

# Food Marketing Expenditures Aimed at Youth

## Putting the Numbers in Context

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**Abstract:** In response to concerns about childhood obesity, the Federal Trade Commission (FTC) released two reports documenting food and beverage marketing expenditures to children and adolescents. The recently released 2012 report found an inflation-adjusted 19.5% reduction in marketing expenditures targeted to youth from \$2.1 billion in 2006 to \$1.8 billion in 2009. The current article highlights features of the FTC's analysis, examines how expenditures relate to youth exposure to food marketing, and assesses changes in the nutritional content of marketed products.

Of the \$304.0 million decline in expenditures, \$117.8 million (38.7%) was from a decline in premium (i.e., restaurant children's meal toys) expenditures rather than direct marketing. Although inflation-adjusted TV expenditures fell by 19.4%, children and teens still see 12–16 TV advertisements (ads)/day for products generally high in saturated fat, sugar, or sodium. In addition, newer digital forms of unhealthy food and beverage marketing to youths are increasing; the FTC reported an inflation-adjusted 50.7% increase in new media marketing expenditures. The self-regulatory Children's Food and Beverage Advertising Initiative (CFBAI) is limited in scope and effectiveness: expenditures increased for many noncovered marketing techniques (i.e., product placement, movie/video, cross-promotion licenses, athletic sponsorship, celebrity fees, events, philanthropy, and other); only two restaurants are members of CFBAI, and nonpremium restaurant marketing expenditures were up by \$86.0 million (22.5% inflation-adjusted increase); industry pledges do not protect children aged > 11 years, and some marketing appears to have shifted to older children; and, nutritional content remains poor. Continued monitoring of and improvements to food marketing to youth are needed.

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### Background

In 2006, the IOM concluded that food marketing to children and youth puts their long-term health at risk.<sup>1</sup> American children's diets are high in saturated fat, added sugars, and sodium, which contribute to obesity, type 2 diabetes, and heart disease.<sup>2–7</sup> In 2009–2010, one third of children and adolescents were overweight or obese.<sup>8</sup> In response to concerns about childhood obesity, Congress directed the Federal Trade Commission (FTC) to study food and beverage marketing to children and teens. The FTC<sup>10</sup> reported that 44 food and beverage companies spent \$2.1 billion (including costs of fast-food restaurant toys<sup>9</sup>) on youth-targeted marketing in 2006.

In response to the IOM report<sup>1</sup> and public health concerns about unhealthy food marketed to children, the Council of Better Business Bureaus established the self-regulatory Children's Food and Beverage Advertising Initiative (CFBAI) in 2006. Member companies pledged to promote "healthier dietary choices" in advertising directed to children aged <12 years.<sup>11</sup> The CFBAI nutrition standards were originally company-specific, but starting in 2014, the current 16 member-companies will apply uniform category-specific standards.<sup>12</sup> Despite these pledges, studies<sup>13–19</sup> found marginal improvements in the overall marketing environment aimed at children, particularly nutritional content of marketed foods. A 2010 White House Task Force on Childhood Obesity report<sup>20</sup> and a 2012 IOM report<sup>21</sup> noted this limited progress and the need for stronger standards to improve food marketing to children.

Given concerns about limitations of the CFBAI, through the 2009 Omnibus Appropriations Act, Congress directed the FTC, the CDC, the Food and Drug Administration, and the U.S. Department of Agriculture to establish the Interagency Working Group on Food Marketed to Children (IWG). The IWG was tasked with

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developing recommendations for nutrition standards for foods marketed to children and teens and the types of marketing to which they should apply. The IWG released draft voluntary standards in April 2011<sup>22</sup>; however, after extensive industry lobbying,<sup>23</sup> in 2012 Congress required the FTC to first undertake a cost-benefit analysis on food marketing to children. Thus, although widely supported by public health experts,<sup>24</sup> these standards have not been finalized or adopted by the CFBAI.

To evaluate industry progress, the FTC undertook a follow-up food marketing expenditures study based on 2009 data, released in December 2012.<sup>9</sup> The report showed that companies spent \$1.8 billion on food marketing directed to youth in 2009, an inflation-adjusted reduction of 19.5% from 2006, but that the overall marketing landscape did not change substantially. The report also documented changes in the nutritional quality of foods and beverages targeted to youth, showing small improvements in some product categories.

