



Scope and impact of digital marketing strategies for promoting breastmilk substitutes

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Glossary

App: application on a mobile device.

Digital marketing: promotional activity, delivered through a digital medium, that seeks to maximize impact through creative and/or analytical methods (1); coordinated promotional messages (marketing communications) and related digital media used to communicate with consumers in digital environments (2).

Digital media: includes any online or digital means of transmitting marketing communications, including but not limited to, websites, social networking environments, search engine advertisements, banner advertisements, email communications, streaming audio and video, online gaming, messaging services, mobile services and online retail platforms (3).

Brand: a recognizable entity that entails distinctive design elements, such as a brand mark or logo, text or packaging, that adds value to a product. Brands are the perceptions, benefits and experiences that consumers come to associate with certain design elements and the products, services or companies that bear them (4).

Breast-milk substitute (BMS): foods and beverages marketed or otherwise represented to be suitable, with or without modification, for use as a partial or total replacement of breastmilk (5), including any milks (or products that could be used to replace milk, such as fortified soy milk) in either liquid or powdered form, that are specifically marketed for feeding infants and young children up to the age of 3 years (including infant formula, follow-up formula and growing-up milks) (6).

BMS brand: a family brand, or in other words an umbrella brand, applied to more than one BMS products (7). Family brands facilitate cross promotion.

Boosted post: advertisements created from posts on an advertiser’s social media page in order to attract more messages, video views or leads. A lead is a contact with a potential customer, also known as a ‘prospect’ (8). Boosted posts help advertisers reach new people that do not currently follow the advertiser’s social media content (9).

Cross-device marketing: the process of identifying customers across various devices and serving advertisements and information that is designed to render seamlessly on whatever devices a consumer is using to access the web (10).

Cross-promotion: (also called brand crossover promotion, brand stretching) is a form of marketing promotion where customers of one product or service are targeted with promotion of a related product. This can include packaging, branding and labelling of a product to closely resemble that of another (brand extension) (6). This can also be referred to as line extension.

Dark posts: a digital form of direct marketing that enables advertisers to create and distribute advertisements tailored for narrowly selected groups of people to only and exactly those groups of people. These advertisements only appear only in the newsfeeds of those users and do not appear anywhere else (these are also known as unpublished posts) (11).

Digital billboards: Digital screens erected in public places.

Digital Out-of-Home (OOH): marketing whereby advertisers display promotional content, usually advertisements, to digital billboards.

Earned impressions: a measure of digital views or engagements with promotional content. This important benchmark demonstrates the value of promotional content. Earned impressions are high when consumers value it enough to share it consistently AND click through (12).

Engagement: user activity associated with published, branded, user-created content including likes, comments, mentions and shares (13).

Follower: a user who consciously chooses to see all the posts of another user in their newsfeed (14).

Follow-up formula: (also referred to as follow-on formula) a breast-milk substitute marketed as suitable for use as a total or partial replacement for breastmilk in the diet of an infant from 6 months of age.

Hashtag: a word or phrase preceded by the symbol # that classifies or categorizes the accompanying text (15).

Infant formula: a breast-milk substitute suitable for use as a total or partial replacement for breastmilk in the diet of an infant.

Influencer: an individual who generates income (from companies, such as BMS manufacturers) by creating informative or entertaining content to attract followers and disseminate marketing communications to them (16).

Lookalike targeting: targeting that enables advertisers to extend the audience their promotions reach by identifying new people who are similar to those already targeted (17).

Meta-data: data that provide information about other data or content. These data can include information about where, when, or how the content was created, its source, legal or licencing information (18).

Newsfeed: a web page or screen that changes regularly to show new content (also referred to as feed) (19).

Organic posts: advertisements published on the timelines of advertisers’ profile pages. These promotional posts then appear on the timelines (or newsfeeds) of users who follow advertisers’ social media accounts (20).

Social media intelligence platform (SMIP): SMIPs gather, organise and analyse data from the billions of daily exchanges and conversations between social media users around the world and other digital platforms, such as websites and forums (21).

Toddler formula: (also referred to as growing-up milk or young child formula) a liquid breast-milk substitute marketed as suitable for use as a total or partial replacement for breastmilk in the diet of a child from 12 months of age (6).

