COPE Webinar Series for Health Professionals

April 7, 2021

Leveraging the New Economics of Nutrition for Improved Patient Care and Public Health

Moderator
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Today's Webinar Objectives

1. Understanding the economic determinants of dietary choice, including prices, income, and preferences.

2. Describe the structural causal frameworks used in economics to predict dietary outcomes.

3. Analyze changes to social welfare from food and nutrition policies.

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This webinar awards 1 contact hour for nurses
1 CPEU for dietitians

Level 2

CDR Performance Indicators: 6.2.3, 6.2.4, 8.22, 12.2.1

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Leveraging the New Economics of Nutrition for Improved Patient Care and Public Health

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Leveraging the new economics of nutrition for improved patient care and public health

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Agenda & learning outcomes for today

1. **How can economics help improve nutrition?**
   Terminology, & understanding the economic determinants of dietary choice

2. **Prices, income and preferences as determinants of dietary intake**
   Mechanisms & frameworks to explain and predict food choice

3. **Effects of food supply, policies & programs**
   Impacts of interventions & policies: using economics to evaluate

Background resource:
Finaret, A.B. and Masters, W.A., 2019. Beyond Calories: The New Economics of Nutrition. *Annual Review of Resource Economics*, 11(1), 237-259.

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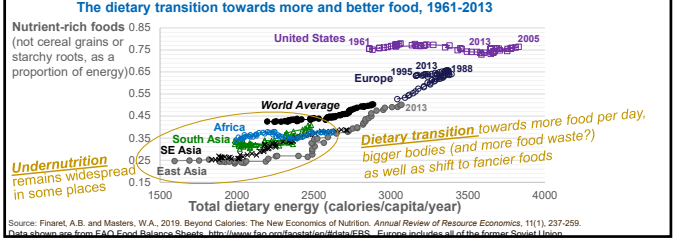
terminology | mechanisms | impacts

Context matters: nutrition and economics have long been interconnected

"The rich man consumes no more food than his poor neighbour. In quality it may be very different, and to select and prepare it may require more labour and art; but in quantity it is very nearly the same."
-- Adam Smith (1776), "On the rent of land", chapter 11 in *Wealth of Nations*

This is true only in the short run

The dietary transition towards more and better food, 1961-2013



Dietary transition towards more food per day, bigger bodies (and more food waste?) as well as shift to fancier foods

Undernutrition remains widespread in some places

Source: Finaret, A.B. and Masters, W.A., 2019. Beyond Calories: The New Economics of Nutrition. *Annual Review of Resource Economics*, 11(1), 237-259.
Data shown are from FAO Food Balance Sheets, http://www.fao.org/faostat/en/#data/FBS. Europe includes all of the former Soviet Union

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Context matters: nutrition and economics *& agriculture* have long been interconnected

In the food system, some firms have market power and can influence prices and quantities bought and sold

Few input supply firms
Examples: Syngenta, Dow, Bayer (seeds); Yara, OCI (fertilizer)

Many farming households
Examples: Cargill, ADM (grain), JBS-Swift, Tyson, Smithfield (meat)

Few food marketing/processing firms
Examples: ConAgra, Unilever (foods); DSM, Ajinomoto (ingredients)

Many consumer households

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How can economics help improve nutrition?

Thinking like an economist is to expect that what we observe is the result of two first principles: *"Economics consists of exactly two ideas: optimization and equilibrium."*
--*Andrew Semwick (Dartmouth, writing about* Freakonomics *here)*

- Optimization
  - Individual behavior is each person doing the best they can towards their own goals, given their resources and constraints.
    - Not necessarily a good outcome, might be the *least undesirable* outcome
- Equilibrium
  - Social outcomes result from interaction among individuals, and those interactions determine how far people get towards their goals.
    - Not necessarily stable or good, can be any observed state

Economics of food & nutrition has changed dramatically in recent years

- Economics applies to things people have chosen from their available options
  - Goal is to predict & explain observed choices, inferring preferences from actions
  - When things are not deliberate choices, e.g. exposure to a disease, need to use other methods
  - Psychology is different – it focuses on *unobserved* mental and emotional processes of individuals.
- Food choice is economics' oldest topic, but diet-disease consequences are new!
  - What's in foods and their consequences for health has only recently been measured, still being discovered

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What goes into the "Social/Environmental" box of nutrition assessment?

