, and evaluating their respective local plans of actions following what has emerged from their respective conferences and councils (which also respect the representation of one-third government and two-thirds civil society representatives, respectively)^{82,84}
- Food and nutrition security forums at federal, state, and municipal levels are required to meet periodically to set common commitments and goals, expand them progressively, and define mechanisms to monitor them^{82,84}

- The national plan⁸³ provides indicators under seven dimensions of food and nutrition security: food production (eg, percentage of food production coming from family agriculture), food availability (eg, availability of core foods, such as beans), income and living conditions (eg, employment rates, extreme poverty index), access to adequate and healthy diet and water (eg, share of calories provided by fruits and vegetables, water supply coverage), health, nutrition, and related services (eg, prevalence of underweight and overweight or obesity, including in children and indigenous people), education (eg, literacy rates), food and nutrition security programmes and actions (indicators of which are still to be agreed)⁸³

2: Share the account

- The National Food and Nutrition Security System aims to assemble information and indicators from existing information systems at all government sectors and levels and to be publicly accessible as part of the principles of social participation, equity, and transparency⁸⁴
- The progress on the national action plan is monitored at federal level by government and civil society entities (ie, cross-ministerial chamber, and national council)^{82,84}
- Besides monitoring of the formulation and implementation of the national action plan, the national council also advises the Presidency of the Republic on all matters related to food and nutrition security^{82,84}

3: Hold to account

- Public Prosecutors and federal, state, and municipal governments can prosecute those actors responsible for damaging the environment, consumers, or any other public interest, including those actions that harm food and nutritional security, especially of the most susceptible populations⁸⁵

4: Respond to the account

- The action plan is very comprehensive, going from education to regulatory measures (eg, price control, food advertising regulations) and is about to be implemented; civil society organisations and some legislators have now been putting forward so-called projects of law (akin to draft legislation) to progress the regulatory measures to overcome the legally weak policies that have been unsuccessfully adopted so far (eg, executive resolutions)⁸⁶

Implications for obesity-prevention policies

The determinants of obesity and the solutions to prevent it are complex. However, the debates have, to some degree, become entrenched in simple dichotomies: individual versus environmental causes, hard versus soft approaches

to action, supply versus demand for consumption of unhealthy food products, government regulation versus industry voluntary codes, top-down versus bottom-up drivers for change, evidence-based versus lobby-responsive policy making, importance of diet versus physical activity,

Panel 4: Recommendations of this Series

Frame obesity issues in terms of exploitation of human vulnerabilities

Roberto and colleagues⁶ reframe the influences of the four Ps of marketing (product, placement, price, and promotion) as the commercial exploitation of various human vulnerabilities—biological, psychological, economic, and social. The blunt commercial realities are that this exploitation, at the intersection of the individual and the environment, is where the highest profits lie.

Protect healthy food preferences from market intrusion

In countries where food systems are not yet dominated by transnational processed-food corporations and in childhood, when lifelong food preferences are developing, protections are needed to prevent the market intruding and creating unhealthy food preferences. Food policies, such as healthy food services in schools and early childhood settings, restrictions on the marketing of unhealthy foods to children, and systems to ensure that healthy foods are available to low-income families with young children can help provide these protections.⁶⁴

Allow people to satisfy their healthy food preferences

Reduction of barriers and enhancement of enablers to healthy food choices is central. Some food policies, such as nutrition labelling and good access to fresh produce outlets, supports people who are already seeking healthy food choices. Other policies, such as taxes and point-of-sale initiatives, help people to re-evaluate their existing unhealthy preferences. Identification of a comprehensive approach to targeting of and maximisation of the benefits of food policies can be done with the NOURISHING framework.⁶⁴

Join efforts on overnutrition and undernutrition to reduce malnutrition in all its forms

Agencies, institutions, and individuals working in the areas of the prevention of undernutrition and overnutrition are separated from each other, yet both these conditions now coexist in many low-income and middle-income countries, and they have some common solutions. A compelling case can be made for these two separate areas to unite to reduce malnutrition in all its forms, and work towards food systems and diets that are healthy, equitable, and sustainable.⁸⁷