Vlog: A blog composed of posts in video form (22).



Executive summary

Digital technologies are increasingly used for marketing of food products throughout the world. Growth in breast-milk substitutes (BMS) product sales has eclipsed growth in the global birth rate. The global formula market has been valued at more than US\$ 52 billion. The use of digital platforms by breast-milk substitutes manufacturers and distributors to promote their products is accelerating.

Despite ample evidence that exclusive and continued breastfeeding are key determinants of lifelong health for children, women, and communities, far too few children are breastfed as recommended. Recognizing that inappropriate promotion of breast-milk substitutes negatively impacts on breastfeeding practices, the World Health Assembly adopted the *International code of marketing of breast-milk substitutes* (“the Code”) in 1981. Yet the inappropriate promotion of breast-milk substitutes continues unabated in much of the world and digital technologies have created powerful new marketing tools for the promotion of breast-milk substitutes.

This report was developed in response to a request from the Seventy-third World Health Assembly¹ for a comprehensive report on the scope and impact of digital marketing strategies for the promotion of breast-milk substitutes².

Evidence of exposure to and impact of digital breast-milk substitutes marketing was collected from several sources. These include a systematic review of the literature, social listening research, a multi-country study of mothers’ and health professionals’ experience of breast-milk substitutes marketing, individual country reports of breast-milk substitutes promotions and an analysis of existing legal measures to implement the Code.

Exposure and impact

This evidence demonstrates that manufacturers and distributors of breast-milk substitutes commonly use digital marketing strategies across a wide range of online channels and social media platforms and that the use of digital marketing strategies dramatically increases the reach and impact of breast-milk substitutes promotions. Digital technologies offer advertisers new marketing tools that are powerfully persuasive, extremely cost effective and often not easily recognizable as breast-milk substitutes promotions.

Evidence demonstrates that

- Women are exposed to digital marketing in every country where research investigating this issue has been conducted — in some countries more than 80% of women who reported seeing breast-milk substitutes advertisements reported having seen them online.
- Women who recorded diaries of exposure to breast-milk substitutes marketing in seven countries saw online breast-milk substitutes promotions, on average, between once and seven times a week.
- Women are exposed to highly-targeted content, made visible only to them, which may not be easily recognizable as advertising.
- The 4 million social media posts about infant feeding sampled and analyzed using a commercial social listening platform reached 2.47 billion people and generated more than 12 million likes, shares or comments.
- Collectively, the 264 breast-milk substitutes brand accounts monitored for this research posted content around 90 times per day and reached 229 million users.
- Engagement (the rate of likes, shares or comments) was up to 10 times greater than the rate generally considered to indicate an effective campaign.
- Social media posts that include a reference to a breast-milk substitutes brand or product reach three times as many people as posts about breastfeeding and people are more likely to like, share or click on such posts.
- Digital marketing increases breast-milk substitutes purchases and is better value for money than traditional marketing.

New marketing techniques applied

The digital context offers new opportunities for marketers and makes it possible for advertisers to identify their target audiences with unprecedented precision. This report provides examples of multiple techniques used for the promotion of breast-milk substitutes, including:

- highly-targeted marketing through the application of algorithms driven by internet user data;
- use of parenting apps;
- real-time contact with women;
- virtual support groups or “baby-clubs”;
- use of social media influencers;
- user-generated promotions, such as competitions that encourage users to generate or share promotional content (images or messages);
- publication of information and education about topics of interest to new parents;
- private messaging and provision of professional advice; and
- disseminating content beyond national borders.

In addition, breast-milk substitutes companies continue to use line extension or cross-promotion techniques on digital platforms to circumvent rules prohibiting promotion of infant formula.

Digital marketing techniques enable breast-milk substitutes advertisers to identify pregnant women and mothers in online spaces, identify their deepest concerns by observing or engaging them in conversation, exploit their most vulnerable moments, disguise their marketing content as information or advice and enlist people women respect most to influence their infant feeding choices. Digital platforms feed breast-milk substitutes promotions directly to the screens of pregnant women and mothers, respond instantaneously to the concerns they express, use respected influencers to shape feeding decisions, generate word-of-mouth endorsements for breast-milk substitutes products and establish online support groups to build positive associations with breast-milk substitutes brands. These low-cost and effective methods are known to increase purchasing behaviour as measured by sales.

