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I. Introduction

This report focuses on how consumer data generated by expectant parents and infant caregivers is used to target them with digital advertising for infant formula. Families with infants have an incredibly short window of time to make decisions about breastfeeding and infant formulas. Breastfeeding protects against overweight and obesity, asthma, eczema, and type-II diabetes, and has long-term health benefits for women. 1 The health benefits of breastfeeding are so valuable that in 1981, the World Health Organization established the International Code of Marketing of

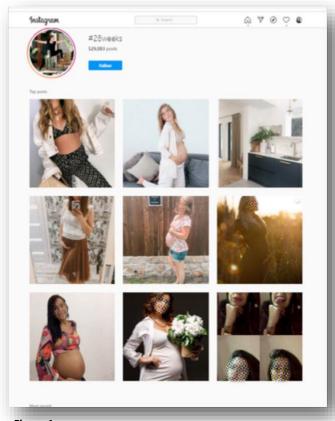


Figure 1
Use of the pregnancy-related hashtag #28weeks by Instagram users (June 2020).

Breast-Milk Substitutes (WHO Code) that prohibits marketing infant formula to the public.² The WHO Code is based upon "the strong inverse association between the marketing of human milk substitutes and breastfeeding rates."³ The U.S. has not adopted the WHO Code and has few protections from most digital marketing to adults.⁴

This report will address the following questions:

- How do marketers identify expectant parents and infant caregivers?
- What digital marketing tactics are used to promote infant formula?
- What laws and policies govern the collection and use of consumers' pregnancy and infant-feeding-related information?
- What role do company privacy policies and user agreements play?
- How can self-regulation be used to limit infant formula marketing?

A set of preliminary policy recommendations will also be presented. Issue briefs on the topics of Consumer Privacy, Self-Regulation and Recommendations for Action are also available at www.phaionline.org.

II. Marketing Tactics

New parents have been described as "a retailer's holy grail" because "right around the birth of a child...parents are exhausted and overwhelmed and their shopping patterns and brand loyalties are up for grabs." This section describes the evolution of infant formula marketing to the public, examines how marketers identify and target expectant families and infant caregivers, and discusses digital marketing strategies.

A. Infant Formula Marketing from the Doctor's Office to Digital Devices

The U.S. infant formula market currently is dominated by Nestlé (Gerber), Abbott Nutrition (Similac) and Mead-Johnson (Enfamil).⁶ Thirty years ago there was a duopoly held by Mead Johnson (previously Bristol-Myers Squib) and Abbott Laboratories. At that time "the primary focus of infant formula marketing...revolved around trying to influence physicians." ⁷ Mead Johnson and Abbott funded national medical organization and infant formula research, sponsored local speaker programs, provided patient starter samples, and produced educational literature for doctors' offices.⁸ The companies believed that doctor recommendations and hospitals providing a specific brand of infant formula to patients was the most effective way to gain new customers.⁹ In 1994, an Abbott spokesperson said: "What to feed a child is a decision made between the mother and her physician, not by the marketer." ¹⁰

Infant formula marketing changed in the late 1980's when Nestlé entered the US infant formula market, and began advertising its Carnation brand infant formula directly to consumers. ¹¹ Nestlé's disruption of the pre-existing infant formula duopoly; FTC antitrust enforcement actions (see Section IV below); and the U.S.'s failure to adopt the WHO Code eventually resulted in all three major infant formula companies marketing directly to the public. ¹² Infant formula advertising began in parenting magazines and on television, and now includes targeted, digital ads. ¹³

B. Identifying Expectant Parents and Infant Caregivers

For modern-day parents, it is virtually impossible to avoid data collection about pregnancy or infant caregiving. 14 Consumer data is collected "across...connected devices, including smartphones, tablets, personal computers, smart televisions, and even smart watches and other wearables." 15 Expectant parents and infant caregivers use these devices to access health information, connect with family and friends, and to research and purchase baby products. 16 Companies like Amazon, Google, Facebook and Apple have made the user experience seamless between smartphones, tablets and desktop computers. 17 As a result, a social media post announcing a pregnancy, casual online browsing for maternity clothing, or a search engine query about pregnancy on a home computer can trigger targeted advertising for baby products on all of a person's digital devices (Figure 2)18

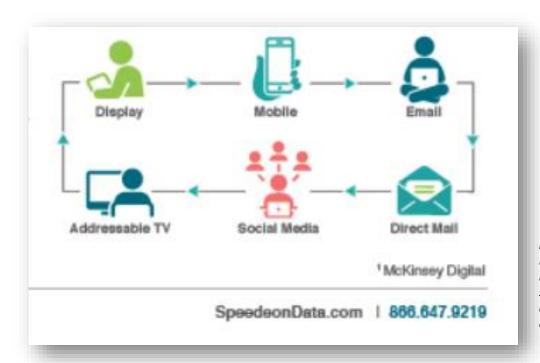


Figure 2 Infographic of how data broker Speedeon Data serves ads to consumers across all of their digital devices (2020)