The current article aims to interpret these new expenditure numbers in the context of other research regarding youth-targeted food and beverage marketing practices. First, important features of the expenditure calculations are highlighted. Next, changes in youth exposure to food marketing on TV, new media, and other venues are examined; changes in the types of foods and beverages marketed to children and teens, and nutritional quality assessed using science-based nutrition standards, are discussed. Several continuing areas of public health concern are highlighted, including policy implications.

## **Food Marketing Expenditures in Context**

### **Changes in Overall Food Marketing Expenditures**

The FTC reported that, in 2009, 48 companies spent \$1.8 billion to promote food and beverages to children and teens in the U.S., down from the \$2.1 billion reported by 44 companies in 2006, a 19.5% inflation-adjusted reduction in expenditures. In 2006 and 2009, youth-directed marketing represented 21.6% and 18.5%, respectively, of companies' total marketing budgets for those products.

The single-largest net reduction was a \$117.8-million decline in expenditures on toy premiums included in fast-food restaurant children's meals (38.7% of the overall \$304-million reduction). As the report noted, there was a drop in the cost and the number of premiums distributed, but this trend does not reflect a reduction in targeted marketing of restaurant meals to children. In fact, other fast-food restaurant marketing expenditures to youth were up by \$86.0 million, an inflation-adjusted increase of 22.5%. In particular, fast-food restaurant TV

advertising expenditures aimed at children aged 2–11 years increased by \$63.1 million (a 59.5% inflation-adjusted increase).

In addition, the FTC reported inflation-adjusted changes in youth-targeted marketing expenditures using an economy-wide price index (Gross Domestic Product deflator), which likely overstates the actual decline. As noted above, companies' costs for premiums actually fell. Further, from 2006 to 2009, the cost per 30-second TV ad fell by 18.9% (accounting for viewership, the cost per 1000 homes was flat).<sup>25</sup> Thus, the inflation adjustment does not appear warranted. The unadjusted (nominal) reduction was 14.5%. Further, excluding premium costs, unadjusted actual youth-directed marketing expenditures fell by a more-modest \$186 million, or 11.8%. [Table 1](#) provides a comparison of the FTC study findings in 2006 versus 2009 reporting both inflation-adjusted and unadjusted expenditure changes. [Table 2](#) shows changes in inflation-adjusted expenditures from 2006 to 2009 separately for children and teens.

### **Television Expenditures and Exposure**

The FTC report showed that from 2006 to 2009, expenditures on TV advertising targeted to all youth (aged 2–17 years) declined by \$107.5 million (a 19.4% inflation-adjusted drop), the second-largest drop in absolute spending. Nonetheless, TV remained the dominant advertising medium, accounting for 35.4% of all youth-directed marketing expenditures in both years.

Children and teens continue to view substantial numbers of food-related ads on TV, particularly fast-food ads.<sup>26</sup> From 2003 to 2009, exposure to food-related TV advertising declined by 17.8% and 6.9%, respectively, among children aged 2–5 years and 6–11 years.<sup>26</sup> Subsequently, respective exposure rose by 8.3% and 4.7%, from 2009 to 2011, reversing most of the earlier improvements ([Figure 1](#)).

In addition, the FTC reported that expenditures on TV advertising targeted to children (aged 2–11 years) fell by 22.7% from 2006 to 2009, but more than half of food advertising that children see appears on general-audience programming that is not targeted solely to children.<sup>27</sup> Therefore, from 2006 to 2009, children's total exposure to TV food ads fell by only 3.3%, from 4621 to 4470 food ads viewed, on average.<sup>28</sup> Indeed, CFBAI companies do not consider advertising on "tween" shows such as "Hannah Montana" and holiday specials such as "Shrek the Halls" to be child-directed.<sup>27</sup>

Substantial exposure of preschoolers to TV food advertising also remains a concern. Despite CFBAI companies' pledges not to advertise to children aged <6 years,<sup>11</sup> children aged 2–5 years view many of the