Regulation of digital marketing

Use of the digital marketing techniques described in this report presents novel challenges for regulating promotion of breast-milk substitutes. Fewer than one in five countries (19%) explicitly prohibits promotion of breast-milk substitutes on the internet, social media, or other digital platforms. Digital technologies enable advertisers to evade scrutiny from enforcement agencies by delivering breast-milk substitutes promotions to personal accounts without ever publishing them on broadcast media. It may be difficult to hold breast-milk substitutes manufacturers and distributors to account for breast-milk substitutes promotions generated in virtual support groups by the general public and mothers, including social media influencers, who are not direct employees or contractors of those companies.

Strengthened legislation, new monitoring technologies, renewed commitment to enforcement and transnational frameworks are urgently required to protect breastfeeding and safeguard the health of mothers and babies

Key findings

- 1 **Digital marketing is becoming the dominant form of marketing in many countries. In some countries more than 80% of exposure to breast-milk substitutes advertisements occurs online.**
- 2 **Digital marketing increases breast-milk substitutes sales and occurs across multiple online channels and social media platforms in every country.**
- 3 **Breast-milk substitutes companies buy direct access to pregnant women and mothers in their most vulnerable moments from social media platforms and influencers. They use apps, baby-clubs, advice services and online registrations to collect personal information and send personalized breast-milk substitutes promotions to mothers.**
- 4 **Breast-milk substitutes companies use strategies that aren’t recognizable as advertising, such as online baby-clubs, advisory services, social media influencers, and user-generated content.**
- 5 **Breast-milk substitutes brand accounts post content on social media around 90 times per day and these reach three times as many people as informational posts about breastfeeding.**
- 6 **Digital marketing can evade scrutiny from enforcement agencies. New approaches to code-implementing regulation and enforcement are required.**

Digital platforms feed breast-milk substitutes promotions directly to the screens of pregnant women and mothers.

¹ Resolution WHA 73(26).

² Digital marketing is promotional activity, delivered through a digital medium, that seeks to maximize impact through creative and/or analytical methods. Digital media may include social media platforms, video sharing applications (apps), search engines, company websites, messaging services and online retailers.



Introduction

Despite ample evidence that exclusive and continued breastfeeding are key determinants of lifelong health for children, women and communities (23), far too few children are breastfed as recommended.³ Globally, only 44% of children under 6 months of age are exclusively breastfed and 56% of children stop breastfeeding before they reach the age of 2 years (24). A global target to increase the rate of exclusive breastfeeding amongst infants under 6 months up to at least 50% by 2025 was agreed by Member States at the World Health Assembly (WHA) in 2012. Recent estimates suggest that failing to reach that target would result in an estimated 520 000 child deaths, as well as increased disease and cognitive deficits in children. Total economic losses attributable to “not breastfeeding” globally have been estimated to be 0.7% of gross national income or US\$ 341.3 billion (25). Yet, it is estimated that an investment of only US\$ 5.7 billion would be required to meet the global target (25, 26). Significant actions will be required to achieve this global target (27).

Member States agreed to eliminate the inappropriate promotion of breast-milk substitute (BMS) more than 40 years ago (28). Recognizing the impact of BMS promotion on breastfeeding practices, and the health risks introduced by inappropriate feeding in early life, the WHA adopted the *International code of marketing of breast-milk substitutes* in 1981 (5). Eighteen subsequent WHA resolutions and decisions have addressed this issue since 1981, and taken together the Code and the subsequent resolutions (hereafter referred to collectively as “the Code”) express the collective will of assembled Member States.

Article 5 of the Code provides that there should be no advertising or other form of promotion of BMS to the general public. Yet the inappropriate promotion of BMS continues unabated in much of the world and the advent of digital technologies has created powerful new marketing tools for the promotion of BMS. While Article 5 is clearly broad enough to capture digital BMS promotions, the Code does not specifically address the digital marketing strategies that have evolved in the four decades since its adoption and does not offer strategies for implementation in digital environments or ecosystems.

