

## Public Health/Pediatric Obesity

# An accountability evaluation for the industry's responsible use of brand mascots and licensed media characters to market a healthy diet to American children

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## Summary

Corporate strategies that target children are controversial given the link between food marketing and childhood obesity. This case study explored diverse stakeholders' accountability expectations and actions for industry policies and practices that used popular cartoon brand mascots and media characters to promote food products to American children. We reviewed five electronic databases and Internet sources between January 2000 and January 2015. Evidence ( $n = 90$ ) was selected based upon the Institute of Medicine's LEAD principles (i.e. *locate, evaluate, assemble* evidence to inform *decisions*) and organized into two tables: peer-reviewed articles, books and grey-literature reports ( $n = 34$ ); and media stories, news releases and public testimony ( $n = 56$ ). A four-step accountability framework was used to evaluate accountability structures. The results showed that moderate progress was achieved by stakeholders to take and share the account, limited progress to hold industry and government to account, and limited progress to strengthen accountability structures. Between 2006 and 2015, the U.S. Children's Food and Beverage Advertising Initiative lacked clear policies for companies to use brand mascots and media characters on food packages, in merchandising, and as toy giveaways and premiums. Government, industry and civil society can substantially strengthen their accountability for these food marketing practices to ensure healthy food environments for children.

**Keywords:** Accountability, brand mascots, media characters, food environments.

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## Introduction

Businesses use corporate responsibility programmes to *do well* (e.g. maximize financial performance) and *do good* (e.g. promote social, environmental and health objectives) to address issues for which society and government hold them accountable (1). In many countries worldwide, commercial businesses use a range of marketing strategies aimed at children to enhance business profits for food

and beverage products and media entertainment (2). Yet, corporate food marketing strategies that target children are ethically controversial (3) given the link between food marketing and childhood obesity (4), which may influence the public's perceptions of a company, affect customers' loyalty and impact a company's market share.

Government regulatory agencies often delegate the monitoring of industry compliance with voluntary pledges to

improve food marketing practices that target children to industry-funded self-regulatory programmes (5). Many companies choose not to participate in these programmes.

There are few government incentives for businesses to be 'model corporate citizens' to market products that meet government-recommended nutrition guidelines, and limited disincentives or penalties to hold companies accountable for corporate behaviours that legally target children yet are inconsistent with a healthy diet (6). Civil society groups and public-interest non-governmental organizations (NGOs) have advocated for industry self-regulatory programmes to be more comprehensive and for government regulatory bodies to clearly define, restrict and hold companies to account through a legally binding convention for marketing practices that target children with products high in sugar, salt and fat, which contribute to obesity and diet-related non-communicable diseases (7).

Major food and beverage manufacturers in the United States have made some progress to reduce the calorie content and improve the nutrient profiles of products sold in the marketplace (8,9) and to adopt uniform nutrition criteria for marketing food and beverage products to children (10). While these changes are positive, children are exposed to myriad food marketing practices that extend beyond those intentionally 'directed' to them. Therefore, recommendations issued by expert groups and government should be compared with trends in practices to evaluate the impact of changes on children's experience of food environments and their dietary intake (11).

## Study purpose

This study explored diverse stakeholders' responsibility and accountability expectations and actions in the United States from 2000 to early 2015 for industry policies and practices that used cartoon brand mascots (e.g. *Tony the Tiger* and *Buzz Bee*) and media characters (e.g. *SpongeBob SquarePants* and *Scooby Doo*) to market food and beverage products to American children.

We used a framework to identify accountability gaps and actions that diverse stakeholders can take to align marketing practices that use brand mascots and media characters with healthy food environments that help to build a culture of health for American children.

Firstly, we provide a background on the global context for corporate responsibility programs and marketing to children. Next, we offer a brief summary for what is known about the influence of cartoon brand mascots and media characters on children's diet and health. Finally, we discuss ethical and practical considerations for food marketing to children that are central to the framing of this study's research questions.

## Global context for corporate responsibility programmes and marketing to children

In 2010, a consensus definition was adopted by the International Organization for Standardization (ISO) of business firms' social responsibility programmes that included human rights, labour practices, the environment, fair-operating practices, consumer issues and community development (12). These six issues mirrored the United Nations Global Compact's (UNGC's) 10 voluntary principles for responsible corporate citizenship that encouraged businesses to support human rights, labour, the environment and anti-corruption position statements (13). Nevertheless, both the ISO and the UNGC lack principles and performance guidelines for businesses to optimize human nutrition, wellness and health goals and do not explicitly address children's diet and health (14).

Only recently have global food, beverage and restaurant companies implemented voluntary pledges and corporate responsibility objectives that support a healthy diet, wellness and population health (14), and that are as robust as their environmental and social commitments (15). Still, these companies' corporate responsibility programmes have been criticized for lacking transparency in supply chain activities (16) and creating elaborate and expensive public relations campaigns that place the primary responsibility of food choices on individual consumers while bolstering companies' reputations and popularity for branded products to prevent government regulation of their marketing practices (17). Research suggests that consumers' positive perceptions of corporate responsibility programmes may create a health halo for food products that foster overconsumption, even when objective nutrition information is available to inform customers' purchases (18).

In 2012, the United Nations Children's Fund (UNICEF) collaborated with the UNGC and Save the Children to release *Children's Rights and Business Principles*. This policy document recommended that business firms 'Use advertising and marketing that respects children's rights . . . comply with the World Health Assembly's business standards for marketing health . . . and where national law prescribes a higher standard, businesses must follow that standard' (19). It aligned with the World Health Organization's (WHO's) 2010 recommendations for national governments to 'restrict food-marketing strategies used to promote unhealthy foods that have a powerful influence on children, including the use of brand-equity mascots, licensed characters and celebrities; sales promotions; and toy premiums promoted across diverse media and settings' (20,21). This document also converged with public health experts' call for using a rights-based approach to reduce the commercial promotion of unhealthy food and beverage products to children worldwide (7,22).

In 2014, the International Food and Beverage Alliance (IFBA) and Consumer Goods Forum (CGF) enhanced existing pledges to market responsibly to children (23,24). It is notable, however, that the IFBA's 11 member companies and the CGF lack commitments for company-owned brand mascots and the use of licensed media characters on packaging, in-store and point-of-sale promotional activities (23,24).

### Influence of brand mascots and media characters on children's diet and health

*Brand mascots* (also called advertising ambassadors, brand icons, brand-equity or trade characters, and non-celebrity spokes-characters) and *media characters* (also called celebrity spokes-characters) represent a broad range of human or fictional cartoon anthropomorphic beings or animated objects (25). In-depth reviews are available that describe how brand mascots and media characters are used in commercial marketing (26–30). Brand mascots are used largely to promote products, services or ideas (25). In contrast, cartoon media characters are used primarily to entertain but are also licensed by entertainment companies to food, beverage and restaurant companies for cross-promotions to generate product sales (25). Both brand mascots and media characters are used to build brand awareness, trust, association, preferences and loyalty among young people (26–30).

A companion paper summarizes the results of a systematic evidence review of experimental studies, published between 2000 and 2014, which examined how media characters may influence up to 12 diet-related outcomes for children younger than 12 years (25). The results suggested that familiar media character branding is a powerful influence on children's food preferences, choices and intake for energy-dense, nutrient-poor foods compared with healthier options (25).