Infant formula manufacturers and retailers collect consumer data themselves and may purchase data and ad-targeting services from data brokers. Data brokers "typically collect, maintain, manipulate, and share a wide variety of information about consumers without interacting with them directly." As a result, consumers do not know how much data they generate or how their data is used. Moreover, there are few if any limits on the kinds of information that can be collected and shared. The U.S. Government Accountability Office found that "[u]nder most circumstances, information that many people may consider very personal or sensitive can be collected, shared and used for marketing. This can include information about physical and mental health…and sexual habits and orientation." ²⁰

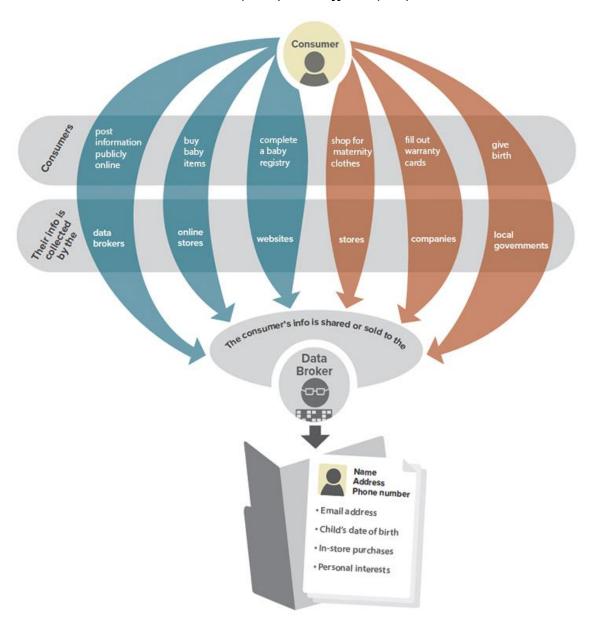
Data brokers collect vast amounts of data from online and offline sources including public records like birth certificates (Figure 3).²¹ For example, families generate data when they:

- Post a birth announcement on social media or use a hashtag like "#28weeks" (Figure 1)
- Create an online baby registry specifying a due date
- Shop for prenatal or newborn items online
- Register for pregnancy or parenting websites or store loyalty programs
- Conduct internet searches for topics related to fertility, pregnancy, birth and infant feeding
- Shop for maternity or infant items at brick and mortar stores
- Communicate with friends and family
- Access public services
- Give birth resulting in the creation of a public birth certificate

Data brokers aggregate and segment consumer data into categories like "Expectant" or "Prenatal" and "New Parent" or "New Baby."²² Firms then contract with data brokers to use cookies and other tracking mechanisms to conduct targeted marketing.²³

Figure 3Types of Information Data Brokers Collect

Online (blue) and Offline (red)*



^{*}Illustration adapted from how it originally appeared in Fed. Trade Comm'n, Data Brokers: A Call for Transparency and Accountability 2 (May 2014).

Many expectant parents also may simply identify themselves. Social media platforms encourage users to post public status updates and hashtags related to pregnancy and infants. When a Facebook user makes a new post, she may be invited to disclose a "Life Event" like "New Child" or "Parenthood" (Figure 4). Expectant parents also can identify themselves by using hashtags that make their social media posts searchable. By June 2020, users on Facebook-owned Instagram had publicly used the hashtags #28weeks and #28weekspregnant almost one million times (Figure 1).²⁴

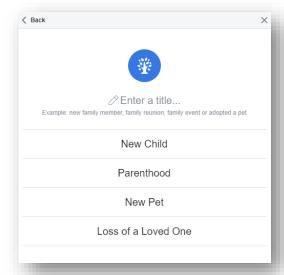


Figure 4

Facebook.com prompt to enter "Life Event" information when creating a new post (June 2020)

Firms also use predictive analytics, artificial intelligence and machine learning to make their advertising more effective. A now infamous example is the national retail chain Target's "pregnancy prediction model." Target wanted to use store purchase data and customer loyalty card data to identify women in their second trimester of pregnancy before public birth certificates become available to the data brokers used by its competitors. The predictive algorithm Target developed was so accurate at identifying pregnant women that its customers felt that their privacy had been invaded. Target then began serving its hyper-targeted baby-related ads in a way that customers would think was randomly generated. The integration of artificial intelligence and machine learning systems into digital marketing campaigns has and will continue to refine how retailers and the infant formula industry identify consumers who are most likely to purchase infant formula.

