Executive Summary

Food fortification plays an important role in addressing micronutrient deficiencies and tackling malnutrition. Breakfast cereals are one of the most commonly fortified foods and dominate many children’s diets globally. This paper examines more closely the voluntary commitments on fortification and their implementation by the world leader in breakfast cereals, Kellogg’s. The paper focuses on Mexico, where Kellogg’s dominates the breakfast cereal market: a 2013 national survey found that four of the five most commonly bought breakfast cereals for children are Kellogg’s brands.

In its strategy documents, Kellogg’s articulates its responsibility to play a role ‘in tackling the global challenges of food security including undernutrition, hidden hunger, and obesity in middle- and low-income communities across the globe’ through delivering ‘healthy foods for people of all income levels in every country’. Kellogg’s also made bold claims that it had addressed ‘nutrition shortfalls’ and ‘improved Latin American cereals with the right amounts of Vitamins A, B and D, iron, calcium, folic acid and antioxidants.’

To assess whether these claims are true, Changing Markets has assessed the micronutrient make-up of Kellogg’s breakfast cereals in Mexico. Our comparison of micronutrient levels in 2013 and 2018 reveals that, in the last five years, Kellogg’s cereals have become significantly poorer in terms of minerals and vitamins. Across the board, analysis of the five most popular Kellogg’s breakfast cereals showed that over two thirds of all micronutrients across all five cereals had been reduced or removed when compared to 2013 levels. Several types of B vitamins and vitamins C and E have been significantly reduced or entirely removed. The levels of iron have been reduced in all five cereal brands analysed, despite the fact that iron deficiency rates among the Mexican population remained almost unchanged during this period.

The findings show a lack of scientific rationale behind the fortification of Kellogg’s breakfast cereals. The company’s commitments and claims that Kellogg’s fortifies its cereals with ‘nutrients specific for the needs of the area’ in the case of Mexico seem to be empty words.
1. Introduction

Micronutrients are essential vitamins and minerals that humans need to develop and maintain good health. Having a balanced diet based on the consumption of unprocessed or minimally processed foods is one way to ensure that we get the micronutrients we need. However, due to the inaccessibility and unaffordability of nutritionally rich foods for many people, more than one in three people worldwide are deficient in vital micronutrients.1

Food fortification can help to correct or prevent micronutrient deficiencies and improve public health. Mandatory fortification programmes are typically country-specific interventions that involve fortifying staple foods (such as flour, salt and oil) with key nutrients in which a large proportion of the population is deficient. However, food fortification need not take place solely through mandated or legislated programmes; market-driven, voluntary fortification can also play an important role. In theory, the food industry could take straightforward and effective measures to tackle micronutrient deficiencies to complement governmental regulation. Indeed, many companies already use fortification as a marketing tool for some of their products or to comply with their own corporate social responsibility commitments. In this report, we take a closer look at voluntary fortification by focusing on the micronutrient profile of breakfast cereals – one of the most commonly fortified food products available globally.2

The nutrition profile of breakfast cereals is already fraught with controversy. Many breakfast cereals are classified as ultra-processed foods, are high in added sugar and salt, and are often aggressively marketed to children. It is recommended that children and adults reduce the consumption of ultra-processed foods, because of links to obesity.3 Nevertheless, fortified breakfast cereals remain a major source of micronutrients worldwide, including in the United States and across the European Union.4,5

Kellogg’s is the global market leader for breakfast cereals and makes some of the most well-known breakfast cereal products on the market, such as Corn Flakes and Special K. Kellogg’s claims to be a ‘socially responsible’ business with the purpose of ‘nourishing families so they can flourish and thrive’, and has made many commitments to tackling undernutrition and micronutrient deficiencies worldwide.6

This report takes a look at the claims Kellogg’s makes in the context of its breakfast cereal product range in Mexico, where micronutrient deficiencies are a major public health problem and many children eat breakfast cereals daily. According to a national study, 42% of parents state that they buy breakfast cereals because their children ask for them, compared to 33% who buy them for their nutritional value.7 The same study also showed that 58% of the parents believe the claims on package labels and other marketing materials. Interestingly, a 2017 study found that guideline daily amount labels and nutritional claims were displayed more frequently on the breakfast cereals that the study classified as ‘less healthy’.8 It is therefore worth considering the role that nutritional claims may play in the Kellogg’s marketing strategy, particularly for their higher-sugar, -salt or -fat products, which may not be the healthiest daily breakfast choice for children.
How often do children between 3 and 12 years old consume breakfast cereals in Mexico?