Act on marketing of unhealthy foods to children as a top priority

Governments are neglecting one of their primary duties of protecting children from a harm that is systematic and serious. Governments are allowing a proliferation of sophisticated marketing of unhealthy foods to children to continue in the midst of a childhood obesity epidemic. The clear failure

worldwide of voluntary codes to contain this practice means that governments need to regulate to prevent this unethical exploitation of children's vulnerabilities.⁸⁷

Strengthen health professional leadership internally and externally

Strong professional leadership within the health sector is needed to improve services for people with obesity. Improved systems of health services need to focus on continued support for weight loss and, more importantly, weight maintenance. Weight bias among professionals needs to be reduced to reduce attitudinal and access barriers to care. Professional education about obesity management needs improvement, and promising innovations in weight management need to be examined.⁸⁸ The synergy between treatment and prevention means that weight loss is easiest in healthy environments and, conversely, prevention efforts are greatly strengthened by strong advocacy from the medical profession.

Increase demand for policy actions by strengthening the public aspect of public health

WHO recommendations for action over the past decade for action on obesity are, appropriately, top-down approaches led by governments. The patchy progress on their implementation can be attributed to the power imbalance of private (ie, commercial) interests over public interests in influencing political decision making and the market-oriented models that dominate political and economic thinking. Grassroots, public demand for policy actions is needed now more than ever. Demand-side strategies include coframing of obesity with other movements (eg, sustainability, urban liveability, reduction of traffic congestion, food sovereignty, social justice),⁸⁹ building of social media platforms and networks for more effective communications, support of citizen protest organisations and their campaigns, which often broadly align with obesity prevention, and building of coalitions of common interest.⁹⁰

Move from responsibility to accountability

Accountability is more solution-oriented than responsibility (thus diminishing arguments about who is to blame for obesity), and it involves multiple actors with various degrees of power over one another to ensure each other's performance. An explicit accountability approach for national and international strategies to improve food environments and diets would greatly enhance action. The current impasse in the debate about whether to use hard (regulatory and fiscal policies) or soft (education and voluntary approaches) policies could be avoided with the innovative application of quasiregulatory approaches.

prioritisation of treatment versus prevention, and focus on undernutrition versus overnutrition. This second *Lancet* Series about obesity identifies pockets of good progress in several countries, but the overwhelming message is of an unacceptably slow rate of progress overall.

The papers in this Series have examined key areas in which progress is needed to reduce obesity. These areas include the fundamental framing of the issues, prevention of childhood obesity, treatment of obesity, food policies, societal movements for change, and, accountability systems. In the process, the papers have challenged some dichotomies and sought improved ways forward by understanding the interactions, synergies, alternative frames, and different pathways within the complexity of obesity. Accommodation of the complex nature of obesity, rather than opposition to it, might help to implement the necessary actions to turn the epidemic around. Over the past few years, the debate has shifted from a question of what to do (the answers for which are now laid out in the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases¹) to how to do it. Some of the key messages from this Series are listed in panel 4.

Cogs are turning slowly worldwide, and the task is to ensure that they turn fast enough and provide the desired outcomes. The 2011 UN high-level meeting on NCDs created a substantial gear change, and the Second International Conference on Nutrition hosted by WHO and the Food and Agriculture Organization of the UN in November, 2014, has given Member States the opportunity to commit themselves to act against all forms of malnutrition in a more systematic and comprehensive way. The momentum of this promising start to bring the world of nutrition and agriculture together will need to be maintained to achieve the goal of healthy, sustainable, equitable, and economically viable food systems. The WHO Commission on Ending Childhood Obesity could provide further impetus. Sustainability is also a central theme in the UN's Post-2015 Development Agenda, and the concept of sustainable diets, encompassing the dimensions of health, equity, and environmental sustainability within population diets,⁹¹ is of paramount importance. It is complex and challenging to construct accountability systems for healthy diets, but for the sake of planetary health and preparation for climate change,⁹² accountabilities will need to expand rapidly to incorporate equity and environmental sustainability. Achievement of sustainable diets will need multiple global accountability mechanisms, such as intergovernmental panels, to assess the mass of rapidly changing evidence, conventions and binding agreements to codify the accountabilities, and substantial political will to make them work.

