Using front-of-package warning labels to reduce foods high in added sugar, sodium and saturated fats

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THE WORLD IS FAT

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Outline

- Ultra-processed foods and beverages: Health impact
- Rapid increases in ultra-processed food consumption in India (low per capita, high per user)
- Why a warning label is the best approach: Evidence of impact from warning labels and lack of evidence for major purchasing or reformulation impact from traffic lights.

Major global focus: Reduce drastically consumption of ultra-processed foods

- Extensive research on the adverse health effects of sodium, sugar, unhealthy saturated fats, and refined carbohydrates
- Major new research over the past decade has shifted attention globally from just the nutrients alone to this set of ultra-processed foods and beverages
- NIH major research team's clinical trial
- Dozens of important longitudinal cohort studies
- Large impact on all key NCDs — bigger than any nutrient alone

Ultra-processed foods, US National Institutes Of Health RCT:

Sophisticated randomized controlled trial, compared a less-processed/“real” food diet with ultra-processed diet in the same normal weight adults. This shows that the current diet trends in India must be turned around.

Unprocessed or minimally processed foods include ***fresh, dried, or frozen vegetables, grains, legumes, fruits, meats, fish, eggs,*** *and* ***milk****. They are the basis of healthy dishes and meals.*

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Hall, K. D.et al (2019). "Ultra-processed diets cause excess calorie intake and weight gain: A one-month inpatient randomized controlled trial of ad libitum food intake." Cell Metabolism *30: 1-10.*

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Ultra-processed foods (UPFs)

Ultra-processed foods include ***fast food, sugary drinks, snacks, chips, candies, cookies, sweetened milk products, sweetened cereals, and sauce and dressings****. They are nutritionally poor.*

Ultra-processed foods (UPF) typically have many additives that enhance our desire to eat more of them (e.g., high in added sugar, added saturated fats, added salt, added smells and flavors). Also use refined carbohydrates.

Ultra-processed foods are designed to create products that are:

- **Highly profitable** (i.e., low-cost ingredients, long shelf-life, emphatic branding),
- **Convenient** (ready-to-consume, ready-to-heat), and
- **Hyper-palatable** products.

U.S. National Institutes of Health: Results

- Each person was his/her own control (crossover)
- **+500 kcal per day with UPFs**
  - comprised mainly of additional carbohydrates and saturated fats
  - Similar protein with both diets
  - **Major shift was UPF which is very energy dense.**
- **In 2 weeks, +0.9 kg body weight with UPFs**
  - -0.9 kg body weight with unprocessed diet
- In just 2 weeks on UPF diet, **increases in selected biomarkers of some noncommunicable diseases**

This study points out two mechanisms: hyper-palatability and higher energy density

Hall, K. D.et al (2019). "Ultra-processed diets cause excess calorie intake and weight gain: A one-month inpatient randomized controlled trial of ad libitum food intake." Cell Metabolism *30: 1-10.*

Results from additional major publications were only suggestive before this sophisticated clinical trial

- **Eminent medical and nutrition journals:**
  >38 studies with US, European, Latin American and Asian cohorts show the same issue of large, significant, increasing risk of many more noncommunicable disease biomarkers (e.g., diabetes, hypertension, other measures of heart disease and cancer), obesity, and mortality (total mortality, also cardiovascular and cerebrovascular mortality).
- These link excessive ultra-processed food consumption with significant risk increases from all of the above diseases. Much greater than the impact of nutrients.

