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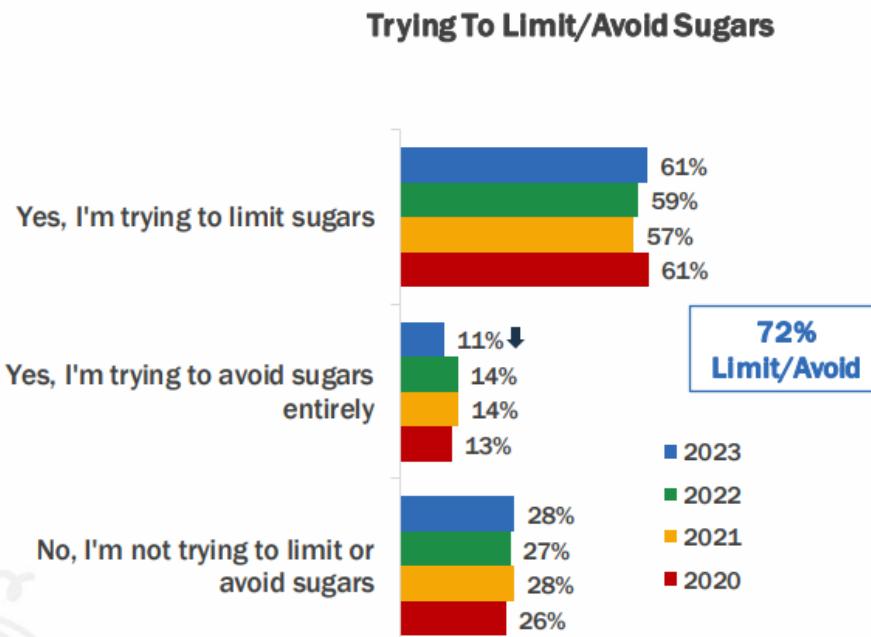
Sugar reformulation in Canadian bakery products with sugars-related claims

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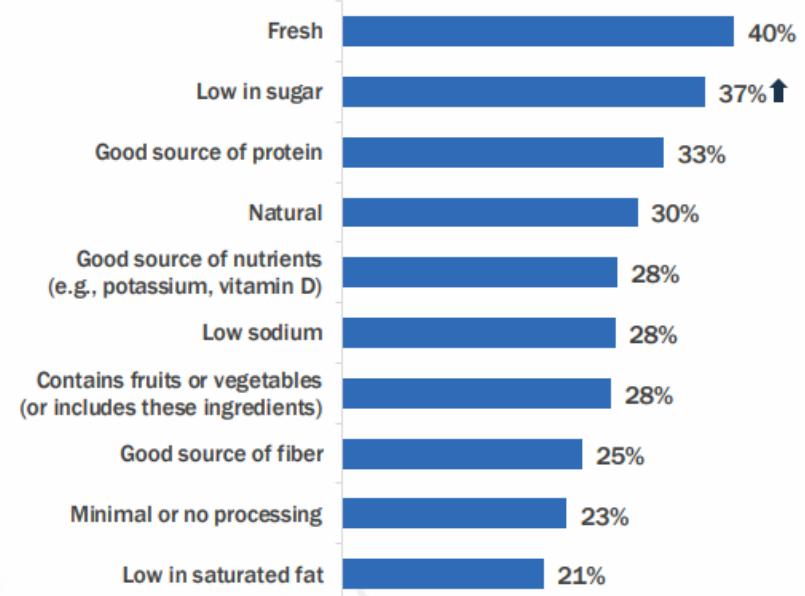
2023 Canadian Food Summit
London, ON

1. Background—Consumer Trend that Demonstrates the Demand of low-sugar packaged foods

- An IFIC online survey of 1,022 Americans ages 18 to 80 in April 2023



Definition of Healthy Food (Top Choices)



<https://foodinsight.org/wp-content/uploads/2023/05/IFIC-2023-Food-Health-Report.pdf>