### *Practical and ethical considerations for food marketing to children*

Unhealthy diet and obesity have been viewed through a collective responsibility lens to identify coordinated actions that can be taken by diverse stakeholders to address these public health priorities. However, framing the issue of food marketing to children as an individual, parental or collective responsibility does not ensure accountability for healthy food environments (31). Responsibility and accountability are related but distinct concepts. *Responsibility* involves using moral judgement to act in an ethically appropriate way (32). By contrast, *accountability* addresses power because it requires a relationship between a stakeholder and a forum; the stakeholder is required to explain and justify his/her performance or conduct, the forum has power to pass judgement and the stakeholder may face consequences (33).

Responsibility rhetoric is used by various groups to support ideologically opposed policy positions and solutions to reduce the marketing of unhealthy foods to children (34). Research suggests that industry stakeholders often defend their right to market to children as long as they do so within legal parameters. However, public health advocates assert that even if marketers have a legal right to market unhealthy foods to children, it is not ethically correct and represents corporate irresponsibility (35).

This study used an accountability lens and framework to understand several ethical concerns about maximizing potential benefits and minimizing potential harms of food marketing practices that influence children's diet and health. These concerns address: (i) What is right and good? (ii) What are the justifications for what is right and good? and (iii) How can we act in accordance with what is right and good (36)? Additionally, the call by public health advocates to use a rights-based approach to protect children from the influence of marketing of unhealthy foods is another ethical concern that requires addressing inequities between more powerful stakeholders (e.g. commercial businesses and government agencies) who have greater influence and resources than less powerful stakeholders (e.g. children, their parents and civil society groups who represent public interests) (37). Holding powerful stakeholders to account for their actions and impact on population health is a more viable strategy to address these ethical concerns instead of pursuing a 'collective responsibility' approach.

The accountability framework used in this study also addressed three practical concerns. Firstly, many companies may exploit loopholes within industry self-regulatory programmes that exclude voluntary pledges to use character branding only for products that align with a healthy diet (4,6,20). Secondly, many recommendations issued by expert and authoritative bodies can be used to strengthen business norms so that brand mascot and media character marketing practices are used only to promote healthy food environments (4,7,20). Thirdly, when independent evaluations show that existing corporate pledges and responsibility programmes are weak, several strategies can be used to hold companies, industry sectors and government agencies accountable for actions that undermine healthy food environments for children (4,20,31).

### Methods

This study was guided by four research questions, which included:

RQ1. What were the performance expectations for industry's use of brand mascots and media characters issued by expert and authoritative groups between 2000 and 2015?

RQ2. What were the trends for cartoon brand mascot and media character marketing practices and the actions taken by the U.S. companies and industry sectors to promote food and beverage products to American children between 2000 and 2015?

RQ3. How adequate were the accountability structures to guide the actions of relevant stakeholders during the period reviewed?

RQ4. What actions can be taken by diverse stakeholders to ensure that brand mascots and media characters are used to promote healthy food environments for American children?

**Literature search strategy**

Assessing multi-stakeholder accountability for healthy food environments is a complex issue that requires evidence pertaining to many topics to inform policies and actions. This study used the Institute of Medicine’s (IOM’s) LEAD principles (i.e. *locate, evaluate, and assemble* evidence to inform *decisions*) to identify the type of evidence required to answer complex public health questions when actions must be taken by policy makers and decision makers (38,39). The LEAD principles encourage researchers to combine the best available interdisciplinary evidence with theory, professional experience and local wisdom to inform policy-relevant decision-making for complex issues. This method has been used to conduct two comprehensive reviews to evaluate U.S. industry and government progress to market a healthy diet to American children (40,41).

Table 1 summarizes the methodological approach used to acquire and organize the available evidence for this study. This study’s search strategy was informed by an extensive review of the non-experimental and industry-trade literature published during the 1990s and 2000s to identify search terms (25). Due to significant changes in the U.S. regulatory and food marketing environments and children’s digital media landscapes (4,42,43) after 2000, the search period was set between 1 January 2000 and 20 January 2015. We searched five electronic databases for published articles, books and non-peer-reviewed, grey-literature studies and reports; federal government agency websites, company and industry websites; and relevant media stories, news or press releases, and public testimony.

**Evidence review and analysis**

Evidence sources (*n* = 90) were organized into two tables. Supporting Information Table S1 summarizes the peer-reviewed articles, published books and grey-literature reports acquired (*n* = 34). Supporting Information Table S2 summarizes the relevant media stories, press or news

releases, and public testimony compiled (*n* = 56). Accountability structures were examined using a theoretically grounded, four-step framework (i.e. *take, share, hold and respond to the account*) to promote healthy food environments (Fig. 1) developed from a review of 15 interdisciplinary accountability frameworks described elsewhere (31). This framework was selected to address the central research questions of accountability expectations and gaps to promote healthy food environments to children. We selected one of four evaluation categories (i.e. *no, limited, moderate and extensive*) to identify progress made at each accountability step during the period reviewed. Finally, we proposed actions that diverse stakeholders could take to strengthen accountability structures for this marketing issue. The analysis was conducted between 1 November 2014 and 31 January 2015.

**Results**

We used a narrative format to describe the pertinent evidence for the four research questions described in the section below.

RQ1. *What were the performance expectations for industry’s use of brand mascots and media characters issued by expert and authoritative groups between 2000 and 2015?*

Between 2006 and 2015, six different U.S. expert and authoritative bodies issued recommendations for companies and industry sectors to voluntarily improve their marketing practices that targeted children and explicitly mentioned the use of brand mascots or media characters (Box 1).

<b>Box 1 Recommendations issued by U.S. government agencies, expert and authoritative bodies to improve food marketing practices to American children with reference to brand mascots and/or media characters, 2006–2015</b>	
Year	Expert or Authoritative Body
2006	Institute of Medicine Expert Committee on Food Marketing to Children and Youth
2008	U.S. Federal Trade Commission
2010	White House Task Force on Childhood Obesity
2011	Federal Interagency Working Group on Food Marketed to Children
2013	First Lady Michelle Obama’s Summit on Food Marketing to Children
2015	Robert Wood Johnson Foundation’s Healthy Eating Research Expert Panel on Responsible Food Marketing to Children

Sources: References (4,44–49).