C. Digital Marketing Strategies

Infant formula can be marketed through websites, social media accounts, YouTube channels, social media influencers, viral ad campaigns, digital display ads, banner ads, email messages, and purchase reminders.²⁹ These strategies can be used directly by an infant formula company or through third parties like online retailers.

The three major U.S. infant formula companies, Abbott, Mead Johnson and Nestlé, use their own webpages, social media accounts and online stores to: provide infant feeding advice; encourage customers to share photos of their babies; and offer coupons, free samples and branded gifts in the mail.³⁰ In particular, coupons, free samples and gifts allow formula companies to reach directly into the home and collect valuable consumer data like infant due dates (Figure 5).

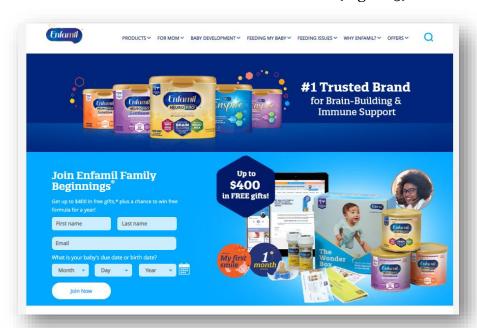


Figure 5
Enfamil.com Family
Beginnings on
Enfamil.com
(June 2020)

Abbott, Mead Johnson and Nestlé, also advertise on third-party websites and digital platforms. A 2015 study found that the three leading brands (Similac, Gerber, and Enfamil) averaged a total of approximately 16 to 17 million banner ad views per month on third-party websites (the study did not include ads served on mobile websites or apps).³¹ Amazon.com, Facebook.com and Walmart.com were the leading third-party websites hosting ads for baby and toddler food and drink (Figure 6).³²



Figure 6
Similac Strong Moms loyalty program ad on Walmart.com (June 2020)

Social media marketing is another type of thirdparty advertising. For example, Mead Johnson advertises Enfamil on Facebook and Instagram (Figure 7).33 According to Facebook, "Mead Johnson wanted to run a far-reaching digital ad campaign to attract and engage with moms of young babies."34 Mead Johnson chose Facebook because "Facebook is where mothers often spend time, connect with other parents and discover new products."35 The campaign automatically placed ads in likely customer's Facebook News Feed or Instagram feed "depending on which platform was most likely to drive the best campaign results at the lowest possible cost at any given time."36 The ads contained direct purchase links to Amazon.com and reportedly resulted in a "14 point lift in purchase intent."37

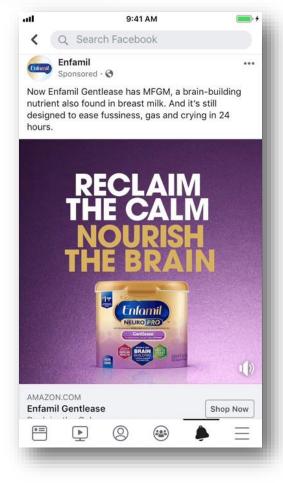


Figure 7
Enfamil ad on Facebook and Instagram using Facebook Business custom audience services (2020)

III. Privacy Policies

Data collection makes targeted digital marketing possible, and it is inextricably linked with consumer privacy. There is no comprehensive federal privacy law to limit the collection or use of personal information. ³⁸ The consumer privacy policies that do exist provide very patchy and weak protections. ³⁹ This section describes federal privacy laws for the federal government and healthcare providers, and California's consumer privacy policy. ⁴⁰

A. Information Collected by the Government

Low-income families routinely access publicly-funded programs and healthcare services. Research has found that when families access public services they often are asked to provide highly personal information.⁴¹ The federal Privacy Act of 1974 (hereinafter Privacy Act) does not limit the types of information that can be collected, but it does prevent the federal government from sharing information about individuals with third-parties.⁴² Under the Privacy Act, personal information can only be used for "the purposes for which it was obtained."⁴³ The use of personal information for non-governmental purposes requires a request by the individual herself or her permission.⁴⁴

Federal privacy policy can also apply to state governments that receive federal funding. The Special Supplemental Nutrition Program for Women, Infants and Children (WIC) program is the largest single purchaser of infant formula and a leading provider of breastfeeding support services in the U.S.⁴⁵ In 2017, 56% of infants were eligible to participate in WIC.⁴⁶ In order to determine which WIC food package a family will receive, local WIC offices collect information about infant formula use and breastfeeding.⁴⁷ A federal WIC confidentiality regulation prohibits WIC programs from sharing individual participant information for non-WIC purposes.⁴⁸