Contributors

BS led the writing and developed the major concepts with contributions from VK (accountability systems and development of the original framework), HR (monitoring component and input at the peer-review meeting), SV (accountability table and examples), FG (examples,

concepts, and global contextualisation), TL and TM (concepts on forward directions and input at review meeting), GS (examples in the accountability table and the INFORMAS component), and RM (governance and legal aspects). All authors contributed in reviewing and commenting on the manuscript. We declare no competing interests.

Declaration of interests

BS and GS have contributed as part of a National Health and Medical Research Council (NHMRC) Centre for Research Excellence in Obesity Policy and Food Systems (APP1041020). RM contributed as part of an Australian Research Council Discovery Grant. This work is solely the responsibility of the authors and does not represent official views of the CDC, NIH, or any of the other funders.

Acknowledgments

This work was done as part of the Envision Project, supported by the National Collaborative on Childhood Obesity Research, which coordinates childhood obesity research across the National Institutes of Health (NIH), Centers for Disease Control and Prevention (CDC), US Department of Agriculture, and the Robert Wood Johnson Foundation (RWJF). This work was supported in part by grants from RWJF (grant numbers 260639, 61468 and 66284), CDC (U48/DP00064-00S1 and 1U48DP001946), including the Nutrition and Obesity Policy, Research and Evaluation Network, and the Office of Behavioural and Social Sciences Research of NIH. We thank Martin McKee and Mark Petticrew for their thoughtful input.

References

- 1 WHO. Global Action Plan for the Prevention and Control of Noncommunicable diseases 2013–2020. Geneva: World Health Organization, 2013.
- 2 WHO. Comprehensive global monitoring framework, including 25 indicators and a set of nine voluntary targets for the prevention and control of noncommunicable diseases. Geneva: World Health Organization, 2013.
- 3 Swinburn BA, Sacks G, Hall KD, et al. The global obesity pandemic: shaped by global drivers and local environments. *Lancet* 2011; **378**: 804–14.
- 4 Swinburn B, Sacks G, Vandevijvere S, et al. INFORMAS (International Network for Food and Obesity/non-communicable diseases Research, Monitoring and Action Support): overview and key principles. *Obes Rev* 2013; **14** (suppl 1): 1–12.
- 5 Kohl HW 3rd, Craig CL, Lambert EV, et al, for the *Lancet* Physical Activity Series Working Group. The pandemic of physical inactivity: global action for public health. *Lancet* 2012; **380**: 294–305.
- 6 Roberto CA, Swinburn B, Hawkes C, et al. Patchy progress on obesity prevention: emerging examples, entrenched barriers, and new thinking. *Lancet* 2015; published online Feb 19. [http://dx.doi.org/10.1016/S0140-6736\(14\)61744-X](http://dx.doi.org/10.1016/S0140-6736(14)61744-X).
- 7 Stuckler D, McKee M, Ebrahim S, Basu S. Manufacturing epidemics: the role of global producers in increased consumption of unhealthy commodities including processed foods, alcohol, and tobacco. *PLoS Med* 2012; **9**: e1001235.
- 8 Moodie R, Stuckler D, Monteiro C, et al, on behalf of the *Lancet* NCD Action Group. Profits and pandemics: prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *Lancet* 2013; **381**: 670–79.
- 9 Popkin BM, Bellagio Meeting group. Bellagio Declaration 2013: countering Big Food's undermining of healthy food policies. *Obes Rev* 2013; **14** (suppl 2): 9–10.
- 10 *PLoS Medicine* Editors. *PLoS Medicine* series on Big Food: the food industry is ripe for scrutiny. *PLoS Med* 2012; **9**: e1001246.
- 11 Gortmaker SL, Swinburn BA, Levy D, et al. Changing the future of obesity: science, policy, and action. *Lancet* 2011; **378**: 838–47.
- 12 Clarke J. Dissolving the public realm? The logics and limits of neo-liberalism. *J Soc Policy* 2004; **33**: 27–48.
- 13 Alexander E, Yach D, Mensah GA. Major multinational food and beverage companies and informal sector contributions to global food consumption: implications for nutrition policy. *Global Health* 2011; **7**: 26.
- 14 Milio N. Nutrition and health: patterns and policy perspectives in food-rich countries. *Soc Sci Med* 1989; **29**: 413–23.
- 15 UN. Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases. New York: United Nations, General Assembly, 2011.