**Table 1** Methodological approach used to acquire and organize the evidence for the accountability evaluation

The IOM LEAD principles (i.e. *locate, evaluate and assemble* evidence to inform *decisions*) were used to establish the search strategy

**Search terms**

- We conducted a search that used a combination of free-text terms and subject headings (i.e. brand mascot *or* character *or* cartoon *or* licensed AND advertising *or* marketing AND child AND food *or* beverage *or* nutrition *or* health AND policy *or* standard *or* guideline *or* regulation)

**Inclusion criteria**

- Non-experimental or descriptive studies conducted in the United States that measured the prevalence of cartoon brand mascots and media characters used to market to children <12 years through various media channels (e.g. television, Internet and food retail outlets) to promote food, beverages, meals, vitamins and medications

**Exclusion criteria**

- Non-U.S. descriptive or experimental studies
- Studies about brand mascots and media characters used to market to adolescents >12 years and adults
- Studies about brand mascots and media characters used to promote tobacco, alcohol and athletic events
- Individual company documents that were not available in the public domain (i.e. proprietary data or reports available for purchase)

**Evidence selection criteria**

- Qualitative research criteria (i.e. data relevance, research design quality, professional judgment, contextual relevance and credibility by data verification)
- Investigator and data triangulation to identify convergence of evidence

**LOCATE evidence**

**A literature review was conducted between 1 January 2000 and 20 January 2015 among the following sources:**

- Electronic databases (i.e. Academic Search Premier, Business Source Premier, CINAHL, Health Source and Medline via PubMed)
- U.S. federal government agency websites (i.e. Centers for Disease Control and Prevention, Department of Health and Human Services, Federal Communications Commission, Federal Trade Commission, United States Department of Agriculture [USDA], the Office of the White House Press Secretary)
- Websites of food, beverage, restaurant, food retailer and entertainment companies
- Studies, reports and books released by government, industry, NGOs, private foundations and academic institutions
- Media stories, press and news releases
- Public testimony

**EVALUATE evidence**

**The investigators selected and categorized evidence sources ( $n = 90$ ) into two evidence tables described below:**

**Supporting Information Table S1** summarizes the peer-reviewed articles, published books, and grey-literature reports ( $n = 34$ ) that were organized alphabetically and contain the following information:

- Primary author, year and reference number
- Study design or report description
- Major findings

**Supporting Information Table S2** summarizes relevant media stories, press or news releases, or public testimony ( $n = 56$ ) that were organized chronologically and contain the following information:

- Source and date
- Title
- Description

**ASSEMBLE evidence**

The investigators analysed the evidence using a four-step accountability framework for healthy food environments (i.e. *take, share, hold and respond to the account*) and selected one of four evaluation categories (i.e. *no, limited, moderate and extensive*) for progress made at each accountability step to assess the adequacy of accountability structures for using cartoon brand mascots and media characters to promote healthy food environments.

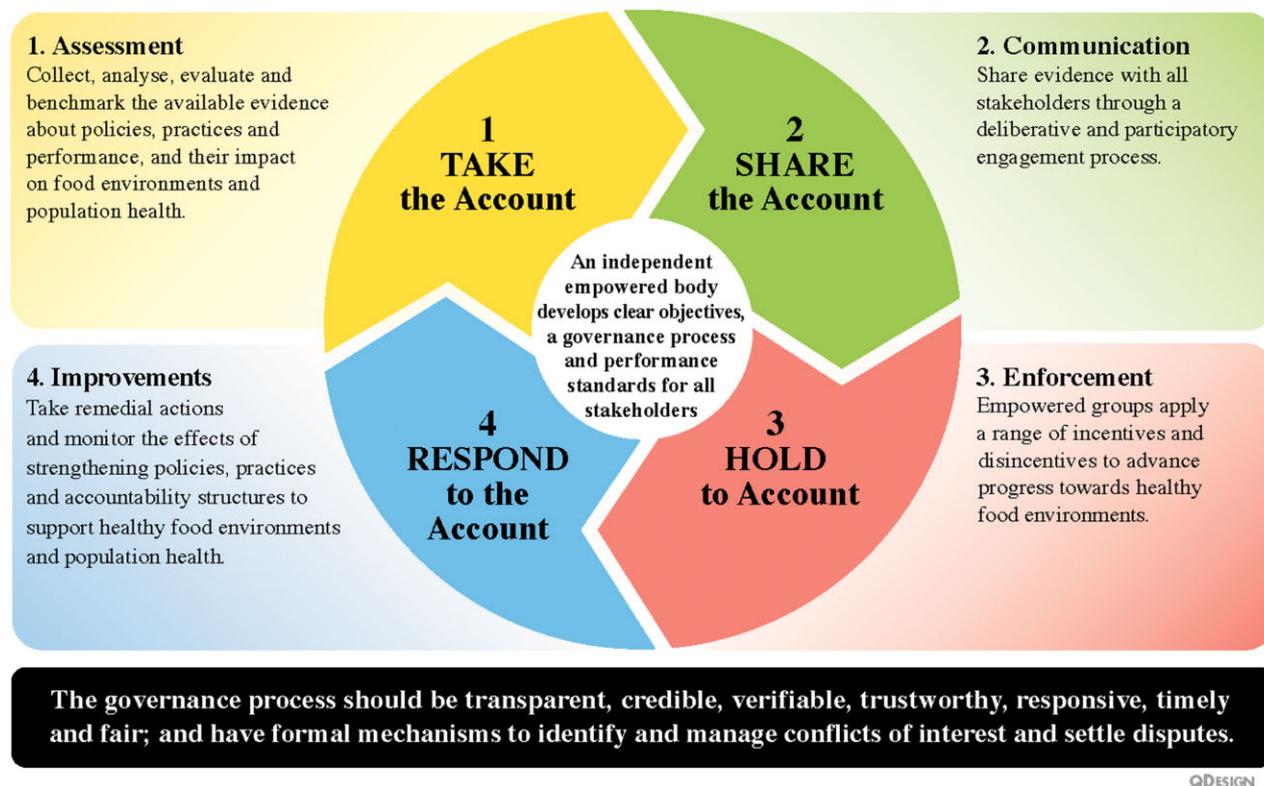
**Inform DECISIONS**

The investigators proposed actions that diverse stakeholders, including industry, government and NGOs could take to strengthen the accountability structures to ensure that cartoon brand mascots and media characters promote healthy food environments.

Suggested actions are drawn from the evidence tables and align with marketing and dietary recommendations issued by expert and authoritative bodies including:

- IOM of the National Academies (2006) (4)
- Federal Trade Commission (2008) (44)
- U.S. Department of Health and Human Services and USDA's Dietary Guidelines for Americans (2010) (152)
- Federal Interagency Working Group (IWG) on Foods Marketed to Children (i.e. CDC, FDA, FTC and USDA) (2011) (47)
- World Health Organization (2010, 2012) (20,21)
- UN Global Compact, Save the Children and UNICEF's Children Rights and Business Principles (2012) (19)
- Robert Wood Johnson Foundation's (RWJF's) Healthy Eating Research's Beverage Standards (2013)
- USDA's Smart Snacks in School Standards (2014) (153)
- Consumers International and World Obesity Federation (2014) (7)
- RWJF's Healthy Eating Research's Recommendations for Responsible Food Marketing to Children (2015) (49)

NGOs, non-governmental organizations.



**Figure 1** Framework used to assess the accountability structures to use brand mascots and licensed characters to promote healthy food environments to American children.

Source: Reference (31).

In 2006, an IOM expert committee concluded that food marketing was a risk factor for an unhealthy diet that contributed to childhood obesity and recommended that food, media and entertainment companies should work with government, scientific and public health groups to establish and enforce the highest standards to market a healthy diet to children (4). The IOM committee recommended that licensed media characters should be used to promote only healthy food products to children (4). In 2008, the U.S. Federal Trade Commission (FTC) recommended that media and entertainment companies use character licensing in cross-promotions for popular children's television (TV) programmes and movies only to promote healthy foods (44).