50% 2 to 3 times a week

37% Every day

9% Once a week

3% Monthly

1% Never

Source: PROFECO, 2013
2. Spotlight on Kellogg's

2.1. Breakfast: the most important meal in the Kellogg’s day

Breakfast cereals are at the heart of Kellogg’s, a global company founded in 1906 that sells products in more than 180 countries. Although Kellogg’s manufactures a broad range of snacks and convenience foods, it remains best known for its breakfast cereal range. Founder W.K. Kellogg and his brother invented breakfast cereal in 1898, motivated by a desire to ensure the masses - who had now shifted from farm to factory work - consumed wholewheat, which was deemed to counter ill health.

Today, breakfast products continue to represent a very significant share of the company’s total sales. In the US market alone, sales of Kellogg’s breakfast products are almost US $3bn, representing approximately 23% of the company’s nearly US $13bn worldwide sales. Kellogg’s is also the market leader in Mexico, with 43% of market share in 2017.

2.2. Kellogg’s: a company with ‘heart and soul’?

Since its foundation, Kellogg’s has taken pride in its credentials as a company with the purpose of ‘nourishing families so they can flourish and thrive’. The company claims that its objective ‘to win in the marketplace’ is intertwined with the wider objective ‘to make a difference in people’s lives’ - an approach that is part of the legacy of W.K. Kellogg, a major conservationist and philanthropist.

In its strategy documents, Kellogg’s articulates its responsibility to play a role ‘in tackling the global challenges of food security including undernutrition, hidden hunger, and obesity in middle- and low-income communities across the globe’ through delivering ‘healthy foods for people of all income levels in every country’. It also reiterates its commitment to supporting the achievement of Sustainable Development Goals 2 and 3, relating to hunger and ensuring healthy lives, respectively.

In its Nutrition Milestones strategy, Kellogg’s outlined its supposed commitment to nutrition and, thanks to articulating some broad-brush policies on nutrition, improved its ratings in the 2018 Global Access to Nutrition Index (hereafter Global Index). Kellogg’s states it develops marketing strategies to reach undernourished populations in developing countries by providing education materials to improve nutrition literacy, helping consumers to make informed food choices and making its products more accessible and affordable to low-income groups.

This strategy is led by Kellogg’s Chief Growth Officer rather than a corporate social responsibility or nutritionist-lead team. The 2018 Global Index asserts:

[The Kellogg’s ‘Growth 2020’ strategy, which aims to double the business in emerging markets, is linked to commitments to provide targeted, fortified products that address nutritional deficiencies in developing countries. Kellogg is one of only a few companies that commit to creating and delivering marketing strategies appropriate to reaching undernourished populations in developing countries.]

But despite such accolades and declarations of good intentions, a closer analysis of the documentation created by Kellogg’s exposes tactics that are commercially rather than philanthropically motivated; for example, creating reduced package sizes for low-income populations, rather than making their products more affordable in real terms or improving nutrient levels. This strategy of growth first, with nutrition as a mere side note, is evident in another Kellogg’s aim: to ‘win where the shopper shops’.
In relation to its business operations in Latin America specifically, Kellogg's states:

> across Latin America, we have been working to innovate and renovate our foods to reduce the sugar and sodium levels. By the end of 2016, 46 percent of total portfolio complied with the nutrient profile established by the government in Mexico and aligned to the Colombia & Brazil nutrient profile voluntary pledges.

However, this claim appears to refer entirely to reducing the levels of ingredients considered unhealthy when consumed in large amounts, such as sugar and salt. For example, in some cereals in Mexico Kellogg's are reducing sugar levels (in cereals targeted at children) but they are replacing sugar with non-caloric sweeteners. It could be suggested that efforts by Kellogg's to improve the macronutrient profile of their cereals are lacklustre. It is unclear how this relates to Kellogg's improving the nutritional value of its products via fortification, or to responding to the population's nutrient needs.

### 2.3. Kellogg's: favouring fortification?

Kellogg's claims to be committed to ‘preventing and addressing undernutrition micronutrient deficiencies, aligned to international guidance, in developing countries through targeted fortification of our foods’, and identifies ‘Zinc, Iron, and Vitamin A as areas of deficiency in many emerging markets’. The strategy further states: ‘Kellogg is also focused on our current fortification profiles for each region to ensure we are delivering key nutrients specific for the needs of the area’.

Moreover, Kellogg's says it is investing in research and development, innovation, and reformulating its products to improve their nutritional quality. It claims that such actions are informed by the assessment of ‘existing usage of key ingredients and nutrients within products and region’. This suggests that, when considering fortification strategies, Kellogg's takes into account how products are consumed, national laws and regulations, the nutrient needs and intake of the general population, and technical feasibility.

