

Scoping review to map on-package formula labelling: including nutrition and health claims on infant, follow-on and growing-up formula



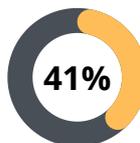
Executive Summary

Context: In the UK exclusive breastfeeding is recommended for the first six months of life. The information that parents receive about feeding their infants and young children, including from on-package messaging, should consistently correspond with public health advice. There is concern that messaging used on formula products, including implied claims, may negatively influence parent and caregivers' feeding choices. Moreover, these claims may disproportionately affect parents on low incomes.

Aim: To map on-package messaging, including nutrition and health claims, used on formula products.

Methodology: We identified all formula products available over the counter in the UK and examined whole packs to identify and categorise on-package messaging.

Findings: Based on analysis of 71 formula products (302 images), our data establish the widespread use of messaging that could mislead consumers and undermine breastfeeding, including:

 **41%** of products included claims that could be considered as 'non-permitted' nutrition claims as they were highly technical (e.g. 2'FL) and consumers are unlikely to understand them.

 **18%** of products included claims that could be considered as 'non-permitted' health claims as they relate to health but are not on the Great Britain Nutrition & Health Claim Register (GB NHC Register).



Explicit and implied claims about similarity to breastmilk were widespread.

Implications

- Lack of detail in existing legislation means it is difficult to establish clear breaches. However, DHSC guidance to complying with legislation is frequently not followed. To ensure greater effectiveness, existing formula legislation should include greater detail.
- Additional legislation is needed to prevent advertising of formula for older infants on the packaging of first infant formulas, as these act as a mechanism to circumvent strict legislation restricting the use of promotional claims on these infant formulas.
- A better understanding of how parents in the UK, and across the socioeconomic spectrum, engage with and use on-package labelling of formula products is needed.

Other Issues of concern were that:

 **72%** of products showed images which could idealise the use of formula and could therefore be considered 'non-permitted'.



Infant formula and Follow-on formula packs were highly similar, despite legislation stating these should be clearly distinguishable to avoid misuse.

 **94%** of infant formula packs include advertisements for formula for older infants and children, which is not in line with NHS advice.



Specialist formulas for infants with health conditions were difficult to distinguish from infant formula.



The messaging on growing-up formula was not consistent with age-appropriate government feeding guidelines.

Key Definitions:

Marketing claim: any non-mandatory text or image that states, suggests, or implies a product has particular characteristics.

Health claim: Any claim that states, suggests or implies a relationship exists between the product or one of its constituents and health¹.

Approved health claims = those listed in the Great Britain nutrition and health claim register (GB NHC Register)³, e.g. 'Calcium for normal growth and development of bone.'

Claims considered a non-permitted health claim = any statement considered to be a health claim which is not included in the GB NHC Register, e.g., 'designed to give your baby all they need to grow strong and healthy'.

Health claims are not permitted on infant formula⁴ but may be used on follow-on and growing-up formula if they are compliant with Regulation (EC) No 1924/2006.

Nutrition claim: Any claim that a product has particular beneficial nutritional properties due to the presence, absence, increased or reduced levels of energy or of a particular nutrient or other substance it contains, for example 'Contains vitamin D'¹.

Claims considered a non-permitted nutrition claim = highly technical nutrition claims we believe the average consumer is unlikely to understand (MGMF, HMO, 2'FL, LNnT, beta-palmitate). Regulation (EC) No 1924/2006 only permits the use of nutrition claims if the average consumer can be expected to understand the beneficial effects as expressed in the claim¹.

Under the infant and follow-on formula legislation a statement that a formula product contains DHA (Docosahexaenoic acid) is permitted and is not considered a nutrition claim if accompanied by a statement that the addition of DHA in formula is mandatory². A statement that a product is lactose free is also permitted, subject to the product composition.

Background

Breastfeeding provides widespread health benefits for both mother and infant. In the UK exclusive breastfeeding is recommended for around the first 6m, with continued breastfeeding alongside introduction of solid foods from around 6m for at least the first year (see Figure 1).

The text and images used on formula labels are regulated so as not to discourage breastfeeding. The ingredient and nutrient content of formula is also strictly controlled, and as a result there are no significant nutrient differences between brands.