In 2010, the White House Task Force on Childhood Obesity urged the food and entertainment industries to use licensed media characters to promote healthy foods and beverages consistent with science-based nutrition standards by 2013 (45). Four federal U.S. government agencies, representing the Interagency Working Group (IWG) on Food Marketed to Children, released draft voluntary nutrition standards in 2009 to guide the industry's practices (46) that were revised and released for public comment in 2011 (47). In September 2013, First Lady

Michelle Obama convened a Summit in Washington, DC, to persuade companies to limit their use of licensed media characters to market unhealthy foods and to use these media characters only to promote healthy foods to children (48).

In January 2015, a 17-member expert panel convened by the Robert Wood Johnson Foundation's (RWJF's) Healthy Eating Research (HER) programme charged companies and industry sectors to strengthen self-regulatory programmes by addressing loopholes in these programmes. The panel recommended that companies revise the current definition of child-directed marketing from less than 12 years to any form of marketing that targets children 14 years and younger, and also to expand voluntary industry pledges to cover all forms of brand advertising and marketing, including the use of brand mascots and media characters on products, and for licensing and cross-promotions (49).

RQ2. *What were the trends in cartoon brand mascot and media character marketing practices and the actions taken by U.S. companies and industry sectors to promote food and beverage products to American children between 2000 and 2015?*

## Brand mascot and media character marketing practices of Children's Food and Beverage Advertising Initiative companies

During the review period, the evidence for trends in brand mascots and media characters used by companies through TV advertisements, on the Internet and in food retail settings showed that the food categories of greatest nutritional concern were confectionary, children's meals, ready-to-eat (RTE) cereals, sweet and savory snacks, desserts and sugar-sweetened beverages (SSBs). Illustrative examples of brand mascots and media characters used to promote these food categories are available in a companion paper (25).

Before 2006, independent baseline monitoring of companies' policies and practices documented that cartoon brand mascots and media characters were used in about 50% of TV advertisements aimed at pre-schoolers (50) and 90% of TV advertisements targeted to older children promoted food products high in fat, sodium and added sugars (51).

Three baseline evaluations of child-targeted Internet websites conducted before 2006 documented that a majority of the food products targeting children were for RTE cereals, SSBs, salty and sweet snacks, candy and children's meals at fast food restaurants (52–54).

In November 2006, the Council of Better Business Bureaus, Inc. (CBBB) launched the Children's Food and Beverage Advertising Initiative (CFBAI) with 10 member companies (55). The CFBAI's core principles required members to include a policy to address third-party licensed media characters used by companies to advertise to children less than 12 years. However, the policy did not cover the use of media characters on food packaging, merchandising, and toy giveaways or premiums, and also omitted a policy for company-owned brand mascots (56).

After 2006, four studies documented that brand mascots and media characters were used widely to promote energy-dense, nutrient-poor food and beverage products through digital media communications (57–60). In 2010, an independent evaluation conducted by the Center for Science in the Public Interest (CSPI) showed that many food and restaurant companies did not participate in the CFBAI and lacked clear policies for using company-owned brand mascots (61).

The CBBB conducted a 5-year compliance evaluation for CFBAI companies between 2006 and 2011 (62) and during 2013 (63). These findings, combined with independent monitoring of child-targeted TV programmes (64), showed that the CFBAI members complied with using licensed media characters when products met each company's own nutrition standards. However, media characters used in cross-promotions did not apply to point-of-sale materials, packaging and premiums; and company-owned brand mascots were not covered (62,63). Effective January 2014,

the 17 CFBAI member companies (65), representing about 80% of child-directed TV advertising, agreed to adopt revised principles (66) to promote only products that adhered to the CFBAI's new uniform nutrition criteria (67). The 2014 principles still lacked any commitments for company-owned brand mascots and licensed media characters used at point-of-sale, on packaged food products, and as toy giveaways or premiums.

## Brand mascot and media character marketing practices in food retail settings

Between 2006 and 2013, three studies of food retail settings showed that cartoon brand mascots and media characters were used extensively to promote unhealthy foods. The first study, conducted in a leading supermarket chain in Connecticut, documented a 70% increase in child-targeted, cross-promotions at point-of-sale ( $n = 399$  food products) between 2006 and 2008, and only 18% of products met the IOM's school nutrition standards (68). The second study, conducted in 24 food stores in Illinois between 2011 and 2012, documented that media characters were used in 69% of food categories assessed, especially to promote candy (100%), RTE cereals (94%), bread and pastries (94%), cookies and crackers (94%), salty snacks (90%), dairy products (83%) and children's meals (56%) compared with fruits and vegetables (36%) (69). The third study, conducted at two grocery chains in Washington, DC, during 2012 and 2013, documented that 10 CFBAI companies used media characters on the food packages of more than three quarters (78.5%) of child-targeted products ( $n = 307$ ), the majority of which did not meet government-recommended nutrition guidelines (70).

## Nutrient content of food categories that used brand mascots and media characters

Some evidence was available to assess the nutrient profiles of beverage and dairy products, RTE cereals and children's meals at chain restaurants that used brand mascots and media characters, as described below. No evidence was available to assess the nutrient content of products that used brand mascots or media characters in child-targeted marketing by major confectionary companies or snack food companies to market products appealing to children during the period reviewed.

## Brand mascots and media characters used to promote beverage and dairy products

Some evidence was available for the nutrient content of products that used branded and unbranded mascots and media characters by food and beverage manufacturers to reach children. The Dannon Company used *Bongo the*

*Monkey* and *Dino Danino* to promote yogurt to children. Between 2013 and 2014, Dannon reduced the added sugar content from 14 to 10 g (3.5–2.5 teaspoons) per serving (71,72). General Mills, Inc., used *Safari Animals* and several licensed media characters (e.g. *SpongeBob SquarePants*) to promote the low-fat Yoplait brand Go-GURT that provided 9 g (2.3 teaspoons) of sugar per serving (73). In 2014, Nestlé USA entered a licensing agreement with the Girl Scouts of America to allow the use of their brand mascot, the *Nesquick Bunny*, to promote the popular Girl Scout cookie flavours as a beverage that provided 24 g (6 teaspoons) of added sugars and 150 calories per serving (74,75).

No evidence was available for the nutrient content of The Coca-Cola Company's beverage products that used the *Polar Bears* to market to children (76) during the period reviewed. A Rudd Center report documented that cartoon media characters were among several child-featured promotional strategies used on packages to market children's fruit drinks and flavoured water between 2010 and 2014 (77). The report found that cartoon branded and unbranded anthropomorphic and youth-oriented characters were used by PepsiCo, The Coca-Cola Company, Dr. Pepper Snapple Group and Unilever USA to advertise and market SSB brands (i.e. Mountain Dew, Fanta, Dr. Pepper and Lipton ice tea) through digital media, including smartphone applications and advergames, which were appealing to older children (77).

### Brand mascots and media characters used to promote ready-to-eat cereal products

Five studies published between 2006 and 2013 provided information about the brand mascots and media characters used and the nutrient content of child-targeted RTE cereals. A 2006 study examined 161 cereals, of which nearly half (46%) contained a child-targeted, cartoon media character. All of the child-targeted cereals were higher in energy, sugar and sodium, and lower in fibre compared with the adult- or family-targeted cereals; and two-thirds (66%) of child-targeted cereals failed to meet nutrition standards for added sugars (78). A 2007 review of promotional techniques used by leading RTE cereal manufacturers documented that 50% of 122 cereal packages used animated brand mascots and 18% used licensed media characters (79). Between 2009 and 2012, two Rudd Reports documented that three companies promoted nine child-targeted, CFBAI-approved RTE cereals that had lower nutrient profile index (NPI) scores compared with family-targeted cereals (80,81) and the highest 2013 advertising spend (82). A fifth study, conducted between 2011 and 2013, examined the nutrient content of 84 popular children's RTE cereals and documented that while certain food manufacturers had lowered the sugar content of 11 cereals, the majority of

child-targeted RTE cereals still provided more than 8 g (2 teaspoons) of added sugars per serving (83).

