



ACCESS TO
NUTRITION
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Product profile of commercial complementary foods in ten markets

January 2024



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Abbreviations

ATNI	Access to Nutrition Initiative
CACF	Commercially Available Complementary Foods
COMMIT	Consortium for Improving Complementary Foods in Southeast Asia
FOP	Front-of-pack
NPPM	Nutrient and Promotion Profiling Model
UNICEF	United Nations Children's Fund
WHO	World Health Organization

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Summary

According to World Health Organization (WHO), commercially available complementary foods (CACF) are products marketed for infants and young children from the age of six months up to 36 months. The WHO recommends introducing nutrient-rich foods for infants at six months. The market for global CACF is growing rapidly raising concerns about product suitability. These concerns are linked to possible high sugar content, low nutrient density, and misleading marketing claims of the complementary foods¹.

To address these concerns, the WHO developed the 2022 Nutrient and Promotion Profiling Model (NPPM) designed to assess the nutritional quality and appropriateness of labeling and promotion of commercially available complementary foods for infants and young children. The NPPM serves as a tool to guide policymakers, industry, and other entities in evaluating the appropriateness of existing CACF in the market.

To increase evidence on CACF nutritional quality and good labeling practices globally, ATNI included a total of 1,297 unique CACF products from six companies in ten countries (see Table 1). Thirty-four CACF products, falling under confectionery or drinks categories, were not further assessed as they automatically did not pass the NPPM and are not suitable for infants and young children under three.

Table 1. Total number of CACF products assessed by company

Country	Companies Assessed						TOTAL
				HiPP			
Austria	10	0	13	77	0	0	101
Brazil	0	0	0	0	0	16	16
Canada	0	0	65	0	28	58	147
Egypt	3	0	12	0	0	3	18
Germany	12	0	61	99	0	0	173
India	1	32	0	0	0	9	42
Ireland	20	57	27	33	18	7	162
Italy	116	0	34	111	99	27	387
Saudi Arabia	0	0	1	21	0	11	33
UK	15	79	28	51	38	7	218
Total products	177	168	241	392	183	138	1297

Key findings

- Most companies met NPPM requirements for fat, fruit content, sodium, and protein (>81%).
- Companies performed relatively well in indicating the minimum age of introduction, on product name clarity and on ingredient list clarity, with notable variations among companies.
- Approximately 35% of all assessed CACF met all nutrient composition criteria.
- Proportions of products meeting nutrient composition criteria varied across categories, with 'meals' having the highest frequency and 'snacks' and 'dairy' the lowest.
- Companies scored lower on no added free sugar/sweetener, < 15% total energy from total sugar and energy density (<75%).
- Only ~2% of CACF met the required breastfeeding messages and none met the requirements related to upper age limit of 12 months or claims.

- None of the companies' CACF met all of the NPPM's labeling requirements.
- None of the companies' CACF products met all requirements of the NPPM for both nutrient composition and labeling, indicating unsuitability for promotion to infants and young children.

ATNI understands that national authorities bear the responsibility of enacting legislation in line with WHO guidance to ensure the appropriate marketing of CACF for infants and young children. However, companies are encouraged to adhere to the recommended nutrient composition and labeling considerations until such legislation is in place. The adoption of WHO Europe's nutrient and promotion profiling model is recommended for comprehensive guidance. Companies should meet the nutrient composition thresholds, enhance transparency, and meet the labeling requirements in line with WHO's NPPM.

1. Introduction and background

1.1 Rise of commercially available complementary foods and implications on child health

For infants and young children, the WHO recommends introducing safe, adequate and nutrient-rich foods when breast milk or milk formula alone are no longer adequate to meet the nutritional requirements of growing infants. This period is also known as complementary feeding, which generally starts at the age of six months and lasts up to 23 months of age, although breastfeeding may continue beyond this period. It is a critical period in the growth and development of infants and young children that can influence short- and long-term health outcomes².

Over the last decade, there has been substantial global growth in the CACF market³. Globally, retail sales volume of CACF increased by around 20% from 2019 to 2023. However, the growth rate of the CACF market differs across regions, with almost 30% volume growth in the Asia and Pacific region and a 10% growth in the European region in the past five years⁴. The growth of the CACF market raised global doubt by WHO and UNICEF about the suitability of some of these food products for infants and young children^{5 6}.

According to WHO, CACF are products marketed for infants and young children from the age of six months up to 36 months that are either:

1. Recommended for introduction to children at an age of less than three years;
2. Labeled with the words 'baby', 'toddler', 'young child', or synonym;
3. Labeled with an image of a child who appears to be younger than three years of age or is
4. feeding with a bottle; or
5. Presented in any other way as being suitable for children up to the age of three years

CACF products do not include products that function as breast-milk substitutes^a, vitamin and mineral food supplements (e.g. home fortification products such as micronutrient powders), nor products whose labels state that they are only intended for children older than three years, or that are not specifically marketed for children younger than three years of age⁷.

Diets in the complementary feeding phase are especially critical for the health and development of infants and young children, as research has shown that the consumption of unhealthy food products during this period is not only associated with poor dietary adequacy⁸ but also increases the risk of overweight later in childhood⁹. Furthermore, studies are showing that early preferences for salty and sweet tastes in childhood can influence consumption patterns across the lifespan^{10 11}. Thus, it is fundamental that CACF products on the market are appropriate for consumption and are produced in the best interest of children's health, due to carrying implications on the health of the next generation.

Recent studies have found that the addition of sugar and sweeteners in CACF is concerning, particularly among CACF snacks and finger foods¹². Similar to concerns over high levels of free sugar in fruit juice¹³, the sugar released in puréed fruit CACF is also concerning as it contributes to not only higher

^a These include any milks (or products that could be used to replace milk, such as fortified soya milk alternatives), in either liquid or powdered form, that are specifically marketed for feeding infants and young children up to the age of three years. These include infant formula (marketed for infants younger than six months of age); follow-up formula (marketed for infants between six months up to one year of age); and growing-up milks or toddler milks (marketed for young children between one to three years of age). Any milk product that is marketed or represented as a suitable partial or total replacement of the breast-milk part of the young child's diet is a breast-milk substitute, and therefore falls under the scope of the International Code of Marketing of Breast-milk Substitutes.

levels of total sugar in a product, but also to a sweeter taste, masking other flavors – like vegetables – and thus negatively influencing children’s learning about food taste and texture¹⁴. CACF found on the market in 2016-2017 were high in sodium and fat and had low nutrient density, while the majority of CACF also included health, nutritional, and marketing claims that influence caregivers’ feeding decisions¹⁵. A 2023 survey among caregivers of infants and young children in Southeast Asia identified that the perceived health and nutrition benefits of CACF, as conveyed through product claims, were a major factor influencing the purchase of CACF¹⁶. In addition, many CACF are marketed as suitable from four months of age¹⁷, which displaces the exclusive intake of breastmilk in the first six months of life as recommended by WHO.

Since global guidelines and standards for the production and marketing of CACF were developed decades ago, namely by Codex Alimentarius, the market has grown and the marketing landscape has evolved. Therefore, current regulations addressing CACF product composition and labeling are outdated and insufficient¹⁸, resulting in the inappropriate promotion of foods for infants and young children.

In 2016, the World Health Assembly approved the WHO Guidance on Ending Inappropriate Promotion of Foods for Infants and Young Children. This guidance was developed with the aim of protecting breastfeeding, preventing obesity and chronic diseases, promoting a healthy diet, and ensuring caregivers receive clear and accurate information on feeding infants and young children. To address the aforementioned concerns about the CACF on the market, Recommendation 3 of the Guidance called for the development of nutrient profile models to guide decisions on which foods are inappropriate for promotion, with a particular focus on avoiding the addition of free sugar and salt¹⁹.

Subsequently in 2019, WHO’s regional office for Europe published a draft nutrient profiling model for CACF, which was later updated and officially launched in 2022. This model is referred to as the Nutrient and Promotion Profile Model (NPPM)²⁰. Currently, the WHO Europe NPPM is the first and only official nutrient profile model developed specifically for CACF products. WHO notes that the model aims to support countries within and outside the European Region in changing policies and legislation to optimize short- and long-term health outcomes²¹.

Another characterizing feature of the NPPM, compared to other nutrient profiling models, is the inclusion of not only a nutritional assessment component, but also an additional component that considers requirements for the appropriate labeling, marketing, and promotion of CACF products. These are important to ensure that caregivers receive accurate information on appropriate infant and young child feeding practices. Both components of the NPPM are to be jointly considered to guide policy-makers, industry and other stakeholders in evaluating the suitability of existing CACF and making positive changes through product reformulation, packaging changes and legislation²².

To ATNI’s knowledge, the NPPM has been used to date in considering draft reformulation targets for CACF in Ireland²³, and in conducting the first study that assessed the nutritional quality and marketing of CACF products in Türkiye²⁴. Similar research on CACF was also conducted in seven countries in Southeast Asia using an adapted version of the NPPM²⁵. More research using this recently developed NPPM is needed to better understand the current landscape of CACF and identify key areas of action to be adopted by industry and governments, with the goal of improving CACF and ending their inappropriate promotion to optimize children’s health globally.

1.2 ATNI research and objectives

ATNI’s Indexes to date assessed the marketing of CACF products without including the nutritional assessment of such products. However, given the importance of ensuring the nutritional quality of CACF alongside the appropriateness of labeling practices, ATNI has conducted a number of assessments to expand on this area of research and understand the nutritional composition of CACF.

ATNI has in 2020 used the draft version of WHO Europe’s nutrient profiling model for CACF in conducting an assessment of CACF in the Philippines²⁶. Following this research, ATNI along with its

partners of the Consortium for Improving Complementary Foods in Southeast Asia (COMMIT)²⁷ used a version of WHO Europe's draft model – that was adapted to more closely align with the NPPM – to assess CACF in seven Southeast Asian countries: Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, the Philippines, Thailand and Viet Nam. While COMMIT partners used the findings to guide policy-makers²⁸, ATNI generated company-level results to provide recommendations to industry on improving CACF product formulation and labeling.

Upon the publication of the 2022 WHO NPPM for foods for infants and young children, ATNI acquired funding from the PICTET Group Foundation to assess six companies' CACF products in ten countries using this new model. The primary objective of this research is to increase the body of evidence on the nutritional quality and labeling practices of CACF, ensuring that more countries across different regions are covered.

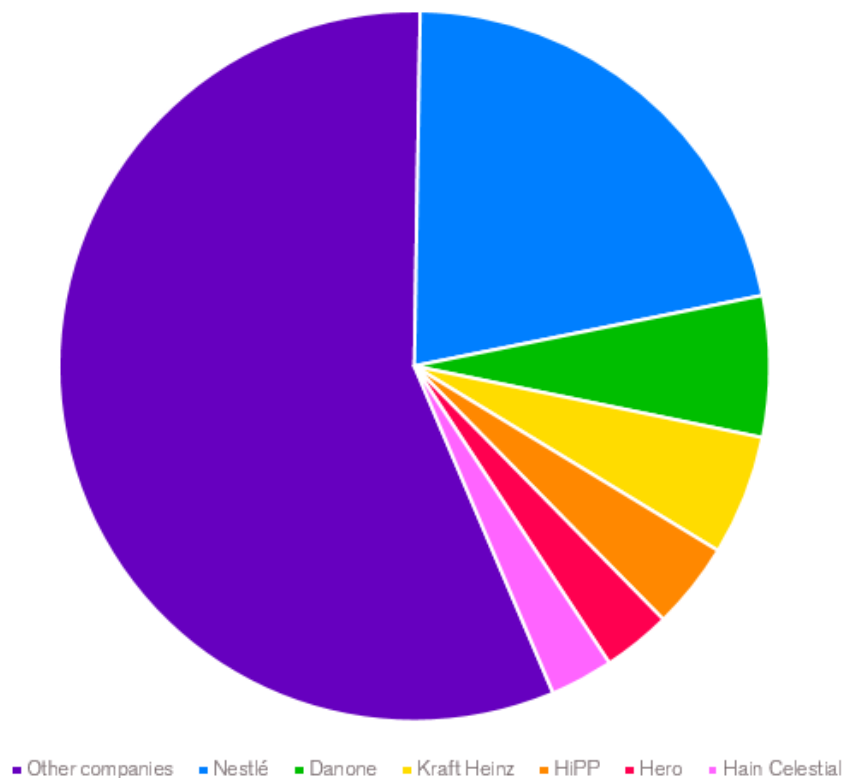
The results of this research complement the assessment and scoring of the BMS and CF Indexes that ATNI publishes in 2024, the research will also be considered in updating the methodology for future ATNI Indexes, recognizing that this analyses can render more robust and comprehensive product portfolio assessments.

2. Methodology

2.1 Selection of companies and countries

As seen on **Figure 1**, based on market data from Euromonitor International²⁹, six companies contributed to over 40% of global CACF retail sales estimates in 2021. ATNI selected these six companies for the assessment, which are presented in decreasing order of global CACF market share: Nestlé (over 20%), Danone (over 5%), Kraft Heinz (~5%), HiPP (~4%), Hero (~3%) and Hain Celestial (~3%)^b. These six companies are also assessed in ATNI's Complementary Foods Marketing Index 2024.

Figure 1. Company shares of the global CACF market in 2021



Source: Euromonitor International Limited, Dairy Products and Alternatives Edition, 2021 data, © All rights reserved.

The countries or markets to include in the research, were then selected based on the presence of the six companies. ATNI identified countries where the companies' CACF shares are high (based on 2021 Euromonitor International retail sales estimates)³⁰. To aim for regional representation, at least one country from each of the following WHO regions was selected: the Americas, Eastern Mediterranean, Europe, and South-east Asia. ATNI had initially considered the inclusion of Nigeria from the Africa region, but limited data was available of the company products and thus the country was ultimately excluded from the assessment. Therefore, an additional requirement was the availability of data about the companies' CACF products sold in a country.

Other criteria included; selecting countries where at least two out of the six selected companies sell CACF and countries where the selected companies collectively accounted for over 50% of the CACF

^b Although the company Progress OAO has a higher global market share compared to the companies Hero and Hain Celestial, it was excluded from this assessment due to its presence in only one market (Russia) and the limited nutrient and label data available to complete the assessment.

market (based on 2021 Euromonitor International retail sales estimates³¹). The countries assessed for the [COMMIT](#) research were excluded from this research due to similarity in the assessments.

Upon considering all aforementioned criteria, a total of ten countries were selected for this assessment: Austria, Brazil, Canada, Egypt, Germany, India, Ireland, Italy, Saudi Arabia and the United Kingdom.

2.2 Selection of CACF products

ATNI obtained CACF product information from the Innova Market Insights product database, and this information was used to generate a preliminary list of the products to be assessed. ATNI followed WHO's definition of CACF in identifying the products to be included in the assessment.

This list comprised of the companies' CACF products launched between March 2020 and February 2023 in each of the ten selected countries^c, with the aim of identifying CACF products that were on the market in each of those countries in the first half of 2023.

The initial number of products identified amounted to a total of 2,055 CACF for the six companies across the ten countries. ATNI researchers performed extensive reviews to prepare a clean and accurate product list for assessment. For example, the identified brands were checked against other sources of brand information, including Euromonitor International and company information – both publicly available information on corporate websites and any relevant information companies provided to ATNI for the Complementary Foods Marketing Index 2024. If brands were found to be missing in the product list, ATNI performed additional brand-level searches on the Innova database, and in the case of other discrepancies, these were discussed with the Innova analysts for verification.

Other checks entailed identifying the same product launched more than once between March 2020 and February 2023 due to reformulation or a new package design, and thus only the latest version was kept for the assessment. Duplicates were also excluded, primarily depending on the availability of complete and clear images of as many sides as possible of the product package^d. Products were considered distinct if they differed in at least one of the following characteristics: brand name, product descriptive name, recommended age of product introduction, flavor, ingredients, and nutritional information. On the contrary, single serving and multi-serving packages, or different sizes and packaging of the same product were considered to be one product.

Upon completion of the checks, the list comprised of a total of 1,432 distinct CACF. The CACF were organized in product lists prepared for each company.

Subsequently, ATNI informed all six companies separately of this research and shared their respective list of CACF identified in each market for verification. Each company was requested to confirm the availability of the identified CACF on the markets assessed, and to provide additional product information and materials if CACF were missing from the list or if images of the product packages were missing or were unclear to extract the information needed to complete the assessments.

2.3 Company engagement

Among the six companies, two did not respond to ATNI to confirm the product lists – Hain Celestial and Hero. However, the other four companies provided additional information to confirm or complete the product lists. The companies indicated which CACF had been delisted^e, and hence were excluded from

^c For the company Hain Celestial, the time frame was extended to CACF launched in the past five years in India, due to limited data availability within the 3-year time frame in this country.

^d The Innova product database includes images of the product package. In some cases, however, the text on the images was not legible or images would only be available for some but not all sides of the product package.

^e Delisted products are products that a company no longer sells and that are not available to customers in a market (consumers, wholesalers, retail, B2B)

the assessment, and confirmed their official CACF markets to ATNI. Additionally, CACF that were not captured in the initial scoping but were sold in the respective markets during the research time frame were also added to the product lists, either directly with corresponding product images provided by the companies, or by referring ATNI to specific sections in local company websites with relevant product information. Nestlé sells CACF in eight of the ten selected markets (more than any of the other companies), it has the lowest number of products assessed as the company informed ATNI about delisted products which are excluded from the final list but not about newly introduced products. Where ATNI requested additional product package images, all four engaging companies provided those. In the case of the non-engaging companies, Hain Celestial and Hero, ATNI referred to company websites and local retailer websites if reliable product information was found.