2. The food processing transition and trends in India

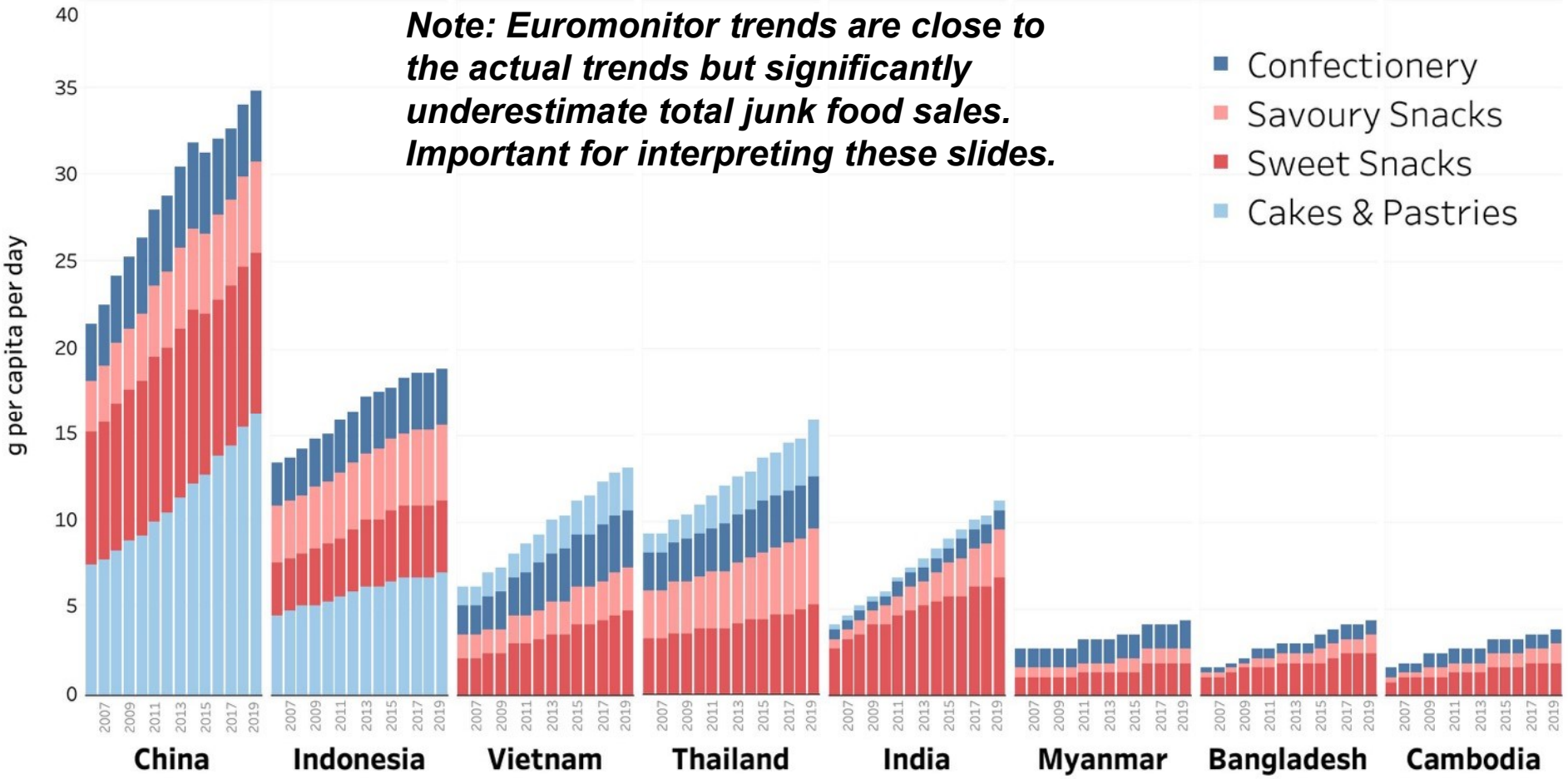
From simple techniques of food preservation to milling of grains to the commercial creation of simple processed products like milled rice to the most impactful in a negative health sense packaged and processed foods [like Maggi noodles].

This has been a long, slow transition. But the latest phase is the least healthy with the emergence of all these highly processed foods and beverages that are ultra-processed and equally unhealthy street food and fast food. **Now infants and preschoolers are drinking and eating these items.**

They are often described as “food-like” as they contain so many chemicals found inside complex ingredients along with the excessive added sugar, sodium, and unhealthy saturated fats. The grains are normally highly refined.

Trends in packaged junk food sales by category, 2006-2019

Note: Euromonitor trends are close to the actual trends but significantly underestimate total junk food sales. Important for interpreting these slides.



Confectionery includes chocolate and sugar confectioneries and gum;

Savory Snacks includes nuts, seeds, trail mixes, salty snacks (eg, chips), savory biscuits, popcorn, pretzels, and other savory snacks;

Sweet Snacks includes fruit snacks, snack bars, sweet biscuits, chilled snacks *(Turkey only),* chilled & shelf-stable desserts *(Turkey only),* frozen desserts *(China and Myanmar only)*, and ice cream