Regulation on Food for Specific Groups (EU) No 609/2013 on food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control along with Commission Delegated Regulation (EU) 2016/127 as regards the specific compositional and information requirements for infant formula and follow-on formula and as regards requirements on information relating to infant and young child feeding give effect to some of the principles and aims of the 1981 WHO Code on the Marketing of Breastmilk Substitutes covering marketing, information and responsibilities of health authorities, as they set provisions which regulate labelling and restrict advertising and presentation of infant and follow-on formula.

Following EU-exit these regulations were retained and amended by Nutrition (Amendment etc.) (EU Exit) Regulations 2019 and Nutrition (Amendment etc.) (EU Exit) Regulations 2020. Infant formula (suitable from birth) and follow-on formula (suitable from 6 months) are covered by these regulations (see Table 1). Commission Delegated Regulation (EU) 2016/127 was adopted in 2016 and applied from 22 February 2020, the regulations do not cover growing-up formula (suitable from 1 year).

Food for special medical purposes intended for the dietary management of patients, including infants, to be used under medical supervision are legislated under *Commission Delegated Regulation (EU) 2016/128 as regards the specific compositional and information requirements for food for special medical purposes*. This legislation sets requirements for the labelling, presentation and advertising of food for special medical purposes developed to satisfy the nutritional requirements of infants to be designed in such a way that it enables consumers to make a clear distinction between such products and infant formula and follow-on formula, in particular as to the text, images and colours used, so as to avoid any risk of confusion.

Table 1. Key features of formula legislation relevant to mapping exercise and summary of guidance notes setting out DHSC's interpretation of the requirements of the legislation.

Topic	Legislation ⁶⁷⁴	DHSC guidance notes for 2007 legislation	DHSC guidance notes for 2016 legislation**
Nutrition & Health Claims	Nutrition & Health Claims are prohibited on Infant Formula	Only claims meeting criteria in 2007 legislation are permitted on IF.	Claims that should be considered 'non-permitted' on IF include 'contains all the nutrients your baby needs to grow strong & healthy', 'easy to digest', 'gentle'.
Confusion between infant and follow-on formula	Packaging (text, images & colours) should be designed to avoid risk of confusion.	Using the same images and blocks of text in the same position is likely to confuse consumers. Colour schemes should be different, not just different shades of the same colour.	IF and FOF must differ in relation to text, images & colours used on packaging. DHSC does not consider different shades of the same colour to be an appropriate difference.
Confusion between FSMP and infant formula	As above	Not covered in 2007 legislation therefore not mentioned in these guidance notes.	Not covered in Commission Delegated Regulation (EU) 2016/127 and therefore not in these guidance notes.
Images discouraging breastfeeding	Label shouldn't include pictures of infants or other images that could idealise the use of formula.	Images that could idealise the use of formula include toys, cots, young animals and graphics representing nursing mothers.	Images that could idealise the use of formula include graphics that represent nursing mothers, baby or child related subjects and anthropomorphic characters, pictures and logos.
Text discouraging breastfeeding	Label shouldn't use terms that might idealise the use of formula e.g. humanised, maternalised, adapted or similar.	Non-mandatory text shouldn't refer to breastmilk, breastfeeding, moving on from breastfeeding, closer to/inspired by breastmilk. Terms such as 'the best' or 'ideal method' of infant feeding shouldn't be used.	Non-mandatory text shouldn't refer to breastmilk, breastfeeding, moving on from breastfeeding, closer to/inspired by breastmilk.
Important Notice	A statement concerning the superiority of breastmilk and recommending use only on advice of an independent expert should be included. This should be preceded by the words 'important notice'.	The Important notice should be afforded a high degree of prominence. It should be clearly visible and understandable	The Important notice should be afforded a high degree of prominence. It should be clearly visible and understandable.
DHA	A statement regarding DHA is permitted providing it is made clear DHA is present in all infant formula on the market e.g., 'contains DHA (as required by the legislation for all infant formula)'. A statement regarding DHA is permitted providing it is made clear DHA is present in all infant formula on the market e.g., 'contains DHA (as required by the legislation for all infant formula)'.	Not covered in 2007 legislation therefore not included in guidelines. Food labelling legislation notes it is likely to confuse consumers if some nutrition information is partly on the front of pack and partly on the back ⁹	The DHA statement should be in close proximity to the area of the packaging highlighting the presence of DHA.