1. Background—Canadian Regulatory Landscape that Incentivize Sugars Reduction

Nutrition Labelling Regulation

- Published in December 2016
- Transition ending in December 2023



Front-of-Package Labelling Regulation

- Published in July 2022
- Transition ending in December 2025



Threshold:
=>15% Daily Value



1. Background—Sugar Claims that Highlights Sugars Reformulation Efforts

- Nutrient content claims are statements located on the front of the package to highlight the content of certain nutrients in the product.
- There are six sugars-related nutrient content claims permitted in Canada, including one new claim:

Free of sugars

Reduced in sugars

Lower in sugars

No added sugars

Unsweetened

Low in sugars
(new claim)

1. Background—Previous Research on Sugar Reformulation

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doi:10.1017/S1368980020001159

Reformulation of sugar contents in Canadian prepackaged foods and beverages between 2013 and 2017 and resultant changes in nutritional composition of products with sugar reductions

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Among products reformulated to be **lower in sugars**:

- A median value of sugars reduction = 1.6 g per 100 g or 100 mL
- A median increase in starch = 1.5 g per 100 g or 100 mL
- No significant change in fibre, protein, or calories overall

Reformulation challenges in bakery products

- Structure relies on varying mixtures of sugars, starch (flour), fat and protein, created with complex chemistry triggered by heat
- Possible issues with reduced sugars content:
 - Loss of viscosity and body due to low solids
 - Poor aeration
 - No browning
 - Loss of shelf life (staling, microbial spoilage)
 - Poor-flavour release

2. Objectives

This study aimed to perform a cross-sectional analysis of bakery products in the Canadian marketplace regarding the use of sugars-related nutrient content claims, reformation strategies, and changes in macronutrient and energy content.

3. Methods—Data Source

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Mintel Global New Product Database

- **Five product launch types included**

- New product
- Line/Range extension
- Reformulations
- New Packaging
- Re-launches

- **Data Range:** 1996 - present



CLAIMS
What they are
and how they're
trending.



CATEGORIES
Who's innovating
in your market.



PACKAGING
The concepts,
the features,
the insights.



**INGREDIENTS
AND
FORMULATIONS**
How, where
and why they're
evolving.



**SPECIALIZED
NUTRITION**
Where it's heading
and who's driving
change.



PATENTS
AI-powered
global analysis
on pre-launch
innovation.



