Identifying a Nutrient Profiling Model for Ghana

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A comparative study and implications for ultra processed food (UPF) regulatory policies

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KEY FINDINGS

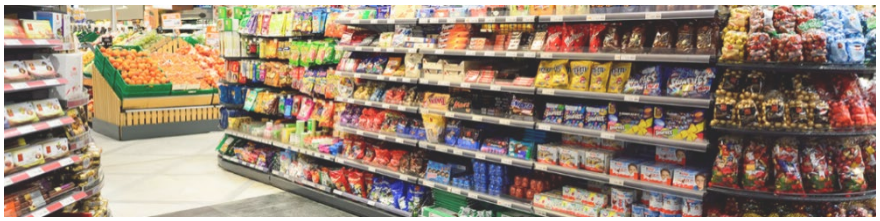
- The **WHO AFRO and proposed Ghana NPMs will have the largest share of products being non-compliant**
- **The South Africa (SA) FOPL and PAHO NPMs will have the lowest regulatory burden**
- The **Nutri-Score NPM could not be implemented on 23% of foods and 16% of beverages**, more than any other NPMs studied
- A considerable share of food and beverage products on the market in Ghana were **missing information on trans fats (54%), saturated fats (17%),** and **sodium (14%)**

RECOMMENDATIONS

- **Strengthen mandatory nutrition labeling to support effective implementation, enforcement and monitoring**
- Until labeling improves, policies will need to **assume that products that do not report targeted nutrient or ingredients are non-compliant**
- To lower the regulatory burden and to be aligned with policy goals, **exempt products from NPM policies if minimally processed**, or do not contain any added sweeteners, added sugars, added sodium, or added fats

Like many other countries in the African region, Ghana is experiencing a nutrition transition.[1] While food availability has increased in the region over the past several decades, **dietary diversity has worsened, with consumption of unhealthy fried foods and sweetened beverages becoming increasingly prevalent**.[1] As convenience foods and imported, **pre-packaged energy-dense food and beverage products replace traditional, mostly plant-based diets, non-communicable disease (NCDs) are becoming a growing concern**.[2] In 2016, the World Health Organization estimated that 43% of deaths in Ghana could be attributed to NCDs, up from 28% in 1990.[3,4] Of particular concern is hypertension, which is estimated to impact more than one in four Ghanaians and is among the top three risk factors driving poor health and mortality outcomes in the country.[4,5] At the same time, malnutrition remains the risk factor responsible for the most death and disability in Ghana.[5] One in five children are stunted and one in ten wasted, while a significant portion of women of reproductive age are vitamin deficient.[6] **Proactive action is needed to disrupt this double burden of malnutrition and improve diet and health outcomes in Ghana.**

Nutrient profile models (NPMs) are a tool used to design policies that discourage production and consumption of foods containing nutrients or ingredients of concern such as ultra-processed products. Like many African nations and countries around the world, Ghana is currently in the process of developing its own NPM. This brief will report on findings from a comparison study of NPMs being considered for use in Ghana.



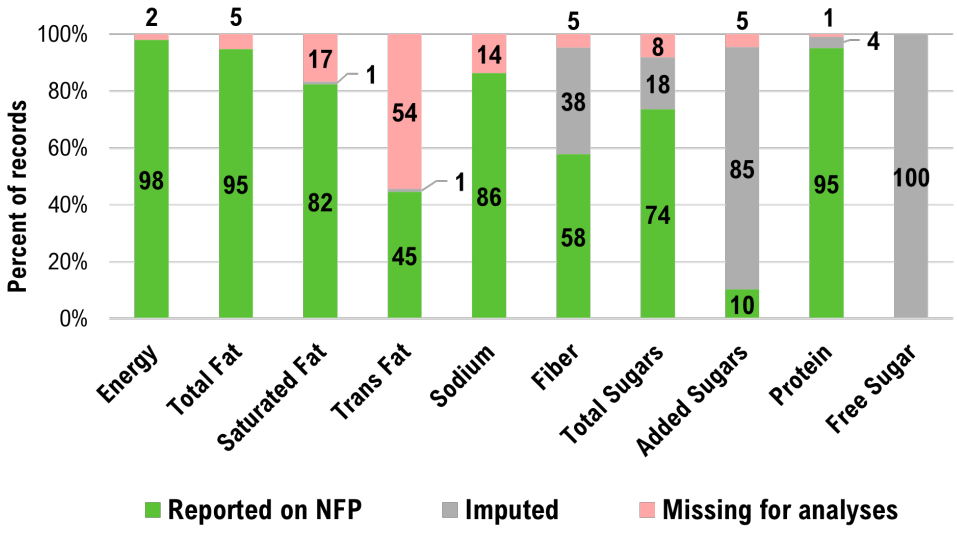
Methodology: Ghana, Kenya, Nigeria, Tanzania and South Africa have all identified nutrition policy priorities that require a NPM to inform practical policy implementation.[7-11] This study applied several NPMs proposed for use to a set of 28,609 packaged food and beverage products from 2020-2023 obtained from the Mintel Global New Product Database. Missing nutrient values were imputed where possible. Records were assessed on nutrition labeling information **(Figure 1)**, rates of product exemption and compliance with each NPM **(Figure 2)**, and compliance by NSS criteria inclusion **(Figure 3).** The NPMs studied included:

1) the proposed Ghana NPM (under development)[7,*]
2) the World Health Organization (WHO) Africa Region NPM (hereafter WHO AFRO)[12]
3) the Kenyan NPM[8]
4) the South African NPM for front-of-package labeling, with a free sugar criteria (hereafter SA FOPL)[13]
5) the Pan American Health Organization (PAHO) NPM[14]
6) Nutri-Score[15]

Brief descriptions of each NPM and their key characteristics are listed in **Table 1**.

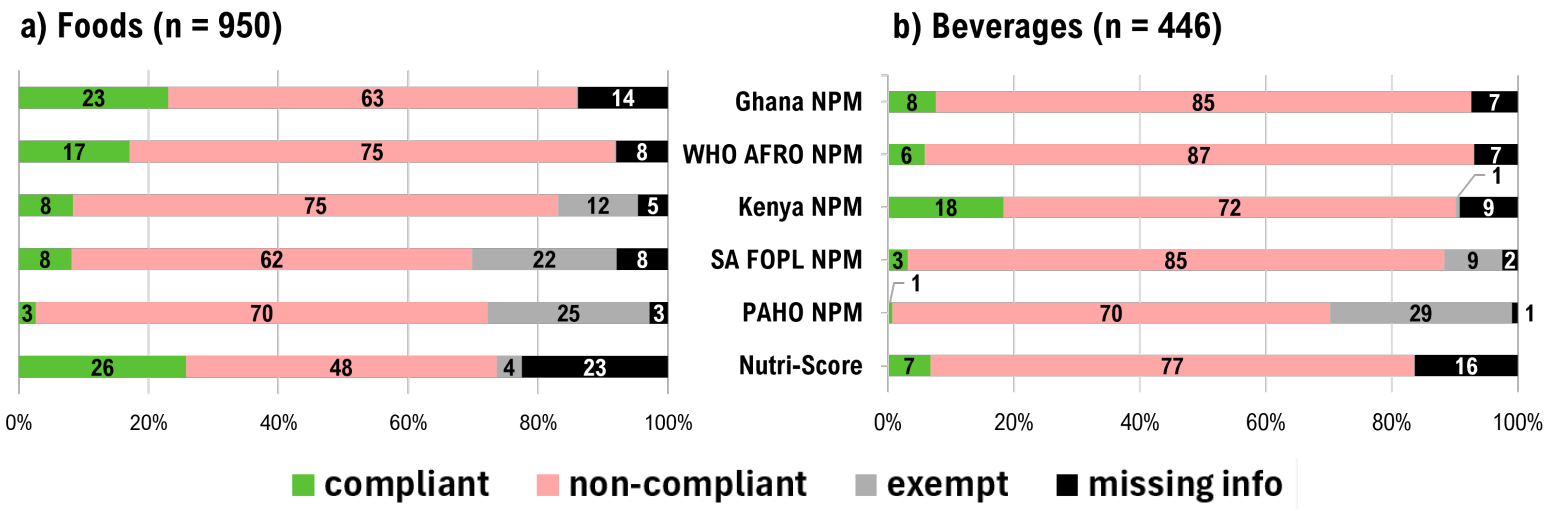
* The Ghana NPS applies a dual thresholding strategy, integrating nutrient-specific thresholding based on WHO guidelines, and a holistic scoring system based on the Food Compass guidelines. The component applied in this analysis is the nutrient-specific thresholding based on WHO guidelines.

FIGURE 1: AVAILABILITY OF NUTRITION INFORMATION AMONG PRODUCTS IN GHANA



A considerable share of products assessed in Ghana lacked nutrition label information on trans fat (54%), saturated fat (17%), and sodium (14%). Policies based on the Ghanian NPM should assume that products that do not report on targeted nutrients or ingredients are non-compliant. This approach will encourage improvements in nutrition labeling.