In 2011, PepsiCo announced that *Cap'n Crunch* cereal (NPI = 31, the lowest score) (80) would become a family-targeted cereal (81) and the mascot would be used only to target adults through social media (84). In 2013, Post announced that it would replace *Fred Flintstone* on Fruity Pebbles cereal (NPI = 33) with a wrestling celebrity to remain relevant to children (85). In 2013, General Mills (e.g. *Buzz Bee*, *Chef Wendell* and *Lucky the Leprechaun*) and Kellogg's (e.g. *Tony the Tiger*, *Toucan Sam* and *Sunny*) used their brand mascots to promote six of the top 10 best-selling RTE cereals totalling to 1.9 billion U.S. dollars (86) (Fig. 2). In 2014, Kellogg's *Snap*, *Crackle and Pop* mascots were added so that seven of the top 10 best-selling RTE cereals used brand mascots to promote RTE cereal brands (87).

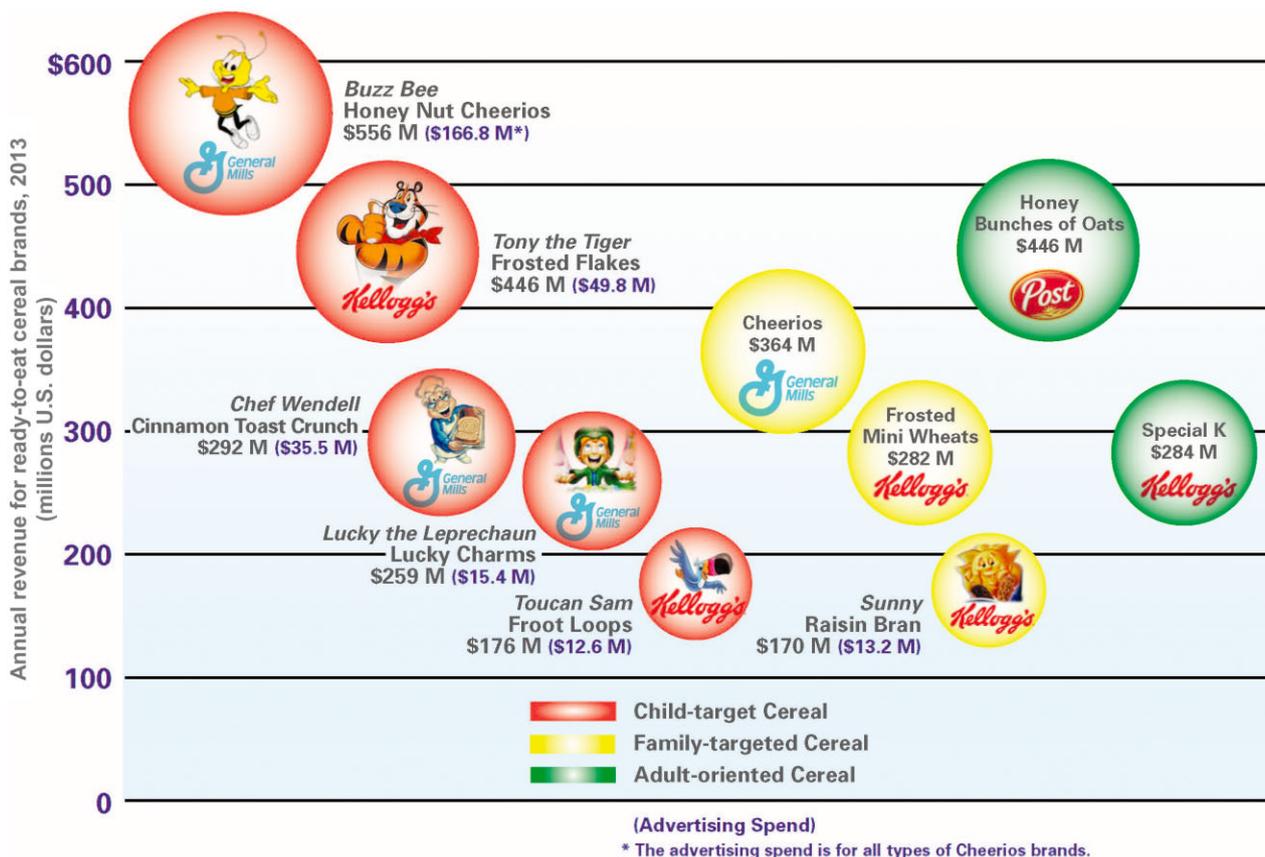
Between 2013 and 2014, leading RTE cereal manufacturers reported having reformulated brands to increase whole grains and reduce the added sugar content (88,89). However, some brand mascots were still used to promote cereals with two teaspoons or more (8–11 g) of added sugars per serving (90–92) (Fig. 2).

### Brand mascots and media characters used by restaurants to promote children's meals

Full-service and quick-serve chain restaurants used mascots less extensively compared with food and beverage manufacturers. In 2011, the National Restaurant Association (NRA) established the *Kids LiveWell* programme (93) where 19 founding companies voluntarily offered at least one healthy meal to children that met specific nutrition criteria for calories ( $\leq 600$  calories per meal), fat, saturated fat and sodium; and food groups (e.g. fruit and vegetables, whole grains, lean proteins and low-fat dairy). No best-practice guidelines were adopted for mascot or licensed media character marketing practices for participating restaurants.

Some restaurants, such as Chuck E. Cheese, neither made commitments nor participated in the CFBAI or the *Kids LiveWell* programme (94). In 2012, the chain restaurant announced a mascot makeover for its rotund mouse, *Mr. Cheese*, to a slimmer, active mouse who played air guitar (95). But the company did not improve the nutritional quality of the children's meals in their 'Promise to Parents' that included providing a clean and open game room environment, fresh food, safety and wholesome family fun (96).

The McDonald's Corporation used the Ronald McDonald mascot for integrated marketing communications through educational and charity activities (97,98). In 2012, McDonald's started a 'balanced eating and active play' campaign that used new cartoon characters to promote healthier Happy Meals (99,100) and announced further



**Figure 2** Six mascots used to market the top-selling, ready-to-eat cereals in the United States by company, brand, annual brand revenue and advertising spend, 2012–2013. Sources: References (81,82,86).

commitments to improve the nutritional quality of the Happy Meals through an agreement brokered by the Alliance for a Healthier Generation (101). In 2014, the company introduced a new anthropomorphic character named *Happy* who represented an animated Happy Meal box (102). Yet, McDonald’s has not yet publicly pledged to use its mascots and characters to promote foods or meals to children that meet specific nutritional criteria recommended by public health experts (103) or adopted by companies participating in the *Kids LiveWell* programme.