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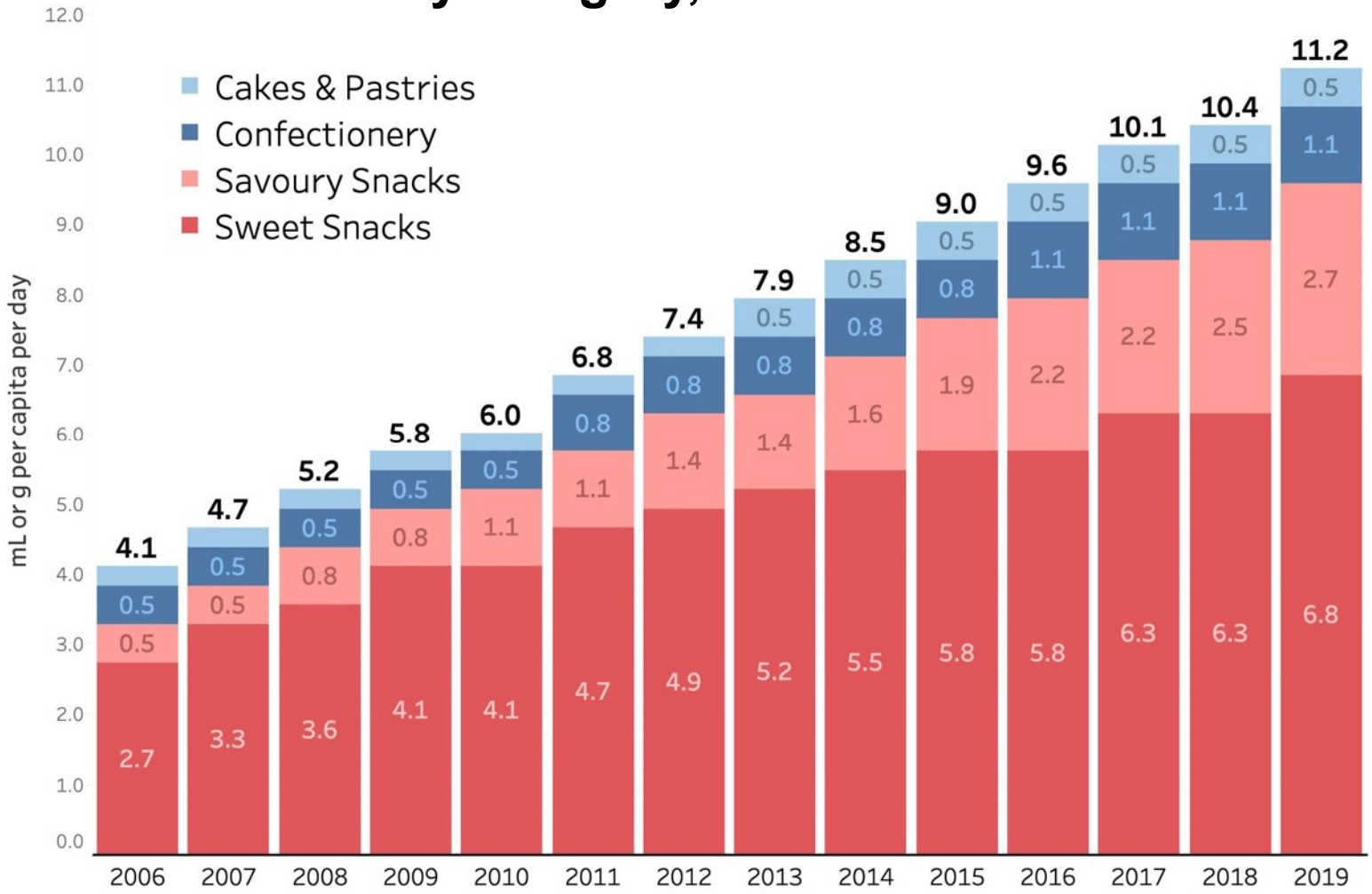
India: Trends in selected ultra-processed food sales by category, 2006-2019