**REGULATORY
ANALYSIS**
The necessary
changes to keep
on top of.

3. Methods—Process



No Sugar Added

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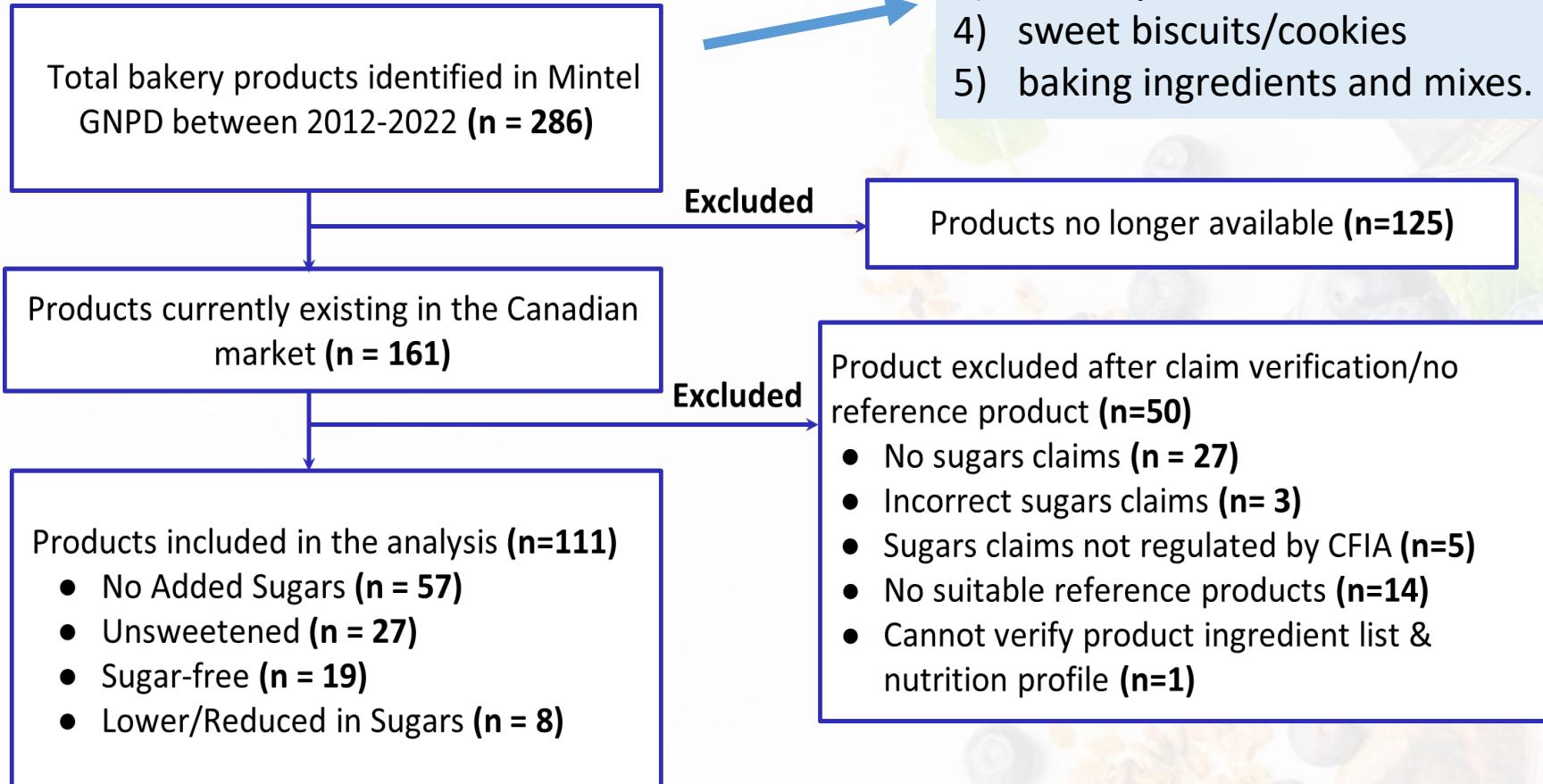
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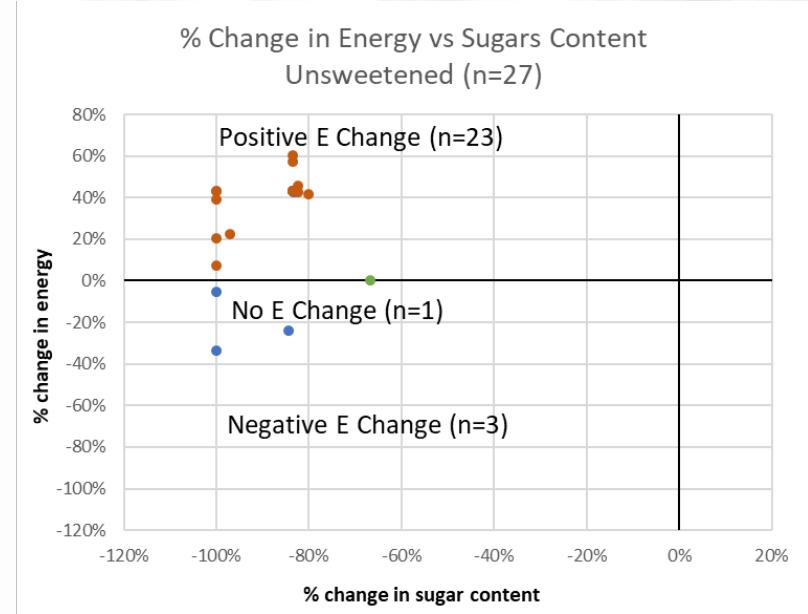
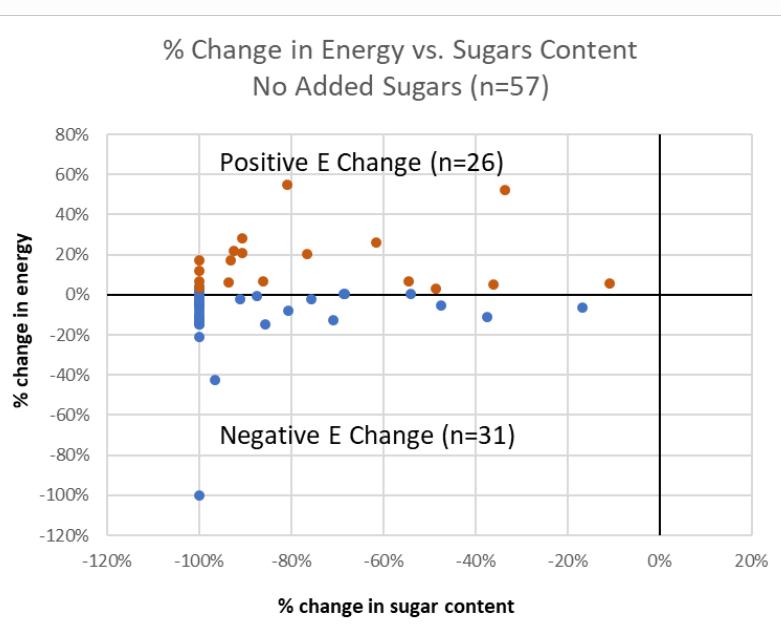
e claim