- 16 WHO. Global strategy on diet, physical activity and health. Geneva: World Health Organization, 2004.
- 17 WHO. Partnerships. Agenda item 18.1, 21 May. Geneva: World Health Organization, 2010.
- 18 Kraak VI, Harrigan PB, Lawrence M, Harrison PJ, Jackson MA, Swinburn B. Balancing the benefits and risks of public-private partnerships to address the global double burden of malnutrition. *Public Health Nutr* 2012; **15**: 503–17.
- 19 Bryden A, Petticrew M, Mays N, Eastmure E, Knai C. Voluntary agreements between government and business—a scoping review of the literature with specific reference to the Public Health Responsibility Deal. *Health Policy* 2013; **110**: 186–97.
- 20 Sharma LL, Teret SP, Brownell KD. The food industry and self-regulation: standards to promote success and to avoid public health failures. *Am J Public Health* 2010; **100**: 240–46.
- 21 Panjwani C, Caraher M. The Public Health Responsibility Deal: brokering a deal for public health, but on whose terms? *Health Policy* 2014; **114**: 163–73.
- 22 Bovens M. Analysing and assessing accountability: a conceptual framework. *Eur Law J* 2007; **13**: 447–68.
- 23 Chan M. WHO Director-General addresses health promotion conference. 2013. http://www.who.int/dg/speeches/2013/health_promotion_20130610/en/ (accessed Jan 6, 2015).
- 24 Kraak VI, Swinburn B, Lawrence M, Harrison P. An accountability framework to promote healthy food environments. *Public Health Nutr* 2014; **17**: 2467–83.
- 25 Rochlin S, Zadek S, Forstater M, and the Governing collaboration. Making partnerships accountable for delivering development. London: AccountAbility, 2008.
- 26 Igumbor EU, Sanders D, Puaone TR, et al. “Big food,” the consumer food environment, health, and the policy response in South Africa. *PLoS Med* 2012; **9**: e1001253.
- 27 Monteiro CA, Cannon G. The impact of transnational “big food” companies on the South: a view from Brazil. *PLoS Med* 2012; **9**: e1001252.
- 28 Smith RD, Lee K, Drager N. Trade and health: an agenda for action. *Lancet* 2009; **373**: 768–73.
- 29 Jönsson C, Tallberg J. Transnational actors in global governance patterns, explanations, and implications. New York: Palgrave Macmillan, 2010.
- 30 Dodgson R, Lee K, Drager N. Global health governance: a conceptual review. Discussion paper no. 1. London: Centre on Global Change and Health Department of Health and Development, London School of Hygiene & Tropical Medicine and World Health Organization Department of Health and Development, 2002.
- 31 McGrady B. Trade and public health: the WTO, tobacco, alcohol, and diet. Cambridge: Cambridge University Press, 2011.
- 32 Department of Health. Public Health Responsibility Deal. Sign up and pledge to improve public health in England. London: Department of Health, 2012.
- 33 Healthy Weight Commitment Foundation. Food and beverage manufacturers pledging to reduce annual calories by 1.5 trillion by 2015. http://www.healthyweightcommit.org/news/Reduce_Annual_Calories/ (accessed Jan 6, 2015).
- 34 Magnusson RS. Rethinking global health challenges: towards a ‘global compact’ for reducing the burden of chronic disease. *Public Health* 2009; **123**: 265–74.
- 35 Slining MM, Ng SW, Popkin BM. Food companies’ calorie-reduction pledges to improve U.S. diet. *Am J Prev Med* 2013; **44**: 174–84.
- 36 Elliott T, Trevena H, Sacks G, et al. A systematic interim assessment of the Australian Government’s Food and Health Dialogue. *Med J Aust* 2014; **200**: 92–95.
- 37 WHO. Keeping promises, measuring results: commission on information and accountability for women’s and children’s health. Geneva: World Health Organization, 2011.
- 38 Bonita R, Magnusson R, Bovet P, et al, and the *Lancet* NCD Action Group. Country actions to meet UN commitments on non-communicable diseases: a stepwise approach. *Lancet* 2013; **381**: 575–84.
- 39 Ruggie J. Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises. Guiding principles on business and human rights: implementing the United Nations Protect, Respect and Remedy Framework. New York: United Nations, 2011.