After considering the companies' feedback on the product lists, the final list of products for the assessment amounted to a total of 1,297 CACF. **Table 2** demonstrates the breakdown of the number of CACF products assessed by company and the estimated company market share in each country.

Table 2. Number of products assessed and estimated market shares^f per company and country^g

	TOTAL (per country)		Danone		Hain Celestial		Hero		HiPP		Kraft Heinz		Nestlé	
	Product #	Market share 6 companies	Product #	Market share	Product #	Market share	Product #	Market share	Product #	Market share	Product #	Market share	Product #	Market share
Austria	101	>65%	10	9%	0	-	13	<5%	77	56%	0	-	0	-
Brazil	16	>81%	0	-	0	-	0	-	0	-	0	-	16	81%
Canada	147	~60%	0	-	0	-	65	11%	0	-	28	38%	58	11%
Egypt	18	>96%	3	no data	0	-	12	18%	0	-	0	-	3	78%
Germany	173	~59%	12	12%	0	-	61	<5%	99	44%	0	-	0	-
India	42	>89%	1	<5%	32	no data	0	-	0	-	0	-	9	89%
Ireland	162	~69%	20	24%	57	17%	27	10%	33	5%	18	13%	7	<5%
Italy	387	>68%	116	20%	0	-	34	<5%	111	<5%	99	48%	27	<5%
Saudi Arabia	33	~63%	0	-	0	-	1	9%	21	<5%	0	-	11	54%
UK	218	>53%	15	8%	79	22%	28	10%	51	<5%	38	13%	7	<5%
Total product #	1297		177		168		241		392		183		138	

^f Source: Euromonitor International Limited, Dairy Products and Alternatives Edition, 2021 data, © All rights reserved.

^g Blank values in the table “-” indicate that the company does not sell CACF in the respective market thus no products were assessed.

2.4 The Nutrient and Promotion Profile Model

To analyse the 1,297 CACF identified, ATNI used the 2022 WHO NPPM, which consists of two main assessments:

- Assessment of nutrient composition against criteria for eight product categories (please refer to pages 11-12 of the [NPPM](#) for further details)
- Assessment of promotional and labeling practices namely non permitted claims (i.e composition and nutrition claims, health claims and marketing claims), product name clarity, ingredient list clarity, instructions not to consume soft foods via pack, suitable preparation instructions, promotion and protection of breastfeeding, along with evaluating the need for front-of-pack warning labels to indicate high sugar content (please refer to pages 13-15 of the [NPPM](#) for further details)

A CACF that is suitable for promotion must meet all the nutrition composition requirements alongside all promotional and labeling requirements.

The NPPM sets out nutrient composition and promotional requirements across a total of eight CACF categories and 14 sub-categories. The NPPM document outlines all details relating to these criteria, some of which apply to all CACF categories while others are specific to certain product types (please refer to the document for further details).

To perform the NPPM assessment, a data entry form³² was developed by WHO and the University of Leeds. ATNI used this form to document relevant product information that was extracted from the images of the product labels once the product list was finalized. ATNI has adapted the data entry form to expand on the types of claims namely composition and nutrition claims, health claims and marketing claims, and to document examples of missing or inappropriate label information.

The use of the NPPM data entry form involves three steps for each CACF assessed:

1. Identifying the category of the CACF product by referring to the ingredient list of the product and following the guidance in the NPPM document
2. Extracting nutritional information from the product's ingredient list and nutrition panel to complete the nutrient composition assessment
3. Completing the assessment of promotional requirements by checking for the presence of claims, the accuracy of product names, ingredient lists and preparation or consumption instructions when needed (e.g. for dry foods and products sold in spout). The assessment also includes checking for statements that protect or promote breastfeeding.

The completed data entry forms were then reviewed, cleaned, and prepared for the NPPM analysis. The analysis was done in Stata SE 18.0, using a Stata code³³ developed by the University of Leeds as a basis to generate the results for each of the six companies in the respective countries their CACF are assessed in.

When describing the results of the assessment, ATNI refers to the 'requirement' or 'criteria' for nutrient composition and labeling practices. These refer to the requirements or criteria of the NPPM model.

Following the presentation of the overall results on both the nutrient composition and promotional assessments, each of the subsequent company chapters presents those results by company.

3. Results

3.1 Overall results

Results of the combined assessment of CACF nutrient composition and labeling practices

A total of 1,265 CACF products belonging to the six companies selected for this research were assessed against the requirements of the NPPM.

Thirty-four CACF belonged to the categories of confectionery (Hero = 2, HiPP =5) or drinks (Danone =5, Hero =4, HiPP =15, Kraft Heinz =3) which, according to the NPPM, should not be assessed with the model because these products should not be promoted for infants and young children under three years of age.

None of the companies' CACF products met all requirements of the NPPM, for both nutrient composition and labeling. Therefore, based on the NPPM none of the CACF are suitable for promotion to infants and young children between six months up to three years of age.

Results on nutrient composition requirements

As seen in **Table 3**, almost 35% of the 1,265 CACF assessed met all nutrient composition criteria. Zooming in to the six companies, around 42% of Kraft Heinz's products assessed met all nutrient composition requirements, followed by Hero (~39%), Danone (~38%), HiPP (~34%), Hain Celestial (~31%) and Nestlé (~25%).

Most companies' CACF met the NPPM requirements for fat (~99%), fruit content (~91%), sodium (~86%), and protein (~82%). Overall, around 76% of products had no added free sugar/sweetener. This requirement ranged from 47% for Nestlé to 86% for Hain Celestial. Other sugar requirements set by the NPPM for certain CACF categories were also met by most CACF, with 71% of the relevant products having total sugar levels that contribute to less than 15% of total energy.

Most companies scored low on the requirement related to energy density. Around 68% of the relevant CACF had appropriate energy levels to ensure the provision of adequate nutrition. For most companies, results ranged between 60% and 70% of relevant CACF meeting this criterion, while up to 86% of Nestlé's CACF met the energy density requirement.

Table 3 : Percentage and numbers of CACF that met applicable nutrient composition requirements of the NPPM, per company (n=1265)*

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Company	Criteria applied to all product categories (n=1265)				Criteria assessed for specific product categories			
	Met all nutrient composition requirements	Met sodium requirements §	With no added free sugar/sweetener †	Met total fat requirements (no trans) ◇	With <15% total energy from total sugar (n=515) §§	Met total protein requirements (n=447) #	Met energy density requirements (n=1249) ††	Met applicable fruit content requirements (n=645) ‡
Danone	38.3% (66)	93.1% (161)	83.7% (144)	98.8% (170)	88.9% (32)	92.2% (59)	62.7% (108)	86.4% (108)
Hain Celestial	30.9% (52)	73.2% (123)	85.7% (144)	97.6% (164)	53.5% (53)	77.1% (54)	60.1% (101)	97.1% (68)
Hero	39.2% (92)	96.2% (226)	71.9% (169)	99.1% (233)	61.3% (65)	68.3% (28)	62.5% (147)	79.3% (50)
HiPP	34.4% (128)	81.7% (304)	85.2% (317)	99.4% (370)	73.8% (130)	76.6% (125)	65.6% (244)	96.6% (199)
Kraft Heinz	43.0% (77)	83.3% (150)	80.0% (144)	98.3% (176)	89.5% (60)	90.2% (65)	70.4% (129)	93.5% (100)
Nestlé	24.6% (34)	88.4% (122)	47.1% (65)	97.1% (134)	58.1% (25)	85.0% (34)	86.2% (119)	76.6% (59)
TOTAL	34.9% (449)	85.9% (925)	75.6% (983)	98.6% (124)	70.8% (365)	81.5% (365)	67.9% (848)	90.5% (584)

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Figure 2 illustrates that the proportion of companies' products meeting all nutrient criteria for specific product categories varied between 0% up to 70%. Danone, Hero, and Kraft Heinz demonstrated that over 50% of their CACF 'meals' met all nutrient requirements. Among HiPP's CACF product types, those belonging to the 'dairy' category mostly met the NPPM nutrient requirements (>60%). In the 'fruit and vegetable puree' category, ~50% of Nestlé's and Hero's products met all the specified criteria. Additionally, >50% of 'snacks' from Hain Celestial met the nutrient requirements. However, none of Nestlé's 'dairy' and 'meal' products, and none of Kraft Heinz's 'snacks', fully met the NPPM's nutrient composition requirements. The same was observed for all products in the 'ingredients' category assessed, which belonged to Danone and Kraft Heinz.

Similar proportions of products passing the nutrient composition criteria were identified across most categories. The 'meals' categories had a higher percentage of products meeting the nutrient composition criteria (41%), followed by 'cereals' (35%), 'fruit and vegetable purees' (35%) 'snacks' (28%), 'dairy' (23%) and 'ingredients' (0%). The 'snacks' and 'dairy' categories had the lowest frequencies of products meeting the nutrient composition criteria. However, Danone and Hain Celestial had >50% of their 'snacks' products meeting the criteria and the same was seen for HiPP with its 'dairy' category (>60%).

Figure 2. Percentage of CACF that met the NPPM nutrient composition requirements, per company and by CACF product category*



* N/A indicates that the company was not assessed on the respective CACF product category

Results on labeling requirements

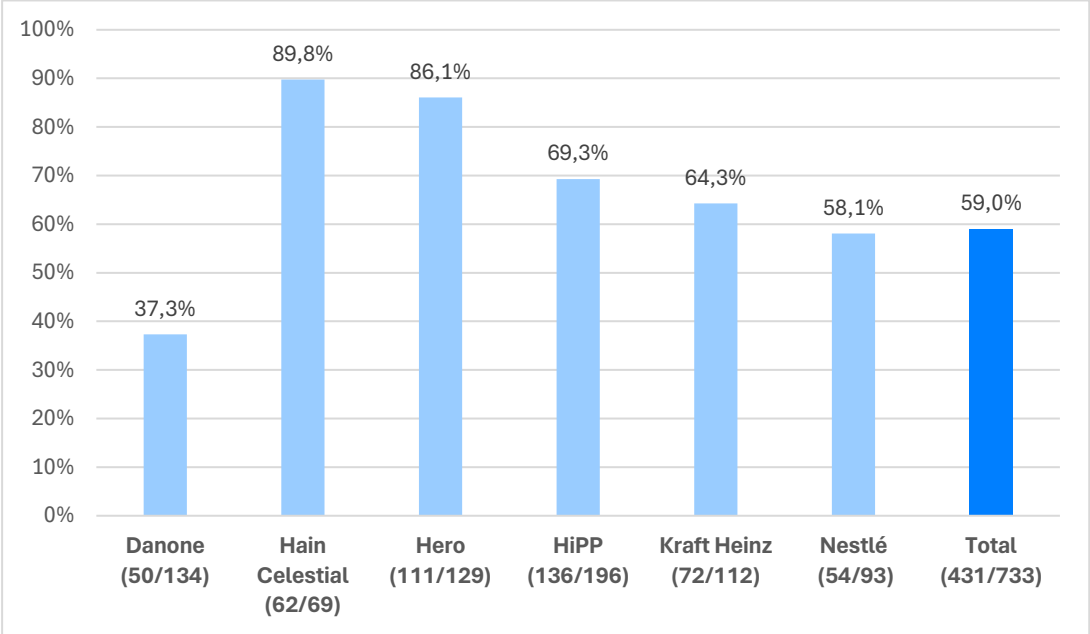
As demonstrated in **Table 4**, none of the companies' CACF met all of the NPPM's labeling requirements. None of the companies' CACF met the requirements relating to claims, as all products had at least one type of claim (nutritional, health or promotional). None of the pureed CACF met the recommended upper age limit of 12 months either. Only ~2% of CACF – all Nestlé products assessed from the Brazilian market – met all breastfeeding requirements. In comparison, companies performed better in meeting all labeling requirements on 'ingredient list clarity' (~58%) with Hain Celestial having

up to 93% of its products meeting this requirement, and on 'product name clarity' (~55%). Companies performed relatively well in indicating the minimum age of introduction (~80%), ranging between approximately 64% of Danone's CACF up to around 94% of Kraft Heinz's CACF meeting this requirement.

Table 4. Percentage and numbers of CACF that met applicable labeling requirements of the NPPM, per company (n=138) *Error! Not a valid link.Error! Not a valid link.

Additionally, **Figure 3. Percentage of overall CACF that require a FOP high sugar warning label, per company (n=733)** Figure 3 shows that 59% of applicable CACF products would require a 'high sugar' FOP warning according to the NPPM. The need for this warning varied among companies, with the percentage ranging from 37% for Danone to 89% for Hain Celestial.

Figure 3. Percentage of overall CACF that require a FOP high sugar warning label, per company (n=733) *



3.2 Danone

Among the ten countries selected for this research, CACF products produced and marketed by Danone were found and assessed in seven of the countries, as shown in **Table 5** below. Danone has relatively high shares in several of these countries' CACF markets, accounting for almost 25% of the CACF market in Ireland and almost 20% in Italy. Altogether, Danone's CACF sales in the seven countries listed below represent almost 25% of the company's global sales of CACF³⁴.

A total of 177 unique CACF products by Danone were included in this assessment. Only products assessed in Italy covered almost all categories (except for confectionery), while in all other countries the only product category found was dry cereals and starches. The most common product categories found in Italy were processed fruit and vegetable products (n=47) and savoury meals and meal components (n=26), followed by dry cereals and starches (n=16), and dairy foods and snacks (n=10 for both categories). Five of the 116 products assessed in Italy were drinks. This product category automatically did not pass the NPPM as it is not appropriate for promotion, therefore, no nutrient composition and labeling assessments were conducted on these five products. Thus, of the 177 products, a total of 172 were assessed against the NPPM.

Table 5. Number of Danone CACF assessed per category in each country (n)

Product category	Austria	Egypt	Germany	India	Ireland	Italy	UK	TOTAL
Dry cereals and starches	10	3	12	1	20	16	15	77
Dairy foods	0	0	0	0	0	10	0	10
Fruit & vegetable purées/ smoothies and fruit desserts	0	0	0	0	0	47	0	47
Savoury meals/meal components	0	0	0	0	0	26	0	26
Snacks and finger foods	0	0	0	0	0	10	0	10
Ingredients	0	0	0	0	0	2	0	2
Confectionery	0	0	0	0	0	0	0	0
Drinks	0	0	0	0	0	5	0	5
TOTAL	10	3	12	1	20	116	15	177

Danone's performance on the nutrient composition requirements of the NPPM

In total, approximately 38% of Danone's CACF products in all countries included in this assessment met *all* nutrient composition criteria.

Figure 4 below shows the proportion of Danone's CACF that met all nutrient composition criteria in each of the countries assessed. None of the products analyzed met these criteria in Egypt and India, while the highest percentage of products that fully met the nutrient composition criteria was found in Austria (~60%), followed by the UK and Ireland, where approximately half of the products assessed met all nutrient composition criteria (~53% and ~50%, respectively).

Figure 4. Percentage of Danone CACF that met all applicable nutrient composition requirements of the NPPM, per country

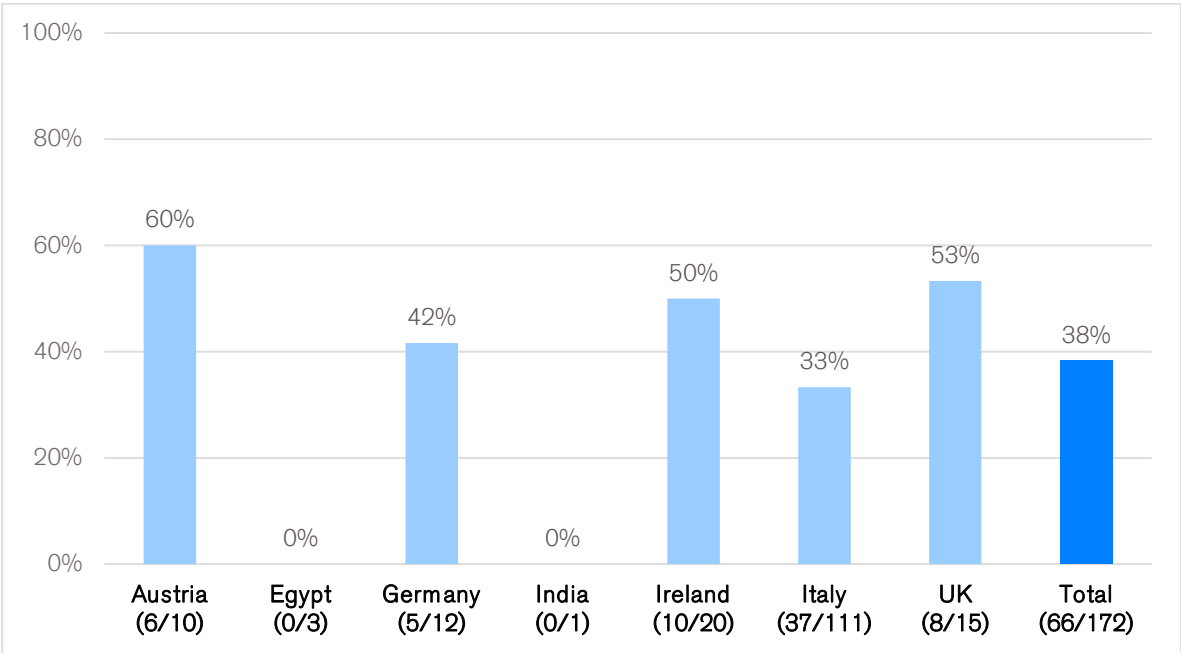


Table 6 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. With regards to criteria applied to all product categories, most products met total fat and sodium requirements (~99% and ~93%, respectively), while ~84% met the 'no added free sugar/sweeteners' requirement. For the latter, there was a large variation between countries: all Danone products assessed in Austria, Ireland and the UK met this requirement, while none of the products assessed in Egypt and India met this criterion. For the criteria used for specific product categories (refer to **Annex 1** for more details), most products met the protein levels and fruit content (~92% and ~86%, respectively) as required by the NPPM model. Among products falling under the 'meals' and 'snacks and finger foods' categories, only assessed in Italy, ~89% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Lastly, the percentage of products meeting the energy density requirements averaged ~63% across all countries, with the lowest percentages of products meeting this criterion found in Italy (~50%) and Ireland (~65%).