B. Information Collected by Healthcare Providers

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) protects medical information gathered from families when they visit the doctor.⁴⁹ HIPAA prevents healthcare providers and pharmacists from disclosing individually identifiable health information.⁵⁰ HIPAA does not apply to retailers that collect pregnancy-related data about their customers for non-medical purposes.⁵¹ It also does not apply to data brokers that gather data from companies like retailers and publicly available sources like birth certificates and public social media posts (see Figure 3).⁵²

Health apps like fertility and pregnancy trackers gather highly detailed, personal health information. However, health apps that are not developed by or on behalf of a healthcare provider and that pose a minimal risk to consumers are not covered by HIPAA.⁵³ For example, HIPAA does not apply to pregnancy and infant feeding apps that are simply used to organize and track health information.⁵⁴

C. User Agreements and Company Privacy Policies

Private company user agreements and privacy policies predominantly dictate consumer privacy in the U.S. These agreements are governed by the common law contract principles of "notice and choice" and must comply with consumer protection law, and state consumer privacy laws.⁵⁵ This section focuses on federal consumer protection law and the California Consumer Privacy Act.

1. Federal Trade Commission Oversight

The Federal Trade Commission (FTC) enforces Section 5 of the Federal Trade Commission Act (FTCA) prohibiting unfair and deceptive trade practices.⁵⁶ Over the past three decades, the agency has issued various consumer privacy reports with recommendations for the use of sensitive information. The FTC recommends that when sensitive information about health and children is collected: privacy disclosures should be salient, e.g. prominently displayed to consumers when the data is collected, and consumers should have choices about how the information will be used.⁵⁷ These recommendations, however, are not legally enforceable.

The FTC can require that privacy policies comply with the basic contract law principles of "notice and choice." "Notice and choice" is a legal principle that creates a presumption that a consumer consents to data practices "so long as long as there has been some kind of 'notice' to the consumer about what is happening and some kind of 'choice' about whether they want it to happen."⁵⁸ The FTC has brought enforcement actions against companies when they do not follow or materially change their policies without adequately notifying existing consumers.⁵⁹

For example, in 2012, the FTC filed a complaint against the digital marketing company Epic Media Group (EMG) for failing to disclose to consumers that it engaged in "history sniffing."⁶⁰ History sniffing is code that is used to capture web-browsing data. EMG did not disclose that it used history sniffing in its privacy policy, and that it was collecting data about consumers' visits to pages about fertility and other sensitive topics. EMG used the unlawfully obtained information to segment consumers into categories like "Pregnancy-Fertility Getting Pregnant."⁶¹ EMG entered into a settlement agreement with the FTC prohibiting the company from history sniffing among other requirements.⁶²

The EMG case contains several important lessons. First, there is no ongoing, comprehensive monitoring of how companies collect and use sensitive information.⁶³ EMG's history sniffing was discovered by the Center for Internet and Society at Stanford Law School not the FTC.⁶⁴ Second, an FTC settlement can set general parameters for data collection and privacy practices, but the settlement is only legally binding on the defendant in the case. Third, "notice and choice" is a very low bar. Legal scholars have noted that when clicking "I agree," few people actually know what they are agreeing to.⁶⁵ As a result, EMG cannot use history sniffing, but other companies can use dragnet data collection practices for fertility, pregnancy, childbirth and breastfeeding so long as they "disclose" the practice to unwitting consumers.

A 2019 FTC and U.S. Department of Justice enforcement action against Facebook also demonstrates the need for comprehensive consumer privacy legislation. The government alleged that Facebook violated a 2012 settlement with the FTC for previous

privacy violations when it misrepresented to consumers the control they had over their personal data.⁶⁶ The complaint alleged that Facebook:

- Misused phone numbers collected under the auspices of two-factor authentication to target users with advertising
- Permitted Facebook Apps to access a users' Friends' profiles even when those Friends had limited data sharing through Facebook's privacy settings
- Materially changed users' ability to restrict who could view their Facebook profiles without providing proper notice and consent for the change
- Failed to actually delete user profile data when users deactivated or deleted their accounts
- Permitted advertisers to view unique Facebook User ID numbers after publicly stating that individual user information was never shared with advertisers
- Generated facial recognition templates of 60 million users without proper notice and consent⁶⁷

Facebook agreed to enter into a new settlement agreement with the FTC and was fined \$5 billion dollars.⁶⁸

Google also has been fined by the FTC for violating a consumer privacy-related settlement agreement. In 2011, Google settled with the FTC for using consumer data for services other than email without getting prior consent when it launched its now defunct Google Buzz social media platform. In 2012, the FTC alleged that Google violated its 2011 settlement agreement by using tracking cookies in a way that was deceptive to its users and was fined \$22.5 million. ⁶⁹ The scope and severity of these privacy violations underscore the weakness of regulating consumer privacy through individual FTC enforcement actions. They also demonstrate that even when there is an FTC settlement agreement in place, serious privacy violations still occur.