In its 2017/18 Corporate responsibility report, Kellogg's declared it was 'focused on closing the gap on hidden hunger and micro/ macro nutrient deficiencies in emerging and developed markets'. Further, the company made bold claims that it had addressed ‘nutrition shortfalls’ and ‘improved Latin American cereals with the right amounts of Vitamins A, B and D, iron, calcium, folic acid and antioxidants’. But these claims lack further explanation; it remains unclear what improvements Kellogg's made or how these were implemented.
3. Nutrient-rich or nutrients ditched?
Nutritional composition of Kellogg’s cereals

3.1. Disappearing nutrients: the example of Mexico

Studying the labels of Kellogg’s cereal products currently on sale in Mexico, it is hard to conclude how their fortification reflects either the population’s needs or their consumption of products. The nutrient makeup of Kellogg’s cereals can vary dramatically; a 30g portion of Zucaritas contains just 10% of the recommended dietary allowance (RDA) of iron, whereas the same amount of Apple Jacks contains 25%, *(see table below)*

The variation in levels of micronutrients is not only confined to differences between Kellogg’s cereal brands; it seems that differences in nutrient levels can be highly pronounced even within the same core brand. For example, a 30g portion of chocolate- or vanilla-flavoured Special K contains 35% of the RDA of B12, whereas the same amount of Special K Cosecha Roja contains a mere 11%. The rationale for such a stark difference in nutrient levels for products within the same range is unclear. Furthermore, consumers might assume fortification levels to be consistent between these very similar products, which are also expected to be consumed by same population demographic.

### Table 1: Contribution (%) of one portion of Kellogg’s cereals towards RDA of micronutrients in Mexico in 2018 (values adjusted to 30g portion size)

<table>
<thead>
<tr>
<th></th>
<th>Vitamin A</th>
<th>Vitamin C</th>
<th>Vitamin D</th>
<th>Vitamin E</th>
<th>Vitamin B1 / Thiamin</th>
<th>Vitamin B2 / Riboflavin</th>
<th>Vitamin B3 / Niacin</th>
<th>Vitamin B6</th>
<th>Vitamin B9 / Folic acid</th>
<th>Vitamin B12</th>
<th>Calcium</th>
<th>Iron</th>
<th>Zinc</th>
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</thead>
<tbody>
<tr>
<td>ALL BRAN Chocolate</td>
<td>26%</td>
<td>19%</td>
<td>26%</td>
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<td>19%</td>
<td>26%</td>
<td>15%</td>
<td>19%</td>
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<tr>
<td>ALL BRAN Original</td>
<td>26%</td>
<td>19%</td>
<td>26%</td>
<td></td>
<td></td>
<td>19%</td>
<td>26%</td>
<td>15%</td>
<td>19%</td>
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<tr>
<td>APPLE JACKS</td>
<td>25%</td>
<td>25%</td>
<td>15%</td>
<td>50%</td>
<td>50%</td>
<td>45%</td>
<td>50%</td>
<td>25%</td>
<td>70%</td>
<td>25%</td>
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<tr>
<td>CHOCO KRISPIES</td>
<td>35%</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>10%</td>
<td>35%</td>
<td>16%</td>
<td>20%</td>
<td>25%</td>
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<tr>
<td>CHOCO KRISPIES Cookies</td>
<td>35%</td>
<td>25%</td>
<td>25%</td>
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<td>10%</td>
<td>35%</td>
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<td>20%</td>
<td>25%</td>
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<tr>
<td>CORN FLAKES</td>
<td>35%</td>
<td>25%</td>
<td>35%</td>
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<td></td>
<td>25%</td>
<td>35%</td>
<td>20%</td>
<td>25%</td>
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<tr>
<td>CORN FLAKES (Edición especial)</td>
<td></td>
<td></td>
<td>35% 40%</td>
<td>40% 25% 35%</td>
<td>20%</td>
<td>25%</td>
<td>20%</td>
<td>25%</td>
<td>25%</td>
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<tr>
<td>CORN POPS</td>
<td>35%</td>
<td>25%</td>
<td>35%</td>
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<td>35%</td>
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<td>EXTRA Arándanos</td>
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<td>26%</td>
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<td>15%</td>
<td>19%</td>
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<tr>
<td>EXTRA Chocolate</td>
<td>35%</td>
<td>25%</td>
<td>35%</td>
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<td>35%</td>
<td>20%</td>
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<tr>
<td>FROOT LOOPS</td>
<td>35%</td>
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<td>35%</td>
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<td>20%</td>
<td>25%</td>
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<tr>
<td>SPECIAL K Cosecha Roja</td>
<td>26%</td>
<td>11%</td>
<td>19%</td>
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<td>8%</td>
<td>11%</td>
<td>11%</td>
<td>11%</td>
<td>19%</td>
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<td></td>
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<tr>
<td>SPECIAL K Original</td>
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<td>15%</td>
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<td>10%</td>
<td>35%</td>
<td>10%</td>
<td>20%</td>
<td>15%</td>
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<tr>
<td>SPECIAL K Proteína &amp; Calcio</td>
<td>19%</td>
<td>11%</td>
<td>2%</td>
<td></td>
<td></td>
<td>8%</td>
<td>26%</td>
<td>15%</td>
<td>15%</td>
<td>19%</td>
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<td></td>
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<tr>
<td>SPECIAL K Sabor Chocolate</td>
<td>15%</td>
<td>15%</td>
<td>15%</td>
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<td></td>
<td>10%</td>
<td>35%</td>
<td>15%</td>
<td>20%</td>
<td>15%</td>
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<tr>
<td>SPECIAL K Sabor Vainilla con Almendras</td>
<td>15%</td>
<td>25%</td>
<td>15%</td>
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<td>10%</td>
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<tr>
<td>ZUCARITAS</td>
<td>25%</td>
<td>15%</td>
<td>15%</td>
<td>40%</td>
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<td>40%</td>
<td>40%</td>
<td>15%</td>
<td>35%</td>
<td>20%</td>
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<tr>
<td>ZUCARITAS NutriCrisp</td>
<td>25%</td>
<td>25%</td>
<td>25%</td>
<td>40%</td>
<td>40%</td>
<td>40%</td>
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<td>20%</td>
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</tr>
</tbody>
</table>