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 6. Percentage and numbers out of the total of Danone CACF that met applicable nutrient composition requirements of the NPPM, per country (n=172) *

Country	Criteria applicable to all product categories (n=172)				Criteria applicable to specific product categories			
	Met all nutrient composition requirements	Met sodium requirements §	With no added free sugar/sweetens †	Met total fat requirements (no trans) ◇	With <15% total energy from total sugar) §§ (n=36)	Met total protein requirements †† (n=64)	Met energy density requirements ††† (n=172)	Met applicable fruit content requirements ‡ (n=125)
Austria	60.0% (6)	100% (10)	100% (10)	100% (10)	n/a	100% (6)	100% (10)	60.0% (6)
Egypt	0% (0)	100% (3)	0% (0)	100% (3)	n/a	100% (2)	100% (3)	100% (3)
Germany	41.6% (5)	100% (12)	75.0% (9)	100% (12)	n/a	100% (8)	100% (12)	66.7% (8)
India	0% (0)	100% (1)	0% (0)	100% (1)	n/a	n/a	100% (1)	100% (1)
Ireland	50.0% (10)	100% (20)	100% (20)	100% (20)	n/a	100% (11)	65.0% (13)	80.0% (16)
Italy	33.3% (37)	90.1% (100)	81.1% (90)	100% (109)	88.9% (32)	82.7% (24)	50.0% (58)	100% (64)
UK	53.3% (8)	100% (15)	100% (15)	100% (15)	n/a	100% (8)	73.3% (11)	66.7% (10)
TOTAL	38.3% (66)	93.1% (161)	83.7% (144)	98.8% (170)	88.9% (32)	92.2% (59)	62.7% (108)	86.4% (108)

*Values are presented as % (n). Please refer to **Annex 1** for further details on the different criteria.

Danone's performance on the labeling requirements of the NPPM

None of Danone's CACF products in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, that show recommended product age, that have no nutritional/health/marketing claims, that have clear product and ingredient lists).

Table 7 shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF. **Table 7** shows mixed results for Danone products meeting labeling requirements on 'product name clarity,' with an average of ~77% of products meeting this criterion across all countries. All products assessed in all countries, except from Italy, met labelling requirements on 'ingredient list clarity,' while in Italy the percentage of products meeting this criterion was approximately 46% (refer to the legends and footnotes in **Annex 2** for more details about the requirements).

None of the CACF, however, met all labeling requirements on claims and on protection and promotion of breastfeeding. **Figure 5** below further illustrates that most products included one or more types of inappropriate claims: only ~1% of the products assessed did not display any composition/nutrition claims, followed by ~22% of products not displaying any marketing claims. Health claims were the least prevalent category of claims, with approximately 73% of products not featuring any claim of this nature. None of the products assessed in Austria, Egypt, Germany, and India met any of the requirements for claims, as all products included at least one claim. All Danone CACF assessed in Ireland and the UK included at least a nutritional and a promotional claim.

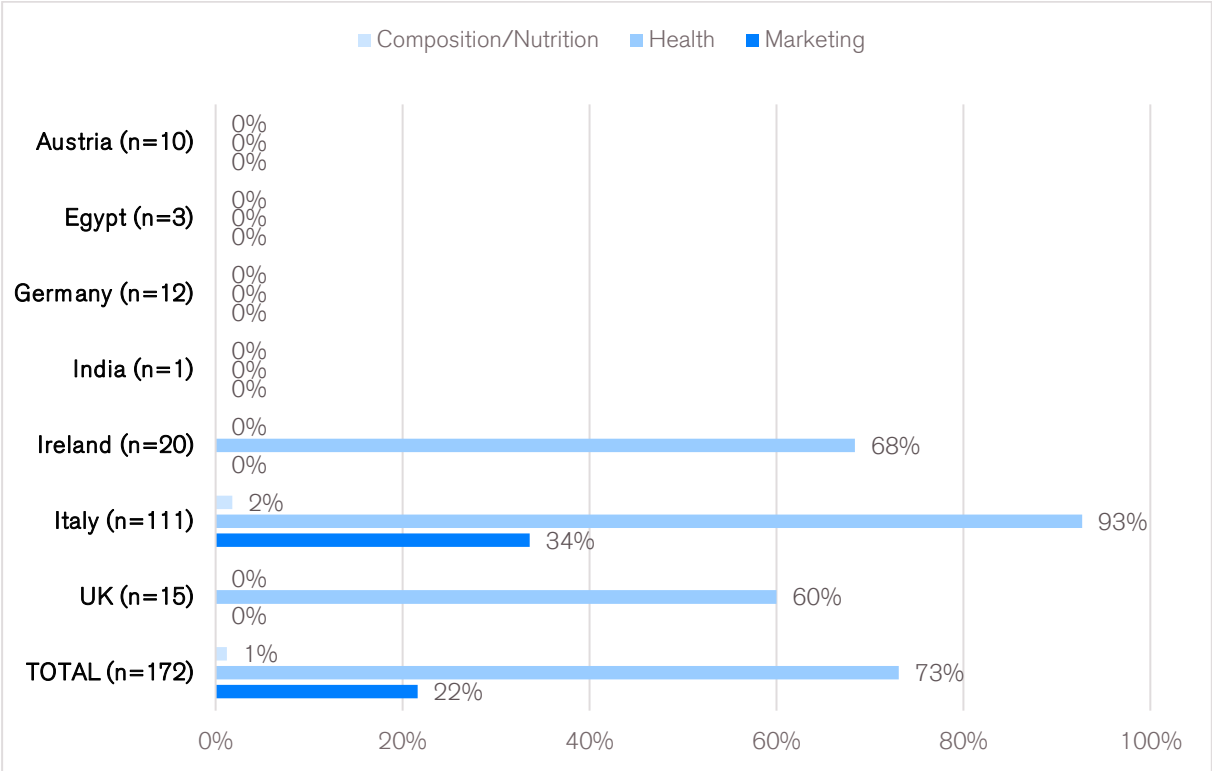
Table 7 also shows that ~64% of the products assessed across all countries met the lower age recommendation of not marketing the product as suitable for infants under six months of age, with percentages ranging from 100% (both in Egypt and India) to ~54% (in Italy). On the upper age limit, none of the blended/puréed CACF assessed in Italy indicated the appropriate upper age limit of 12 months for these products.

Table 7. Percentage and numbers out of the total of Danone CACF that met applicable labeling requirements of the NPPM, per country (n=172)*

Country	All labelling criteria	Any claim**	Age label (months)		Product name clarity†	Ingredient list clarity§	Promotion and protection of breastfeeding◇
			Upper (n=73)***	Lower			
Austria	0% (0)	0% (0)	n/a	90.0% (9)	60.0% (6)	100% (10)	0% (0)
Egypt	0% (0)	0% (0)	n/a	100% (3)	66.7% (2)	100% (3)	0% (0)
Germany	0% (0)	0% (0)	n/a	91.6% (11)	58.3% (7)	100% (12)	0% (0)
India	0% (0)	0% (0)	n/a	100% (1)	100% (1)	100% (1)	0% (0)
Ireland	0% (0)	0% (0)	n/a	80.0% (16)	80.0% (16)	100% (20)	0% (0)
Italy	0% (0)	0% (0)	0% (0)	54.1% (60)	80.2% (89)	45.9% (51)	0% (0)
UK	0% (0)	0% (0)	n/a	66.7% (10)	73.3% (11)	100% (15)	0% (0)
TOTAL	0% (0)	0% (0)	0% (0)	63.9% (110)	76.6% (132)	65.1% (112)	0% (0)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies). Please refer to **Annex 2** for further details on the different criteria.

Figure 5. Percentage of Danone CACF without nutritional, health or marketing claims, per country*



*n= total number of products assessed for each type of claim

Table 8 presents the percentage and number of dry cereals, ingredients, meal components and puréed products with a spout that have fully met the specific criteria applicable to these categories. The requirement for ready-to-eat puréed foods with a spout is to include a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout. None of Danone’s products assessed in Italy met this requirement, while CACF in the remaining countries were not assessed on this requirement as they do not belong to this specific product category. Regarding the specific requirement applicable to dry cereals, ingredients, and meal components products, all CACF assessed included suitable preparation instructions, except in Italy, where most of the products assessed met this criterion (~94%), but one product did not.

Table 8. Percentage and numbers out of the total of Danone CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

Country	Instructions not to consume soft foods via pack spout** (n=17)	Suitable preparation instructions† (n=79)
Austria	n/a	100% (10)
Egypt	n/a	100% (3)
Germany	n/a	100% (12)
India	n/a	100% (1)
Ireland	n/a	100% (20)
Italy	0% (0)	94.4% (17)
UK	n/a	100% (15)
TOTAL	0% (0)	98.7% (78)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).

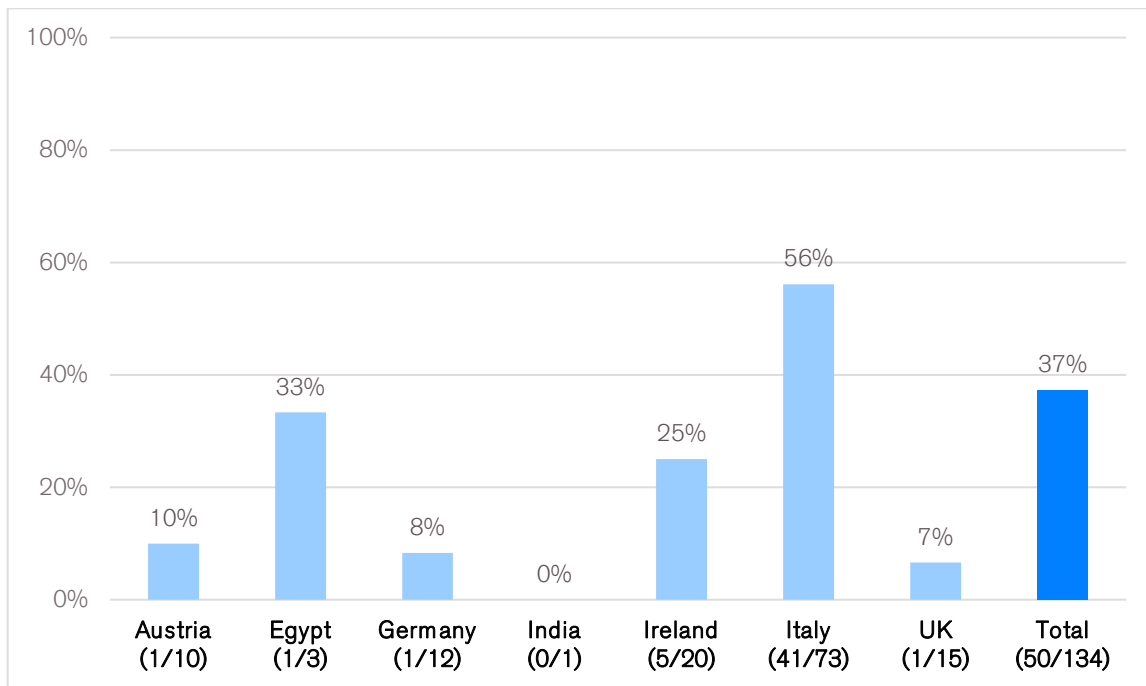
**Only spouted products were assessed against this requirement

†Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice)

Do Danone CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they require a front-of-pack (FOP) 'high sugar' warning label. A 'high sugar' warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Figure 6** below for more details about the requirements). As seen in **Figure 6**, across all countries where Danone's CACF were assessed, ~37% of applicable products would require a 'high sugar' FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds. In more detail, the only CACF product assessed in India would not require a high-sugar warning label. In the UK, Germany and Austria ~7%, ~8% and ~10% of products, respectively would require a FOP warning. While more than half of the products assessed in Italy (~56%) would need this FOP warning.

Figure 6. Percentage of Danone CACF that require a FOP high sugar warning label, per country (n=134)*



*Front-of-pack 'high sugar' warning required if the percentage energy from total sugar content is \geq the threshold for that product category – dry cereals and starches/fruit and vegetable purees/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

3.3 Hain Celestial

Among the ten countries selected for this research, CACF by Hain Celestial were found and assessed in India, Ireland and the UK, as shown in **Table 9**. Hain Celestial has relatively high shares in the UK and Ireland, where they make up approximately 20% of the CACF market. Altogether, Hain Celestial's CACF sales in the three countries listed below represent almost 30% of the company's global sales of CACF³⁵.

A total of 168 unique CACF products by Hain Celestial were included in this assessment. Most products were found in the UK (n=79), followed by Ireland (n=57) and India (n=32). The only three product categories found were processed fruit and vegetable products (n=69), savoury meals and meal components (n=66) and snacks (n=33). None of the products assessed fell in the dry cereals and starches, dairy foods, ingredients, confectionery, and drinks categories.

Table 9. Number of Hain Celestial CACF assessed per category in each country (n)

Product category	India	Ireland	UK	TOTAL
Dry cereals and starches	0	0	0	0
Dairy foods	0	0	0	0
Fruit & vegetable purées/ smoothies and fruit desserts	30	15	24	69
Savoury meals/meal components	2	30	34	66
Snacks and finger foods	0	12	21	33
Ingredients	0	0	0	0
Confectionery	0	0	0	0
Drinks	0	0	0	0
TOTAL	32	57	79	168

Hain Celestial's performance on the nutrient composition requirements of the NPPM

In total, only ~31% of Hain Celestial's CACF products in all countries included in this assessment met *all* nutrient composition criteria.

Figure 7 below shows the proportion of Hain Celestial's CACF that met all nutrient composition criteria in each of the countries assessed. In all the three countries analyzed, less than half of the products assessed met these criteria. Around 40% of the products assessed in India and the UK met these criteria (~44% and ~37%, respectively), while ~16% of the products assessed in Ireland met all nutrient composition criteria.

Figure 7. Percentage of Hain Celestial CACF that met all applicable nutrient composition requirements of the NPPM, per country

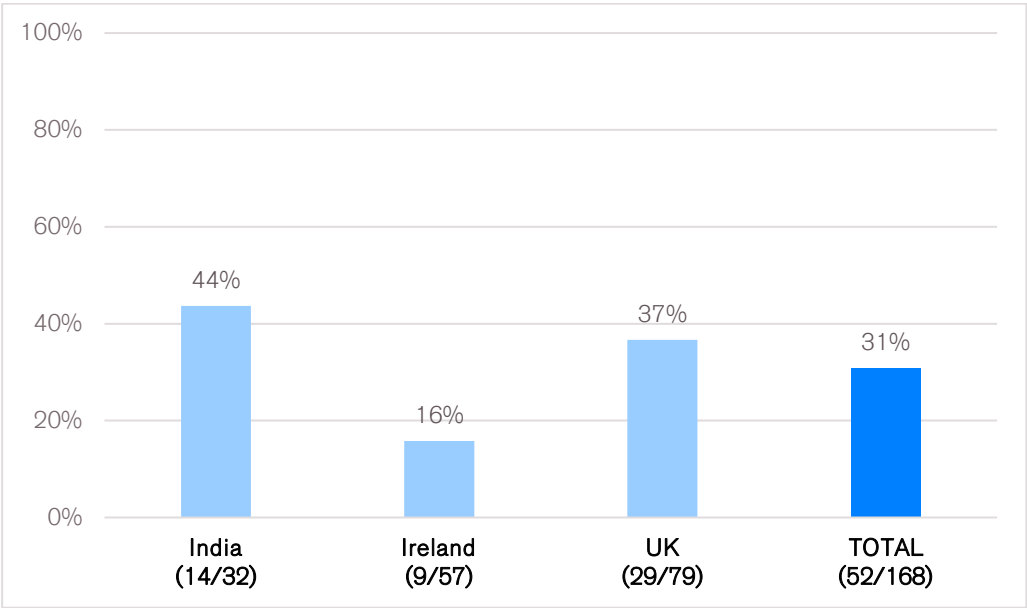


Table 10 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. For what concerns criteria applied to all product categories, almost all products (~98%) met total fat requirements and most products (~86%) also met the ‘no added free sugar/sweeteners’ requirement. While almost all products in India and the UK met sodium requirements (~97% and ~99%, respectively), only ~25% of the products assessed in Ireland met this criterion, leading to an average of ~73% of all Hain Celestial’s CACF meeting sodium requirements.

For the criteria used for specific product categories (refer to **Annex 1** for more details), almost all products met the fruit content (~97%) as required by the NPPM model. Most products met the protein levels (77%), with percentages ranging from between 50-60% in India and Ireland to ~94% in the UK. The percentage of products meeting the energy density requirements averaged ~60% across all countries.