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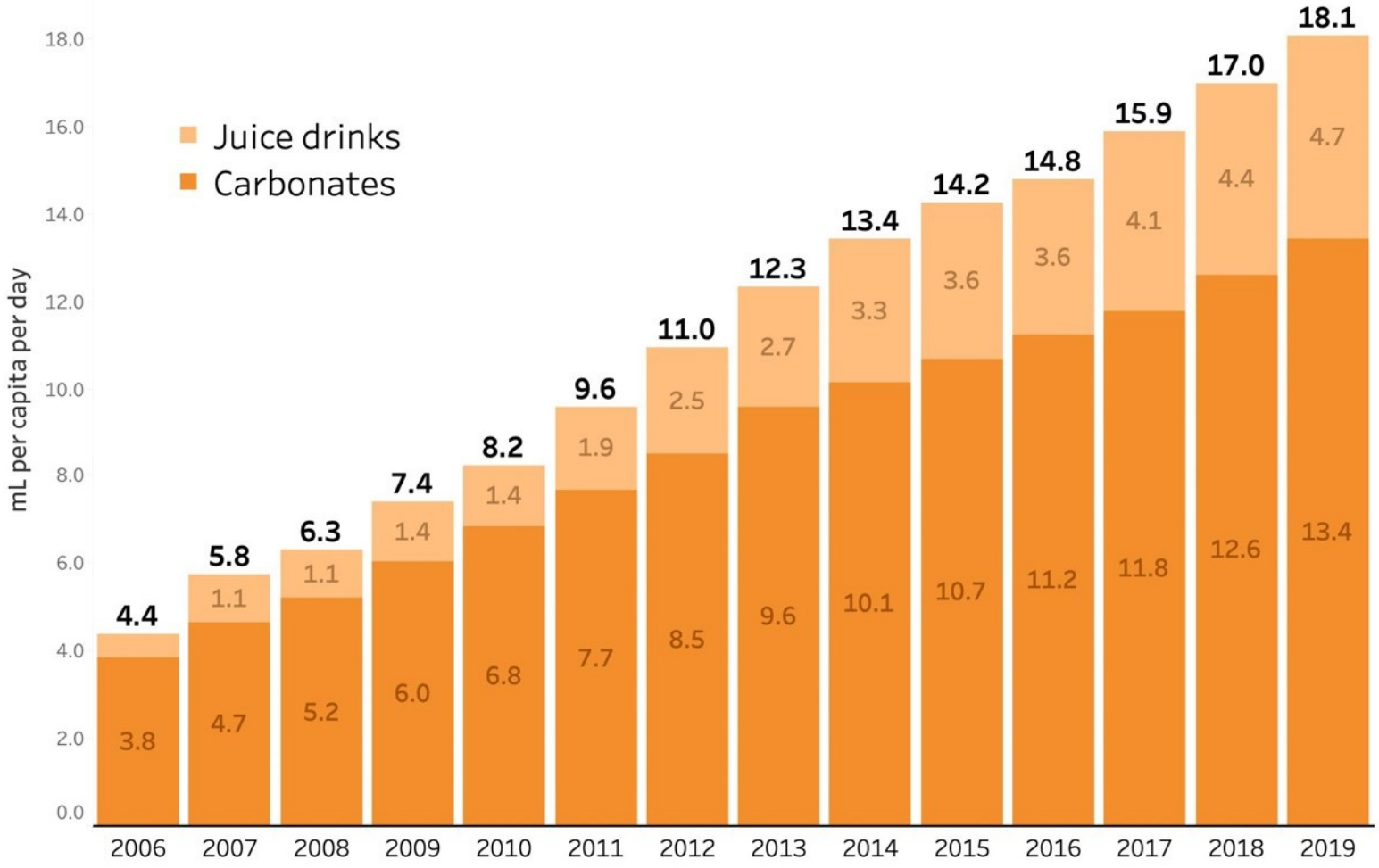
India: Trends in SSB sales by category, 2006-2019



Note: Euromonitor does not separate data by full-sugar vs. "diet"/light or non-caloric brands, so these data overestimate total SSB sales.

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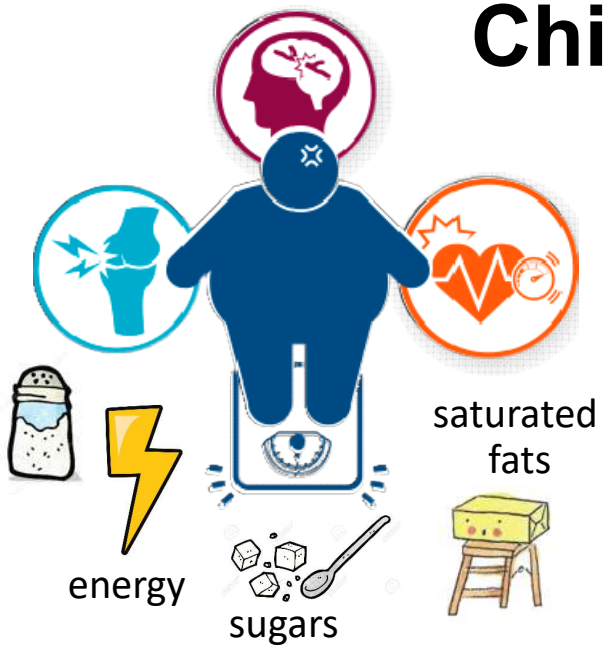
Chilean regulation of UPFs



