

Nudging works... a little

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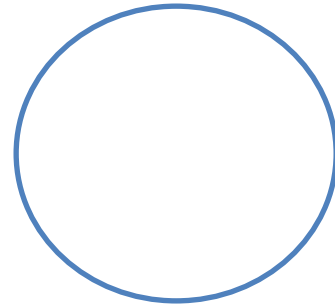
USAID Livestock Systems Innovation Lab

Global Nutrition Symposium

February 8, 2024

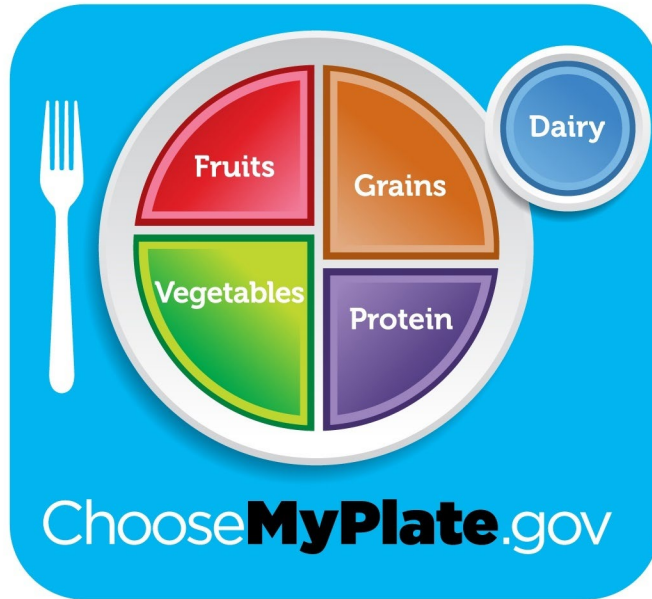
Activity: What Goes on the Plate?

3-5 minutes



1. Find a partner
2. Together draw a circle on your piece of paper. This is your plate.
3. On your “plate” illustrate items that belong in a nutritionally balanced lunch for a U.S. household

USDA MyPlate National Guidelines



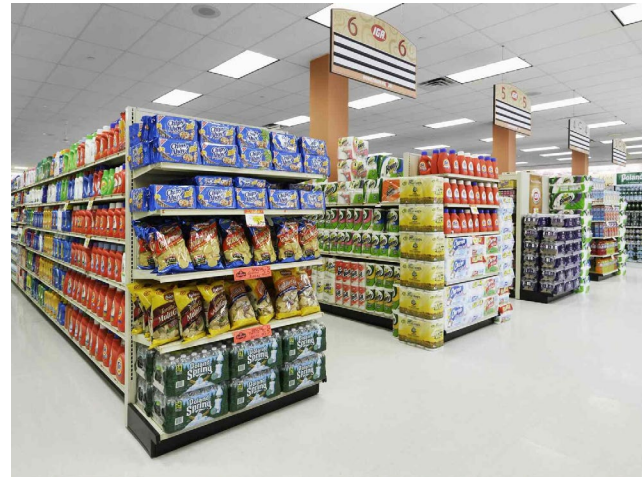
Let's Go Grocery Shopping

- Now close your eyes and think about walking into a typical grocery store. What's the first thing you see?



Food Marketing

- Planogram: a diagram or model that indicates the placement of retail products on shelves to maximize sales
- “Eye level is buy level”



Packaging & Labels



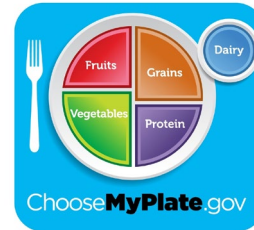
Human Behavior

- Present-bias
 - We prioritize short-term over long-term
- Salience
 - How important is health?
- Default choices/heuristics
 - Cooking styles, comfort foods



Behavioral Economics and Nutrition

- Choice architecture, traffic light labeling
(Kongsbak et al., 2015; Thorndike et al., 2014)
- Nutrition nudging
USDA MyPlate (Kropp et al. 2024; Brown et al., 2014)
- Pre-ordering, meal planning
(Miller et al., 2016; Fernandez et al. 2020)



PER 2/3 CUP	
MED Fat	2g
LOW Saturated Fat	0g
MED Salt	105mg
HIGH Sugars	6g
Calories	120

Global Nutrition

- Community campaigns
- Food-based dietary guidelines
- Household consultations
- Homestead gardening

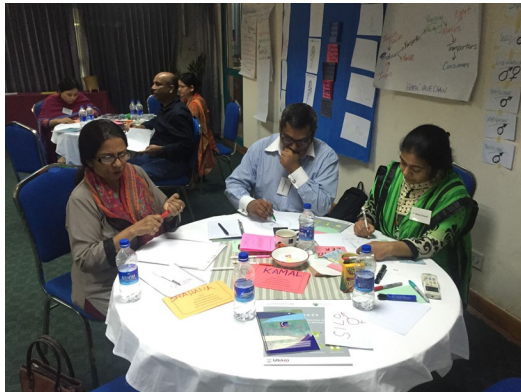


Participatory approaches



INGENAES Participatory Training in Bangladesh

- Nutrition education
 - “What goes on the plate?”



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- Gender-sensitive nutrition education
 - “Who gets what to eat?”