Among products falling under the ‘meals’ and ‘snacks and finger foods’ categories, ~54% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Percentages of ‘meals’ and ‘snacks and finger foods’ meeting this requirement ranged from 52-53% in Ireland and the UK to 100% in India.

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 10. Percentage and numbers out of the total of Hain Celestial CACF that met applicable nutrient composition requirements of the NPPM, per country (n=168)*

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Please refer to **Annex 1** for further details on the different criteria.

Hain Celestial's performance on the labeling requirements of the NPPM

None of Hain Celestial's CACF products in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, recommended product age, no nutritional/health/marketing claims, clarity of product and ingredient lists). **Table 11** shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF.

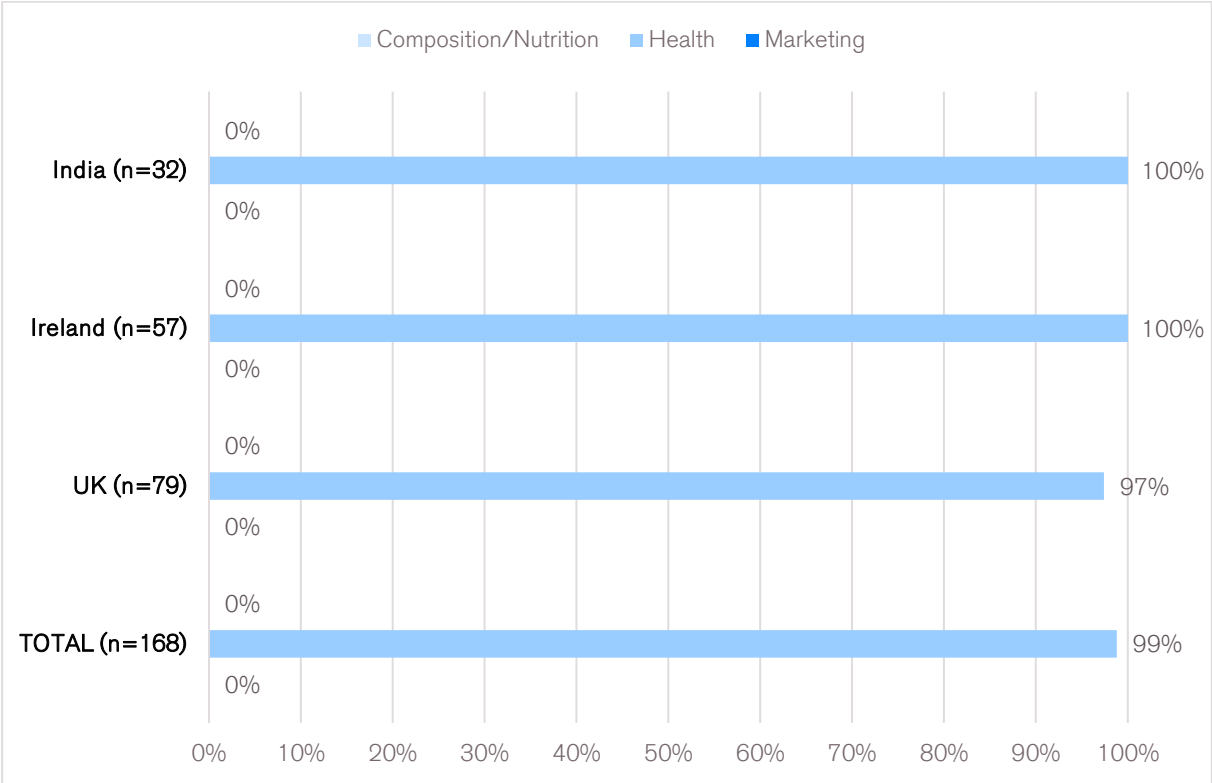
As seen in **Table 11**, most products (~93%) correctly specified the ingredient list, while ~40% of the products assessed met labeling requirements on product name clarity, with less than half of the products assessed in each country meeting this criterion (refer to the legends and footnotes in **Annex 2** for more details about the requirements). **Table 11** also shows that most products (~75%) met the lower age recommendation of not marketing the product as suitable for infants under six months of age. None of the blended/puréed CACF on the other hand indicated the appropriate upper age limit of 12 months for these products.

None of the CACF met all labeling requirements on claims and on promotion and protection of breastfeeding. **Figure 8**. Below further illustrates that almost all products included one or more types of inappropriate claims. All products included composition/nutrition claims and/or marketing claims, while health claims were not present in any of the products assessed in India and Ireland, and only in ~3% of the products assessed in the UK.

Table 11. Percentage and numbers out of the total of Hain Celestial CACF that met applicable labeling requirements of the NPPM, per country (n=168) *

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Figure 8. Percentage of Hain Celestial CACF without nutritional, health or marketing claims, per country*



*n= total number of products assessed for each type of claim

Table 12 presents the percentage and number of ready-to-eat puréed foods with a spout that included a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout. All products assessed in India and Ireland met this requirement, while most products (~77%) in the UK displayed the required statement. Additionally, **Table 12** illustrates the requirement to include suitable preparation instructions on the label of dry cereals, ingredients, and meal components. This requirement did not apply to any of Hain Celestial's CACF products that were assessed.

Table 12. Percentage and numbers out of the total of Hain Celestial CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

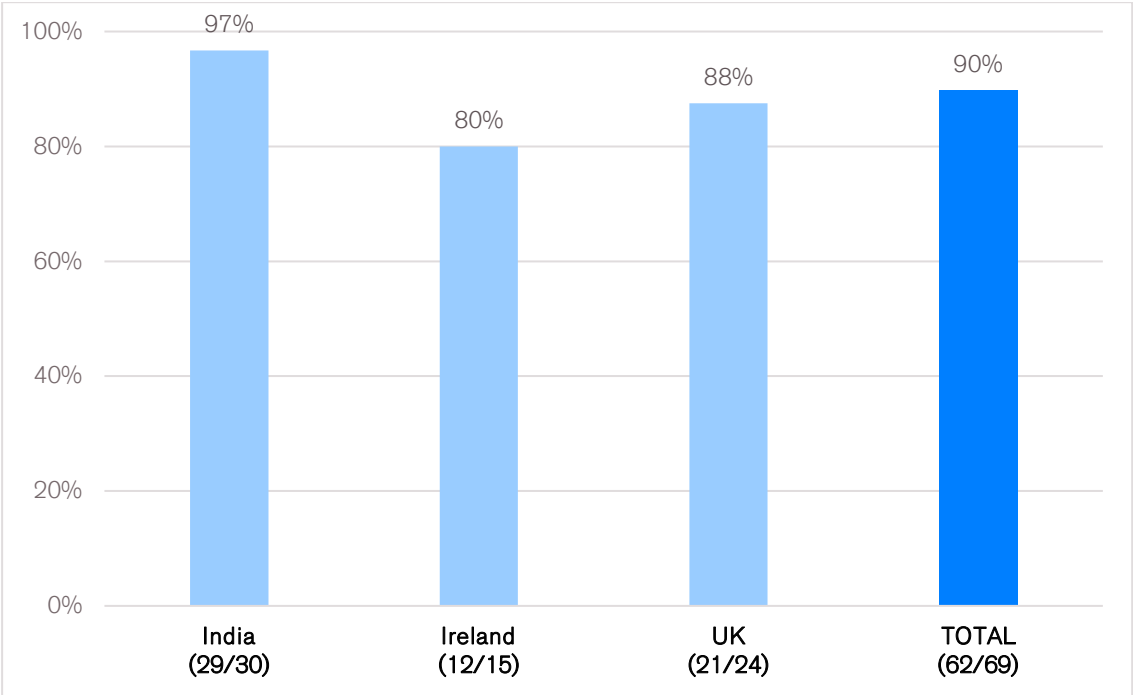
Country	Instructions not to consume soft foods via pack spout** (n=116)	Suitable preparation instructions† (n=0)
India	100% (32)	n/a
Ireland	100% (36)	n/a
UK	77.1% (37)	n/a
TOTAL	90.5% (105)	n/a

* Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).
 ** Only spouted products were assessed against this requirement
 † Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice)

Do Hain Celestial CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they require a front-of-pack (FOP) 'high sugar' warning label. A 'high sugar' warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Figure 9** below for more details about the requirements). As seen in **Figure 9**, across all three countries where Hain Celestial's CACF were assessed, ~90% of applicable products would require a 'high sugar' FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds, with percentages ranging between 80-97% in all three countries assessed.

Figure 9. Percentage of Hain Celestial CACF that require a FOP high sugar warning label, per country (n=62)*



*Front-of-pack 'high sugar' warning required if the percentage energy from total sugar content is \geq the threshold for that product category – dry cereals and starches/fruit and vegetable purees/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

3.4 Hero

Among the ten countries selected for this research, CACF by Hero were found and assessed in eight of the countries, as shown in **Table 13** below. Hero has relatively high shares in several of these countries' CACF markets, making up for almost 20% of the CACF market in Egypt, and almost 10-11% in Canada's market. Altogether, Hero's CACF sales in the eight countries listed below represent almost 20% of the company's global sales of CACF³⁶. Hero does not sell CACF in Brazil and India.

A total of 241 unique CACF products by Hero were included in this assessment. Most products were found in Canada (n=65), followed by Germany (n=61) and Italy (n=34). The most common product categories found were processed fruit and vegetable products (n=107) and snacks and finger foods (n=78), followed by savoury meals and meal components (n=30) and dry cereals and starches (n=20). In addition, products were found in the confectionery (n=2), and drinks (n=4) categories. These two product categories automatically did not pass the NPPM as they are not appropriate for promotion, therefore, no nutrient composition and labeling assessments were conducted on these six products. Thus, of the 241 products, a total of 235 were assessed against the NPPM. None of the products assessed fell in the ingredients category.

Table 13. Number of Hero CACF assessed per category in each country (n)

Product category	Austria	Canada	Egypt	Germany	Ireland	Italy	Saudi Arabia	UK	TOTAL
Dry cereals and starches	0	7	5	1	1	5	1	0	20
Dairy foods	0	0	0	0	0	0	0	0	0
Fruit & vegetable purées/ smoothies and fruit desserts	6	32	6	41	0	17	0	5	107
Savoury meals/meal components	3	9	0	3	0	7	0	8	30
Snacks and finger foods	2	17	1	12	26	5	0	15	78
Ingredients	0	0	0	0	0	0	0	0	0
Confectionery	1	0	0	1	0	0	0	0	2
Drinks	1	0	0	3	0	0	0	0	4
TOTAL	13	65	12	61	27	34	1	28	241

Hero's performance on the nutrient composition requirements of the NPPM

In total, approximately 39% of Hero's CACF in all countries included in this assessment met *all* nutrient composition criteria.

Figure 10 below shows the proportion of Hero's CACF that met all nutrient composition criteria in each of the countries assessed. The only product assessed in Saudi Arabia did not meet these criteria, followed by Egypt and Ireland, where ~8% and ~11% of the products met these requirements. The highest percentage of products that fully met the nutrient composition criteria was found in Canada, where about half of the products assessed met all nutrient composition criteria (~51%).

Figure 10 Percentage of Hero CACF that met all applicable nutrient composition requirements of the NPPM, per country

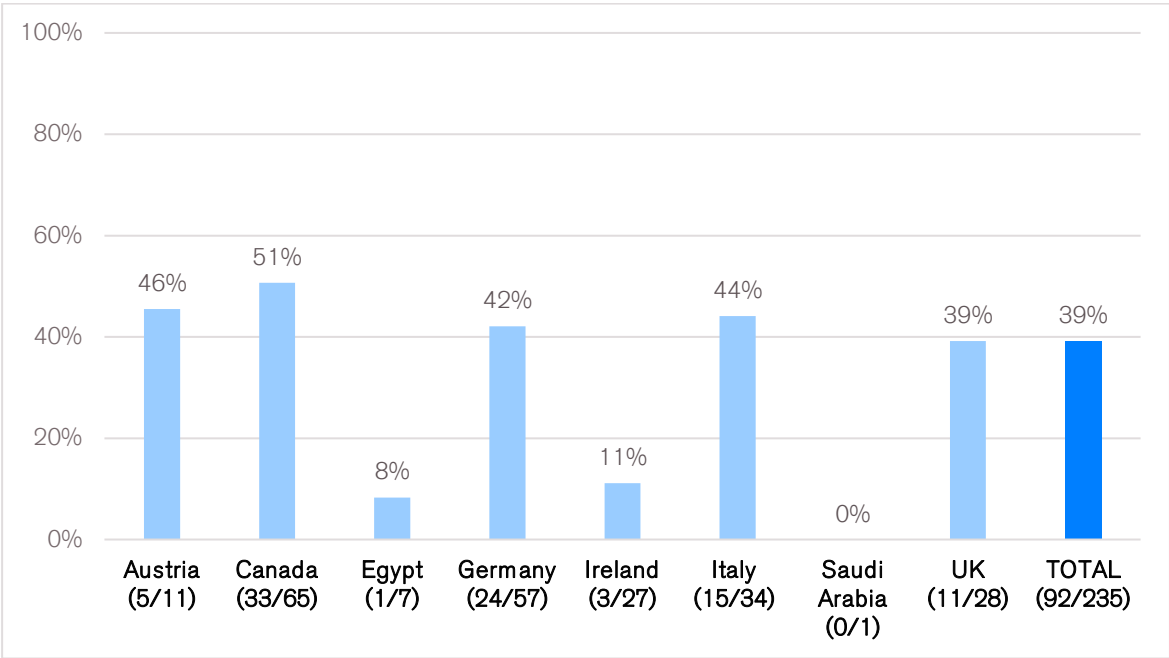


Table 14 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. For what concerns criteria applied to all product categories, most products met total fat and sodium requirements (~99% and ~96, respectively), and almost three quarters (~72%) met the ‘no added free sugar/sweeteners’ requirement. For the latter, the highest percentage of Hero products meeting this requirement were found in Italy (~88%), Canada (~85%) and Austria (~82%), while in Egypt a lower percentage of products met the criteria (~17%). For the criteria assessed for specific product categories (refer to the legends and footnotes in **Annex 1** for more details), more than 60% of products in each category met the protein levels, energy density and fruit content (~68%, ~63% and ~79%, respectively) as required by the NPPM model. The CACF in Saudi Arabia was not assessed for protein levels and total energy from sugar as it does not belong to these specific product categories. Among products falling under the ‘meals’ and ‘snacks and finger foods’ categories, ~61% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Percentages ranged from 0% in Egypt to ~83% and ~87% of ‘snacks and finger foods’ meeting this requirement in Italy and the UK, respectively.

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 14: Percentage and numbers out of the total of Hero CACF that met applicable nutrient composition requirements of the NPPM, per country (n=235) *

Country	Criteria applicable to all product_categories (n=235)				Criteria applicable to specific product categories			
	Met all nutrient composition requirements	Met sodium requirements §	With no added free sugar or sweetener †	Met total fat thresholds (no trans) ◊	With < 15% total energy from total sugar (n=106) §§	Met total protein (g/100 kcal) & protein weight thresholds (n=41) ††	Met energy density threshold (n=235) ††	Met applicable fruit content threshold (n=63) ‡
Austria	45.5 % (5)	100% (11)	81.8% (9)	90.9% (10)	60.0% (3)	100% (3)	38.4% (5)	100% (5)
Canada	50.7% (33)	92.3% (60)	84.6% (55)	100% (65)	38.4% (10)	0% (0)	81.5% (53)	47.1% (8)
Egypt	8.3% (1)	91.6% (11)	16.6% (2)	100% (12)	0% (0)	100% (4)	66.7% (8)	100% (6)
Germany	42.1% (24)	100% (57)	78.9% (45)	100% (57)	71.4% (10)	100% (3)	50.8% (31)	90.0% (9)
Ireland	11.1% (3)	96.3% (26)	25.9% (7)	96.3% (26)	48.0% (12)	75.0% (3)	37.0% (10)	50.0% (1)
Italy	44.1% (15)	100% (34)	88.2% (30)	100% (34)	83.3% (10)	100% (7)	50.0% (17)	100% (12)
Saudi Arabia	0% (0)	100% (1)	100% (1)	100% (1)	n/a	n/a	100% (1)	0% (0)
UK	39.2% (11)	92.8% (26)	71.4% (20)	100% (28)	86.9% (20)	80.0% (8)	78.6% (22)	90.0% (9)
TOTAL	39.1% (92)	96.2% (226)	71.9% (169)	99.1% (233)	61.3% (65)	68.3% (28)	62.5% (147)	79.3% (50)

*Values are presented as % (n). Please refer to **Annex 1** for further details on the different criteria.

Hero's performance on the labeling requirements of the NPPM

None of Hero's CACF in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, recommended product age, no nutritional/health/marketing claims, clarity of product and ingredient lists). **Table 15** shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF.

As **Table 15** shows, there were different results for products meeting labeling requirements on ingredient list and product name clarity, with an average of ~55% and ~41% of products meeting these criteria, respectively (refer to the legends and footnotes in **Annex 2** for more details about the requirements). None of the CACF, however, met all labeling requirements on claims. **Figure 11** below further illustrates that most products included one or more types of inappropriate claims, therefore did not pass the claims criteria assessment (i.e., marketing, health, composition/nutrition). Of all Hero's products assessed, none passed the nutritional claims criteria, while ~30% passed the marketing claims criteria, and ~79% passed the health claims criteria.