- 40 Beaglehole R, Bonita R, Horton R. Independent global accountability for NCDs. *Lancet* 2013; **381**: 602–05.
- 41 Lim SS, Vos T, Flaxman AD, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet* 2012; **380**: 2224–60.
- 42 WHO. WHO European Childhood Obesity Surveillance Initiative (COSI). <http://www.euro.who.int/en/what-we-do/health-topics/disease-prevention/nutrition/activities/monitoring-and-surveillance/who-european-childhood-obesity-surveillance-initiative-cosi> (accessed Jan 6, 2015).
- 43 Dinsdale H, Rutter H. National Child Measurement Programme: Detailed analysis of the 2006/07 dataset. 2008. http://www.noo.org.uk/uploads/doc168_2_NOO_NCMP_report230608.pdf (accessed Jan 6, 2015).
- 44 Swinburn B, Dominick CH, Vandevijvere S. Benchmarking food environments: Experts’ assessments of policy gaps and Food and Agriculture Organisation priorities for the New Zealand Government. Auckland: University of Auckland, 2014.
- 45 Beaglehole R, Bonita R, Ezzati M, et al. NCD Countdown 2025: accountability for the 25×25 NCD mortality reduction target. *Lancet* 2014; **384**: 105–07.
- 46 Access to Nutrition Index. Access to Nutrition Index. 2013. <http://www.accessnutrition.org/> (accessed Jan 6, 2015).
- 47 Access to Nutrition Index. ATNI Global Index—company score cards, 2013. <http://www.accessnutrition.org/node/10> (accessed Jan 6, 2015).
- 48 Galbraith-Emami S, Lobstein T. The impact of initiatives to limit the advertising of food and beverage products to children: a systematic review. *Obes Rev* 2013; **14**: 960–74.
- 49 Lintelo D, Haddad L, Lakshman R, Gatellier K. The Hunger and Nutrition Commitment Index (HANCI 2012). Measuring the political commitment to reduce hunger and undernutrition in developing countries. UK: Institute of Development Studies, 2013.
- 50 Commission to consult European public on provisions in EU-US trade deal on investments and ISDS. 2014. http://www.einnews.com/pr_news/186486572/commission-to-consult-european-public-on-provisions-in-eu-us-trade-deal-on-investment-and-isds (accessed Jan 6, 2015).
- 51 Friel S, Hattersley L, Snowdon W, et al. Monitoring the impacts of trade agreements on food environments. *Obes Rev* 2013; **14** (suppl 1): 120–34.
- 52 Bovens M. Analysing and assessing public accountability. European Governance Paper (EUROGOV). 2006. http://www.uu.nl/SiteCollectionDocuments/REBO/REBO_USBO/REBO_USBO_OZZ/Analysing%20and%20Assessing%20Public%20Accountability1.pdf (accessed Jan 6, 2015).
- 53 Gleeson D, Friel S. Emerging threats to public health from regional trade agreements. *Lancet* 2013; **381**: 1507–09.
- 54 Thow AM, McGrady B. Protecting policy space for public health nutrition in an era of international investment agreements. *Bull World Health Organ* 2014; **92**: 139–45.
- 55 Uusitalo U, Feskens EJ, Tuomilehto J, et al. Fall in total cholesterol concentration over five years in association with changes in fatty acid composition of cooking oil in Mauritius: cross sectional survey. *BMJ* 1996; **313**: 1044–46.
- 56 World Trade Organization. Briefing note. Samoa’s accession to the WTO. Geneva: World Trade Organization, 2011.
- 57 Thow AM, Swinburn B, Colagiuri S, et al. Trade and food policy: case studies from three Pacific Island countries. *Food Policy* 2010; **35**: 556–64.
- 58 Thow AM, Annan R, Mensah L, Chowdhury SN. Development, implementation and outcome of standards to restrict fatty meat in the food supply and prevent NCDs: learning from an innovative trade/food policy in Ghana. *BMC Public Health* 2014; **14**: 249.
- 59 Foodstuffs C, Act D. 1972 (Act 54 of 1972): Regulations Relating to the Reduction of Sodium in Certain Foodstuffs and Related Matters. Gazette 36274, Regulation 214. 2013. http://www.restaurant.org.za/pdf/SA_salt_legislation_2013.pdf (accessed Sept 8, 2014).
- 60 New York—Department of Health and Mental Hygiene. New York Code. New York City Charter, 2013 <http://codes.lp.findlaw.com/nycode/NYC/22> (accessed Jan 6, 2015).
- 61 City NY. New York City Health Code, 2013. <http://www.nyc.gov/html/doh/html/about/health-code.shtml> (accessed Jan 6, 2015).