*Guidance notes for most recent legislation (Commission Delegated Regulation (EU) 2016/127) were not available at the time of analysis

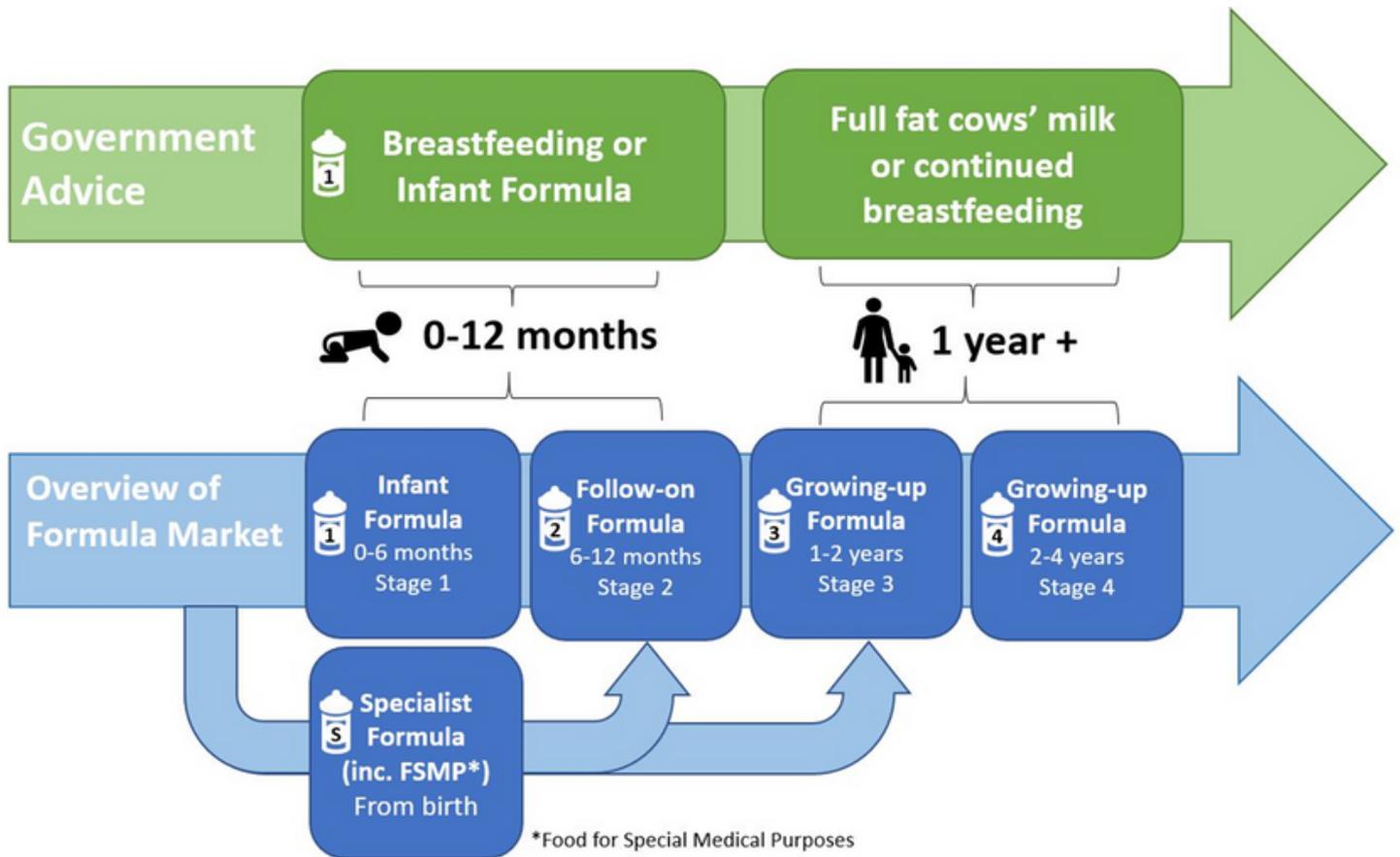


Figure 1. Comparison of Government advice for feeding infants and young children, and formula products available over the counter in the UK

There is more 'leeway' for follow-on and growing-up formula insofar as they are allowed to be marketed directly to parents, unlike infant formula for which direct-to-consumer promotion is not allowed. Parents may be unaware that giving follow-on and growing-up formula is not in line with recommended infant feeding guidelines.