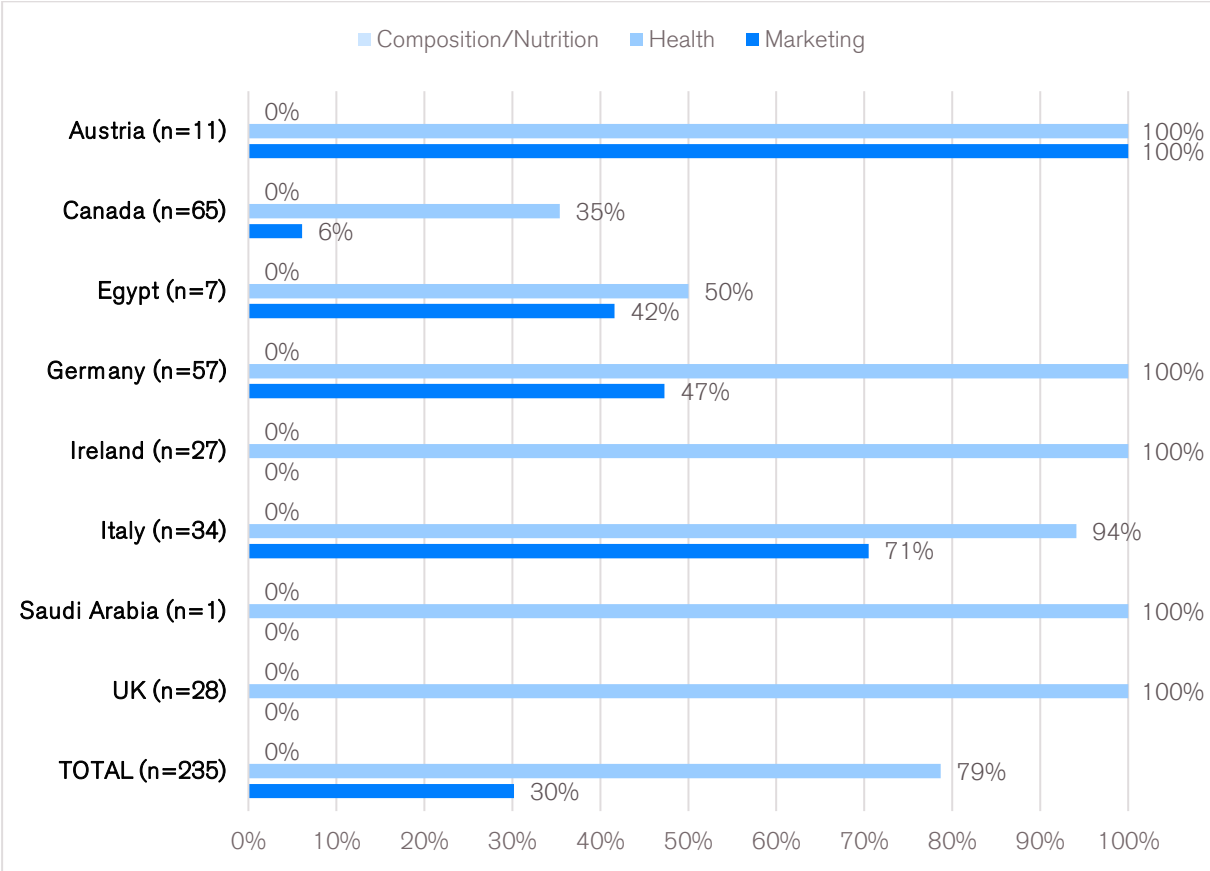
Table 15 also shows that a part of products (~77%) met the lower age recommendation of not marketing the product as suitable for infants under six months of age. However, none of the products assessed indicated the appropriate upper age limit of 12 months, therefore none of the products passed the upper age limit criteria. On the promotion and protection of breastfeeding, none of the products displayed an appropriate sentence on the promotion and protection of breastfeeding, therefore none of the products passed this criterion.

Table 15: Percentage and numbers out of the total of Hero CACF that met applicable labeling requirements of the NPPM, per country (n=241)*

Error! Not a valid link.*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).

Please refer to **Annex 2** for further details on the different criteria.

Figure 11. Percentage of Hero CACF without nutritional, health, or marketing claims, per country



*n= total number of products assessed for each type of claim

Table 16 presents the percentage and number of dry cereals, ingredients, meal components and puréed products with a spout that have fully met the specific criteria applicable to these categories. The requirement for ready-to-eat puréed foods with a spout is to include a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout. All products assessed in Egypt met this requirement, followed by ~92% of spouted products in Germany and ~50% in Austria meeting this requirement. However, none of the products assessed in Canada and Italy met this requirement. CACF in Ireland, Saudi Arabia and UK were not assessed on this requirement as they do not belong to this specific product category. Regarding the specific requirement applicable to dry cereals, ingredients, and meal components, all CACF assessed included suitable preparation instructions, except in Italy where only 60% of products passed this criterion, and in the UK, where this product category was not assessed. These findings suggest variations in meeting criteria specific to spouted products, while dry cereals, ingredients and meal components consistently displayed suitable preparation instructions across countries.

Table 16. Percentage and numbers out of the total of Hero CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

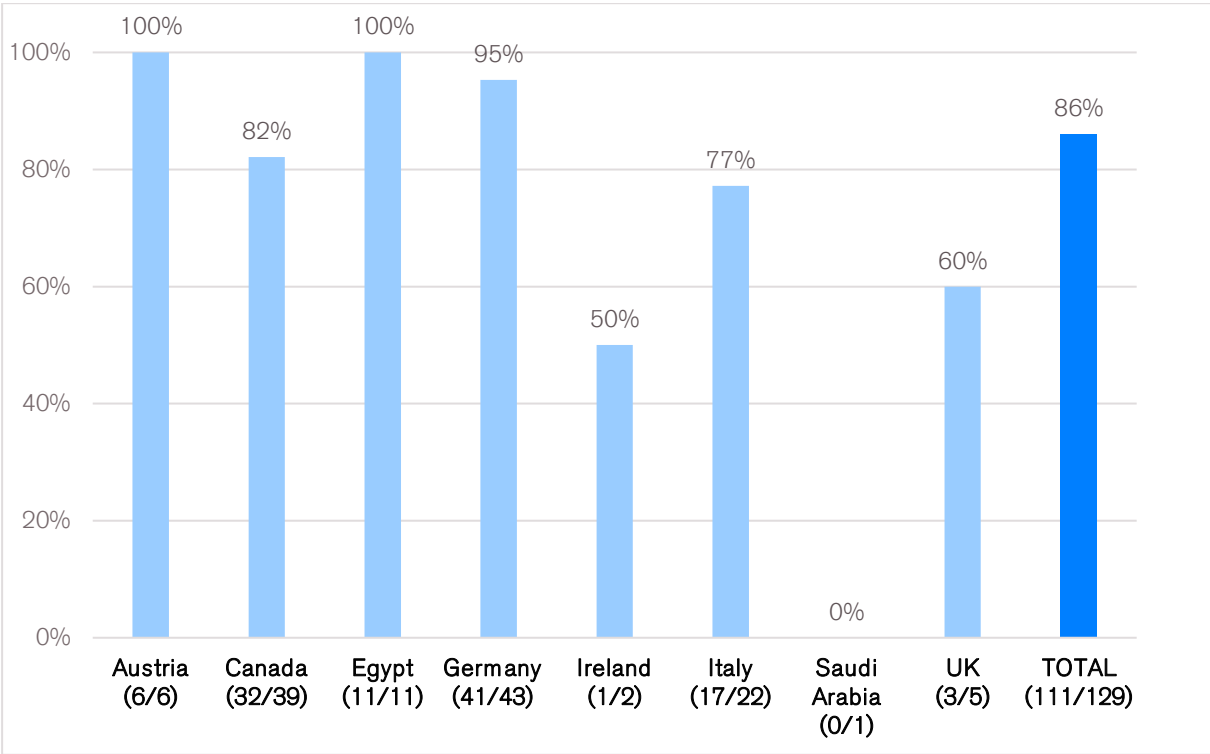
Country	Instructions not to consume soft foods via pack spout (n=74)	Suitable preparation instructions (n=20)
Austria	50.0% (2)	n/a
Canada	0% (0)	100% (7)
Egypt	100% (4)	100% (5)
Germany	91.6% (22)	100% (1)
Ireland	n/a	100% (1)
Italy	0% (0)	60.0% (3)
Saudi Arabia	n/a	100% (1)
UK	n/a	n/a
TOTAL	37.8% (28)	90.0% (18)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).
 **Only spouted products were assessed against this requirement
 †Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice)

Do Hero’s CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they require a front-of-pack (FOP) ‘high sugar’ warning label. A ‘high sugar’ warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Figure 12** below for more details about the requirements). As seen in **Figure 12**, across all countries where Hero’s CACF was assessed, ~86% of applicable products would require a ‘high sugar’ FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds. All products assessed in Austria and Egypt require a high-sugar warning label, and while for the other countries the percentage differs, in most countries, half of the products or more require a high-sugar warning label. However, the only CACF assessed in Saudi Arabia would not require this label. These results highlight the variation observed in the number of products that would need front-of-pack labeling across various countries.

Figure 12. Percentage and numbers out of the total of Hero CACF that require a FOP high sugar warning label, per country (n=111) *



*Front-of-pack 'high sugar' warning required if the percentage energy from total sugar content is \geq the threshold for that product category – dry cereals and starches/fruit and vegetable purees/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

3.5 HiPP

Among the ten countries selected for this research, CACF by HiPP were found and assessed in six of the countries, as shown in **Table 17** below. HiPP has relatively high shares in several of these countries' CACF markets, as high as almost 60% of the CACF market in Austria, and almost 50% in Germany's CACF market. Altogether, HiPP's CACF sales in the six countries listed below represent almost 50% of the company's global sales of CACF³⁷.

A total of 392 unique CACF products by HiPP were included in this assessment. Most products were found in Italy (n=111), followed by Germany (n=99) and Austria (n=77). The most common product categories found were savoury meals and meal components (n=138) and processed fruit and vegetable products (n=133), followed by dry cereals and starches (n=47) and snacks (n=38). None of the products assessed fell in the ingredients category. Five of the 392 products assessed were categorized as confectionery and 15 were drinks. These product categories automatically did not pass the NPPM as they are not appropriate for promotion, therefore, no nutrient composition and labeling assessments were conducted on these twenty products. Thus, of the 392 products, a total of 372 were assessed against the NPPM.

Table 17: Number of HiPP CACF assessed per category in each country (n)

Product category	Austria	Germany	Ireland	Italy	Saudi Arabia	UK	TOTAL
Dry cereals and starches	10	12	2	15	3	5	47
Dairy foods	1	2	4	4	0	5	16
Fruit & vegetable purées/ smoothies and fruit desserts	32	39	5	43	4	10	133
Savoury meals/meal components	20	25	22	31	10	30	138
Snacks and finger foods	7	12	0	15	3	1	38
Ingredients	0	0	0	0	0	0	0
Confectionery	2	2	0	1	0	0	5
Drinks	0	7	0	2	1	0	15
TOTAL	77	99	33	111	21	51	392

HiPP's performance on the nutrient composition requirements of the NPPM

In total, ~34% of HiPP's CACF products in all countries included in this assessment met *all* nutrient composition criteria.

Figure 13 below shows the proportion of HiPP's CACF that met all nutrient composition criteria in each of the countries assessed. The lowest percentage of products analyzed that met these criteria was found in Ireland (~18%), while the highest percentage of products that fully met the nutrient composition criteria was found in the UK, where approximately half of the products analyzed met all nutrient composition criteria (~57%). In all other countries, the percentage of products meeting all nutrient composition criteria was approximately 30%.

Figure 13: Percentage and numbers out of the total of HiPP CACF that met all applicable nutrient composition requirements of the NPPM, per country

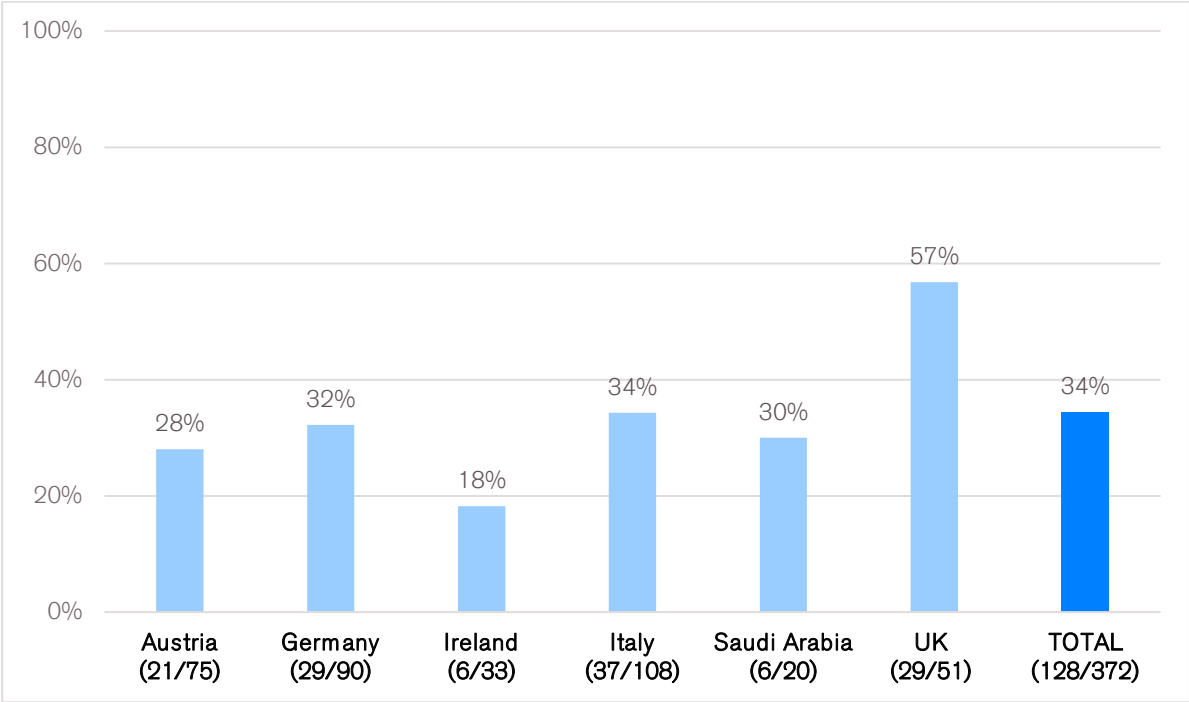


Table 18 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. For what concerns criteria applied to all product categories, most products met total fat, ‘no added free sugar/sweeteners’ and sodium requirements (~99%, ~85% and ~82% respectively). The largest variation between countries was found in the sodium requirements: ~18% of HiPP products assessed in Ireland met this requirement, while in the remaining five countries all or most HiPP products assessed met this criterion, with percentages ranging from ~77% to 100%. For the criteria used for specific product categories (refer to the legends and footnotes in **Annex 1** for more details), most products met the fruit content (~97%) as required by the NPPM model. Among products falling under the ‘meals’ and ‘snacks and finger foods’ categories, ~74% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Additionally, ~77% of the products assessed met the required protein levels and ~66% of the products had the required energy density. The requirement with the most notable variation was energy density, spanning from around 44% in Italy to approximately 90% in both Ireland and the UK.

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 18: Percentage and numbers out of the total of HiPP CACF that met applicable nutrient composition requirements of the NPPM, per country (n=372)*

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HiPP's performance on the labeling requirements of the NPPM

None of HiPP's CACF products in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, recommended product age, no nutritional/health/marketing claims, clarity of product and ingredient lists). **Table 19** shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF.

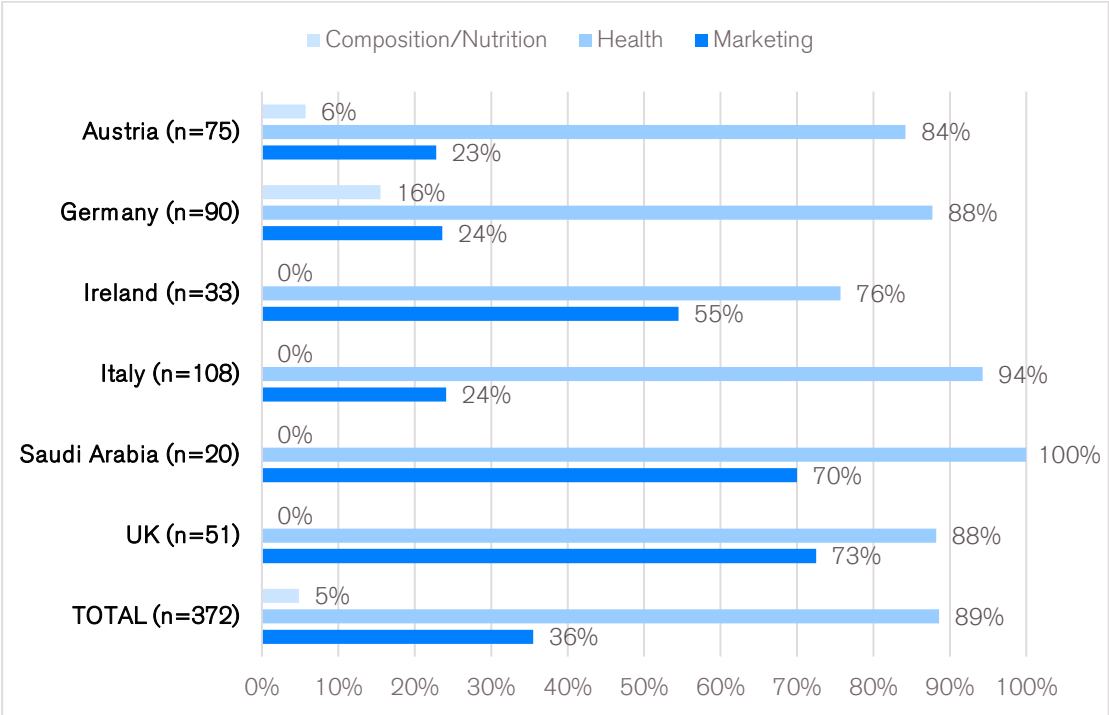
As seen in **Table 19**, there were mixed results for products meeting labeling requirements on ingredient list and product name clarity, with an average of ~49% and ~32% of products meeting these criteria, respectively (refer to the legends and footnotes in **Annex 2** for more details about the requirements). None of the CACF, however, met all labeling requirements on claims and promotion and protection of breastfeeding. **Figure 14** below further illustrates that most products included one or more types of inappropriate claims: only ~5% of the products assessed did not display any composition/nutrition claims, followed by ~36% of products not displaying any marketing claims. Health claims were the least prevalent category of claims, with approximately 89% of products not featuring any claim of this nature. All products assessed in Ireland, Italy, Saudi Arabia, and the UK displayed at least a nutritional claim.