**Table 1.** Expenditures on food and beverage marketing to youth in 2006 and 2009

	2006 expenditures (% of total)	2009 expenditures (% of total)	2006–2009 change in expenditures (% of total change)	2006–2009 change in expenditures % inflation-adjusted (% nominal)
<b>Total expenditures directed to youth aged 2–17 years</b>	2091.5 (100.0)	1787.5 (100.0)	–304.0 (100.0)	–19.5 (–14.5)
<b>Expenditures by age (years)</b>				
2–11	1332.5 (63.7)	1040.6 (58.2)	–291.8 (96.0)	–26.4 (–21.9)
12–17	1080.8 (51.7)	1010.7 (56.5)	–70.0 (23.0)	–11.9 (–6.5)
2–11 and 2–17 overlap	321.8 (15.4)	263.9 (14.8)	–57.9 (19.0)	–22.7 (–18.0)
<b>Expenditures by platform/techniques</b>				
TV	740.2 (35.4)	632.7 (35.4)	–107.5 (35.3)	–19.4 (–14.5)
Radio	80.4 (3.8)	46.6 (2.6)	–33.8 (11.1)	–45.4 (–42.1)
Print	27.8 (1.3)	16.1 (0.9)	–11.7 (3.9)	–45.5 (–42.2)
New media	76.6 (3.7)	122.5 (6.9)	45.9 (–15.1)	50.7 (59.9)
In-store marketing/packaging	195.4 (9.3)	113.0 (6.3)	–82.4 (27.1)	–45.5 (–42.2)
Premiums	510.5 (24.4)	392.7 (22.0)	–117.8 (38.7)	–27.5 (–23.1)
Other traditional	275.0 (13.2)	314.9 (17.6)	39.8 (–13.1)	7.9 (14.5)
In-school	185.5 (8.9)	149.0 (8.3)	–36.5 (12.0)	–24.3 (–19.7)
<b>Expenditures by product category</b>				
Fast-food restaurant foods	732.6 (35.0)	714.3 (40.0)	–18.3 (6.0)	–8.1 (–2.5)
Carbonated beverages	526.4 (25.2)	395.1 (22.1)	–131.2 (43.2)	–29.3 (–24.9)
Cereal	236.6 (11.3)	186.1 (10.4)	–50.5 (16.6)	–25.9 (–21.3)
Juice and noncarbonated beverages	146.6 (7.0)	121.2 (6.8)	–25.4 (8.4)	–22.1 (–17.4)
Snack foods	138.7 (6.6)	123.3 (6.9)	–15.4 (5.1)	–16.2 (–11.1)
Candy/frozen desserts	117.7 (5.6)	79.0 (4.4)	–38.7 (12.7)	–36.7 (32.9)
Fruits and vegetables	11.6 (0.6)	7.2 (0.4)	–4.4 (1.4)	–41.6 (–38.1)
Other	181.3 (8.7)	161.3 (9.0)	–20.0 (6.6)	–16.1 (–11.0)

Source: Federal Trade Commission. A review of food marketing to children and adolescents: follow-up report. 2012. Washington DC: Federal Trade Commission.

Note: 2006 expenditures were revised in the 2012 report to include all premium expenditures. Expenditures are reported in millions. The inflation-adjusted % changes were computed using the GDP deflator. New media includes: Internet, web, and viral/word of mouth. Other traditional includes: product placement, movie/video, cross-promotion license fees, athletic sponsorship, celebrity fees, events, philanthropy, and other. GDP, gross domestic product

same TV programs as older children, and they viewed almost 12 food ads per day on average in 2011 (Figure 1). Although the FTC found that inflation-adjusted expenditures on teen-directed TV advertising fell by 7.5% from 2006 to 2009, teens' exposure to food ads increased by 9.3% during this same period.<sup>28</sup> Teens' exposure to food-related TV advertising has continued to increase steadily since 2003,<sup>29</sup> reaching almost 16 ads per day in 2011 (Figure 1). Younger teens aged 12–14 years viewed even more food advertising than older teens (aged 15–17 years).<sup>30</sup>

### New Media Platforms

The FTC reported that total youth-targeted expenditures on new media, including food company-sponsored websites, advertising on third-party children's websites, marketing via mobile devices, and social media, increased by \$45.9 million from 2006 to 2009, a 50.7% inflation-adjusted increase. These new media comprised 6.9% of all expenditures by 2009, totaling \$122.5 million. These findings corroborate other research showing that children and teens are increasingly exposed to newer digital