There is concern that marketing claims may mislead caregivers about the similarity of formula to breast milk and the superiority of one product over another. Research has shown that sophisticated marketing strategies are used for promotion and companies may increasingly rely on implied claims as a mechanism to circumvent legislation and influence purchasing behaviours⁵. For example, benefit can be implied through naming (e.g. infant formula labelled as 'comfort milk'). Research shows most caregivers trust marketing claims and these beliefs shape infant feeding decisions, increase formula use, and undermine advice to breastfeed. It could be that these claims disproportionately affect caregivers on low incomes who end up paying more for formula that offers no additional benefit.



UK government recommends that women exclusively breastfeed for around the first six months of life and continue breastfeeding for at least the first year of life once solid foods have been introduced. Infant formula (based on either cows' milk or goats' milk) is the only suitable alternative to breast milk for babies who are under 12 months old.



Cow's milk is recommended from age one if young children are not breastfed. Follow-on formula promotion and advertising is permitted in the UK, but advertisements must not cross-promote infant formula and must explicitly make it obvious the product is for older infants.

Aims and objectives

Aim: To map on-package messaging, including the use of health and nutrition claims, used on infant formula, follow-on formula, growing-up formula and formula labelled as a Food for Special Medical Purposes (FSMP).

Objectives:

1. To identify formula products available over the counter in the UK.
2. Identify and categorise on-package messaging.
3. Compare messaging to appropriate labelling legislation and guidelines.

What we did

We undertook a scoping review of formula product packaging and mapped on-package claims and other marketing tools displayed. We first identified all powdered formula products available over the counter in the UK between April and October 2020 (n=71), e.g., by online searches of supermarkets and high street pharmacies. We subsequently created a database of images of all sides of the packaging (n=302) and systematically identified and categorised marketing tools, including nutrition and health claims. We also explored how products satisfied the requirement to display information about the superiority of breastfeeding and not idealise the use of formula. Claims on formula packaging are regulated by legislation, with the legislation regarding the marketing of infant formula products being very strict (see Key Definitions).

To explore differences between products by cost we averaged prices from three retailers for each product in October 2020. For own-brand products only one price was available. Price promotions were excluded, *Commission Delegated Regulation (EU) 2016/127 restricts manufacturers and distributors of infant formula from providing free or subsidised products, samples or any other promotional gifts to members of the general public including pregnant women, mothers or members of their families.* The 71 formula products were divided into 4 approximately equal groups

according to price, and products in the highest and lowest quartiles were compared.

Similarities between infant formula and follow-on formula packaging were rated. This was done to explore compliance with Regulation (EU) No 609/2013 and *Commission Delegated Regulation (EU) 2016/127* to avoid risk of confusion, which is in place to ensure babies under 6 months of age aren't mistakenly given formula for older infants⁶. Follow-on formula packaging was compared to same-brand first formula packaging. A composite 'similarity score' was assigned to follow-on formulas based on previous DHSC⁸ guidelines highlighting 5 features that could cause confusion, e.g. packages being the same colour. A 'similarity score' of 0 would indicate compliance to guidelines and 5 would indicate products were difficult to distinguish. The same procedure was followed to compare specialist formula with same-brand infant formula.

Findings

Overall, 71 different formula products were identified, of which the majority were standard products for infants and toddlers without underlying health conditions or additional requirements (i.e. first, follow-on and growing-up formula; n=55). Fewer products were classified as specialist formula products, and these are discussed separately below.