Nutrition Nudge

- Bengali Portion Plate (BPP)
 - SHIKA project (FHI360, BRAC, and USAID)
 - Designed as a tool for nutrition and health workers
 - Targeted for pregnant and lactating women
- Dietary diversity and nutrition messages
 - *“Half plate of rice and at least four other food items”*
 - *“Eating a variety of food in appropriate amounts keeps mothers and children healthy”*



Project Area (N = 1,200)



- Two districts in Bangladesh
 - Barisal (Feed the Future, FTF)
 - Mymensingh (non-FTF)
- Local agricultural extension service providers
 - Shushilan
 - Bangladesh Agricultural University Extension Center (BAUEC)
 - No prior nutrition education

Nutrition Knowledge Evaluation

- General Nutrition Knowledge Questionnaire (Parmenter and Wardle, 1999)
 - Impact on Comprehensive Nutrition Knowledge
 - Dietary recommendations
 - Food Groups and Nutrients
 - Diet Related Disease
 - Child and Maternal Nutrition



Meal Observation



- Direct measurement of food selected and quantity consumed
 - Self-serve lunch buffet of local cuisine
 - 10 food items reflecting FAO food groups
- Hidden food scale for rice
- Visual inspection for other items
 - Methods expand upon the Comstock (quarter-waste) method
 - Standardized weights for spoonfuls
 - $\frac{1}{4}$ spoonful increments
- Plate waste data by visual inspection
- Two occasions

Lab-in-the Field Effects

- Short-term treatment effects on meal diversity
 - Meal diversity score, MDS
 - Calculated by weight (kg)

$$MDS = 1 - \sum p_{ij}^2$$

$$p_{ij} = \frac{w_{ij}}{W_i}$$

- Effects on consumption of specific food items (kg)

Effects on Dietary Quality at Home

- Baseline and endline household survey data
 - 24-hour IDDS: Individual Dietary Diversity Score [0,12]
 - Count of food groups consumed in previous 24 hours
 - FCS: Food Consumption Score [0,100]
 - Weighted for nutrient content, World Food Programme
- Impact on behavior at home



Meal Diversity - Key Findings (Davidson et al., 2021)

- Workshop improves meal diversity score in the lab setting
 - Results are less clear in the home
- Nudge by food plate improves FCS in the home
 - Not via short-term exposure in the lab setting
- Food choice improves during the second buffet after longer-term exposure to the plate in the home
- Cannot reject the null that the plate or workshop in isolation is as effective as combining the two interventions



Nutrition Knowledge - Key Findings

- 8-11% increase in comprehensive knowledge score among trained individuals
 - Up to 30% increase on food groups and nutrients score
- Little to no evidence that workshops impact dietary diversity
- Marginally significant ($\alpha = 0.10$) evidence that dietary diversity improved among trained individuals whose nutrition knowledge increased

Takeaways

- Participatory training is effective at improving knowledge
- Knowledge is necessary but not sufficient
 - Combined interventions
- Removing access constraints is key

Nutrition Awareness in Tanzania

- Objective: Provide evidence-based recommendations to Tanzanian stakeholders about the knowledge gaps associated with micronutrient deficiencies and biofortified crops
 - Micronutrients of interest: iron, vitamin A, zinc, & iodine
 - Iodine is used as a control of sorts
- Respondents were randomized to communication groups to determine how information and branding may close knowledge gaps (N = 1,029)



Marketing and Information Nudges



Vitamin A Cassava

Nutritional Benefit

Provides up to 100 percent of daily vitamin A needs for women of reproductive age and children when eaten regularly

Varieties Released to Date



Vitamin A Maize

Nutritional Benefit

Provides up to 50 percent of daily vitamin A needs for women of reproductive age and children when eaten regularly

Varieties Released to Date



Vitamin A Orange Sweet Potato

Nutritional Benefit

Provides up to 100 percent of daily Vitamin A needs for women of reproductive age and children when eaten regularly

Information

IRON DEFICIENCY

Iron deficiency happens when someone does not get enough iron in their diet. About 45% of women and 60% of children are iron deficient.

What happens when you don't get enough iron?

- Reduced ability to do physical labor
- Impaired mental development and learning capacity
- Anemia

What are good sources of iron?

- Meat
- Biofortified Beans
- Biofortified Millet
- Fortified Flour

Branded Crops and Information

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Branded Crops and Information with Flag



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Knowledge Outcomes

1. Awareness - heard about a micronutrient deficiency
 - Response options: yes/no
2. Perceived Susceptibility - risk of having a micronutrient deficiency
 - Response options: 5-point scale from 'no risk' to 'very serious risk'; with an 'I don't know' option to reduce the need for guessing
3. Knowledge about Severity - respondents identified negative health outcomes associated with a micronutrient deficiency
 - Response options: negative health outcomes reduced by consuming biofortified crops developed by HarvestPlus; and industrial fortified food for iodine
4. Knowledge about Fortified Foods - respondents identified foods that reduce the risk of deficiencies
 - Response options: biofortified crops developed by HarvestPlus; and fortified salt for iodine



Tanzania - Key Findings (Kilsay et al., 2024)

- Information decreased the likelihood of selecting 'I don't know' and decreased perceived susceptibility in a few cases
- The way HarvestPlus 'brands' their crops has communication value
 - Point-of-purchase information is effective and relatively inexpensive
- Nevertheless, some consumers still need additional information to make the branding most effective
- There was no additive effect by including the flag with information



Change is Possible... With Creative Solutions

- Participatory approaches and information nudges are effective at improving knowledge
- Focus on access to change behavior
 - Cash transfers, gifts-in-kind
- Long-term nudge exposure is effective
- Marketing and branding are important



Thank You!