Table 19 also shows that approximately 77% of the CACF assessed met the lower age recommendation of not marketing the product as suitable for infants under six months of age, with percentages of products meeting this requirement varying from ~57% in Italy up to ~88% in Austria. None of the blended/puréed CACF on the other hand indicated the appropriate upper age limit of 12 months for these products.

Table 19: Percentage and numbers out of the total of HiPP CACF that met applicable labeling requirements of the NPPM, per country (n=372)*

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Figure 14. Percentage and numbers out of the total of HiPP CACF without nutritional, health or marketing claims, per country*



*n= total number of products assessed for each type of claim

Table 20 presents the percentage and number of dry cereals, ingredients, meal components and puréed products with a spout that have fully met the specific criteria applicable to these categories. The requirement for ready-to-eat puréed foods with a spout is to include a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout. All HiPP's products assessed in Austria, Germany and Saudi Arabia met this requirement, while none of the products assessed in Italy did. CACF in Ireland and the UK were not assessed on this requirement as they do not belong to this specific product category. Regarding the specific requirement applicable to dry cereals, ingredients, and meal components products, all CACF assessed included suitable preparation instructions, except in Austria, where the percentage of products meeting this requirement was slightly lower (~90%). These findings suggest variations in meeting criteria specific to spouted products, while dry cereals, ingredients and meal components more consistently displayed suitable preparation instructions across countries.

Table 20. Percentage and numbers out of the total of HiPP CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

Country	Instructions not to consume soft foods via pack spout** (n=67)	Suitable preparation instructions† (n=44)
Austria	100% (20)	90.0% (9)
Germany	100% (20)	100% (9)
Ireland	n/a	100% (2)
Italy	0% (0)	100% (15)
Saudi Arabia	100% (3)	100% (3)
UK	n/a	100% (5)
TOTAL	64.2% (43)	97.7% (43)

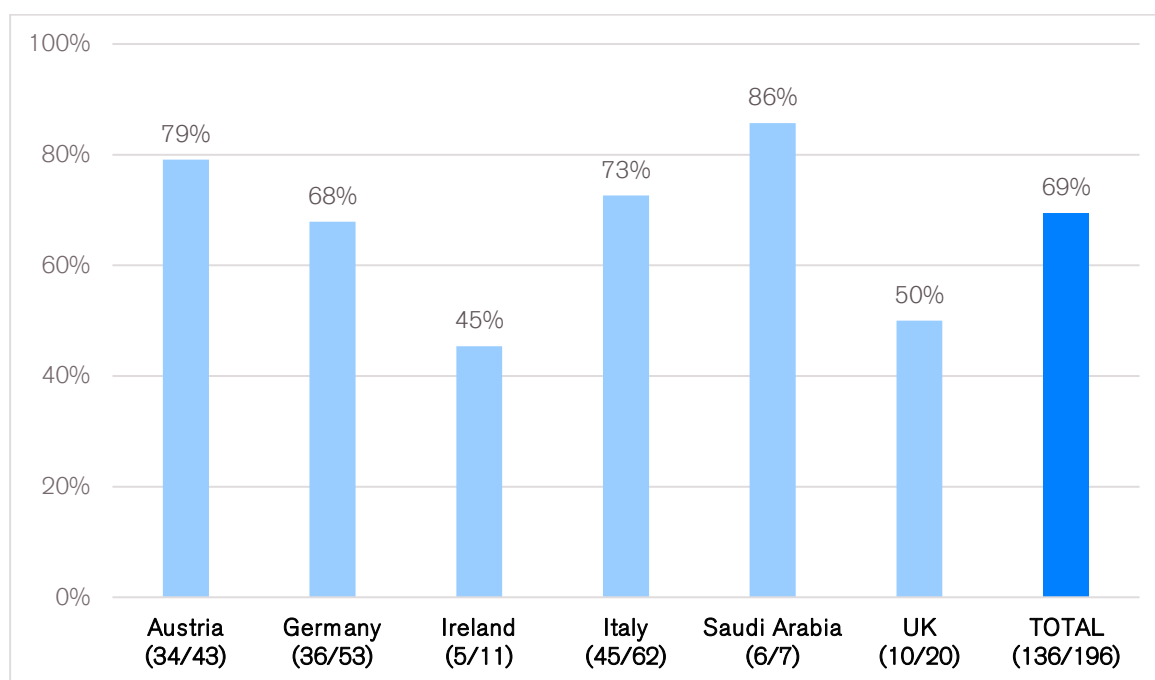
* Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).
 ** Only spouted products were assessed against this requirement

†Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice).

Do HiPP CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they would require a front-of-pack (FOP) 'high sugar' warning label. A 'high sugar' warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Annex 2** for more details about the requirements). As seen in **Figure 15**, across all countries where HiPP's CACF were assessed, ~69% of applicable products would require a 'high sugar' FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds. Results varied across countries, ranging from the lowest percentage in Ireland (~45%) to the highest in Saudi Arabia (~86%). However, these findings suggest that in all countries assessed, a minimum of 45% of the evaluated products would require a 'high sugar' FOP warning.

Figure 15. Percentage and numbers out of the total of HiPP CACF that require a FOP high sugar warning label, per country (n=135) *



*Front-of-pack 'high sugar' warning required if the percentage energy from total sugar content is \geq the threshold for that product category – dry cereals and starches/fruit and vegetable purees/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

3.6 Kraft Heinz

Among the ten countries selected for this research, CACF by Kraft Heinz were found and assessed in four, as shown in **Table 21** below. Kraft Heinz has relatively high shares in several of these countries' CACF markets, as high as almost 50% of the CACF market in Italy, and almost 40% in Canada. Altogether, Kraft Heinz's CACF sales in the four countries listed below represent almost 50% of the company's global sales of CACF.

A total of 183 unique CACF products by Kraft Heinz were included in this assessment. Most products were found in Italy (n=99), followed by the UK (n=38), Canada (n=28) and Ireland (n=18). The most common product categories found were fruit and vegetable purées/smoothies and fruit desserts (n=73) and savoury meals and meal components (n=57), followed by dry cereals and starches (n=28), dairy foods (n=11) and snacks (n=10). Only one product assessed in Italy fell in the ingredients category, and three products assessed in the UK were categorized as drinks. The second category automatically did not pass the NPPM as it is not appropriate for promotion, therefore, no nutrient composition and labeling assessments were conducted for these three products. Thus, of the 183 products, a total of 180 were assessed against the NPPM. None of the products assessed fell in the confectionery category.

Table 21: Number of Kraft Heinz CACF assessed per category in each country (n)

Product category	Canada	Ireland	Italy	UK	TOTAL
Dry cereals and starches	0	8	9	11	28
Dairy foods	0	2	6	3	11
Fruit & vegetable purées/ smoothies and fruit desserts	20	5	36	12	73
Savoury meals/meal components	8	3	37	9	57
Snacks and finger foods	0	0	10	0	10
Ingredients	0	0	1	0	1
Confectionery	0	0	0	0	0
Drinks	0	0	0	3	3
TOTAL	28	18	99	38	183

Kraft Heinz's performance on the nutrient composition requirements of the NPPM

Figure 16 below shows the proportion of Kraft Heinz's CACF that met all nutrient composition criteria in each of the countries assessed. Percentages range from ~28% (in Ireland) to ~57% (in Canada), resulting in an average of approximately 43% of Kraft Heinz's CACF products across the four countries meeting *all* nutrient composition criteria.

Figure 16: Percentage and numbers out of the total of Kraft Heinz CACF that met all applicable nutrient composition requirements of the NPPM, per country

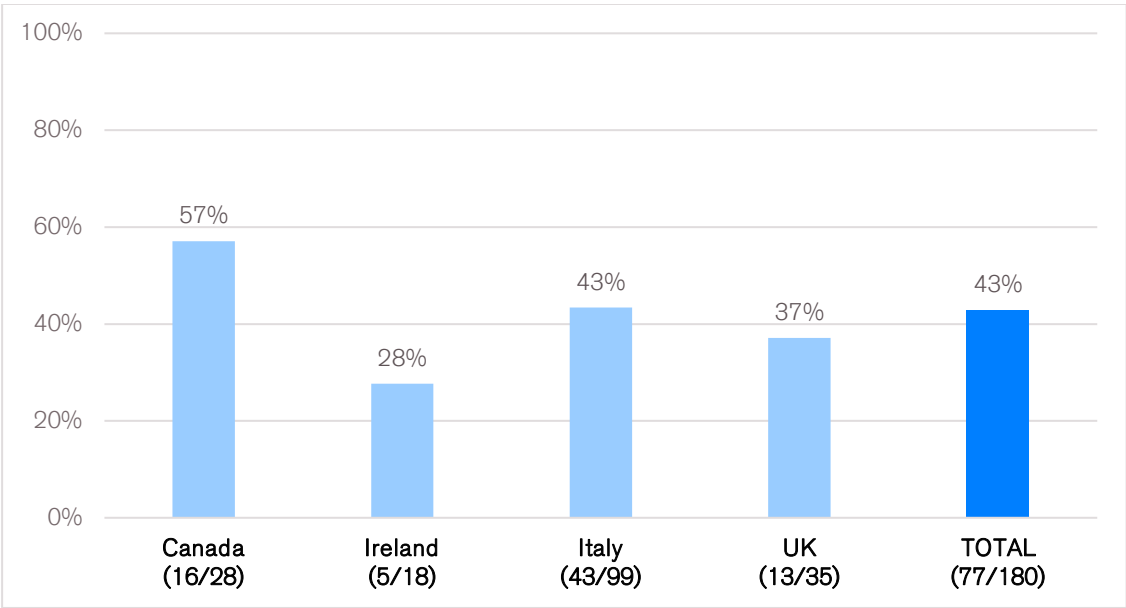


Table 22 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. For what concerns criteria applied to all product categories, almost all products met total fat requirements (~98%), with most products also meeting the sodium and the ‘no added free sugar/sweeteners’ requirements (~83% and ~80%, respectively). The lowest percentage of products meeting these two criteria was found in Ireland, where all products met total fat requirements, but only ~67% met sodium requirements and ~61% met the ‘no added free sugar/sweeteners’ requirement.

For the criteria used for specific product categories (refer to the legends and footnotes in **Annex 1** for more details), most products met the fruit content and protein levels (~94% and ~90%, respectively) as required by the NPPM model. In Canada, only ~13% of the products assessed met the required protein levels, while in the rest of the countries all products met this criterion. Among products falling under the ‘meals’ and ‘snacks and finger foods’ categories, ~90% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Percentages ranged from 75-77% (in Canada and the UK, respectively) to 94-100% of ‘snacks and finger foods’ meeting this requirement (in Italy and Ireland, respectively). Finally, ~70% of the products assessed across all countries met energy density requirements.

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 22: Percentage and numbers out of the total of Kraft Heinz CACF that met applicable nutrient composition requirements of the NPPM, per country (n=180)*

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Kraft Heinz's performance on the labeling requirements of the NPPM

None of Kraft Heinz's CACF products in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, recommended product age, no nutritional/health/marketing claims, clarity of product and ingredient lists). **Table 23** shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF.

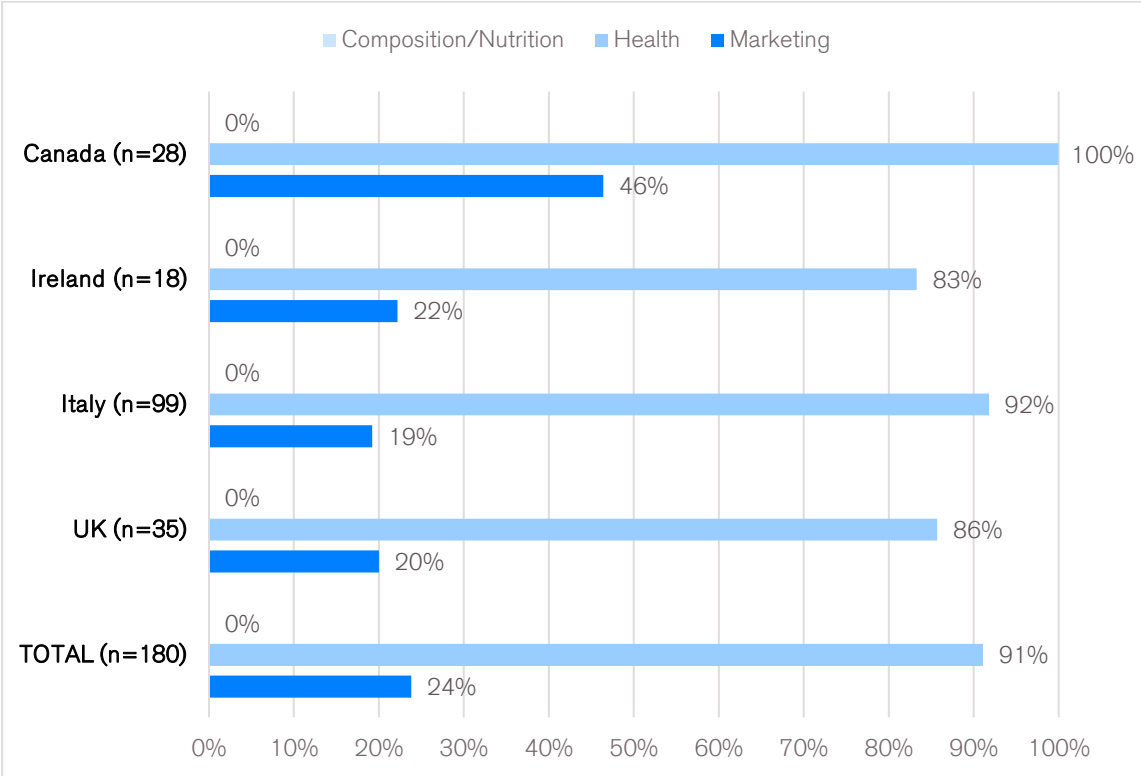
As seen in **Table 23**, there were mixed results for products meeting labeling requirements on ingredient list and product name clarity, with an average of ~38% and ~78% of products meeting these criteria, respectively (refer to the legends and footnotes in **Annex 2** for more details about the requirements). Results for these two criteria varied also for products assessed within the same countries: of all products assessed in Canada, ~93% displayed an appropriate product name, but none met the ingredient list requirement. The same trend can be seen in products assessed in the Italian market, where ~89% displayed an appropriate product name, but only ~40% met the ingredient list requirement. None of the CACF across all countries assessed met all labeling requirements on claims and on promotion and protection of breastfeeding. **Figure 17** below further illustrates that most products included one or more types of inappropriate claims: all products assessed displayed at least one composition/nutrition claim. Around ~24% of products did not display any marketing claims. Health claims were the least prevalent category of claims, with approximately 91% of products not featuring any claim of this nature.

Table 23 also shows that most products (~94%) met the lower age recommendation of not marketing the product as suitable for infants under six months of age, with ~10% of the products assessed in Italy not meeting this criterion. None of the blended/puréed CACF on the other hand indicated the appropriate upper age limit of 12 months for these products.

Table 23: Percentage and numbers out of the total of Kraft Heinz CACF that met applicable labeling requirements of the NPPM, per country (n=180) *

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Figure 17. Percentage and numbers out of the total of Kraft Heinz CACF without nutritional, health or marketing claims, per country



*n= total number of products assessed for each type of claim

Table 24 presents the percentage and number of dry cereals, ingredients, meal components and puréed products with a spout that have fully met the specific criteria applicable to these categories. The requirement for ready-to-eat puréed foods with a spout is to include a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout. All of Kraft Heinz's products assessed in Canada met this requirement, while none of the products assessed in Italy, Ireland and the UK included this statement. Regarding the specific requirement applicable to dry cereals, ingredients and meal components products, all CACF assessed in Ireland, Italy and the UK included suitable preparation instructions (these product categories were not found in Canada). These findings suggest variations in meeting criteria specific to spouted products, while dry cereals products consistently displayed suitable preparation instructions across countries.