Limits only apply to foods/beverages that have added sugars, added saturated fats, or added sodium and then high energy density

Phase 1 to 3 with tougher cutoffs

	June 2016	June 2018	June 2019
SOLID FOODS			
Energy kcal/100g	350	300	275
Sodium mg/100g	800	500	400
Total sugars g/100g	22.5	15	10
Saturated fats g/100g	6	5	4
LIQUIDS			
Energy kcal/100mL	100	80	70
Sodium mg/100mL	100	100	100
Total sugars g/100mL	6	5	5
Saturated fats g/100mL	3	3	3

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Labeling Unhealthy Foods

10% of front surface of the package

One for each high “critical nutrient”
(sugar, saturated fat, sodium, or calories)

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Chile studies: Context

Examples of cereal boxes with and without their mascots. — NY Times

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Focus groups

- Nine focus groups of 7-10 mothers of children aged 2 to 14 (84 in total)
- July 2017 Santiago, Chile

Purpose: to explore how mothers perceive the food environment before and after the law and to investigate their understanding, attitudes, discourses, buying decisions and eating behaviors after introduction of the food regulation (including warning labels).

Changes in social norms

Mother of a 9-year-old child explained:

"My son eats at school. He, by his own, started to decide what he can eat and what not, this is because of these black logos that are in the package."

"Because of this new law, my daughter has been taught a lot about these black logos. 'No mom, you can't buy me that, my teacher won't accept it because it has those labels.' And she requests me salads, she doesn't accept snacks that have black labels."

— Gina, who has a 5-year-old daughter

Chilean Evaluation Results

We have publications on:

- Impacts on kids' knowledge, attitudes, and exposure
- Impact on product reformulation by food and beverage category
- Effects on food and beverage purchases
  - *Astounding, unprecedented impact in shift from regulated to unregulated beverages*

Impact on sugar-sweetened beverage (SSB) purchases

- The household volume of **high sweetened beverages** purchased after the implementation of the policy package **fell by 23.7%** (-22.8 mL per person per day) versus the pre-regulation trend.
- The largest reduction in household purchases was among high sweetened **fruit** (-42%) and **dairy** (-20%) beverages.
- The volume of **non-high** sweetened beverages **increased by 4.8%**. Country with potable water so suspect much more water consumption.
- Reductions in the volume of high sweetened beverage purchases following Chile's Food Labeling and Advertising Law was considerably larger than previously estimated changes in high sweetened beverage purchases after the country's 5% SSB tax.
- This package of policies led to greater absolute reductions in SSB purchases than occurred in Mexico after the passing of a tax on SSBs, highlighting the value of a more comprehensive set of policies to address the growing NCD epidemic.