FIGURE 2: COMPLIANCE OF GHANIAN PRODUCTS BY NPM



Among those considered, the WHO AFRO NPM will have the largest share of products non-compliant (i.e. the most products subject to regulation), with 75% of foods and 87% of beverages in this sample of products in Ghana being non-compliant. The proposed Ghana NPM is aligned with the WHO AFRO for beverages but more relaxed for foods, of which 14% of food products in Ghana could not be assessed. Nutri-Score has the smallest share of products being non-compliant in part because Nutri-Score could not be applied to 23% of foods and 16% of beverage product records due to a lack of information on the package required to apply Nutri-Score. The higher proportion of compliance among product records assessed by Nutri-Score is in line with findings that score-based NPMs enable manufacturers to add certain "positive" nutrients to boost scores. This makes Nutri-Score weaker at identifying products with unhealthy levels of nutrients of concern.[16,17]

To lower the regulatory burden and to better align with policy goals, products with certain characteristics like being minimally processed, not containing any added sweetener, added sugar, added sodium or added fats should be exempt from regulations at this time.

FIGURE 3: NPM COMPLIANCE BY NUTRIENT

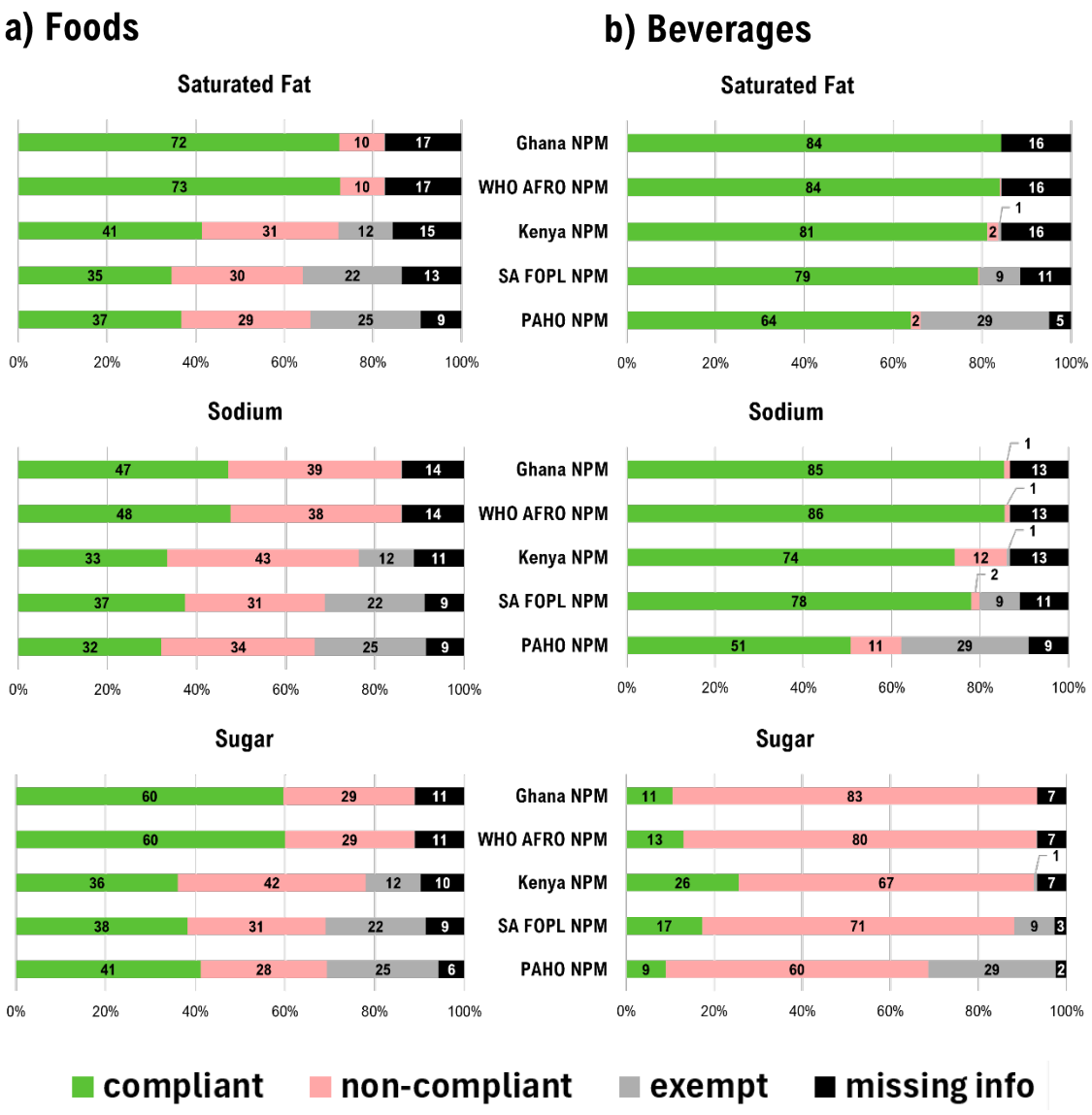
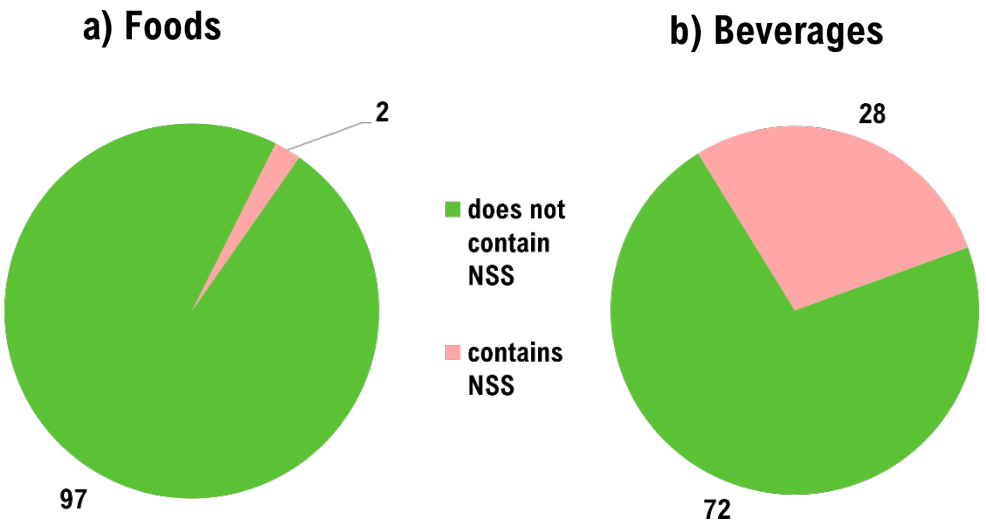