Table 24. Percentage and numbers out of the total of Kraft Heinz CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

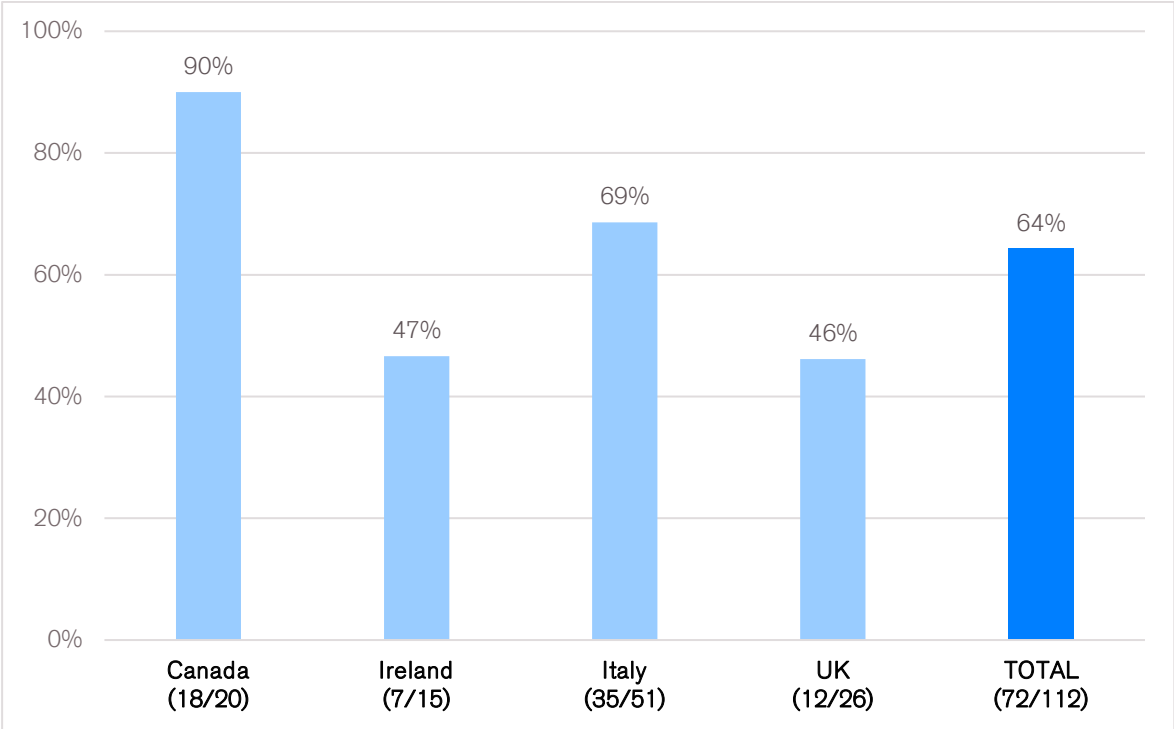
Country	Instructions not to consume soft foods via pack spout** (n=30)	Suitable preparation instructions† (n=29)
Canada	100% (15)	n/a
Ireland	0% (0)	100% (8)
Italy	0% (0)	100% (10)
UK	0% (0)	100% (11)
TOTAL	50.0% (15)	100% (29)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).
 **Only spouted products were assessed against this requirement
 †Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice)

Do Kraft Heinz’s CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they require a front-of-pack (FOP) ‘high sugar’ warning label. A ‘high sugar’ warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Figure 18** below for more details about the requirements). As seen in **Figure 18** , across all countries where Kraft Heinz’s CACF were assessed, ~64% of applicable products would require a ‘high sugar’ FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds, with percentages ranging from ~46% in the UK to ~90% in Canada . These results highlight the variation observed in the number of products that would need front-of-pack labeling across various countries.

Figure 18. Percentage and numbers out of the total of Kraft Heinz CACF that require a FOP high sugar warning label, per country (n=72)*



*Front-of-pack ‘high sugar’ warning required if the percentage energy from total sugar content is \geq the threshold for that product category – dry cereals and starches/fruit and vegetable purées/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

3.7 Nestlé

Among the ten countries selected for this research, CACF by Nestlé were found and assessed in eight of the countries, as shown in **Table 25** below. Nestlé has relatively high shares in several of these countries' CACF markets, as high as almost 90% of the CACF market in India, and almost 80% in Brazil's and Egypt's CACF markets each. Altogether, Nestlé's CACF sales in the eight countries listed below represent almost 25% of the company's global sales of CACF³⁸. Nestlé does not sell CACF in Austria and Germany.

A total of 138 unique CACF products by Nestlé were included in this assessment. Most products were found in Canada (n=58), followed by Italy (n=27) and Brazil (n=16). The most common product categories found were dry cereals and starches (n=50) and snacks and finger foods (n=39), followed by fruit and vegetable products (n=26) and dairy foods (n=15). None of the products assessed fell in the ingredients, confectionery and drinks categories.

Table 25: Number of Nestlé CACF assessed per category in each country (n)

Product category	Brazil	Canada	Egypt	India	Ireland	Italy	Saudi Arabia	UK	TOTAL
Dry cereals and starches	11	19	3	9	2	0	4	2	50
Dairy foods	0	0	0	0	0	15	0	0	15
Fruit & vegetable purées/ smoothies and fruit desserts	0	15	0	0	0	8	3	0	26
Savoury meals/meal components	0	5	0	0	0	0	3	0	8
Snacks and finger foods	5	19	0	0	5	4	1	5	39
Ingredients	0	0	0	0	0	0	0	0	0
Confectionery	0	0	0	0	0	0	0	0	0
Drinks	0	0	0	0	0	0	0	0	0
TOTAL	16	58	3	9	7	27	11	7	138

Nestlé's performance on the nutrient composition requirements of the NPPM

In total, ~22% of Nestlé's CACF products in all countries included in this assessment met *all* nutrient composition criteria.

Figure 19 below shows the proportion of Nestlé's CACF that met all nutrient composition criteria in each of the countries assessed. None of the products analyzed met these criteria in Egypt and India, while the highest percentage of products that fully met the nutrient composition criteria was found in Ireland and the UK, where more than half of the products analyzed met all nutrient composition criteria (~71% in each of the two countries).

Figure 19: Percentage and numbers out of the total of Nestlé CACF that met all applicable nutrient composition requirements of the NPPM, per country

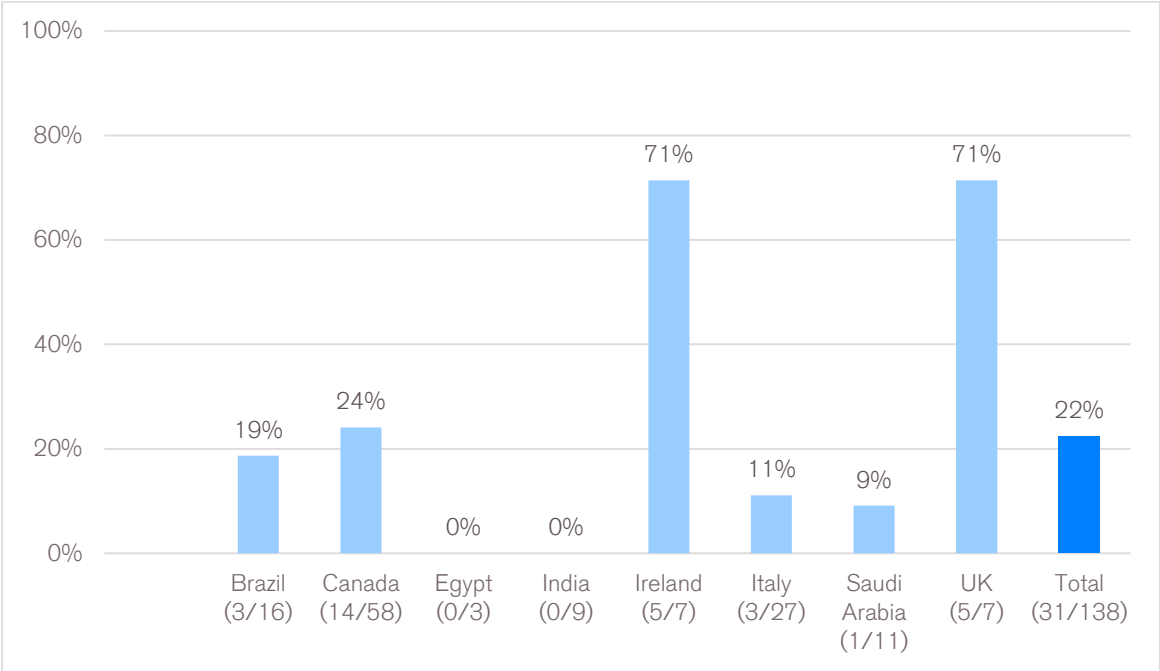


Table 26 further shows the proportion and number of CACF in each country that met each of the nutrient composition requirements of the NPPM, including those assessed for all product categories and those applicable to specific product categories. For what concerns criteria applied to all product categories, most products met total fat and sodium requirements (~97% and ~88%, respectively), while less than half (~47%) met the 'no added free sugar/sweeteners' requirement. For the latter, there was a large variation between countries: most Nestlé products assessed in Canada (~76%), Ireland (~71%) and the UK (~71%) met this requirement, while none of the products assessed in Egypt and India met this criterion. For the criteria used for specific product categories (refer to the legends and footnotes in **Annex 1** for more details), most products met the protein levels, energy density and fruit content (85%, ~86% and ~77%, respectively) as required by the NPPM model. Among products falling under the 'meals' and 'snacks and finger foods' categories, ~58% met the requirement of having total sugar contribute to less than 15% of the total energy of the product. Percentages ranged from 25% (in Saudi Arabia) to 100% of 'snacks and finger foods' meeting this requirement in both Ireland and the UK.

For category-level results on nutrient composition, refer to **Figure 2** in the Overall Results.

Table 26: Percentage and numbers out of the total of Nestlé’s CACF that met applicable nutrient composition requirements of the NPPM, per country (n=138)*

Country	Criteria applicable to all product categories (n=138)				Criteria applicable to specific product categories			
	Met all nutrient composition requirements	Met sodium requirements §	With no added free sugar/ sweetener †	Met total fat requirements (no trans) ◊	With < 15% total energy from total sugar §§ (n=43)	Met total protein requirements ‡ (n=40)	Met energy density requirements †† (n=133)	Met applicable fruit content requirements ‡ (n=76)
Brazil	18.7% (3)	87.5% (14)	37.5% (6)	100% (16)	40.0% (2)	100% (1)	93.8% (15)	100% (11)
Canada	24.1% (14)	77.6% (45)	75.8% (44)	93.1% (54)	50.0% (10)	86.9% (20)	82.7% (48)	39.0% (11)
Egypt	0% (0)	100% (3)	0% (0)	100% (3)	n/a	100% (1)	66.7% (2)	100% (3)
India	0% (0)	100% (9)	0% (0)	100% (9)	n/a	100% (6)	77.7% (7)	100% (9)
Ireland	71.4% (5)	100% (7)	71.4% (5)	100% (7)	100% (5)	n/a	100% (7)	100% (2)
Italy	11.1% (3)	96.3% (26)	11.1% (3)	100% (27)	50.0% (2)	100% (2)	92.6% (25)	100% (15)
Saudi Arabia	9.1% (1)	100% (11)	18.2% (2)	100% (11)	25.0% (1)	57.1% (4)	72.7% (8)	85.7% (6)
UK	71.4% (5)	100% (7)	71.4% (5)	100% (7)	100% (5)	n/a	100% (7)	100% (2)
TOTAL	22.4% (31)	88.4% (122)	47.1% (65)	97.1% (134)	58.1% (25)	85.0% (34)	86.2% (119)	76.6% (59)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).

Please refer to **Annex 1** for further details on the foot notes for the different criteria.

Nestlé's performance on the labeling requirements of the NPPM

None of Nestlé's CACF products in all countries included in this assessment met *all* labeling requirements (i.e. messages that protect and promote breastfeeding, recommended product age, no nutritional/health/marketing claims, clarity of product and ingredient lists). **Table 27** shows the proportion and number of CACF in each country that met each of the labeling requirements of the NPPM that apply to all product categories – except for the upper age requirement that only applies to blended/puréed CACF.

As seen in **Table 27** there were mixed results for products meeting labeling requirements on ingredient list and product name clarity, with an average of ~47% and ~57% of products meeting these criteria, respectively (refer to **Annex 2** for more details about the requirements). None of the CACF, however, met all labeling requirements on claims. **Figure 20** below further illustrates that most products included one or more types of inappropriate claims, therefore did not pass the claims criterion assessment (i.e., promotional, health, nutritional). Out of all the Nestlé products assessed, only ~2% passed the nutritional claims criteria, while ~22% and ~43% passed the promotional and health claims respectively.

Table 27 also shows that most products (~90%) met the lower age recommendation of not marketing the product as suitable for infants under six months of age, except for some products assessed in Italy and Canada that did not meet this criterion due to the absence of a specified minimum age. None of the blended/puréed CACF on the other hand indicated the appropriate upper age limit of 12 months for these products.

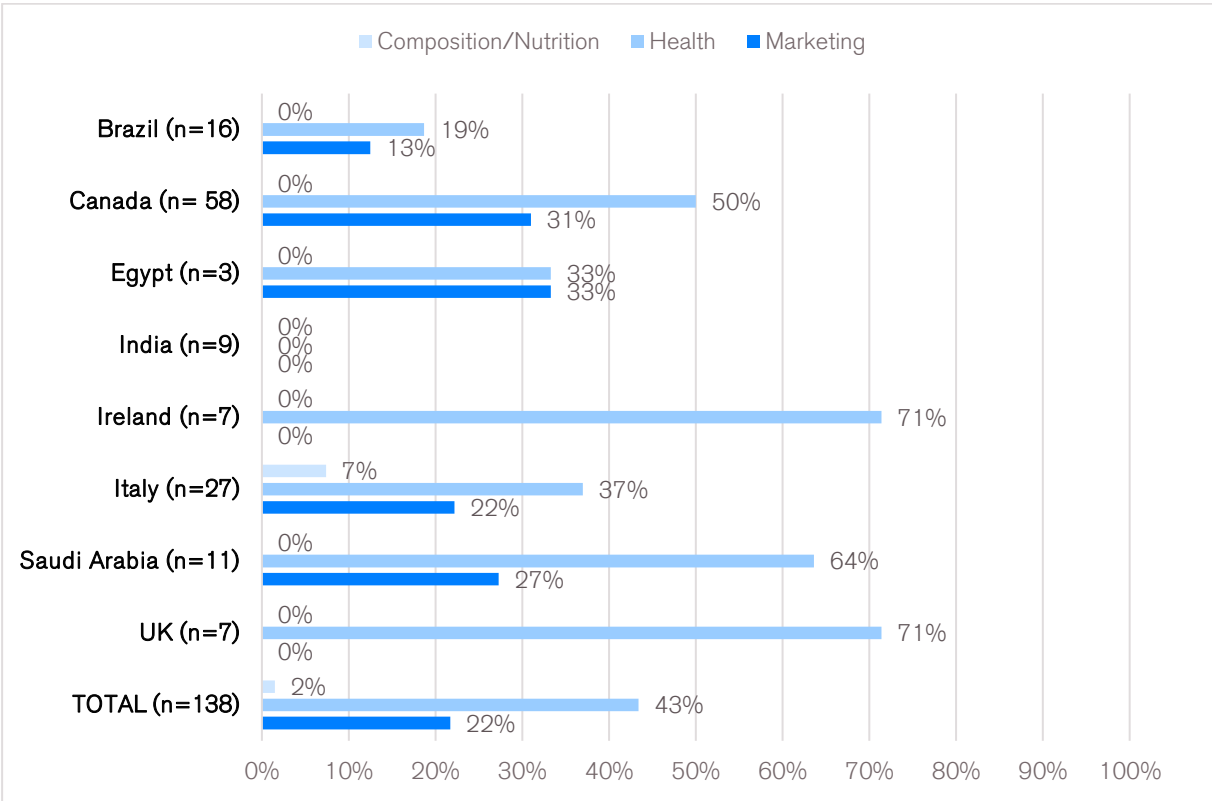
Table 27: Percentage and numbers out of the total of Nestlé CACF that met applicable labeling requirements of the NPPM, per country (n=138)*

Country	All labeling criteria	Any claim**	Age label (months)		Product name clarity †	Ingredient list clarity §	Promotion and protection of breastfeeding ◇
			Upper*** (n=18)	Lower ¥			
Brazil	0% (0)	0% (0)	n/a	100% (160)	62.5% (10)	62.5% (10)	100% (16)
Canada	0% (0)	0% (0)	0% (0)	89.7% (52)	46.5% (27)	3.4% (2)	0% (0)
Egypt	0% (0)	0% (0)	n/a	100% (3)	66.6% (2)	33.3% (1)	0% (0)
India	0% (0)	0% (0)	n/a	100% (9)	77.8% (7)	100% (9)	0% (0)
Ireland	0% (0)	0% (0)	n/a	100% (7)	85.7% (6)	100% (7)	0% (0)
Italy	0% (0)	0% (0)	0% (0)	74.1% (20)	40.7% (11)	100% (27)	0% (0)
Saudi Arabia	0% (0)	0% (0)	0% (0)	100% (11)	81.8% (9)	18.2% (2)	0% (0)
UK	0% (0)	0% (0)	0% (0)	100% (7)	85.7% (6)	100% (7)	0% (0)
TOTAL	0% (0)	0% (0)	0% (0)	90.5% (125)	56.5% (78)	47.1% (65)	11.5% (16)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).

Please refer to **Annex 2** to see further details on the foot notes for the different criteria.