Table 2. On-package nutrition and health claims on formula products

	Infant formula (Stage 1)	Follow-on formula (Stage 2)	Growing-up formula (Stage 3)	Growing-up formula (Stage 4)	Specialist formula
Number of products	18	18	16	3	16
Products with a nutrition claim, n (%)	17 (94)	18 (100)	16 (100)	3 (100)	11 (69)
Products with nutrition claim considered non-permitted (highly technical), n (%)	4 (22)	8 (44)	9 (56)	1 (33)	7 (44)
Average number of nutrition claims per pack	1.6	5.4	5.5	5	1.3
Products with health claim in GB NHC Register, n (%)	0 (0)	14 (78)	13 (81)	3 (100)	0 (0)
Products with claim considered a health claim that is non-permitted as not in GB NHC Register, n (%)	3 (17)	3 (17)	4 (25)	0 (0)	3 (19)
Average number of claims considered as health claims per pack*	0.2	2.5	2.6	3.0	0.2

*Included both claims included in the GB NHC Register & those considered to be health claims but not on the register



Infant formula

(marketed for infants from birth to 6 months)

These products are recommended from birth and are the most tightly regulated type of formula. Nutrition and health claims are not permitted on infant formulas as they are regarded as promotional tools⁴. However, a statement regarding DHA is permitted until 2025 providing it is made clear that DHA addition is mandatory. All 14 infant formula products required to include a statement about the mandatory addition of DHA did so. However, 93% (n=13) made the DHA claim prominently on the front of pack and used an asterisk to link this to a statement in smaller font in a different location, generally on the back of pack with other mandatory information. It is unclear whether parents notice or understand this message.

Health claims are not permitted but claims which may be considered to be health claims were found on 17% of products e.g. 'contains all the nutrients your baby needs to grow if they are not being breastfed'. Recent DHSC guidance² highlights that such claims could be considered 'non-permitted'. Other statements that parents may understand in the same way as a health claim or as suggesting a product was equivalent to breast milk were also found, for example 'We have been leading research in baby nutrition for over 100 years and have produced SMA PRO First Infant Milk, a nutritionally complete breast milk substitute, expertly created with nature in mind to support babies' unique nutritional needs'.

As required by Commission Delegated Regulation (EU) 2016/127, all infant formula packs included a statement concerning the superiority of breast feeding (compared with formula feeding). Despite DHSC guidance that this statement 'should be afforded a high degree of prominence'²⁸, our analysis found the statement was always in smaller lettering than other information including claims and it was hidden at the back or a corner the packaging.

Regulation (EU) No 609/2013 prohibits the use of text or images that could discourage breastfeeding or idealise the use of formula⁶. DHSC previously provided Guidance with examples of images which should not be used (e.g. toys, cots or young animals)⁸. From our product mapping, we found that two thirds (67%) of infant formulas included such images, including teddy bears, baby elephants and a stalk.

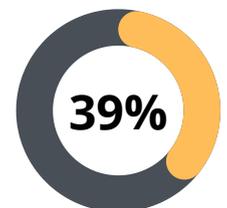
One product included text DHSC guidelines⁸ suggest may be inappropriate as it implies the formula is closer to/inspired by breastmilk, 'Our expert team at SMA nutrition is dedicated to understanding the complex structure of breast milk and applying the learnings from nature to our own products'.

The labels of 94% of infant formula packs showed an advertisement for follow-on formula and 39% included an advertisement for growing-up formula. This high proportion is of concern because:

- It implies that infants should be given follow-on formula from 6 months and growing-up formula from 12 months, which is not in line with government advice.
- Nutrition and health claims, not permitted on infant formulas, are displayed within on-package advertisements for follow-on formula. 28% of infant formula packs included claims permitted on follow-on formula but not infant formula within advertisements. These may be wrongly interpreted as claims about the first formula or act as a form of health halo advertising.
- Other forms of marketing (not permitted on infant formula) were covertly displayed within advertisements for other formula, including claims implying a similarity to breast milk. For example, 'SMA PRO Growing Up Milk now contains 2'FL which is structurally identical to the most abundant oligosaccharide found in breast milk' appeared on a infant formula pack which also contained 2'FL but couldn't include this claim about it.



of infant formula showed an advertisement for follow-on formula



of infant formula showed an advertisement for growing up formula



Follow-on formula

(marketed for infants aged 6 to 12 months)

Nutrition and health claims are permitted on follow-on formula products if in line with food labelling regulations.

100%

All follow-on formula products included nutrition claims, with an average of 5.4 nutrition claims per pack. The most common nutrition claims were for omega 3s, vitamin D, iron and calcium.

78%

of follow-on formula products included health claims on the GB NHC Register, with an average of 2.7 health claims per pack. The most common claims were for bone, cognitive and visual development, e.g. 'Calcium and vitamin D to support normal bone development'.