4.1 Product Characteristics



4.2 Changes in Total Sugars and Calories

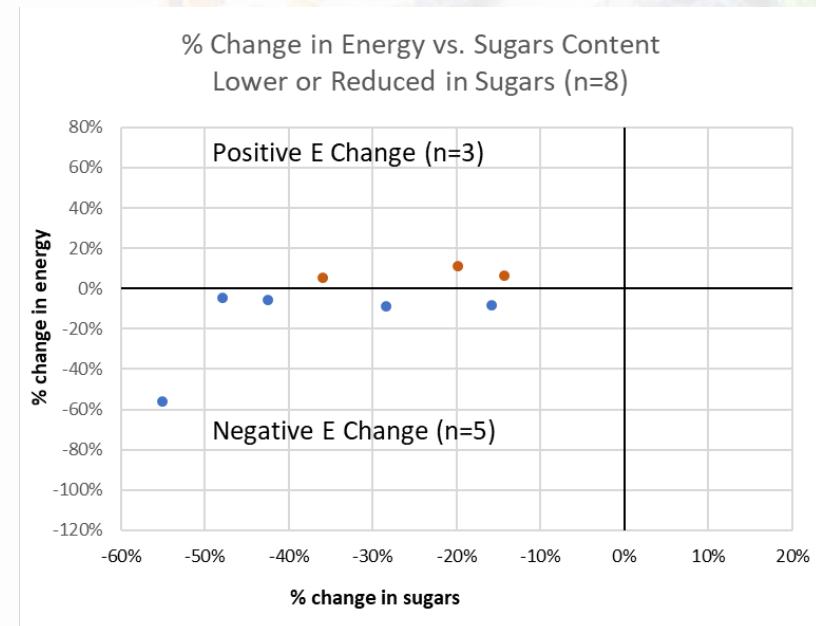
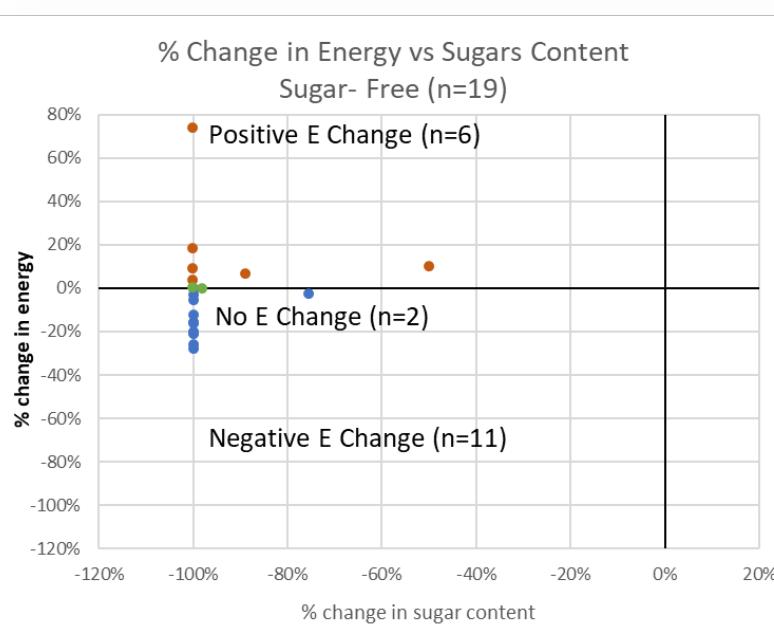
- About 46% of bakery products with “no added sugars” claims, 85% of “unsweetened”, 32% of “sugar-free” and 17% of “lower / reduced in sugars” claims had higher energy content compared to their corresponding reference products.