- 62 Reeve B. Private governance, public purpose? Assessing transparency and accountability in self-regulation of food advertising to children. *J Bioethical Inquiry* 2013; **10**: 149–63.
- 63 Reeve B, Magnusson R. 'Legislative scaffolding': a new approach to prevention. *Aust N Z J Public Health* 2013; **37**: 494–96.
- 64 Hawkes C, Smith TG, Jewell J, et al. Smart food policies for obesity prevention. *Lancet* 2015; published online Feb 19. [http://dx.doi.org/10.1016/S0140-6736\(14\)61745-1](http://dx.doi.org/10.1016/S0140-6736(14)61745-1).
- 65 Dorfman L, Wilbur P, Lingas EO, Woodruff K, Wallack L. Accelerating policy on nutrition: Lessons from tobacco, alcohol, firearms and traffic safety. Berkeley: Berkeley Media Studies Group, 2005.
- 66 Chapman S. Advocacy for public health: a primer. *J Epidemiol Community Health* 2004; **58**: 361–65.
- 67 The parent's jury. Fame and shame awards 2012 Victoria Australia. <http://www.parentsjury.org.au/fame-and-shame-awards> (accessed Jan 6, 2015).
- 68 Center for Science in the Public Interest. Nickelodeon knocked for pitching junk food to kids. 2012. <http://www.cspinet.org/new/201212031.html> (accessed Jan 6, 2015).
- 69 Kropp R. Investors support launch of Access to Nutrition Index. *Sustainability Investment News*. 2013. <http://www.socialfunds.com/news/article.cgi?sfArticleId=3778> (accessed Jan 6, 2015).
- 70 Layton L, Eggen D. Industries lobby against voluntary nutrition guidelines for food marketed to kids. *The Washington Post*. 2011.
- 71 Watzman N. Food and media companies lobby to weaken guidelines on marketing food to children. Washington, DC: Sunlight Foundation Reporting Group, 2011.
- 72 Wilson D, Roberts J. Special report: how Washington went soft on childhood obesity. <http://www.reuters.com/article/2012/04/27/us-usa-foodlobby-idUSBRE83Q0ED20120427> (accessed Jan 6, 2015).
- 73 Reuters investigators. Food fight: how the food industry outsmarted Washington. <http://www.reuters.com/video/2012/04/26/reuters-tv-food-fight-how-the-food-industry-outsmar?videoId=234028927> (accessed Jan 6, 2015).
- 74 McDonald's Corporation. Notice of 2012 Annual Shareholder's Meeting and Proxy Statement. http://www.aboutmcdonalds.com/content/dam/AboutMcDonalds/Investors/Investors%202012/McDonalds_2012_Proxy_LR.pdf (accessed Jan 7, 2015).
- 75 Corporate Europe Observatory. A red light for consumer information: the food industry's €1-billion campaign to block health warnings on food 2010. <http://www.corporateeurope.org/lobbyocracy/content/2010/06/red-light-consumer-information> (accessed Jan 6, 2015).
- 76 Cox R. Breakingviews—Pepsi owners face the Indra Nooyi challenge. <http://in.reuters.com/article/2012/07/30/breakingviews-pepsico-idINDEE86T0EN20120730> (accessed Jan 6, 2015).
- 77 Hastings G. Why corporate power is a public health priority. *BMJ* 2012; **345**: e5124.
- 78 La Fontaine HA, Crowe TC, Swinburn BA, Gibbons CJ. Two important exceptions to the relationship between energy density and fat content: foods with reduced-fat claims and high-fat vegetable-based dishes. *Public Health Nutr* 2004; **7**: 563–68.