44%

of products included nutrition claims that could be considered non-permitted, as they were highly technical and are unlikely to be understood by the average consumer, e.g. 2'FL, LNnT.

78%

of follow-on formula products included images described in DHSC guidelines as idealising the use of formula.

78%

signposted consumers to use growing-up formula from 12 months. Government recommendations to use cow or breast milk from 12 months were not given on any product.

22%

used phrases suggestive of a similarity to breastmilk.

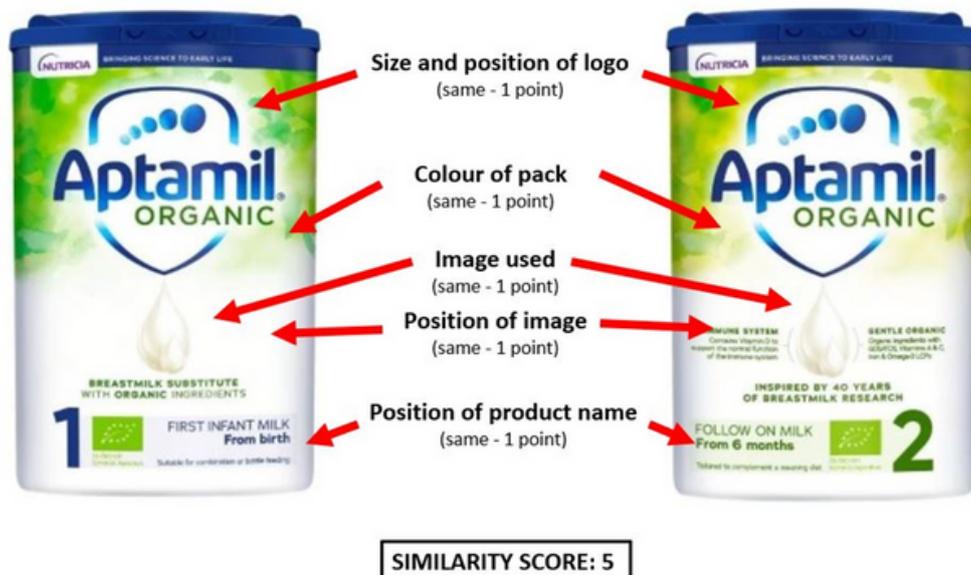
How clear is the distinction between first and follow-on formula?

Legislation specifies follow-on formula should be clearly distinguishable from infant formula. Five prominent visual aspects of formula packaging were selected to establish to what extent products were distinguishable on these visual cues within a product line (Figure 2).

72% of follow-on formula packs (n=18) had a 'similarity score' of ≥ 4 out of 5, indicating a high degree of similarity between products.

As well as the potential for follow-on formula accidentally being given to younger babies, the health and nutrition claims displayed on follow-on formulas could again convey a halo effect on infant formula. **It is not permitted to include such claims on infant formula, and thereby the claims on follow-up formula may be acting as a covert form of promotion.**

Figure 2. Example of a first and follow-on formula showing the five features compared and scores assigned*



*Similarity score was summative, with a maximum score of 5



Growing-up formula marketed for children aged 1-4 years

Growing-up formulas (n=19), also known as toddler milks, are not covered by current formula legislation⁶. They are also excluded from the draft Public Health England (PHE) proposed 2023 commercial baby food and drink guidelines¹⁰. This is a concern as, from 12 months, the NHS recommends breast or whole cows' milk and states that growing-up formula is not needed¹¹. Further, growing-up formula contains higher levels of free sugar than cow or breast milk and there is no evidence to suggest that these products provide extra nutritional benefits for young children.

NHS recommendations also state that smaller amounts of milk are required if children consume dairy foods, such as yogurt and cheese. While infant and follow-on formula packaging must display age-appropriate feeding guidelines, this is not required for growing-up formula.

- Growing-up formula products displayed 5.4 nutrition claims and 2.6 health claims from the GB NHC Register on average per pack (stages 3 & 4 combined).
- Labelling of growing-up formula products implied it is the most appropriate milk for toddlers and did not recommend smaller volumes if other dairy foods are consumed. This could result in overconsumption and an inappropriate balance of nutrients in young children's diets.
- Most of the 19 growing-up formulas are labelled as suitable from 1 year of age. However, 5 products were labelled as 'organic' and suitable from the '12th month'. If these products were labelled as suitable from 12 months they would not be permitted to carry the 'organic' label. This is because food products are prohibited from organic classification if they are fortified with nutrients which are not required by legislation, as is the case for growing-up formula. The adjustment in product age recommendation, while suiting formula manufacturers, may confuse consumers and result in inappropriate use of formula products.