"In the Court's view, the unscrupulous way in which the United States alleges
Facebook violated both the law and the [2012 settlement agreement]...is stunning.
[T]hese allegations...call into question the adequacy of laws governing how technology companies that collect and monetize
Americans' personal information must treat that information."

 U.S. District Court for the District of Columbia (April 23, 2020).

2. State Consumer Privacy Laws

Some state governments have acted to fill the federal privacy regulation gap.⁷⁰ California has the most extensive state law and is in the process of finalizing regulations to implement the law.⁷¹ The California Consumer Privacy Act (CCPA) requires certain companies to comply with basic consumer privacy requirements. Upon request from a California resident, companies subject to the CCPA must: provide information about the categories of "personal information" they collect; delete personal information; and/or opt the consumer out of the sale of her personal information.⁷² "Personal information" includes information about pregnancy, birth and breastfeeding, and "inferences drawn from" consumer data.⁷³ "Personal information" does not include public records like birth certificates, and data that has had identifying information removed or that has been aggregated from many different consumers.⁷⁴

The CCPA provides little privacy protection to consumers with fluid characteristics like pregnancy, child birth, and breastfeeding. The policy is designed as an opt-out process controlled by entities with strong incentives to collect consumer data. Comparisons have been drawn between digital data privacy policies like the CCPA's optout approach and the popular and highly-effective Do Not Call Registry for telemarketing.⁷⁵ The Do Not Call Registry is an opt-out program run by the FTC--an entity that does not have "a strong interest in whether the consumer sticks with or opts out of the default."⁷⁶ Telemarketers "do not shape the presentation of the Do Not Call list or the process for signing up."77 In contrast, the CCPA is implemented by the regulated parties; requires consumers to opt out company by company; and permits the use of a cumbersome, multi-step opt-out processes. For example, under the CCPA a company can make consumers print-out and mail-in paper forms in order to exercise certain rights under the CCPA.⁷⁸ The CCPA also allows companies to prohibit consumers who request that their personal data be deleted from benefiting from loyalty card programs.⁷⁹ The opt-out scheme used by the CCPA may be perceived as futile by consumers and against their interests if it means the loss of discounts like loyalty card programs.80

IV. Voluntary Self-Regulation

Digital marketing has created new opportunities to limit infant formula marketing through self-regulation. This section discusses potential self-regulation by infant formula manufacturers, digital platforms, and digital advertising industry trade associations.

A. Infant Formula Manufacturers

Infant formula companies can self-regulate their own marketing so long as they comply with antitrust settlements with the FTC from the 1990's. As discussed in Section II, infant formula marketing used to be conducted almost exclusively with doctors and hospitals. In the 1980's, Nestlé encountered barriers to marketing to hospitals and doctor's offices that had exclusive infant formula contracts with Mead Johnson and Abbott. Nestlé publicly announced its plan to market directly to consumers. In response, Mead Johnson and Abbott, in collaboration with the Infant Formula Council (a trade association) and the American Academy of Pediatricians (a professional association) drafted a voluntary marketing code to prohibit direct-to-consumer marketing. This self-regulatory initiative was challenged by the FTC as an antitrust violation. The FTC alleged that the marketing code was a conspiracy "to refrain from advertising through the mass media directly to the consumer" that reduced "uncertainty relating to the marketing practices of competing manufacturers" and lessened competition to the detriment of consumers.

Mead Johnson settled with the FTC in 1992 and agreed not to coordinate with competitors to restrict advertising. ⁸⁶ In 1994, Abbott settled with the FTC and agreed that it would not communicate with any infant formula competitors to "restrict advertising in the United States." ⁸⁷ The consent agreement also specifically prohibits Abbott from "soliciting adherence to or adoption of the WHO Code." ⁸⁸ The order against Abbott is not time-limited and is still in effect. ⁸⁹

The FTC's antitrust action against the infant formula marketing code sought to stop unlawful collaboration between infant formula manufacturers.⁹⁰ As a result, there is no self-regulatory marketing code for the infant formula industry in the U.S.⁹¹

Companies can still adopt their own marketing codes on an individual basis so long as there is no coordination between companies or solicitation of other companies to limit their marketing.

For example, the infant formula industry has adopted a self-regulatory code of marketing for the United Kingdom that prohibits marketing products to the public and contains an express prohibition on free sampling (a practice currently used in the U.S.).92 This code mirrors U.K. and European Union infant formula marketing laws.93 In light of the FTC antitrust orders in the U.S., however, adoption of the U.K. voluntary code in the U.S. likely would not be permitted because the companies themselves, through their U.K. trade association, developed the self-regulatory standards.94 A self-regulatory code for the U.S. would have to be developed by a third-party with no communication with the infant formula industry and adopted individually by each company without communicating with each other. Any statements made by an infant formula company adopting the third-party marketing guidelines also could not urge other infant formula companies to restrict their marketing.