**Table 2.** Changes in expenditures on food and beverage marketing to children and teens, 2006–2009

	2006–2009 change in expenditures (% inflation-adjusted)	
	Children aged 2–11 years	Teens aged 12–17 years
<b>Expenditures by platform/techniques</b>		
TV	–22.7	–7.5
Radio	–68.9	–45.0
Print	–57.5	–48.0
New media	50.2	36.9
In-store	–35.7	–49.7
Premiums	–29.1	11.0
Other traditional	–22.0	8.7
In-school	–59.4	–23.0
<b>Expenditures by product category</b>		
Fast-food restaurant foods	–9.1	24.3
Carbonated beverages	–58.5	–29.1
Cereal	–28.8	36.8
Juice and noncarbonated beverages	–41.5	–17.3
Snack foods	–41.5	56.2
Candy/frozen desserts	–66.5	–62.1
Fruits and vegetables	–51.7	–18.7
Other	–35.7	12.1

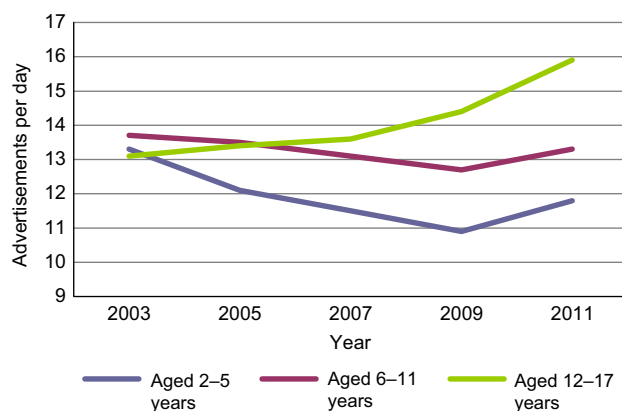
Source: Federal Trade Commission. A review of food marketing to children and adolescents: follow-up report. 2012. Washington DC: Federal Trade Commission.

Note: The inflation-adjusted % changes were computed using the GDP deflator. New media includes: Internet, web and viral/word-of-mouth. Other traditional media include product placement, movie/video, cross-promotion license fees, athletic sponsorship, celebrity fees, events, philanthropy, and other.

GDP, gross domestic product

forms of food and beverage marketing, and raise concerns about potential effects of this exposure.

Most food brands that market directly to children maintain child-targeted websites with advergames (branded computer games) and other engaging branded content.<sup>31</sup> Approximately 1.2 million children aged 6–11 years visited food company–sponsored advergame sites every month in 2009, spending up to 63 minutes per month on one site.<sup>32</sup> The FTC reported that more than 2 billion ads for foods and beverages also appeared on children’s websites in 2009, primarily for sugary cereals and fast-food restaurants. These ads typically feature

**Figure 1.** Total exposure to food-related TV advertisements per day, by age group and year

Source: The Nielsen Company; authors’ calculations

games, videos, and other engaging content inside the ad and link directly to food company–sponsored sites.<sup>16,33,34</sup>

In addition, many food companies widely utilize social media to enlist young people to promote marketing messages directly to their friends, including the 12 largest fast-food restaurants and 33 brands of sugared drinks.<sup>16,33</sup> The top 20 brands on Facebook include nine food and beverage brands, such as Oreos, Red Bull, Skittles, and Pringles.<sup>35</sup> Coca-Cola is the number one brand on Facebook, with 56 million “likes” to date.<sup>36</sup> Although technically children aged <13 years are not allowed to join Facebook, 37% of those aged 10–12 years have an account.<sup>37</sup> One of the newest forms of marketing enables food companies to reach young people on their mobile devices (cell phones, tablets, and iPods) through text messages, e-mails, social networks, and mobile apps, including advergames.<sup>38</sup> Fast-food, soda, energy drink, snack food, and candy companies are early adopters of mobile marketing to appeal to youth.

### Other Marketing Practices

The FTC reported that companies also spent \$576.9 million in 2009 (32.2% of total youth-targeted expenditures) on marketing beyond traditional and digital media. From 2006 to 2009, inflation-adjusted expenditures on school-based marketing declined by 24.3% to \$149 million, and youth-targeted marketing in stores (including packaging) declined by 45.5% to \$113 million. However, product placements, athletic and event sponsorships, cross-promotion licenses, celebrity fees, and philanthropic marketing increased by 7.9%, reaching \$314.9 million in 2009.