Specialist formula

We found 16 specialist formula products that were widely available in supermarkets and high street pharmacies, alongside other formula and infant foods. These were marketed for the management of common conditions (e.g. colic, reflux) and rarer conditions (e.g. lactose intolerance). Specialist formula account for approximately 9% of formula sales. **There is concern that indiscriminate availability of certain formula, especially formula for reflux, results in frequent overuse and misuse¹².**

Foods for Special Medical Purposes (FSMP)

Formula labelled as FSMP are marketed for the dietary management of specific conditions (e.g. colic, reflux). Labelling for FSMP products must include⁷:

- A statement about suitability, e.g., for the dietary management of colic and constipation – reduced lactose, hydrolysed protein
- A statement that the product must be used under medical supervision

- 44% (7 of 16) of specialist formulas were labelled as 'Foods for Special Medical Purposes' while 9 were labelled as infant formula.
- **Only 2 of 7 FSMP products displayed the phrase 'to be used under medical supervision'** as stated in the FSMP legislation⁷, and this was in small lettering on the back of pack. The other 5 products suggested asking for medical advice before use, again in small lettering.
- None of the 9 specialist formula labelled as infant formula stated that medical supervision was required.
- Specialist formulas labelled as infant formula included lactose free formula and a formula marketed for babies with cows' milk intolerance. **Lactose intolerance and cows' milk protein allergy require completely different dietary management and could be misdiagnosed and inappropriately managed without medical supervision.** Allowing manufacturers to decide if medical supervision is required is questionable.
- Despite legislation stating FSMP should be clearly distinguishable from infant formula, **one third (29%; n=2) of FSMP products had a 'similarity score' of ≥4 out of 5, indicating a high degree of similarity. 56% (n=5) of specialist formula labelled as infant formula had a 'similarity score' of ≥4 out of 5**, compared to standard/regular infant formula.
- Specialist formula on average costs 30% more than regular infant formula.

Cost of formula

The 71 formula products were divided into quartiles and those in the highest and lowest price groups were compared.

Table 3. Comparison of cheapest and most expensive formula (formula for different age groups combined)

	Cheapest formula (n=17)	Most expensive formula (n=18)
Average cost per litre	£1.30	£3.38
Organic	0	50%
Goat milk based	0	33%
Products with nutrition claim considered non-permitted (highly technical), n (%)	29%	33%
Number of nutrition claims considered non-permitted (highly technical), per pack, mean (SD)	0.53 (0.94)	0.72 (1.18)

*Estimated price of first infant formula is based on average daily intake of 920ml/day for a 2 to 3-month-old infant).

- The cost of infant formula (n=18) ranged from £5.9 to £41.17 per week*.
- 50% of formula products in the highest quartile for price were organic and one third were goat milk based.
- Six formula products in the most expensive quartile were not organic or goat milk based. One of these was lactose free and the other 5 were marketed as scientifically superior with names such Profutura, silver packaging, and scientific imagery such as molecules. All 5 included nutrition claims that could be considered non-permitted as they were highly technical and therefore unlikely to be understood by consumers.

Compositional requirements in the regulations ensure there are no significant nutritional differences between brands therefore **price differences present a higher profit margin for brands without clear benefits to consumers.**

Other general findings for on-package marketing of formula milk products (n=71)

100%

cited scientific and expert involvement in formulation.

72%

used empathetic language in their claims. Referencing love, care or support for parents or babies, e.g. 'we believe love and care can help when looking after your little one and we're here for you on your journey'.



Images of baby animals, molecules and natural rural scenes were common.

64%

claimed to have between 20 and 100 years of experience.

68%

signposted parents to the brand's website or telephone line for support or feeding advice, including parent clubs and support lines run by 'experts and experienced mums'.