Change in Energy: Positive—red dots; Negative—blue dots; No Change—green dots

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Change in Energy: Positive—red dots; Negative—blue dots; No Change—green dots

4.3 Change in Energy and Key Nutrients

Claims	Sugars	Energy	Fibre	Carbohydrate	Fat
No Added Sugars	- The claim products with higher energy content generally had added starch, sugar alcohols, oils, or protein isolates as substitutes			g/100g	
Unsweetened (n=27)	- Most claim products were baking ingredients such as unsweetened coconut. (The higher average energy content was due to a higher proportion of shredded coconut which has a higher energy density.				
Sugar-Free (n=19)	- Most claim products with higher energy content were featuring “keto” with added ingredients such as coconut oil, and seeds.			g/100g	
Lower / Reduced in Sugars (n=8)	- The claim products with higher energy content (n=3) also had higher fat content, which contributed to the energy difference.	Kcal/100g			

4.4 Common Replacement Ingredients

Ingredient Category	Common Examples	Key Functional Roles	Claim Category
Sugar Alcohol	Erythritol, Maltitol, Sorbitol, Xylitol	Sweetening agents, Bulking	No Added Sugars, Sugar-Free, Lower/Reduced in Sugars
Low-caloric sweeteners	Stevia, Sucralose, Acesulfame potassium, Monk Fruit Extract	Sweetening agents	Sugar-free, Lower /Reduced in Sugars
Fibre	Inulin, Gum, Polydextrose	Bulking, Texture, Structure, Emulsifier, Stabilizer, Thickener	Sugar-Free, Lower /Reduced in Sugars
Starch	Wheat starch, Dextrin, Rice flour	Texture, Structure, Moisture retention, Gel formation	No Added Sugars, Unsweetened

5. Conclusion

- A lack of energy reduction in over one third of bakery products bearing sugars-related claims, making these claims potentially misleading to consumers who expect such products to be lower in Calories.
- Consumers should look at the entire food package, including List of Ingredients, Nutrition Facts table, and nutrient content claims, rather than solely the sugars claim.
- Food manufacturers are also encouraged to reformulate products resulting in an improved calorie and nutrition profile rather than a single-nutrient focus.

Acknowledgements

Canadian Sugar Institute Staff

Chiara DiAngelo, RD, MPH, Director of Nutrition

Sandra Marsden, RD, MHSc, President

Dalla Lana School of Public Health, University of Toronto

Anita Chung, MPH, RD candidate

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