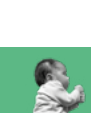
Digital technologies are increasingly used for marketing of food products throughout the world. Growth in BMS product sales has eclipsed growth in the global birth rate (29). The global formula market has been valued at more than US\$ 52 billion (30). The use of digital platforms by BMS manufacturers and distributors to promote their products is accelerating (29, 31).

In November 2020, the Seventy-third World Health Assembly requested in resolution WHA73.26 that the Director-General review current evidence and prepare a comprehensive report to understand the scope and impact of digital marketing strategies for the promotion of BMS to the Seventy-fifth World Health Assembly in 2022.

This report was developed in response to WHA resolution 73.26 and describes a comprehensive review of evidence that describes the scope and impact of digital marketing strategies used for the promotion of BMS. Chapter 1 describes digital marketing and digital marketing strategies in use at the time of writing. Chapter 2 describes the methods used to assemble evidence that describes what is known about digital marketing strategies used for the promotion of BMS and their impacts. Chapter 3 describes the extent of digital marketing for the promotion of BMS. Chapter 4 describes digital marketing techniques and their use for the marketing of BMS. Chapter 5 examines the extent to which provisions of the Code and national implementation instruments capture digital marketing strategies for the promotion of BMS. Chapter 6 discusses monitoring and enforcement of digital marketing strategies used for the promotion of BMS, and Chapter 7 presents some implications of the evidence described in this report for implementation, monitoring and enforcement of the Code in digital ecosystems.

Despite ample evidence that exclusive and continued breastfeeding are key determinants of lifelong health for children, women and communities (11), far too few children are breastfed as recommended.

³ WHO recommends that infants are exclusively breastfed during the first six months of life and then breastfed continuously until two years of age and beyond. From 6 months of age, breastmilk should be complemented with a variety of adequate, safe and nutrient-dense foods.



1. Digital marketing

Digital marketing is “promotional activity, delivered through a digital medium, that seeks to maximize impact through creative and/or analytical methods” (1). Digital marketing strategies for the promotion of BMS include industry-sponsored online social groups, individually targeted advertisements, paid blogs or vlogs, and discounted Internet sales. Digital media may include social media platforms, video sharing applications (apps), search engines, company websites, messaging services and online retailers.

Mobile service connectivity is now available to 97% of the world’s population. Globally, more than 3.6 billion people use social media (approximately 87% of internet users), and this is projected to increase to 4.41 billion by 2025 (32).

Digital platforms have become the marketing industry’s most important tools. In 2019, more than 50% of total media advertising budget was spent on digital marketing and the proportion is predicted to increase to 67.8% by 2024, by which time the digital marketing industry is expected to be worth US\$ 645.8 billion (32).

Digital marketing strategies

Digital media have created new, cost-effective and powerful tools for distributing promotions for BMS and have generated opportunities to develop marketing techniques not possible in traditional media (such as print, broadcast and outdoor advertising) and retail environments. Digital platforms enable advertisers to disseminate traditional advertisements simultaneously across multiple media, such as video sharing, social media, websites, emails and encrypted messaging apps. This enables advertisers to increase the frequency with which a consumer is exposed to its marketing messages.

These exposures, also known as touchpoints, are known to play a critical role in shaping potential customers’ attitudes and purchasing behaviours (33). The frequency, timing and type of touchpoints a consumer experiences are critical to successful marketing. In addition to increasing the number of opportunities to reach consumers with their advertising content (touchpoints), digital media platforms have created a number of new marketing tools and strategies.

Organic posts are recognizable as advertisements published on the timelines of advertisers’ profile pages. These promotional posts then appear on the timelines (or newsfeeds) of all users who follow advertisers’ social media accounts. When these followers like, comment on or share an advertiser’s post it appears on their friends’ newsfeeds.⁴

Boosted posts are advertisements that are digitally modified (optimised) to reach users with characteristics selected by the advertiser. Once an advertiser selects the audience it wants to boost an advertisement to, an algorithm automatically selects image and text elements that increase engagement (clicks, likes or shares) (9). According to Facebook for Business, “Boosting a post may help you get more people to react, share and comment on it” (34). Encouraging new audiences to like or follow an advertiser’s social media account makes them easier to reach with future promotions.