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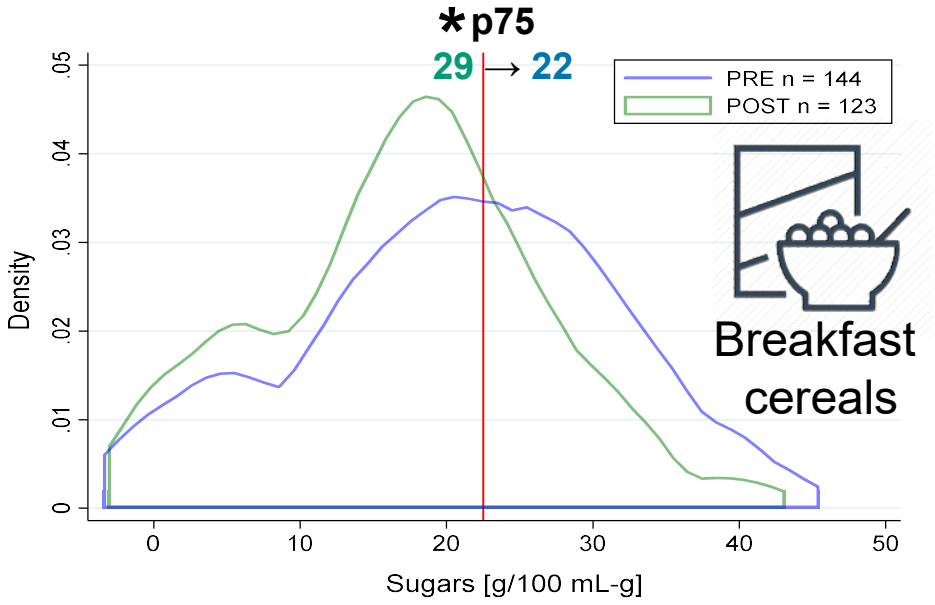
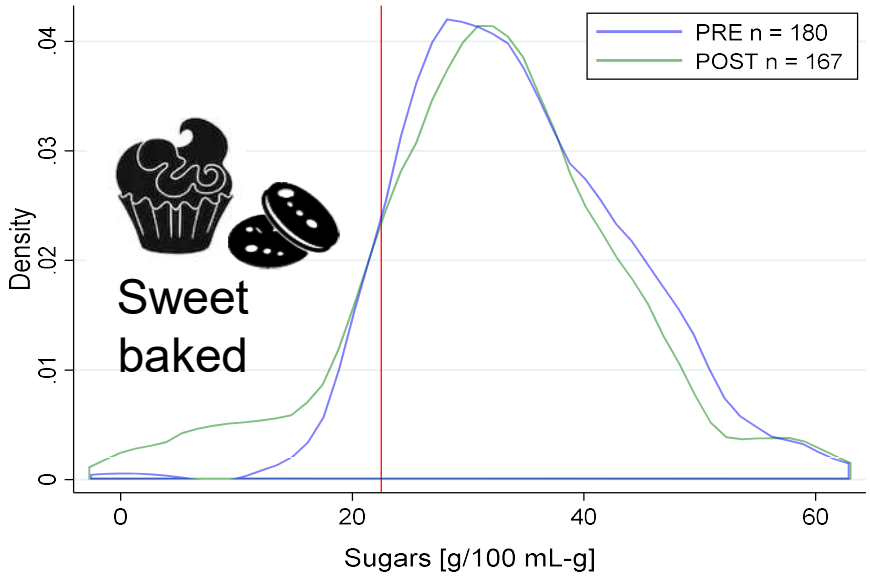
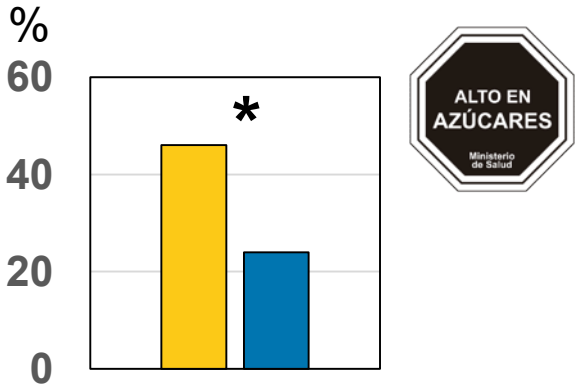
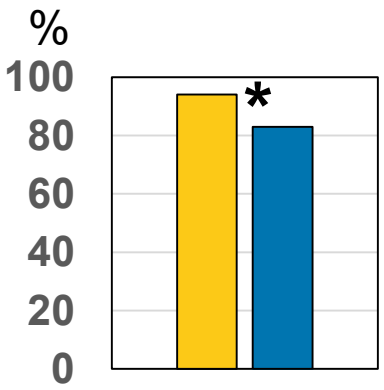
PHASE 1 REFORMULATION

SUGARS









*Reyes, et al, (2020). "Changes in the amount of nutrient of packaged foods and beverages after the initial implementation of the Chilean Law of Food Labelling and Advertising: A nonexperimental prospective study." PLoS medicine **17**(7): e1003220.*