B. Digital Platforms

Facebook and Google currently capture approximately 60% of all digital ad spending for the U.S.95 For example, Facebook collects data and sells advertising on its social media platforms Facebook and Instagram.96 As a result, the company policies of digital platforms are incredibly powerful. Neither Facebook nor Google currently address infant formula in their U.S. advertising policies. This section describes how these companies' advertising policies are used to restrict the marketing of products and services, and the extent to which users can opt-out of parenting ads on the platforms.

1. Advertising Policies

Digital platforms like Facebook and Google that sell advertising have detailed policies for the types of ads they allow on their platforms. These policies apply to specific products and services and can restrict ads, prohibit ads, and require pre-authorization for certain types of ads. Both Facebook and Google's advertising policies exist in a global context and are tailored for countries across the world.⁹⁷ Neither Facebook nor Google currently address infant formula advertisements in their advertising policies.⁹⁸ This is

surprising given that in 2016, portions of the WHO Code for infant formula marketing had been adopted by 135 countries.⁹⁹

Both companies have the capability to restrict infant formula marketing on their platforms. For example, Facebook prohibits all tobacco and tobacco-related advertising and only allows "dating ads" with prior written permission. ¹⁰⁰ Google prohibits certain ads and restricts advertisements for a range of products and services including ads related to reproduction. ¹⁰¹ For example, Google specifically prohibits advertising for abortion services in accordance with local laws and its own advertising standards. ¹⁰² Google also prohibits child-directed food and beverage advertising on its YouTube video platform. ¹⁰³

2. User Options for Parenting Ads

Facebook and Google both currently allow users to reduce the amount of advertisements they see related to "Parenting." In 2020, Facebook changed its user settings to weaken its Parenting Ad preference. Prior to July 2020, users were given the option to "Hide Ad Topics" for "Parenting" for six months, one year or permanently (Figure 10). The setting was changed in July 2020 to "Ad Topics" and now only permits users to "See Fewer" parenting ads. 104

Facebook touts its ability to conduct seamless cross-platform advertising of infant formula on Facebook and Instagram, but its Parenting Ad preference must be done individually on Facebook and Instagram. On Facebook, to access the Parenting Ad preference, users must select "Settings," then select "Ads," then scroll down to the last option of "Ad Topics." Many users may not even realize that the Parenting Ad preference exists. A more salient and effective approach would be to notify users of the Parenting Ad preference at the same time that Facebook elicits sensitive information like the Life Event menu of options for "New Child" and "Parenthood" (Figure 4) or the profile information entry fields for "Family and Relationships" (Figure 8).

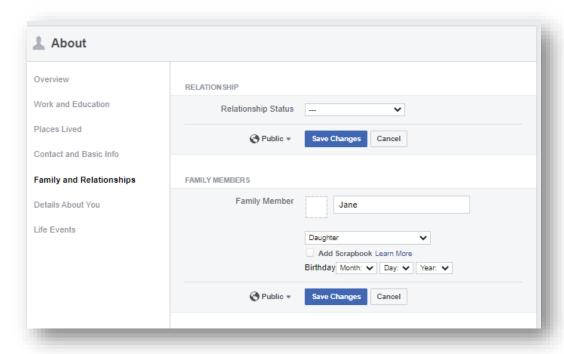


Figure 8
Facebook Family and
Relationships Prompt
(July 2020)

Facebook also has Ad Settings that allow users to restrict the use of certain user profile information for ad targeting. ¹⁰⁶ Users can deselect "Interest" categories like "Infant Formula" that have been assigned to them by Facebook. ¹⁰⁷ Users can also indicate that they do not want advertisers to target them by using profile information about "Relationship Status" and "Job Title." Users cannot currently deselect for targeting based on "Family Members." This user profile category contains information about child gender and age and is collected on the same screen as "Relationship Status" (Figure 8). Users not wanting the fact that they have children or their children's age and gender used for targeted advertising should be offered the same options as are provided for Relationship Status. Especially since all of this information is collected at the same time (Figure 8). Options for the use of profile data should be provided when users are prompted to enter their personal information.