Dark posts are also known as dark ads or unpublished posts. Like boosted posts, these are tailored to appeal to consumers with specific characteristics or profiles. They appear in the daily newsfeeds of specific users, regardless of whether they follow the advertiser’s social media account. Importantly, dark posts do not appear on an advertiser’s own timeline. Dark posts are not visible to other users and can be used to evaluate the performance of advertisements and other promotional posts. They are used to minimise the volume of recognizable advertising and promotion that appears on the advertiser’s own social media account and create an impression that an advertiser truly understands (and can therefore meet) the targeted user’s individual needs.

Digital video, audio and podcasts do not usually appear to be advertising or promotion. They may include advertising, product placement promotions, product reviews or endorsements. However, they may also offer content that engages specific audiences, such as professional development or information about parenting topics, in order to create positive sentiments about a brand or product line while evading consumers’ critical responses to advertising and promotional content.

Advertisers can have targeted advertisements placed amongst search engine results (this is also known as search engine

marketing). Paid search advertisements appear in response to pre-defined search engine queries. Advertisers pay a fee each time a user opens the link in their advertisements.

Televisions that are connected to the web — often referred to as smart or connected TVs — offer customised services such as replaying content and streaming video content while capturing data about users and their online behaviour. Apps available on connected TVs can themselves contain digital marketing content, including advertisement and they are often linked to users’ other devices, thus increasing the quantity and quality of user data captured. In the near future, it is likely that advertisers will be able to display advertisements on connected televisions targeted specifically to the individual viewing the device.

Digital Out-of-Home (OOH) or digital billboards enable advertisers to display promotional content, usually advertisements, to digital screens erected in public places. As with connected TVs, in the near future digital billboards may be able to display an advertisement or promotion customized for the person passing by communicating with that individual’s smartphone.

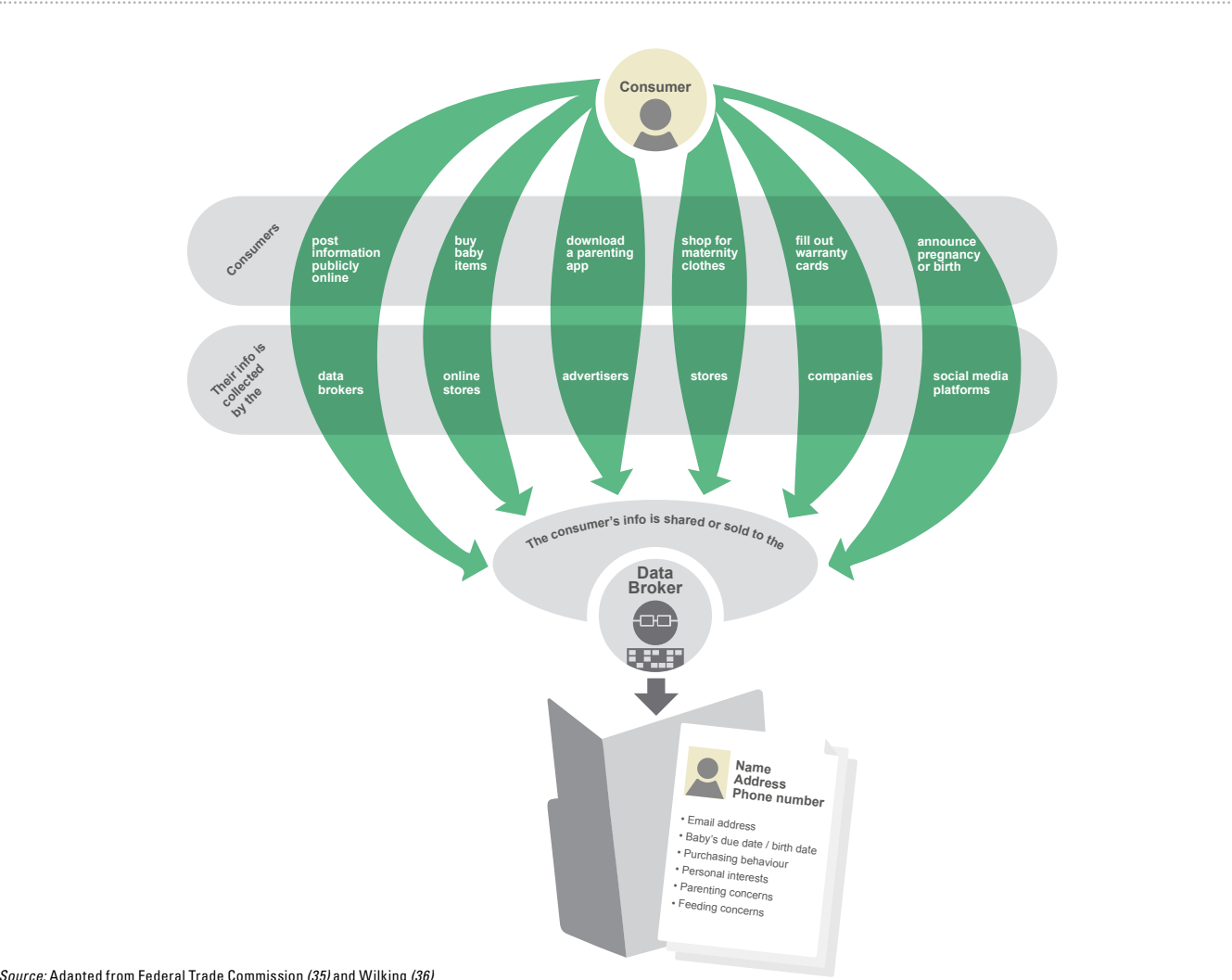
Digital marketing tools enable advertisers to identify key consumers and increase these consumers’ exposure to marketing content that promotes their products and maintains positive