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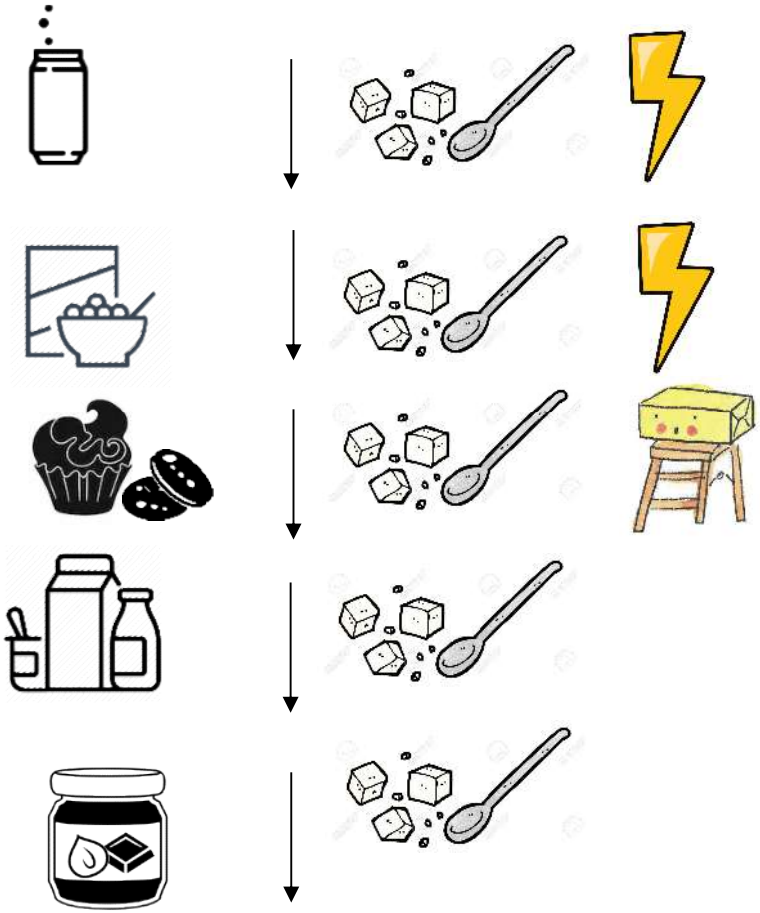
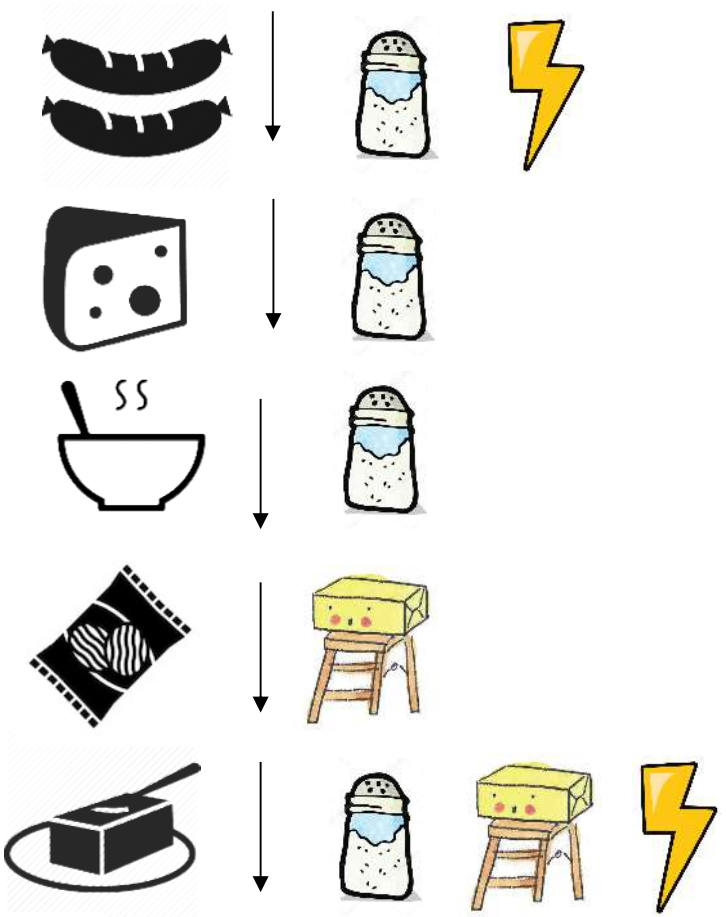
Summary for food groups with large reformulation: 15 to 30% reductions in sugar, saturated fat, or salt content

(thousands reformulated to remove warning labels: Reyes et al, Plos Med)