Youth-targeted marketing in local communities also raises public health concerns. In schools, children are a captive audience. Companies promote their products through sponsored incentives and fundraising (e.g., Pizza

Hut BOOK IT!, Sunny D Book Spree, General Mills Box Tops for Education); branded food items and meals served in cafeterias and vending machines; corporate logos on vending machines, scoreboards, book covers, and team jerseys; and sponsored educational materials with branded content.<sup>39-41</sup> In supermarkets, high-sugar cereals are placed on shelves at children's eye level and are featured more often in special store displays and price promotions.<sup>34</sup> Product packages with youth-oriented cross-promotions increased by 78% from 2006 to 2008.<sup>42</sup>

The majority (80%) of fast-food restaurants promote their products through signage that is visible from the exterior of the restaurant, including price promotions, which are more prevalent in low-income areas.<sup>43</sup> About one half of fast-food chains offering kids' meals use child-directed marketing (e.g., cartoon characters; movie, TV, or sports figures; toys; play areas) within and around the building.<sup>44</sup> Food and beverage companies sponsor concerts and sporting events, scoreboards, youth sports teams, and local charities to increase visibility and create positive associations with their products. For example, more than 150 different regular soda and energy drink sponsorship ads aired on local TV in 2010.<sup>33</sup> Children viewed 281 food and beverage brand appearances (i.e., product placements) during prime-time programming in 2008, such as *American Idol*; adolescents viewed 444.<sup>45</sup>

### Expenditures by Food Product Category

The FTC reported that more than half of youth-targeted marketing expenditures in 2009 promoted fast-food restaurants and carbonated beverages, totaling \$1.1 billion. Breakfast cereals, snack foods, and juice and noncarbonated beverages completed the list of top-five food and beverage marketed categories. Fruits and vegetables were marketed the least: \$7 million or 0.4% of all youth-targeted marketing expenditures in 2009.

The report showed that fast-food restaurant foods remained the largest category of total marketing expenditures (40% overall). From 2006 to 2009, inflation-adjusted fast-food restaurant expenditures on TV and new media, respectively, increased by 59.5% and 433.6% for children aged 2-11 years, and by 21.7% and 834.7% for teens aged 12-17 years. Changes to the nutritional content of fast-food children's meals were generally positive from 2006 to 2009, but companies shifted child-targeted marketing away from kids' meals toward higher-calorie meal and main dish items. Advertising for kids' meals increased slightly (9.4%), but child-directed TV advertising for other meals and main dishes more than doubled.

The FTC reported that inflation-adjusted expenditures on youth-targeted marketing of carbonated beverages

and juice and noncarbonated beverages declined by 29.3% and 22.1%, respectively, from 2006 to 2009 (totaling 28.9% of 2009 expenditures). Nonetheless, these categories represented almost half (47.2%) of expenditures targeted to teens. In addition, events and athletic sponsorships for carbonated beverages were up substantially among teens (from \$83.4 million to \$104.4 million), and these beverages averaged 24 grams of sugar per serving, with little or no nutritional value. Child-targeted cereal marketing expenditures fell by 25.9% from 2006 to 2009, according to the FTC. However, cereal remained the second-most marketed food product to children, and cereal companies shifted expenditures to teen-targeted marketing, which increased by 36.8%.

Separate analyses of children's exposure to food advertising on TV show similar trends. From 2003 to 2009, children's exposure to fast-food advertising increased substantially, whereas advertising for cereal, beverages, sweets, and snacks fell.<sup>26</sup> Candy advertising increased, becoming in 2011 the product category that was third-most advertised to children (behind fast food and cereal). Although children's exposure to fruit and vegetable advertising increased, it represented less than 1% of food ads viewed by children in 2011.<sup>28</sup>

### Nutritional Content

The FTC report generally showed positive trends for youth-targeted marketing in terms of nutrients targeted for increase (fiber, whole grain, calcium, vitamin D, and potassium), as well as decreases in calories and other components targeted for reduction (sodium, sugar, saturated fat, and trans fat) from 2006 to 2009. These improvements were due to both reformulation of existing products and new products that replaced products that were no longer advertised or had been taken off the market.