brand sentiment. Increasing consumers’ exposure to marketing content (creating multiple brand touchpoints) is known to increase sales. BMS manufacturers use these digital marketing tools and strategies to maximize consumers’ exposure to marketing content (brand touchpoints) and increase purchases of BMS products.

Digital platforms make it possible for advertisers to identify their target audiences with unprecedented precision. When women share information about a pregnancy with family and friends online, purchase maternity clothing, search for a health care provider or join an online support group they are identified as targets for advertising for baby-related products and brands, including BMS. These data can be collected across multiple online platforms and combined with information collected in offline environments, such as credit-card transactions, mailing lists or information on personal or professional memberships (see Fig. 1).

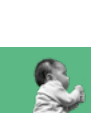
These digital marketing strategies have emerged and evolved in recent decades since the Code was adopted and are now being applied to the promotion of BMS products. The remainder of this report seeks to provide a comprehensive description of the global scope and impact of digital marketing strategies for promoting BMS.

Fig. 1. Types of information data brokers collect online and offline



Source: Adapted from Federal Trade Commission (35) and Wilking (36)

⁴ 'friends' here means other users of a social media platform identified as 'friends' for the purpose of creating a network within a social media platform database that is used to disseminate content, including marketing communications.



2. Methods

To develop this report WHO created an external steering committee of experts from across WHO regions to advise on the design and methodology of the review and the report. Subject matter experts were selected for their expertise in social science, epidemiology, marketing, global health, nutrition, psychology and consumer behaviour, human rights law, Code monitoring and implementation policy (see Annex 1). Following an initial consultation meeting, at which the committee advised on the broad content of the report and identified potential sources of data, the committee met monthly for six months to

advise on structure and review draft content. Subject matter experts assembled for this task were drawn from all WHO regions, with the exception of the Eastern Mediterranean Region.

The report is based on several sources of evidence, including:

- a systematic literature review
- social listening research on public online communications
- a multi-country study (MCS) of mothers¹⁵ and health professionals' experiences of BMS marketing

Table 1. Summary of studies included in the systematic review

Study type	Publications (n)
Peer-reviewed paper	22
Independent report	7
Case reports	23
Region	Publications (n)
Americas	11
Africa	1
Eastern Mediterranean	0
Europe	3
Southeast Asia	5
Western Pacific	23

- individual country reports of research that monitors BMS promotions and
- an analysis of existing legal measures on the Code.

The results of these works are presented contiguously and organized thematically.

Systematic review

A systematic review of the evidence was commissioned from the George Institute for Global Health to describe what is known about the scope and impact of digital marketing strategies for promotion of BMS on what people think, what people intend to do and what people actually do.

The full study protocol — including search terms, eligibility criteria, screening diagram and summary of included publications — are available from the Open Science Framework Registry. The study protocol was registered prior to commencement.