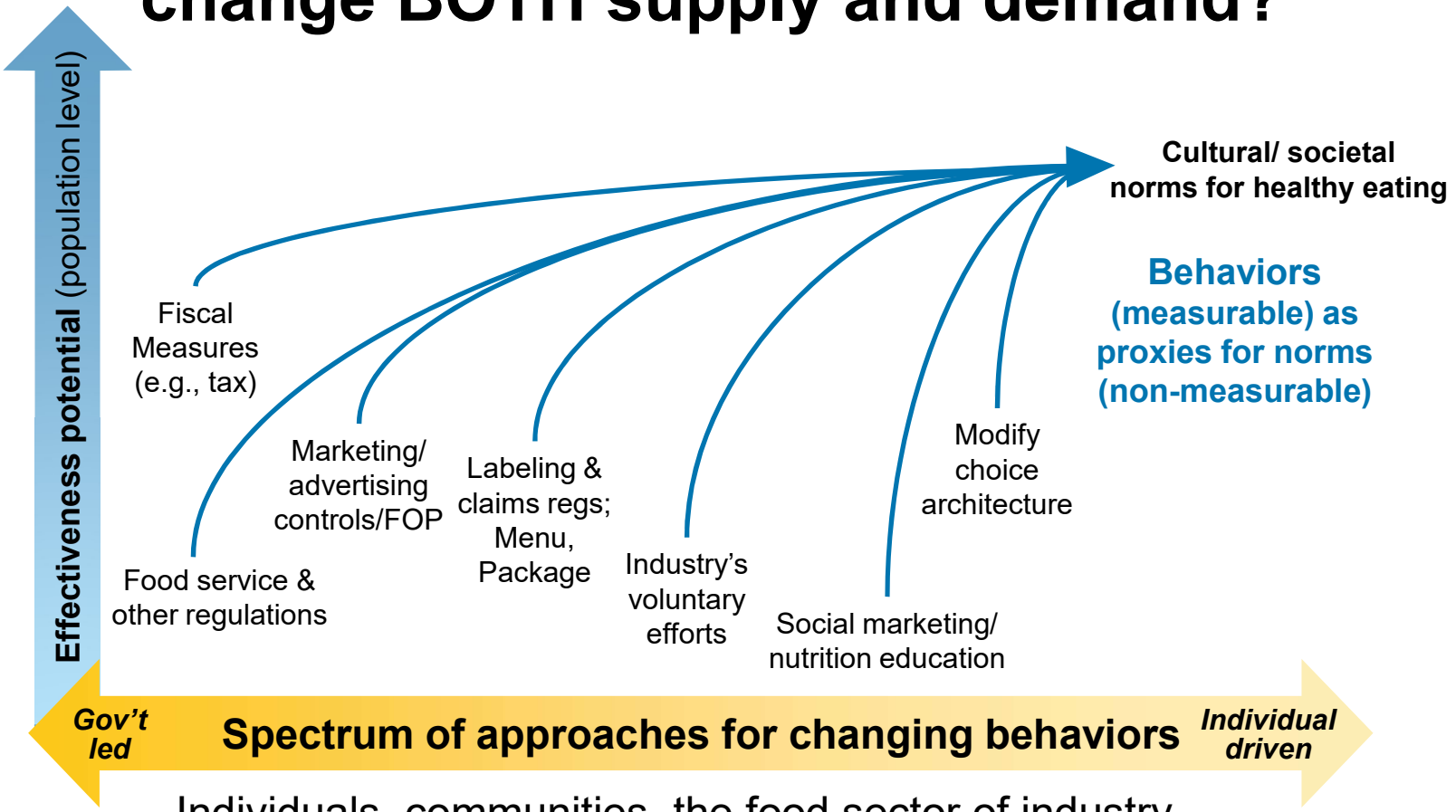


Reyes, et al, (2020 PLoS medicine **17**(7): e1003220.

Warning labels are the only approach that has demonstrated significant positive impacts on food and beverage purchases and reformulation

- **GDAs, Choices logo, Multiple Traffic Lights, and Nutriscore have not been found to impact ultra-processed food purchases that continue to increase rapidly around the world**
  - 28 randomized controlled studies and no national food purchase studies show any of these **reduce food purchases of unhealthy foods**.
- Tobacco and alcohol research on a global level showed only warning labels worked to reduce smoking. Highway safety campaigns showed the same.
- Already Israel, Peru, Mexico, Brazil and Uruguay have adopted a warning label system similar to Chile's (with design variations). Several more countries plan to adopt in 2021 (other Asian countries considering; UK public comments; Canada close).
- As a public health scholar who initially thought positive logos were best, the large number of randomized controlled trials and the Chilean results convinced me warning labels are the way forward to reduce obesity, hypertension, diabetes and many nutrition-related noncommunicable diseases. The global research on ultra-processed foods gives the strong health rationale.

Ultimate goal: Use multiple approaches to change BOTH supply and demand?



Individuals, communities, the food sector of industry, policymakers, regulatory agencies all have roles to play but to date little evidence the food industry will without legal changes.

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Slide derived from Shu Wen Ng

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The struggle over the millennia to eliminate arduous effort could not foresee modern technology
COCOA KRISPIES
TOASTED RICE
little bites