**Media character marketing practices of entertainment companies**

Examples of popular media characters owned by five major U.S. entertainment and media companies (e.g. DreamWorks Animation, Sesame Workshop, Viacom International/Nickelodeon, Walt Disney Company and Warner Brothers Entertainment) and licensed to food, beverage or restaurant companies to promote products to American children are available in a companion paper (25).

In July 2005, Nickelodeon and Walt Disney had made commitments to use their media characters to promote fruits and vegetables at a workshop organized by the FTC and Department of Health and Human Services (HHS) in Washington, DC (104). In 2008, the FTC reviewed the licensed media character policies for nine media and entertainment companies (44) that documented some progress made by four entertainment companies to limit media character licensing to foods that met their own nutrition standards. Of these, Sesame Workshop used its media characters to encourage healthier foods (105–107) and engaged in constructive partnerships to promote healthy lifestyle messaging (108–110). In October 2013, Sesame Workshop announced a 2-year, royalty-free, media character licensing fee waiver to encourage produce companies to use its media characters to promote fruit and vegetables to children between 2014 and 2016 (111–113). In 2006, Walt Disney introduced nutrition guidelines that were applied across all businesses (114) and updated in 2012 (115), and also collaborated with the *Lets Move!* Campaign (116). Discovery Kids and Cartoon Network (117,118) supported healthy lifestyle messaging, and Cartoon Network aligned its media

character licensing policies with the CFBAI's 2014 uniform nutrition criteria (118).

### Federal government monitoring of media characters used in food marketing to children

The federal government's first industry-monitoring report released in 2009 documented that in 2006, 44 food, beverage and restaurant companies spent \$2.1 billion on child- and adolescent-targeted food marketing, which included the cost of fast food restaurant toy giveaways (44).

The FTC recommended that Nickelodeon and Warner Brothers limit their media character licensing to only healthy food products in marketing that targeted children (44). The FTC's second industry-monitoring report released in 2012 documented a reduction in food marketing expenditures from \$2.1 billion in 2006 to \$1.8 billion in 2009 (119). However, nearly 40% of the decline in expenditures was attributed to toy premiums rather than reducing expenditures on food products that did not meet healthy nutrition guidelines (119).

The 2012 FTC report concluded, with exceptions for the four entertainment companies discussed earlier, that overall, limited progress was made by U.S. food, restaurant and entertainment companies between 2006 and 2009 to comply with licensed media character recommendations to promote a healthy diet to American children (119). The second FTC report also documented that of the \$1.8 billion spent by 48 companies on child- and youth-targeted food marketing in 2009, half of all child-directed marketing dollars (\$530.7 million) involved cross-promotions, and restaurants accounted for 81% (\$428 million) of this amount (119). RTE cereals (\$22 million), restaurant meals (\$19 million) and snack foods (\$11 million) were the top three categories for child-directed media (119). The 48 companies reported \$393 million spent to reach young consumers through premiums and restaurants (whose mascots and characters were *exempted* from company pledges) that represented \$341 million of spending on child-directed premiums in 2009 (119).

RTE cereal marketing to children that used licensed media characters were significantly lower in whole grains (i.e. 3.8 g per servings vs. 8.7 g per servings for cereals without character marketing) in 2006 and 2009, although there were no differences for other nutrients (119). Snack foods that used licensed media characters were higher in sugar but lower in calories, sodium and saturated fat compared with snacks marketed without media characters. While carbonated beverages and restaurant foods were heavily marketed through media character licensing agreements, the FTC was unable to analyse changes in the nutritional content of these food categories (119).

Between 2006 and 2007, Nickelodeon pledged publicly to use their media characters to promote fruit and

vegetables and to reduce their use for energy-dense, nutrient-poor foods (120,121).

Yet independent monitoring of Nickelodeon's practices between 2005 and 2013 found that this entertainment company failed to establish nutrition standards to license their media characters (122–125). In June 2013, several Senators admonished Nickelodeon to cease marketing unhealthy foods to children (126) but the company defied the request without consequences (127).

RQ3. *How adequate were the accountability structures during the period reviewed?*

### Evaluation of accountability structures, gaps and actions for mascot and media character use

A four-step accountability framework (Fig. 1) was used to analyse the evidence to evaluate the adequacy of accountability structures between 2000 and early 2015 for industry's use of cartoon brand mascots and media characters to promote healthy food environments for children.

An initial step before the framework is applied is for government to appoint an empowered body to develop clear objectives, a governance process and performance standards for all stakeholders to comply with using mascots and media characters within the broader food marketing practices to promote healthy food environments for children (31).

### Appointing an independent body – no progress

In 2006, the IOM recommended that the HHS Secretary consult with other federal agencies to appoint a body to monitor and report progress to the U.S. Congress on comprehensive actions needed to ensure that food marketing practices would support a healthy diet for children (4).

By 2011, no federal or private entity had been designated to monitor and report on U.S. food marketing progress, including the reporting of progress made towards the responsible use of company-owned cartoon brand mascots and licensed media characters used to market foods to children (41).

### Taking the account – moderate progress

This step involves an independent body collecting, reviewing and verifying credible information to establish a benchmark to evaluate companies' compliance with performance expectations.

The Children's Advertising Review Unit (CARU) and CFBAI are not independent bodies because they are financially supported by food and restaurant companies. The FTC is the federal regulatory agency that has been directed by Congress to take account of the food marketing landscape that influenced children's diet and health

through two progress reports released in 2009 and 2012 (44,119). Independent monitoring by academic researchers (58,64,68,80,81,103) and civil society groups such as CSPI (61,122,123) identified some progress made by certain companies during the review period, but also that loopholes were exploited by firms because there were no clear guideless or industry commitments for using brand mascots and licensed media characters on food packages, in merchandising, and as toy giveaways or premiums.

Between 2006 and 2015, six expert and authoritative bodies urged companies to use licensed media characters and/or brand mascots to promote food products that met specific nutrition guidelines (Box 1). However, neither the CFBAI nor any company has yet developed an inclusive policy with a definition of 'child-target advertising' to include food, beverage and restaurant firms' brand-equity mascots or licensed media characters to address the loopholes identified above. While some progress had been made in 'taking the account' during the period reviewed, there was no independent body appointed to monitor and evaluate progress made by various industry sectors for the responsible use of popular brand mascots and media characters within the broader array of food marketing practices.

### Sharing the account – moderate progress

This step involves an empowered neutral body communicating the results of step one widely to stakeholders through a deliberative and participatory engagement process to foster understanding about performance standards, accountability expectations and benchmark results. It also involves encouraging a constructive dialogue among stakeholders who hold divergent views and positions on issues, facilitating shared learning about stakeholders' positions and constraints, and developing a reasonable timeline to implement accountability actions.

Between 2005 and 2014, nine U.S. public forums had convened stakeholders to examine food marketing practices targeting children. The FTC and DHHS joint workshop held in 2005 (104) and two public meetings coordinated by the federal IWG that released draft nutrition guidelines for comment in 2009 and 2011 (46,47). In 2011, the FTC Commissioner announced that the IWG guidelines would not be finalized despite 28,000 favourable comments received, some that requested the removal of cartoon media characters from food products that did not meet the federal nutrition guidelines (128).