The systematic review identified 22 peer-reviewed papers, 7 independently-published reports and 23 case reports that described evidence of the scope and/or impact of digital marketing campaigns for the promotions of BMS products or brands. Table 1 summarizes the results of the systematic review. A full list of included publications (academic literature and case reports) are included in Annex 2. Only three studies examined impact of digital marketing. The remaining studies examined scope. Annex 2 describes included publications. The full report is available from the George Institute for Global Health. (37)

Specific objectives were to:

- 1 audit digital marketing strategies used to influence or support infant feeding practices;
- 2 assess exposure of pregnant women and young mothers to BMS promotion;
- 3 examine digital marketing content, including earned impressions, advertising campaigns and communications from peers or social media influencers; and
- 4 capture branded and unbranded content that offers insights into women's digital exposure to BMS marketing and other infant feeding practices.

Social listening research

Research was commissioned using a commercial social media intelligence platform (SMIP) (21). SMIPs monitor social media for mentions of defined key words or phrases, which they gather, organize and analyse. They “listen” to the billions of

daily exchanges and conversations that take place amongst social media users around the world and on other digital platforms, such as websites and forums. SMIPs are commonly used by advertisers to understand drivers of consumer behaviour, find inspiration for future marketing strategies and identify characteristics of consumers most vulnerable to these strategies. This research reversed the usual application of a SMIP to generate insights into and understanding of digital marketing strategies used for the promotion of BMS.

Data were collected globally from Facebook, Instagram, Pinterest, Twitter, Sina Weibo⁶, Red (also known as Xiaohongshu, 小红书),⁷ VKontakte,⁸ YouTube, WeChat (also known as Weixin),⁹ blogs, websites, digital press, discussion boards and retail platforms visible to search engines between 1 January and 30 June 2021. This investigation captured digital interactions that referenced infant feeding in 11 languages that originated from 17 countries, which together account for 61% of the global population and span all six WHO regions. The results of this study appear mainly in Chapters 3 and 4.

Multi-country study

Exposure to BMS marketing amongst pregnant women and mothers across eight countries was assessed using phone diaries (*n*=141), focus group discussions (*n*=91 groups), in-depth interviews (*n*=70) and a questionnaire (*n*=8528). Attitudes and perceptions of people who influence women's infant feeding decisions were investigated using in-depth interviews with health professionals (*n*=302) and focus group discussions with partners, family and friends (*n*=22). In China, an additional 10 in-depth interviews with marketing executives and two focus group discussions with full-time childminders (known as Yuesaos in Mandarin) hired for the first months after birth were conducted. Fig. 2 illustrates the study approach.

The questionnaire was piloted for face-validity in Viet Nam and questions subsequently refined prior to translation and adaption for use in the other seven countries. Table 2 describes the characteristics of the sample. Detailed description of data collection and analysis can be found in the study report (39). Experiences with digital marketing were extracted and included in this report. The results of the study inform Chapters 3 and 4.

Legal analysis

National legal measures that give effect to the Code were analysed as part of WHO's review of national Code implementation to be published in 2022. This routine policy review was last conducted by WHO in 2020 (40). Relevant legal documents were obtained through ministries of health with the assistance of WHO regional and country offices. Documentation was

⁶ Chinese equivalent of Twitter. As of the third quarter of 2021, Sina Weibo's monthly active users amounted to around 573 million and it is the leading micro-blogging site in China <https://www.statista.com/statistics/795303/china-mau-of-sina-weibo/>

⁷ China's foremost fashion and luxury shopping platform. Users post product photos with reviews and tips for others to read, comment and save to their boards, more like Pinterest than Amazon. <https://www.linkfluence.com/blog/little-red-book-xiaohongshu>

⁸ VK is the largest social media networking site in Russia. In the global ranking of social networks it is ranked second after Facebook and ranks fifth on the list of all websites available. <https://www.echosec.net/blog/what-is-vk-and-why-should-you-care>

⁹ WeChat is a “one-stop shop” for social and transactional moments in China; a multi-purpose social media, messaging and payment platform with 1.24 billion monthly active users. <https://blog.hootsuite.com/wechat-marketing/>

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