Figure 20. Percentage and numbers out of the total of Nestlé CACF without nutritional, health or marketing claims, per country*



*n= total number of products assessed for each type of claim

Table 28 presents the percentage and number of dry cereals, ingredients, meal components and puréed products with a spout that have fully met the specific criteria applicable to these categories. The requirement for ready-to-eat puréed foods with a spout is to include a statement to discourage caregivers from allowing infants and young children to suck the food directly via the spout.

All of Nestlé’s products assessed in Italy and Saudi Arabia met this requirement, except for Canada where none of the products did. CACF in Brazil, Egypt, Ireland, and the UK were not assessed on this requirement as they do not belong to this specific product category. Regarding the specific requirement applicable to dry cereals, ingredients, and meal components products, all CACF assessed included suitable preparation instructions, except in Italy, where this product category was not assessed.

These findings suggest variations in meeting criteria specific to spouted products, while dry cereals, ingredients and meal components consistently displayed suitable preparation instructions across countries.

Table 28. Percentage and numbers out of the total of Nestlé CACF that met applicable labeling requirements of the NPPM for specific product categories, per country*

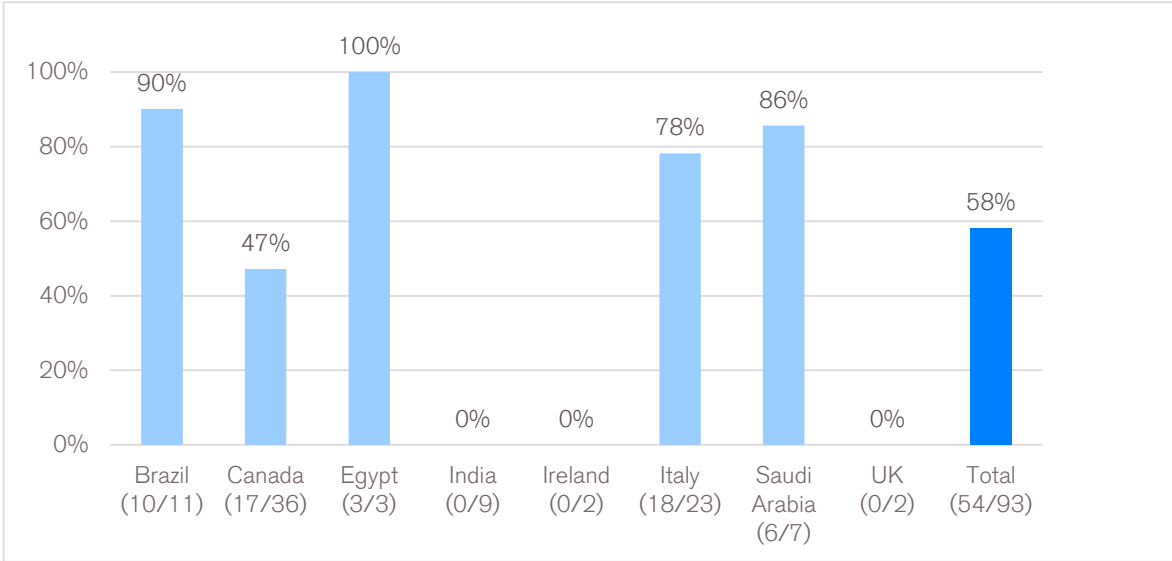
Country	Instructions not to consume soft foods via pack spout** (n=25)	Suitable preparation instructions† (n=50)
Brazil	n/a	100% (11)
Canada	0% (0)	100% (19)
Egypt	n/a	100% (3)
India	n/a	100% (9)
Ireland	n/a	100% (2)
Italy	100% (4)	n/a
Saudi Arabia	100% (6)	100% (4)
UK	n/a	100% (2)
TOTAL	50% (10)	100% (50)

*Values are presented as % (n). N/a indicates that the NPPM requirement is not applicable to the CACF product category(ies).
 **Only spouted products were assessed against this requirement
 †Only dry cereals, ingredients and meal components products. These products must state that the liquid used to reconstitute the product, or accompanying foods served, should have no added sodium or free sugar (including fruit juice)

Do Nestlé CACF require high sugar front-of-pack warning labels?

The NPPM also assesses CACF to determine whether they would require a front-of-pack (FOP) 'high sugar' warning label. A 'high sugar' warning label would be required if the percentage energy from total sugar content exceeds category-specific thresholds (refer to the legends and footnotes in **Figure 21** below for more details about the requirements). As seen in **Figure 21** across all countries where Nestlé’s CACF were assessed, ~58% of applicable products would require a 'high sugar' FOP warning, as the energy percentage from total sugar content exceeded the category-specific thresholds. However, none of the CACF assessed in India, Ireland, and the UK require a high-sugar warning label, while all products assessed in Egypt would need this FOP warning, followed by Brazil and Saudi Arabia. These results highlight the variation observed in the number of products that would need front-of-pack labeling across various countries.

Figure 21. Percentage and numbers out of the total of Nestlé CACF that require a FOP high sugar warning label, per country (n=93) *



*Front-of-pack 'high sugar' warning required if the percentage energy from total sugar content is ≥ the threshold for that product category – dry cereals and starches/fruit and vegetable purées/ snacks and finger foods containing fruit (dry fruit only): 30%; dairy foods: 40%.

4. Discussion

The results from this study indicate that, based on the 2022 WHO NPPM model, the CACF assessed are all inappropriate for the promotion to infants and young children because none of the CACF products met all the labeling criteria and around 35% fully met the nutrient composition criteria. CACF need to meet both nutrient composition and promotional requirements to be suitable for promotion. The results of this assessment are consistent with recent studies conducted in Southeast Asia³⁹, Türkiye⁴⁰ and Ireland⁴¹ where none of the CACF assessed met all nutrient composition and labeling requirements and less than a third passed the nutrient composition requirements. This demonstrates the need to improve the nutrition composition and labeling of CACF worldwide.

Further, based on the findings from this research, it was noted that companies overall are performing better in fat, fruit content, sodium, and protein requirements. However, companies can improve on sugar requirements by restricting adding free sugar/sweeteners and reducing sugar levels to < 15% of total energy. In addition, the NPPM recommends FOP for high sugar content with the aim to balance optimal sugar levels, as many CACF products may contain a high fruit content⁴². Based on this research, between 37%-89% companies' CACF products would need an FOP warning label. Nevertheless, the FOP warning label has not yet been implemented in any legislation and for that reason, the WHO recommends FOP labelling to help consumers to make healthier food choices and in parallel government-led policy with input from key stakeholders through an iterative and collaborative process⁴³. According to a 2021 systematic review, mandatory FOP labelling such as colour coding and nutrition warnings nudges consumers purchasing behaviour towards healthier products⁴⁴.

During this research, it was noted that companies' findings varied between countries. This occurs for several reasons, one of which is related to the differences in companies' portfolios across countries, where companies may sell different types of CACF in the different markets. As an example, in most of the countries from this study where Danone sells CACF, the predominant product category was cereals. However, Italy was an exception, where Danone's products were distributed across various CACF categories other than cereals which may explain the differences in the nutritional assessment observed across markets.

Additionally, differences in CACF nutrient content and labeling standards in each country contribute to the observed variations. For instance, it was found that the only country that had products containing all breastfeeding messages was Brazil. Amongst the countries assessed, only Brazil has implemented Law No. 11.265 regulating the marketing of foods for infants and young children, which requires the labels of CACF to include a message on the importance of continued breastfeeding for up to two years of age or beyond⁴⁵. This was one of the main breastfeeding messages missing from the CACF assessed in other markets. This demonstrates the effectiveness of proper legislation to influence positive changes in product composition, packaging and promotion that align with the latest international public health guidance.

Another limitation to be considered in the interpretation of the results is that the products assessed may not be representative of a company's CACF portfolio in a country because of 1) limited data available for some markets on the Innova product database (for example, while many CACF products were available on the database for Italy, relatively few products were available for countries like Brazil, India, and Saudi Arabia) 2) little or no engagement of some companies during ATNI's engagement process in the course of this research 3) companies did not provide complete information on the CACF available in the different markets.

4.1 Recommendations

It will take a systems approach to improve sustained access to nutritious CACF. To this end, there are specific actions which can be taken by various parts of the food system. For example, national authorities have the responsibility of ensuring CACF meet standards for nutrition adequacy and labeling by introducing appropriate legislation that follows the WHO guidance. Companies, even prior to appropriate legislation is in place, are urged to respect both the nutrient composition and appropriate labeling standards of the WHO NPPM for their CACF products to ensure they are suitably promoted to infants and young children under three years of age. Lastly, as shareholders, investors play a significant role in shaping food companies' governance, strategy, and disclosure practices. Below are specific recommendations for companies, policymakers, and investors.

Recommendations for companies

- Companies selling CACF products are encouraged to adopt the most comprehensive existing guidance on the nutritional composition and labeling of CACF. WHO Europe's nutrient and promotion profiling model for CACF is the only currently existing and widely recognized model for CACF requirements (see pages 8 and 9 of the [NPPM](#) for specific guidance for companies). Companies should also continuously strive to improve their CACF products in line with relevant developments in national, regional, and global guidance.
- Companies are urged to improve energy density levels of their CACF to meet NPPM thresholds and follow the WHO recommendation which states "Manufacturers should be encouraged to reduce and declare the water content of products to increase energy density and quality of soft foods and purées. Setting a minimum energy density of 60 kcal /100 g for many purées will also encourage manufacturers to add less water for cooking and blending and will therefore ensure higher quality and better value products."⁴⁶
- Companies should refrain from producing and selling any confectionery, sweet spreads, fruit chews, and juices, as well as other drinks, including milks that have added sugars and sweeteners for children under three years of age. Companies are also urged to act on reducing the total sugar content of their CACF and eliminating the use of added sugars and sweeteners in these products.
- Companies should be transparent and comprehensive indicating ingredients and all nutritional values as it was observed that some products did not indicate the percentage of fruit in the ingredient list. Therefore, some components of the NPPM could not be assessed (and consequently, did not meet these criteria).
- Companies should be transparent and consistent on the recommended age of introduction on the product labels as none of the puréed product labels included the upper age limit of 12 months, this applies to puréed and smooth products sold for babies before they are able to chew or accept more textured foods (e.g. puréed fruit/vegetables, processed oatmeal porridge or a blended meal)⁴⁷. Additionally, some products did not include the minimum age of six months. Products without a minimum age recommendation on the front of packs, could create promotion and be given to young children <6 months⁴⁸. Cross-promotion can mislead and confuse caregivers about the nutrition- and health-related qualities of commercial complementary foods, and age-appropriate and safe use of these products⁴⁹.
- Companies are urged to improve the CACF product labeling as no company fully 'passed' labeling criteria. By doing this, products will include messaging that protects exclusive and continued breastfeeding and provide instructions on age-appropriate and safe use of blended/puréed CACF, including spouted products. CACF labels should not carry any form of claims (except for permitted compositional claims).

Recommendations for policymakers

- Policymakers should develop new, or update existing, national regulations on the nutrient composition and labelling practices of CACF, in line with international guidance. These

regulations should prohibit the use of added sugars and sweeteners, limit sugar and sodium content and outlaw the use of misleading marketing and labelling practices.

- Governments should establish a system for monitoring and evaluating national regulations on CACF.
- Governments can implement FOP warnings on labels of products with high sugar levels to help caregivers make healthier food choices for infants and young children.
- Governments should put in place measures to end inappropriate promotion of food for infants and young children and promote enabling environments that support parents and caregivers to make well informed feeding decisions, and further support appropriate feeding practices by improving health and nutrition literacy.

Recommendations for investors

- Investors are encouraged to make use of existing nutrition frameworks such as ATNI's Investor Expectations on Nutrition, Diets and Health and to integrate nutrition into responsible investment strategies.
- Investors can use the findings of this report to drive companies' progress on CACF nutrition through various investment strategies, calling for transparency and adherence to the NPPM.
- Investors can use the data from this report to develop materials to support engagement with companies.

Conclusion

This report provides an overview of evidence on CACF nutritional quality and good practice labeling practices globally by assessing six companies' CACF products in ten countries. The findings indicate that the CACF industry has the responsibility and a significant opportunity to further embed nutrition into their core business and to improve their CACF nutritional quality and promotional materials in line with WHO guidance. These requirements will help to maintain high product standards and support international goals for diet and preventing noncommunicable diseases.

5. Annex

Annex 1. Nutrition composition specifications as indicated in the NPPM

§ **Met sodium requirements:** Requirement definition per applicable category – dry cereals and starches/ snacks and finger foods: sodium <50mg as eaten; fruit and vegetable/ savoury meals without protein or cheese named: sodium <50 mg/100 kcal; savoury meals with cheese named but no protein: sodium <100 mg/100 kcal and 100mg/100g; dairy foods/ savoury meals with protein source not named first/ with protein source named first/ only protein named: sodium <50 mg/100 kcal and <50mg/100g (or <100 mg/100 kcal and <100mg/100g if cheese is listed in front- of-pack name.

† **With no added free sugar/ sweetener** Applicable to all categories: no added free sugars or sweeteners. The following were considered added sugar/sweetener: sugar, juice (except lemon/lime), sucrose, dextrose, fructose, glucose, maltose, galactose, trehalose, syrup, nectar, honey, malted barley, malt extract, molasses.

◇ Requirement definition per applicable category – dry cereals and starches (if contains added milk) total fat ≤3.3 g / 100kcal; dry cereals and starches (if does not contain added milk)/ dairy foods/ fruit & vegetable purées/ savoury meals without protein or chesse named/ savoury meals with protein source not named first/ snacks and finger foods: total fat ≤4.5 g/ 100 kcals; savoury meals with cheese named but no protein/ savoury meals with protein source named first and protein is only named food: total fat ≤6g/100 kcal.

§§ **With <15% total energy from total sugar:** Applicable to meals and dry or semi dry snacks and finger foods: < 15% only.

Met total protein requirements : Requirement definition per applicable category – dry cereals and starches: <5.5 g/100 kcal total protein (if contains added milk); savoury meals: ≥3 g total protein/100kcal from product without protein or cheese named/ product with cheese named but no protein/ product with protein source not named first the product name must be ≥10% by weight of the total product; total protein ≥ 4g/100 kcal from the named source and protein named as the first food(s) the product name must be ≥8% by weight of the total product; savoury meals: total protein ≥ 3g/100 kcal and protein source mentioned in the product name must be ≥ 8% by weight of the total product; savoury meals: ≥7 g/100 kcal from total protein source is only named food protein source mentioned in the product name must be ≥40% by weight of the total product; savoury meals: total protein ≥4g/100kcal and protein source mentioned in the product name must be ≥10% by weight of the total product.

†† **Met energy density requirements:** Requirement definition per applicable category – dry cereals and starches: energy density ≥80 kcal as eaten; dairy foods/ fruit and vegetable purees/ savoury meals: energy density ≥60 kcal/100g unless is vegetable only: energy density ≤25% added water; snacks and finger foods: energy density ≥50 kcal/100g.

‡ **Met applicable fruit content requirements:** Requirement definition per applicable category – dry cereals and starches < 10% by weight dried/powdered fruit; dairy foods, savoury meals: ≤5% by weight fruit purée; ingredients: no added fruit/ fruit purée; fruit-based snack and finger foods: 100% fruit.

Annex 2. Labelling criteria specifications as indicated in the NPPM

** **Any claim:** No compositional, nutritional, health or marketing claims are permitted.

*** **Upper:** products that are blended/puréed should have an upper age limit of 12 months. This applies to puréed and smooth products sold for babies before they are able to chew or accept more textured foods (e.g. puréed fruit/vegetables. processed oatmeal porridge or a blended meal)

¥ **Lower:** no product should state or imply product suitability for babies under 6 months of age, including through use of images

† **Product name clarity:** The front-of-pack product name and legal product name must: i. clearly represents or name the main or largest ingredients, where appropriate, except when the largest ingredient is implied in the name (such as milk in porridge or rice in risotto); ii. list ingredients in an appropriate order (to indicate decreasing proportional content); and iii. indicate when fruit or vegetables (single or in combination) comprise the majority of the product by weight. Note that fruit or vegetables are considered to be the largest ingredient if the sum of all fruits or vegetables is the largest ingredient, and the front-of-pack name must indicate this.

§ **Ingredient list clarity:** The ingredient list must clearly indicate the proportion (%) of: i. the largest single ingredient (including water/stock, except when used for rehydration of legumes/grains etc.) ii. the amount of added water/stock (except when used for rehydration of legumes/grains etc.) iii. the total or individual proportions of fresh or dried fruit iv. the amount of fish, poultry, meat or other traditional source of protein

◇ **Promotion and protection of breastfeeding:** In relation to breast feeding: i. no cross-promotions are permitted between products that function as breastmilk substitutes, and commercially available complementary foods marketed as suitable for infants and young children > 6 months; ii. all products must include a statement on the importance of continued breastfeeding for up to two years or beyond and the importance of not introducing complementary feeding before 6 months of age; iii. no products should include any image, text or other representation that is likely to undermine or discourage breastfeeding, or that makes a comparison to breastmilk or that suggests that the product is nearly equivalent or superior to breastmilk; iv. all products must state the suitable age of introduction (\geq 6 months); v. no products should include any image, text or other representation that might suggest use for infants under the age of 6 months (including references to milestones and stages); and vi. no product should convey an endorsement or anything that may be construed as an endorsement by a professional or other body, unless this has been specifically approved.

6. References

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