Like Facebook, Google allows users to change their advertising preferences by editing advertising "Interests" assigned to them based on demographic information and device use. ¹⁰⁸ Consumers can remove themselves from the "Parenting" interest category (Figure 9). ¹⁰⁹ Google users can turn-off ad personalization and, Google Chrome internet browser users can opt—out of interest-based advertising by downloading and installing a piece of software called a browser extension. ¹¹⁰

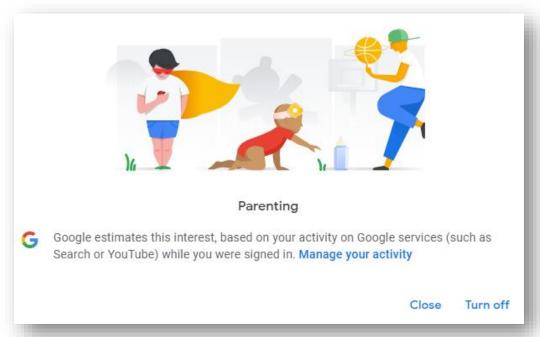
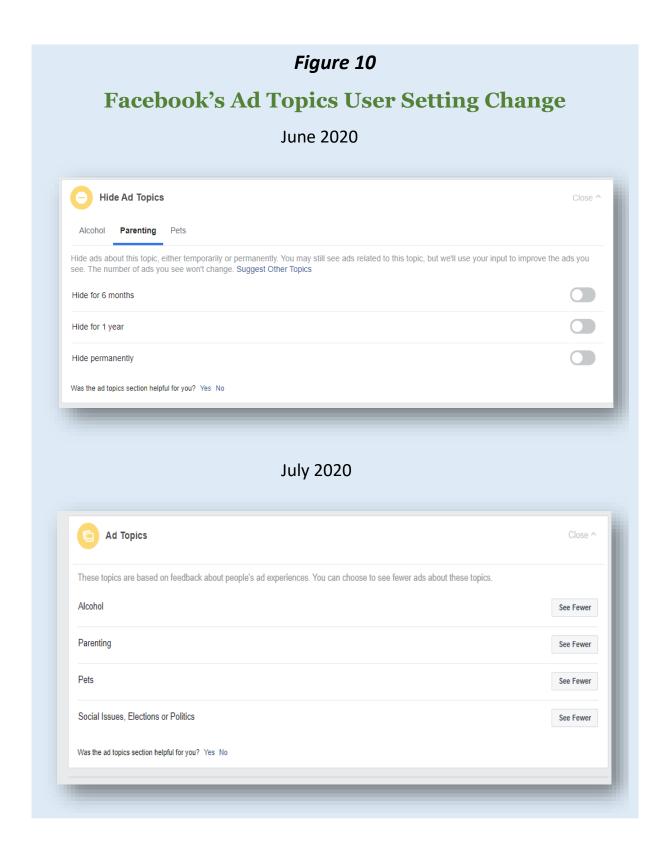


Figure 9
Google Parenting
Interest option
(July 2020)

Facebook and Google's Parenting Ad opt-outs demonstrate that technology companies can address infant formula advertisements. For people who have suffered the loss of a child, opting-out of parenting ads altogether is an especially important function.¹¹¹ Expectant families and infant caregivers, however, may perceive "Parenting" as too broad of an opt-out category. According to Facebook's own market research, parents are at a life stage when they are stressed and have limited time.¹¹² Opting out of all parenting ads may create the impression that users could miss out on new products and lose access to special sales, coupons and other discounts.¹¹³ Infant formula advertising is better addressed through company advertising policies.



C. Digital Advertising Industry Trade Associations

The Network Advertising Initiative (NAI) and the Digital Advertising Alliance (DAA) are the main self-regulatory bodies for how the digital advertising industry collects and uses what it refers to as "sensitive information." Neither organization explicitly addresses pregnancy or breastfeeding in their marketing codes. Under the NAI's code, sensitive information includes information from sensitive sources like medical records and: "Information, including inferences, about sensitive health or medical conditions or treatments, including but not limited to, all types of cancer, conditions predominantly affecting or associated with children and not treated with over the counter medication, mental health-related conditions, and sexually transmitted diseases...." The DAA defines sensitive information to only include health-related information obtained from sensitive sources like medical records and pharmaceutical prescriptions. The FTC has criticized the DAA's definition as too narrow. At a minimum, both organizations could explicitly include pregnancy and breastfeeding in their definitions of sensitive information.

V. Ad Blocking Technology

An ad blocker is a piece of software that can be installed on a digital device that prevents ads from appearing in the first place or blocks out sections of a website that could be ads. 119 Ad blocking technology is an individual approach that advocates could promote to reduce infant formula marketing. Individual approaches are much less effective than a policy change, but can serve as a practical solution for concerned families, raise awareness about an issue, and help to build support for future policy change. In 2017, almost 24% of U.S. smartphone owners had installed an ad blocker app. 120 Ad block users, however, are more likely to be younger and male (28.6% of men vs. 22% of women in the U.S. and U.K.). 121 Advocates could educate expectant parents and infant caregivers about effective ad blocking technology with a focus on women who are underrepresented among ad block users.