Text and images implying products are natural were common, for example 'Feeding life with pure nature' (Piccolo follow-on formula), and 'science and nature hand in hand' written on a rainbow (Hipp Organic formula products). These have positive connotations but the exact meaning in the context of formula products is unclear.

Limitations

A small number of the products included in this analysis may have included old versions of packaging which was later updated to comply with the most recent legislation. Where available, the most up to date version of the product was included in the analyses.

Recommended action for policy and research

- Our findings highlight multiple incidences where DHSC guidance to complying with legislation have not been followed. However, lack of detail in the legislation itself makes it difficult to categorically state that legislation has been breached. These findings are summarised in Table 4, along with aspects of the legislation which would need to be amended to ensure greater effectiveness.
- This raises questions around how compliance to current formula legislation⁴⁷⁶ is monitored in the UK.
- The mapping of claims on infant formula products also highlight features on formula labels, not currently governed by legislation, which are likely to undermine government healthy eating guidelines (Table 5).
- Moreover, the findings highlight some key research areas that warrant further investigation (Table 6).

Table 4. Findings relating to compliance and recommended actions to amend legislation to ensure effectiveness

Findings that could be considered as non-permitted:	Recommended action to amend legislation to ensure effectiveness:
22% of first and 44% of follow-on formula (n=18 each) made highly technical nutrition claims that consumers are unlikely to understand.	Clarify which nutrients consumers are likely to understand and therefore which claims can be made.
17% of first and 17% of follow-on formula (n=18 each) included claims that could be considered health claims but are not in the GB NHC Register.	Clarify wording of health claims that are permitted on formula.
67% of first 78% of follow-on formula (both n=18) included baby related images idealising the use of formula, according to DH guidelines.	List images which idealise the use of formula and should therefore not be used.
22% of follow-on formula included text idealising the use of formula, according to DHSC guidelines.	Clarify and give examples of text which idealises the use of formula and therefore should not be used.
72% of follow-on formulas and 44% of specialist formulas were almost identical to infant formulas (similarity scored ≥ 4 out of 5)	Specify the features of follow-on and specialist formula which must be different to enable a clear distinction to be made from infant formula.
100% of formula products displayed mandatory information regarding the superiority of breast milk in small, hard to locate text.	Specify position and size requirements for mandatory information regarding the superiority of breast milk.
0% of first formulas highlighting the addition of DHA (omega 3) gave equal prominence to the required statement 'in accordance with legislation for all infant formula', instead displaying this additional information in smaller, harder to locate text, or on the back of the label.	Specify position and size requirements for the statement making it clear that DHA addition to formula is mandatory.
0% of formula labelled as Food for Special Medical Purposes (FSMP; n=7) prominently displayed information regarding the need for medical supervision.	Specify the size, position and wording of statements regarding the need for medical supervision on FSMP formula.

Table 5. Findings relating to issues not covered by current legislation and recommended new policy requirements

Findings	New policy requirements
56% of specialist formula were labelled as infant formula rather than FSMP.	Clarify which formula should be used under medical supervision and should be labelled as FSMP, and needs for additional labelling on specialist formula labelled as infant formula.
94% of first and 67% of follow-on formula included advertisements for formula for older infants and children.	Prohibit on-package advertisements for formula for older infants and children to encourage adherence to government feeding guidelines and prevent covert use of claims.
0% of growing-up formula included government guidelines for feeding cow or breast milk from 1 year.	Ensure growing-up formula prominently display government advice to continue breastfeeding and/or provide whole cows' milk from 1 year.
0% of growing-up formula stated that less formula is required if cheese and yogurt are consumed.	Ensure growing up formula prominently displays advice regarding recommended portions of milk and dairy foods per day, to avoid overconsumption and or an imbalance of nutrient intake.

Table 6. Recommended research requirements based on findings from this scoping review

Findings	Research questions
72% of follow-on formulas and 44% of specialist formulas were almost identical to infant formulas (similarity scored ≥ 4 out of 5).	How do parents navigate the formula market and perceive differences between products for different ages and needs?
Cost of infant formula (n=18) ranged from £5.98 to £41.17 per week.	What role does price play in parents' formula choice?
93% of packs included nutrition or health claims.	How do health and nutrition claims influence parents' formula purchasing decisions?
Explicit and implied claims about similarity to breastmilk were widespread.	How are claims seen and understood by parents?

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