

# **Testing Product Messages for Colombia**

## **Hypotheses and Analytic Plan**

**NCT# NCT04567004**

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### **Hypotheses**

### *Primary Outcomes*

The overall purpose of this study is to identify the impact of nutrient warnings on product selection and other outcomes compared to GDA labels, Nutriscore labels, and a no-label control, in Colombia. The primary objectives of this study are to evaluate our hypotheses that, compared to GDA, Nutriscore, and control, a nutrient **warning** label will lead to:

1. Lower selection of the less healthy product in a set of two products as the product the consumer most wants to buy.
2. Better ability to correctly identify which product of a set of two has higher levels of sugar.

We will also explore whether the impact of the nutrient warning (vs. other study conditions) on these two primary outcomes differ by respondent's educational level.

### *Secondary Outcomes*

We hypothesize that the nutrient warning label (compared to other label types) will:

1. Have higher perceived message effectiveness
2. Be the most discouraging label

We hypothesize that the nutrient warning label (compared to all other conditions) – and all conditions compared to the control – will:

1. Increase the ability to correctly identify the most unhealthy product when compared with two options
2. Increase the ability to correctly identify whether a single product contains excess sugar, saturated fat, or sodium
3. Lower intentions of purchasing a product high in the nutrient of concern in the next week if it were available.

### **Analytic Plan**

We will use a two-sided critical alpha of 0.05 to conduct all statistical tests. We will use complete case analysis to handle any missing data. We will descriptively report unadjusted means (and standard deviations) and percentages for the primary and secondary outcomes. For PME, we will take the average of the 3 items for each product type if  $\alpha > .70$ . For all outcomes assessed between-subjects only, we will then assess whether the outcomes vary by study arm with regression models (linear for continuous outcomes and logistic for dichotomous outcomes). For outcomes with multiple measurements per-person, we will fit mixed effects linear regression models for continuous outcomes (including PME) and a mixed effects logistic regression model for binary outcomes (including product selection, label selection, identification of healthier products), treating the intercept as random to account for repeated measures. We will include indicator variables for warning message (between-subjects) and product type (within-subjects), as well as an interaction of warning message and product type. We will use postestimation commands to conduct pairwise comparisons of the predicted means to examine differences by all label types. We will correct for multiple comparisons. To evaluate the most discouraging label, we examine the proportion of participants that selected each warning label as the most discouraging and will conduct z-tests to explore statistical significance of these differences. To assess whether the effect of the warning label on the primary outcomes differs by education, we will test for an interaction of warning label with low versus high education level (specified as dummy variables), and use a Wald chunk test to determine the joint interaction. We will use postestimation commands to predict means by warning label and education level and conduct pairwise comparisons of the predicted means.