However, research shows that 86% of nonrestaurant food and beverage product ads (88% of CFBAI-member company ads) seen on TV by children in 2009 promoted products high in saturated fat, sugar, or sodium, down slightly from 94% in 2003.<sup>14</sup> Even on children's broadcast and cable programming, 72.5% of food ads promoted high-calorie, low-nutrient products; 26.6% were for products high in fat or sugars that should be consumed in moderation; and only 0.9% advertised low-calorie, nutrient-rich products.<sup>13</sup> In 2009, children aged 2-5 years and 6-11 years viewed 956 and 1120 calories per day, respectively, in packaged food and beverage ads on TV.<sup>46</sup> Children and teens also viewed 1400 and 2100 calories per day in fast-food advertising.<sup>16</sup>

Food advertising to children and adolescents in other venues also primarily promoted calorie-dense, nutrient-

poor products. For example, Coca-Cola placed 60%–70% of product placements on prime-time TV viewed by children,<sup>45</sup> and the majority of product placements in popular movies featured sugary drinks and fast food.<sup>47</sup> The most-popular food company–sponsored websites for children promoted sugary cereals, fast food, and candy.<sup>32</sup>

The FTC reported that positive nutritional changes in child-targeted fast-food restaurant marketing were primarily due to introductions of more-nutritious kids' meal items, and kids' meals averaged 169 fewer calories, 298 mg less sodium, 6.6 g less sugar, 2.2 g less saturated fat, and 2 g less trans fat in 2009 vs 2006. Despite these improvements, just 15 of 3039 possible kids' meal combinations at eight of the top fast-food restaurants met nutrition criteria for children's meals in 2010.<sup>16</sup>

In contrast, the FTC also reported that other meal and main dishes, not sold as part of kids' meals, promoted in child-directed marketing, contained 88 more calories, 234 mg more sodium, 3.6 g more sugar, and 1.5 g more saturated fat in 2009 vs 2006. Of note, this increase was mainly due to non-CFBAI companies. In addition, 44 restaurant products were newly advertised to teens in 2009, accounting for the largest increase in TV advertising spending; average calories decreased, but sodium, sugar, and saturated fat content did not improve.

The FTC reported declines in marketing of drinks with more than 100 calories and  $\geq 35$  g of sugar per serving, but virtually no youth-targeted TV advertising for 100% water or 100% juice in 2009 (although advertised to adults). In 2009, 62.7% and 64.1% of beverage TV ads seen by children aged 2–5 years and 6–11 years were high in sugar.<sup>14</sup> In addition, in 2011, 40% of beverages promoted specifically for children contained zero-calorie artificial sweeteners, although most parents report not wanting to serve artificial sweeteners to their children, and artificial sweeteners were not highlighted on product packages.<sup>33</sup>

According to the FTC, the sugar content of child-targeted cereals decreased by 0.9 g to 10.6 g per serving and whole grains increased by 1.6 g to 7.8 g per serving (although cereals featuring child-targeted cross-promotions contained the least whole grain). However, in 2009, 86% of cereal ads seen on TV by children aged 2–5 years and 6–11 years were high in sugar.<sup>14</sup> Despite further improvements from 2009 to 2012, cereals advertised directly to children in 2012 contained 57% more sugar, 52% less fiber, and 50% more sodium than cereals advertised to adults.<sup>15</sup>

Overall, however, reported improvements were minimal for most categories and food groups in the context of the average diet consumed by children and federal nutrition guidelines such as the Dietary Guidelines for Americans (DGA). For example, as noted in the FTC report: Average sodium in cereal marketed to children dropped by 4.9 mg,

or <0.2% of the 2933 mg sodium consumed daily by children aged 6–11 years, and the 1.6-g average increase in whole grain content for these products represented just one thirtieth of the daily servings of whole grain recommended by the 2010 DGA. Most beverage marketing to youth continues to promote higher-calorie and higher-sugar categories. Proposed IWG voluntary guidelines recommended a maximum of 13 g of sugar per 8-ounce serving, approximately one half the average sugar content of beverages marketed to children.

## Discussion

Despite the \$304.0 million reduction in food and beverage marketing expenditures targeted to children and teens from 2006 to 2009, findings from the FTC report and other research on food marketing to youth highlight several continuing areas of public health concern.