Between 2008 and 2013, the White House held two public meetings to improve food marketing practices that targeted children (45,48), and the U.S. Senate and House of Representatives held three public hearings on food marketing practices that targeted children (126,128,129). In 2008, the Federal Communications Commission (FCC) Commis-

sioner, Kevin Martin, expressed disappointment at a U.S. Senate Committee hearing that '*Most media companies were unwilling to place any limit on the advertising of unhealthy foods on children's programs*' (130). In 2013, the Interfaith Center on Corporate Responsibility convened a roundtable to engage investors, businesses, public health researchers, consumer advocates and government officials (131) to encourage a dialogue on opportunities and challenges to engage in responsible food marketing to children and improve the food marketing landscape for American children.

### Holding to account – limited progress

This step involves an empowered body using incentives to recognize and reward companies that meet performance objectives and disincentives or penalties to influence underperforming or non-participating companies to change corporate behaviours. Several accountability mechanisms (e.g. institutional, financial, regulatory, legal and reputational) can be used to persuade businesses to align their brand mascot and media character marketing practices with products that support healthy food environments for children.

Institutional accountability involves executive officers and supervisors meeting government and societal expectations for voluntary ethical codes of conduct and industry self-regulatory programmes. The CARU and CFBAI serve an important function to evaluate whether children's advertisements are truthful and non-misleading (66). Nevertheless, voluntary codes of conduct developed by industry self-regulatory programmes, trade associations, or professional business and marketing societies lack institutional authority to sanction companies for underperformance and non-participation (35,132). Moreover, voluntary measures are no substitute for regulatory and legal measures that can enforce penalties when nutrition standards for marketing to children are not met.

Financial accountability uses monetary incentives and disincentives to change institutional behaviours. There was no evidence that this strategy was pursued either by industry groups or government agencies during the period reviewed. Regulatory and legal accountability require companies to adhere to standards and laws that are enforced by government agencies, courts or quasi-judicial bodies. Between 2006 and 2013, NGOs used the threat of litigation by filing complaints against Kellogg's and Viacom (133), Merck and DreamWorks (134,135) and a vitamin company (136) for using licensed cartoon media characters in misleading advertisements for foods, vitamins and medications that targeted children.

Industry's use of media characters on TV and Internet websites that target children is a form of host-selling that is considered unfair and deceptive and could be regulated by

the federal government (137). The FCC's host-selling policy prohibits the use of media characters during or adjacent to children's TV programmes that feature the character as well as websites, but the FCC has no authority to regulate the use of media characters on food packaging or for children's meals at chain restaurants. The FTC has avoided adopting rules to restrict advertising to children due to anticipated negative political ramifications (4). Pursuing legislation and regulation that prohibit the use of popular brand mascots and media characters to market unhealthy food products to children could be ruled constitutional by the U.S. Supreme Court if there was a permissive political climate. A shortcoming of any regulatory solution is that narrowly defined regulations that limit marketing practices to those that explicitly target children are inadequate to protect them from the broader food marketing environment.

Reputational accountability was used most frequently by NGOs during the period reviewed, including (i) using social media advocacy to raise concern about unhealthy foods and misleading marketing practices; (ii) praising companies that changed their practices to do good as well as naming or shaming non-compliant companies; (iii) mobilizing concerned parents to file complaints about industry self-regulatory programme; (iv) encouraging online petitions and letter-writing campaigns targeting corporate decision makers and legislators; (v) organizing consumer product boycotts; and (vi) using shareholders' resolutions to change corporate policies and practices (94,125,138–142).

### Responding to the account – limited progress

This step involves stakeholders taking actions to improve their performance and strengthen accountability structures at earlier steps. It also involves monitoring the fidelity of industry and government implementation and enforcement of policies, regulations and laws; and NGOs or civil society groups mobilizing government and industry actions to support healthy food environments. Many industry stakeholders took positive steps to strengthen company policies and industry-wide self-regulatory programmes to use cartoon media characters more responsibly to improve food marketing practices targeting children during the period reviewed. Civil society groups focused primarily on critiquing industry self-regulatory programmes and government inaction but not necessarily articulating how institutional accountability structures could be improved. In September 2014, several U.S. Congressional members urged the FTC to strengthen oversight of food marketing aimed at children and emphasized the need to monitor U.S. food and beverage industry marketing expenditures and trends affecting children's diet and health (143). In January 2015, the HER expert panel and CSPI encouraged companies to address inherent loopholes in the CFBAI pro-

gramme (49,144), but the response by the Grocery Manufacturers Association did not offer any clear actions (145).

### Discussion

Children have been immersed in a culture of food and beverage product brands that use mascots and media characters since the 1960s (4). Numerous international bodies (7,20,21), industry bodies (23,24), expert committees (4,20,49,146) federal government groups (45,47,48), legislative (126,143) and regulatory bodies (44,104,119) have recommended that businesses improve their food marketing practices that target children to promote a healthy diet and healthy food environments.

This accountability evaluation found that between 2000 and 2015, no progress was made by the U.S. government to appoint an independent body to hold industry accountable for brand mascot and comprehensive media character marketing practices. Moderate progress was made by stakeholders for taking the account (assessment) and sharing the account (communication), limited progress was made for holding industry and government agencies to account (recognition and enforcement), and limited progress was made by all stakeholders in responding to the account (strengthening accountability structures).

This evaluation identified two important accountability gaps, including (i) the need for government or an independent body to establish clear performance expectations with timelines and incentives for companies to implement best-practice brand mascot and licensed media character marketing practices and (ii) the need for disincentives or consequences for company underperformance or non-participation in industry self-regulatory programmes.

*RQ4. What actions can be taken by diverse stakeholders to ensure that brand mascots and media characters are used to promote healthy food environments for American children?*

There are several practical reasons why industry should demonstrate greater corporate responsibility and leadership for this issue. In 2014, the RWJF re-directed significant private philanthropic resources to build a culture of health for all Americans (147). Improving the food marketing landscape for American children is a business opportunity for companies to reformulate products and use their brand mascots and licensed media characters to socially normalize healthy food environments for young people. This step is an achievable 'low-hanging fruit' issue that can be addressed within a broader private sector effort to build a culture of health for American children. Several actions are suggested below to strengthen the accountability structures to ensure that brand mascots and media characters are used

to promote healthy products to children through the marketplace and entertainment venues.

### Establish an independent and empowered body to ensure accountability

The government should appoint an independent body that is empowered to take, share and hold companies to account for their brand mascot and media character marketing practices within the broader goal to improve all food marketing policies and practices that target children. Since visual branding is commonly used on food packages and in toy premiums to advertise to children (148,149), the CBBB could amend the 2014 CFBAI core principles to include explicit guidelines for member companies to use their brand mascots that meet the uniform nutrient criteria, and to extend the policy to cover licensed media character use at point-of-sale, on food packages, and as toy giveaways or premiums. If the CFBAI does not voluntarily cover mascot and media marketing practices, legislative and regulatory actions are needed.

Since the FTC has relinquished its authority to regulate unhealthy food marketing to children after succumbing to commercial and political pressures in 2011 (150,151), either First Lady Michelle Obama or a senior official in HHS could appoint an independent body, ombudsman or adjudicator to establish benchmarks and performance standards, independently monitor and mediate disputes involving brand mascots and media characters to promote food products to children.