- 79 Petticrew MEE, Mays N, Bryden A. The public health responsibility deal: how should such a complex public health policy be assessed? *Lancet* 2012; **380**: S11.
- 80 Mays N, Eastmure E, Petticrew M, Bryden A, Knai C. Policy Innovations Research Unit and the London School of Hygiene & Tropical Medicine. The responsibility deal: designing the evaluation of a complex policy. <http://www.piru.ac.uk/events/the-responsibility-deal-designing-the-evaluation-of-a-complex-policy.html> (accessed Jan 6, 2015).
- 81 Department of Health. Public Health Responsibility Deal Food Network pledges, 2013. www.responsibilitydeal.dh.gov.uk/pledges/ (accessed Jan 6, 2015).
- 82 Presidência da República, Casa Civil, Subchefia para Assuntos Jurídicos. Lei no 11.346, de 15 de Setembro de 2006. Cria o Sistema Nacional de Segurança Alimentar e Nutricional—SISAN com vistas em assegurar o direito humano à alimentação adequada e dá outras providências. 2006. http://www.planalto.gov.br/ccivil_03/_ato2004-2006/2006/lei/111346.htmv (accessed Jan 6, 2015).
- 83 Câmara Interministerial de Segurança Alimentar e Nutricional (CAISAN). Plano nacional de segurança alimentar e nutricional: 2012/2015. Brasília, DF: CAISAN, 2011.
- 84 Presidência da República, Casa Civil, Subchefia para Assuntos Jurídicos. Decreto 7272, de 25 de Agosto de 2010. Brasília, DF: Presidência da República, 2010. http://www.planalto.gov.br/ccivil_03/_ato2007-2010/2010/decreto/d7272.htm (accessed Jan 9, 2015).
- 85 Presidência da República, Casa Civil, Subchefia para Assuntos Jurídicos. Lei No 7347, de 24 de Julho de 1985. Disciplina a ação civil pública de responsabilidade por danos causados ao meio-ambiente, ao consumidor, a bens e direitos de valor artístico, estético, histórico, turístico e paisagístico (VETADO) e dá outras providências. 1985. http://www.planalto.gov.br/ccivil_03/leis/L7347Compilada.htm (accessed Jan 9, 2015).
- 86 Jacoby E, Rivera JA, Cordero S, et al. Standing up for children's rights in Latin America. *World Nutrition* 2012; **3**: 483–516.
- 87 Lobstein T, Jackson-Leach R, Moodie ML, et al. Child and adolescent obesity: part of a bigger picture. *Lancet* 2015; published online Feb 19. [http://dx.doi.org/10.1016/S0140-6736\(14\)61746-3](http://dx.doi.org/10.1016/S0140-6736(14)61746-3).
- 88 Dietz WH, Baur LA, Hall K, et al. Management of obesity: improvement of health-care training and systems for prevention and care. *Lancet* 2015; published online Feb 19. [http://dx.doi.org/10.1016/S0140-6736\(14\)61748-7](http://dx.doi.org/10.1016/S0140-6736(14)61748-7).
- 89 Robinson TN. Save the world, prevent obesity: piggybacking on existing social and ideological movements. *Obesity (Silver Spring)* 2010; **18** (suppl 1): S17–22.
- 90 Huang TT-K, Cawley JH, Ashe M, et al. Mobilisation of policy action for obesity prevention. *Lancet* 2015; published online Feb 19. [http://dx.doi.org/10.1016/S0140-6736\(14\)61743-8](http://dx.doi.org/10.1016/S0140-6736(14)61743-8).
- 91 Lang T. Sustainable diets and biodiversity: the challenge for policy, evidence and behaviour change. Rome: Food and Agriculture Organization of the UN, 2012.
- 92 Horton R, Beaglehole R, Bonita R, Raeburn J, McKee M, Wall S. From public to planetary health: a manifesto. *Lancet* 2014; **383**: 847.