VI. Recommendations for Action

In its Call to Action to Support Breastfeeding (2011), the U.S. Surgeon General concluded that pervasive exposure to infant formula advertising is a barrier to breastfeeding. ¹²² Infant formula advertising has also been found to undermine WIC program goals of increased breastfeeding rates. ¹²³ This section highlights four recommendations to reduce harmful digital infant formula marketing and provides a brief rationale for each recommendation.

1. INCLUDE INFANT FORMULA IN COMPANY ADVERTISING POLICIES: Digital platforms like Facebook and Google can include infant formula as a prohibited product category in their U.S. advertising policies.

RATIONALE: Digital platforms are global entities that incorporate marketing policies from around the world. Facebook and Google both address tobacco in accordance with US policy and international standards. Google prohibits the child-directed marketing of foods and beverages on its YouTube video platform. 124 These advertising policies operate parallel to the WHO's Framework Convention on Tobacco Control, and its Recommendations on the Marketing of Foods and Non-Alcoholic Beverages to Children. 125 Like tobacco marketing and food marketing to children, infant formula marketing has been deemed harmful enough by the WHO to warrant a moratorium on advertising to the general public. In 2016, sections of the WHO Code for infant formula marketing had been adopted by 135 countries. As such, infant formula advertising needs to be included as an advertising policy category and should be prohibited in the U.S.

2. MAKE USER OPTIONS TO LIMIT PARENTING ADS COMPREHENSIVE AND EASY

TO ACCESS: Digital platforms that offer an option to limit parenting ads should block all parenting ads, and make users aware of the policy when personal information about pregnancy, child birth and infant caregiving is collected.

In particular, Facebook can:

- a. Restore its "Hide Ad Topics" option to allow users to block all parentingrelated ads.
- b. Allow users to prohibit advertiser use of the Facebook profile information category of "Family Members" as is currently allowed for "Relationship Status."
- c. Automatically apply these ad preferences to both Facebook and Instagram.
- d. Notify users of these ad settings when they enter personal information.

RATIONALE: Consumers should be able to make informed choices about the use of their personal information. The FTC has repeatedly highlighted the need for easy to understand privacy policies that are prominently displayed at the time when personal information is collected. Notifying users of the Parenting Ad preference when they enter personal information is especially important because of how quickly families transition from expecting a baby, to child birth, to infant feeding.

3. ADVOCATE FOR THE INFANT FORMULA INDUSTRY TO EXTEND THEIR MARKETING PROTECTIONS TO THE U.S.: In accordance with antitrust orders against the infant formula industry, public health advocates can work with individual infant formula manufacturers to implement a U.S. moratorium on infant formula marketing.

RATIONALE: The same companies operating under the U.K.'s self-regulatory code of marketing that prohibits infant formula marketing to the public and product sampling can individually enact moratoriums on infant formula marketing in the US. A moratorium drafted completely independent of the infant

formula industry and presented individually to infant formula companies could help to facilitate self-regulation in the U.S. without running afoul of FTC antitrust orders.

A moratorium on infant formula marketing is warranted because infant formula use can interrupt the time-limited biological process of breastfeeding. The food industry generally defends its marketing by arguing that eating habits are a matter of personal choice and responsibility. For infant formula, there is really no infant feeding "choice" to return to the healthier option of breastfeeding once infant formula use is established.

4. PROMOTE AD BLOCKING TECHNOLOGY: As an interim approach, expectant parents and infant caregivers can be made aware of ad blocking software to limit their exposure to infant formula and parenting-related digital advertising.

RATIONALE: Ad blockers are designed to set a baseline default of no advertising as opposed to the piecemeal approach offered by digital platforms and the digital advertising industry. With an effective ad blocker, users can get social support on social media platforms, access important infant feeding information and browse for maternity and baby products without being stalked by infant formula marketing. Ad blockers also allow users to opt-in to allow advertising on sites and apps of their choice. This individual approach is less effective than a policy change. Ad blocking technology also can be undermined by stealth marketing by social media influencers and marketing driven by artificial intelligence and machine learning. It remains, however, one of the few tools available to reduce consumers' advertising exposure.

Acknowledgments

This work was supported by Healthy Eating Research, a national program of the Robert Wood Johnson Foundation. The author would like to thank Mark Gottlieb, JD for his ongoing support and Prabhu Ponkshe, MA, LLB, Lori Dorfman, DrPH, Jeffrey Chester, MSW, and Karen Farley, RD, IBCLC for providing comments on drafts of this report.

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