Sources: Product labels

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3.2. Mind the gap: matching nutrients to nutrition needs

Kellogg’s classifies its emerging markets as countries with low, high or moderate deficiency in zinc, iron and vitamin A. It classifies Mexico as having moderate deficiency rates. This is backed up by Mexican government surveys, which have recorded that one in four children under five suffer from anaemia, and 1.6 million children have a low height for their age due to chronic malnutrition. Further, according to the National Health Survey, children and adults in Mexico do not get enough calcium through their diets alone.

Chart 1: Percentage of Mexican children aged 5 to 12 years old with insufficient intake of major micronutrients

<table>
<thead>
<tr>
<th>Micronutrient</th>
<th>Percentage of range of range</th>
<th>Severity of deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zn</td>
<td>&gt;10%</td>
<td>Low</td>
</tr>
<tr>
<td>Fe</td>
<td>15 - 23%</td>
<td>Moderate</td>
</tr>
<tr>
<td>A</td>
<td>15 - 23%</td>
<td>Moderate</td>
</tr>
<tr>
<td>B12</td>
<td>15 - 23%</td>
<td>Moderate</td>
</tr>
<tr>
<td>Ca</td>
<td>46 - 52%</td>
<td>High</td>
</tr>
<tr>
<td>Ca</td>
<td>55 - 88%</td>
<td>High</td>
</tr>
</tbody>
</table>

Source: Mexico Instituto Nacional de Salud Pública (2012)

Our research prompts further questions regarding how Kellogg’s puts its positive words into practice when fortifying its cereals. Comparison of the nutrient content of a number of Kellogg’s products in 2018 against levels reported on product labels in 2013 reveals that, in the last five years, Kellogg’s has removed essential micronutrients from its cereals in Mexico. As Table 2 shows, the levels of iron have been reduced in all five cereal brands analysed, despite the fact that iron deficiency in Mexico remained almost unchanged during this period. In fact, national studies have shown that anaemia (predominantly caused by iron deficiency) actually increased in prevalence.
Cereal offender: is Kellogg’s breaking its breakfast promises?