- **Nutritional quality of foods and beverages marketed to youth remains poor.** Although products marketed to children and teens in 2009 had slightly less sugar, sodium, and calories, and slightly more fiber than products marketed in 2006, the majority remain high in saturated fat, sugar, or sodium and less nutritious than products marketed to adults. According to science-based nutrition recommendations, foods and beverages marketed to young people through 2011 do not qualify as healthful products that children should be encouraged to consume. Products defined by CFBAI companies' nutrition standards as appropriate to advertise to children include Popsicles, Kid Cuisine Mini Corn Dogs, Reese's Puffs, and Fruit Gushers.<sup>48</sup> Although new CFBAI category-specific uniform nutrition criteria are scheduled to be implemented by December 31, 2013,<sup>12</sup> they are still less protective than standards proposed by the IWG.<sup>22</sup>
- **Total youth exposure to TV food advertising remains high.** Reductions in TV food advertising expenditures targeted to children from 2006 to 2009 are encouraging. However, from 2009 to 2011, children's exposure to food advertising increased, largely offsetting earlier declines, and ads viewed by teens have increased steadily since 2007. Current levels of children's and teens' exposure to unhealthy food advertising remain high at 12–16 TV ads per day, highlighting the need for further improvements.
- **Spending on new media has increased.** Food marketing targeted to children and teens on the Internet, mobile devices, and in social media raises unique concerns. Although the cost-per-impression is much less than that for traditional TV commercials, digital media are highly effective, more targeted, and often

more engaging and interactive, resulting in longer marketing exposure.<sup>49,50</sup> These forms of advertising disguised as entertainment or messages from friends are difficult for youth to recognize as advertising and difficult to defend against.<sup>51</sup> As a result, child development experts assert that exposure to digital marketing for unhealthy foods may be even more harmful than exposure to traditional TV advertising.<sup>52,53</sup>

- **Youth-targeted marketing covered by the CFBAI is limited.** Although the CFBAI appears to have produced some improvements in food advertising to children (i.e., on TV), increases in expenditures on marketing not covered by the initiative highlight the need to expand its scope:
  - Marketing techniques not covered by the CFBAI include promotions and child features on product packaging and in-store promotions, sponsorships, cross-promotions, events, and philanthropic marketing, toy giveaways and other premiums, and marketing in middle schools and high schools. Although spending on in-store and in-school marketing declined, spending on other non-CFBAI forms of marketing increased from 2006 to 2009, and was exceeded only by TV advertising and premiums.
  - More than half of children's TV advertising exposure occurs during programs that do not qualify as children's programming but which garner large child audiences.
  - Although 89% of marketing expenditures reported by the FTC were from the 16 companies that participate in the CFBAI, dozens of companies do not participate. Increases in marketing of less-nutritious restaurant meals by non-CFBAI companies demonstrate the need for advocacy efforts to focus on increasing company participation, particularly among fast-food restaurants.
  - Entertainment companies do not currently participate in the CFBAI. They could, however, implement nutrition standards for advertising permitted during their children's programming as was done by the Walt Disney Company.<sup>54</sup>
  - Industry pledges do not protect children aged > 11 years, and children aged 12–14 years see more food ads than younger children. This group is vulnerable to advertising influences and has the means to purchase on their own. Some companies appear to have expanded marketing targeted to these slightly older children.

## Conclusion

Given the evidence documented in the 2006 IOM report<sup>1</sup> that food and beverage marketing influences children's

preferences, purchase requests, consumption patterns and adiposity, as well as more recent evidence of its association with consumption and body weight,<sup>55–58</sup> youth-directed advertising and its focus on items with poor nutritional content remain a key public health concern. Indeed, recent White House,<sup>20</sup> IOM,<sup>21</sup> and FTC<sup>9</sup> reports urge the industry to establish stronger nutrition standards for foods and beverages marketed to children, cover all types of youth-directed marketing, and enact additional protections for adolescents. The current analysis highlighted the lack of progress in existing industry-initiated actions and demonstrated that stronger self-regulatory efforts are needed to noticeably reduce youth exposure to unhealthy food marketing. Continued monitoring of expenditures, exposure, and nutritional content is needed, and policy actions by federal, state, and local governments and regulatory agencies may be required.

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