### *Suggested actions for industry stakeholders*

Another important finding of this study is the ambiguity around what represents healthy guidelines for consumable products that can be marketed to children. Several recommendations have been issued to reduce the marketing of unhealthy foods to children between 2006 and 2015, which include the IOM (4), FTC (44), White House Task Force on Childhood Obesity and Summit on Food Marketing (45,48) and the RWJF's HER programme (49). Moreover, at least seven different sets of nutrition standards and guidelines with nutrient targets were issued by the CFBAI (10), NRA (93), Walt Disney Company (114,115) and several government agencies (FTC and United States Department of Agriculture [USDA]) and expert bodies (IOM and HER) (47,146,152,153). A trusted and independent body is needed to establish clear and consistent performance targets for companies and to harmonize industry nutrition standards that may be more permissive than government and expert nutrition recommendations.

Government and NGOs should incentivize and recognize companies that successfully achieve product category reformulation targets to reduce children's preference for prod-

ucts high in added sugars, fat and salt. For example, many food manufacturers have taken positive steps to stealthily reformulate children's RTE cereals to increase whole grains, which is important because while only 3% of American children consume the government recommended level of 3 ounces of whole grain equivalents per day, RTE cereals contribute 25% to children's total dietary whole grains intake (154). The evidence reviewed found that child-targeted RTE cereals that use brand mascots and licensed media characters have the highest amount of added sugars between 8 and 12 g (2–3 teaspoons) of added sugars per serving. U.S. food manufacturers should continue to reformulate all children's RTE cereals to achieve an added sugars content of 6 g (1.5 teaspoons) or less per serving to align with the federal government's Special Supplemental Nutrition Program for Women, Infants, and Children's mandated food package criteria (155).

Mascots are used to establish and maintain brand loyalty for one or more brands or a collective identity for many food products. Food companies may reformulate only certain product brands to meet the USDA's Smart Snacks standards (153) but continue to sell similar-packaged snacks in the marketplace that do not align with these standards, called 'copycat snacks' (156), which have similar product packaging (i.e. colour, logos, brand mascots and media characters) but do not meet the USDA nutrition criteria and are easily purchased by children. Companies should be held accountable for product inconsistency and therefore reformulate products that meet healthy guidelines across school, community and other marketplace settings.

Entertainment companies could join existing industry self-regulatory programmes, such as the CFBAI, and adopt the uniform nutrition criteria for licensing their characters, or adopt the standards developed by Walt Disney Company across all businesses. Entertainment companies could also emulate Sesame Workshop's royalty-free arrangement with produce companies (111–113) by initiating licensing waivers to allow produce companies to use their media characters to promote fruits and vegetables to children. Entertainment companies could enter co-branding business arrangements with produce companies (i.e. Chiquita, Dole Foods, Pinnacle Foods and Sun-Maid) to promote fruits, vegetables, whole grains and healthy beverages to children that meet government-recommended guidelines through diverse media platforms and settings.

Civil society groups, public health professionals and government agencies can continue to engage companies and their shareholders to influence their use of brand mascots and licensed media characters on products that meet optimal nutrient profiles for specific product categories recommended by government or expert bodies, such as RTE cereals ( $\leq 6$  g sugar per serving), snacks ( $\leq 200$  calories per serving and  $\leq 230$  mg sodium per serving), SSBs (0–50

calories per serving) and children's meals ( $\leq 600$  calories per serving) (10,47,49,93,146,152).

NGOs and civil society groups have an important role to influence corporate behaviour through reputational accountability. For example, the Quaker Oats Company used the *Frito Bandito* from 1967 to 1971 to promote Frito Corn Chips, but Mexican-American civil society groups pressured the company to halt the negative stereotyping of Latinos in Frito advertisements that forced the retirement of this mascot (157). Similarly, in 1989, Quaker Oats adopted *Popeye the Sailor Man* as the new mascot for an instant oatmeal product line but the company experienced social backlash from the Quaker Church and negative media coverage that objected to the '*Popeye the Quaker Man*' tagline, which pressured the advertising campaign to be quietly discontinued (158).

Between 2006 and early 2015, consumer groups and national coalitions used media advocacy to hold companies accountable for their brand mascot and media character marketing practices. Some companies responded by implementing new policies or taking constructive steps. Food and consumer activists also organized shareholder advocacy campaigns to pressure the McDonald's Corporation to retire its clown mascot, but these efforts were unsuccessful (159). Nevertheless, shareholder activism can raise important issues to positively influence business firms' marketing practices and performance (160).

### Study limitations and research needs

While this study used a systematic approach to examine the available evidence in the public domain, we neither had access to proprietary industry data nor evidence to assess the revenue and advertising trends for brand mascots and media characters used to market candy, snacks and SSBs to children. Future research is needed to inform the deliberations of policy makers, industry, practitioners, NGOs and public health advocates regarding how cartoon brand mascots and media characters should be used to promote healthy eating environments. Research is also needed on how to effectively change social norms to influence parents who have nostalgic feelings about cartoon brand mascots and media characters and may be ambivalent about new norms that use them only to promote healthy food environments (161).

Finally, major food, beverage and restaurant companies have a global presence and use culturally tailored brand mascots and media characters to market unhealthy food and beverage products to children worldwide (25). These findings have implications for the IFBA and CGF to amend existing commitments (23,24) to address loopholes for this marketing issue in other countries. Strengthening accountability structures will help stakeholders to support child

protection recommendations issued by the UNGC, UNICEF and WHO (19–21).

### Conclusions

Food, beverage, restaurant, and media and entertainment firms could substantially improve their food marketing practices to children. This case study examined the evidence concerning brand mascot and licensed media character marketing practices that targeted American children between 2000 and early 2015. During the period reviewed, there was no government-designated, empowered body to take, share or hold industry to account for mascot and cartoon character marketing practices within a broader effort to improve the marketing landscape for children.

The CFBAI and *Kids LiveWell* programme lacked clear guidelines for company-owned brand mascots, and using licensed media characters on food packages, in merchandising, and as toy giveaways or premiums. While some food and entertainment companies took positive steps to engage in responsible marketing to children during the review period, most have not yet achieved the recommendations issued by expert and authoritative groups to use licensed media characters only to promote healthy food and beverage products that support a healthy diet. If industry self-regulation fails to improve, legislative and regulatory actions are needed. Government, industry, civil society groups and the public have many opportunities to substantially strengthen their accountability actions for mascot and media character marketing to ensure healthy food environments for American children.

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No conflict of interest was declared.

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### Authors' contribution

VIK developed the initial concept, designed the literature review search strategy, led and conducted the evidence collection and analysis, prepared the first draft of the manuscript, coordinated feedback for subsequent revisions, and oversaw the submission process.

MS assisted in the independent evidence review and analysis, provided input into the design and data collection, and further developed the concepts and provided feedback on drafts of the paper. Both authors approved the final manuscript.

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## Supporting information

Additional Supporting Information may be found in the online version of this article, <http://dx.doi.org/10.1111/obr.12279>

**Table S1.** Articles and reports used to evaluate accountability for brand mascot and media character marketing policies and practices to promote healthy food environments to American children, January 1, 2000–January 20, 2015.

**Table S2.** Media stories, news releases and public testimony used to evaluate accountability for brand mascot and media character marketing policies and practices to promote healthy food environments to American children, January 1, 2000–January 20, 2015.

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