Table 2: Variation (%) in micronutrient composition, 2013–2018

<table>
<thead>
<tr>
<th>Vitamin A</th>
<th>Vitamin C</th>
<th>Vitamin D</th>
<th>Vitamin E</th>
<th>Thiamin</th>
<th>Riboflavin</th>
<th>Niacin</th>
<th>Folic acid</th>
<th>Vitamin B12</th>
<th>Calcium</th>
<th>Iron</th>
<th>Zinc</th>
</tr>
</thead>
<tbody>
<tr>
<td>+133%</td>
<td>0%</td>
<td>+150%</td>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
<td>-60%</td>
<td>+7%</td>
<td>-20%</td>
<td>+67%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>+75%</td>
<td>-17%</td>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
<td>-64%</td>
<td>0%</td>
<td>-100%</td>
<td>-50%</td>
<td>+25%</td>
<td></td>
</tr>
<tr>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
<td>+14%</td>
<td>-100%</td>
<td>-100%</td>
<td>+14%</td>
<td>+14%</td>
<td>0%</td>
<td>-100%</td>
<td>-50%</td>
<td>-100%</td>
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<tr>
<td>-60%</td>
<td>-100%</td>
<td>0%</td>
<td>-100%</td>
<td>-100%</td>
<td>-100%</td>
<td>-70%</td>
<td>-70%</td>
<td>-20%</td>
<td>-100%</td>
<td>-60%</td>
<td>+50%</td>
</tr>
</tbody>
</table>

Source: Product labels

When we state ‘increase’ it is because the levels of micronutrients were not available for 2013, therefore it was not possible to quantify the increase.

Considering Mexican legislation requires micronutrient levels to be stated on labels of any fortified foods, we have assumed that it is unlikely the product contained any additional nutrients in 2013, if no information was stated on the label at that time. If information is given in 2018, we have thus assumed this is de facto an increase albeit an unquantifiable one.
As Table 2 shows, with the exception of an increase in the levels of zinc, Kellogg's cereals have become significantly poorer in terms of minerals and vitamins. It is especially striking, how significantly Kellogg's has reduced the levels of folic acid and vitamins B, C and E. With the exception of vitamin B12 in Choco Krispis and Vitamin B1 in Corn Flakes (edición especial), vitamins B have been significantly reduced and in many cases entirely removed from the cereal products that are most popular among Mexican children, such as Zucaritas, Corn Flakes and Choco Krispis. Since B vitamins are among the more expensive micronutrients, and have been removed from products with some of the highest market share, this could indicate that Kellogg's is primarily motivated by profits and not by its commitment to address undernutrition and micronutrient deficiencies.

This comparison shows that the Kellogg's fortification strategy is wildly inconsistent, rarely following rhyme or reason. In the past five years Kellogg's has dramatically reduced the nutrients in several of its core products, particularly those marketed to and consumed by children. This contradicts the company's commitments. Claims that Kellogg's fortifies its cereals based on 'nutrients specific for the needs of the area' seem to be empty words in the case of Mexico.

4. Conclusion

Kellogg's marketing materials and policies make for reasonable reading when it comes to nutrition and fortification, but the nutritional content of its products seems to be primarily driven by profits – not by the nutritional needs of the populations in question.

Most Kellogg's breakfast cereals are high in macronutrients and processed ingredients that are associated with an unhealthy diet, such as sugar and salt, and the company often uses the addition of micronutrients as a marketing ploy to make their products appear healthier. Given that the macronutrient profiles of Kellogg's breakfast cereals already lead many to question the nutritional value of these products, our analysis has unveiled a worrying trend of further reducing the nutritional value of Kellogg's breakfast cereals through the apparent removal of vital micronutrients.

The findings in this report ask some stark questions of the world's cereal giant. What is its rationale for removing or reducing certain micronutrients in different types of cereals if the population has not shown improvements in deficiency levels? Why the dramatic difference in micronutrient content over the course of a few years? Why are some cereals from the same product range fortified with different levels of nutrients? These questions show a lack of scientific rationale behind the fortification policies of Kellogg's breakfast cereals.

If Kellogg's is serious about playing its part in making its customers healthier and increasing their wellbeing, the company must explain why its products have such confusing and varied nutrient levels – even within the very same brand of cereal. Its policies demonstrate that Kellogg's is well aware it plays a vital role in the nutrition intake of its customers, but with these findings we have to ask whether Kellogg's is prioritising profit growth over the health of the children and adults who eat their cereals. Smaller packets, and marketing strategies that talk a good game, might line the pockets of shareholders – but they are not lining the stomachs of consumers with nutrient-rich foods. Kellogg's must urgently review its practices to fit its supposed policies. It is time for Kellogg's to start living up to its ideals by providing consistent fortification for its cereals and other products.
Cereal offender: is Kellogg’s breaking its breakfast promises?

References

This report was published in February 2019 by the Changing Markets Foundation.

This report has been written and researched by the Changing Markets Foundation in collaboration with independent researchers.

The purpose of the report is to shed light on industry-specific issues related to fortification of breakfast cereals. The information in this document has been obtained from sources believed reliable and in good faith. The authors accept no liability whatsoever for any direct or consequential loss arising from the use of this document or its contents.

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