FIGURE 4: NON-SUGAR SWEETENERS (NSS) IN GHANAIAN FOOD AND BEVERAGES



Restricting non-sugar sweetener (NSS) use should be a key feature of Ghana's NPM design. As of 2023, 28% of beverages contain NSS, while a very small share of foods among records assessed in Ghana contain NSS. However, evidence from other countries that have implemented front-of-pack labeling policies without simultaneously restricting NSS use shows that such gaps can lead to increased use of non-sugar sweeteners.[18]

Table 1. Key differences between Ghana NPM and other NPMs

		Draft Ghana NPM[7,*]	WHO Afro NPM[12]	Kenya NPM[8]	SA FOPL NPM, free sugar criterion[13,†]	PAHO NPM[14]	Nutri-Score[15]
Year		2025	2019	2025	2021	2016	2023
Inclusion criteria		Applies to all packaged foods and beverages (as consumed)			Applies to all packaged food and beverages (as consumed) with free sugar, added sodium, added saturated fat, or NSS	Applies to all processed and ultra-processed foods and beverages (based on NOVA classification)	Applies to all foods and beverages (as sold) with nutrition labelling
Standardized unit of measure		Nutrient per 100g (solids) or 100ml (liquids)				Percentage energy (kCal)	Nutrient per 100g (solids) or 100ml (liquids)
Threshold Approach		Threshold per nutrient; threshold varies according to food group *(7 categories, 22 subcategories)*	Threshold per nutrient; threshold varies according to food group *(18 categories, 10 subcategories)*	Threshold per nutrient; threshold varies according to food group *(11 categories, 25 subcategories)*	Threshold per nutrient, applied without respect to food categories *(i.e. across-the-board)*		Scoring approach (A, B, C, D, E); scoring criteria varies according to category *(5 categories: red meat and products thereof; cheese; fats, oils, nuts, and seeds; beverages; general foods)*
Regulated Components	**Energy**	×	✓	×	×	×	✓
	Total fat	×	✓	✓	×	✓	×
	Saturated fat	✓	✓	✓	✓	✓	✓
	Trans-fat	✓	✓	×	×	✓	×
	Total sugar	✓	✓	✓	✓	×	✓
	Added sugar	×	✓	×	×	×	×
	Free sugar	×	×	×	×	✓	×
	Sodium	✓	✓	✓	✓	✓	✓
	NSS	✓	✓	×	✓	✓	✓
	UPF	✓	×	×	×	×	×

† The SA FOPL NPM with the free sugar criterion differs from the current NPM proposed in South Africa's Draft Regulation related to food labelling in that it treats all sugar equally, regardless of source (i.e. sucrose, fruit juice, etc.)[13]

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