The ABCDE/S(FG) mnemonic for nutrition assessment

- **Anthropometry** (measurements outside the body)
- **Biomarkers** (derived from blood, urine, stool or tissue samples)
- **Clinical indicators** (signs visible to others, symptoms experienced by a person)
- **Dietary intake** (surprisingly difficult to observe, often resort to inference)
- **Environmental** and **social** factors
  - **Food choice** (e.g. prices, incomes, preferences)
  - **Food groups** (e.g. many aspects of diet quality discovered since 1990s)
  - **Governance** (e.g. labeling laws, product and process standards, etc.)

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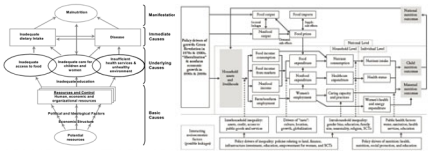
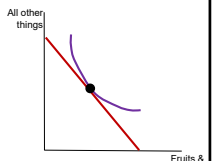
Economists and nutritionists use similar data and similar words, but mean very different things

What is "a model"?

In clinical nutrition, a model might look like this:

In public-health nutrition, a model might look like this:





The UNICEF framework (underlying vs proximate causes)

A causal pathways diagram (left to right, over time)

For economists, models are one or more equations representing structural relationships

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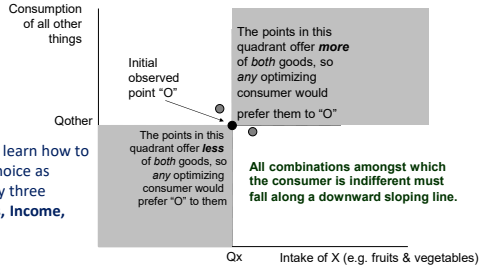
How do economists describe peoples' *preferences*?
We can start with observed choices



Today, we will learn how to model food choice as determined by three factors: **Prices, Income, Preferences**

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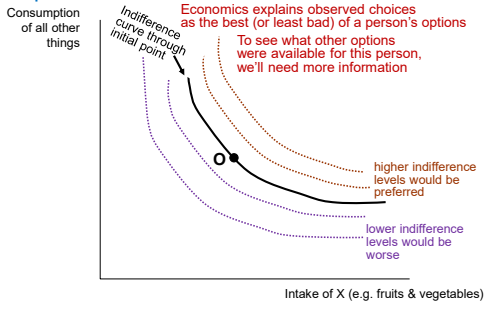
What can explain the observed choice?



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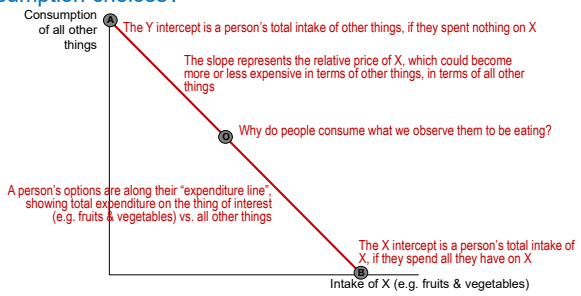
How do economists describe *potential* consumption choices?



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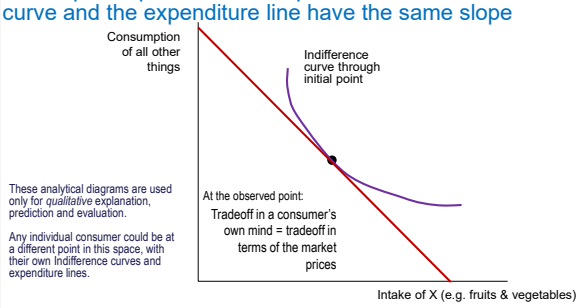
At an optimal point of consumption, the indifference curve and the expenditure line have the same slope



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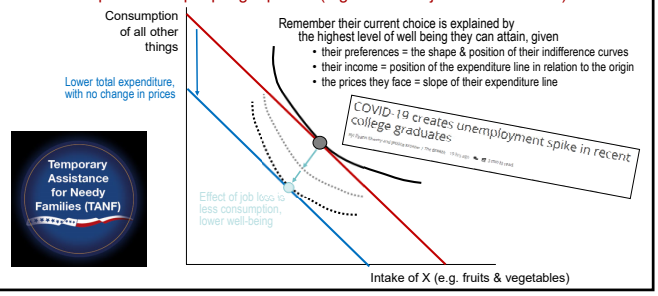
Explaining each observation as a person's choice can help us predict and evaluate change

For example: what if people get poorer (e.g. lose their job due to COVID)



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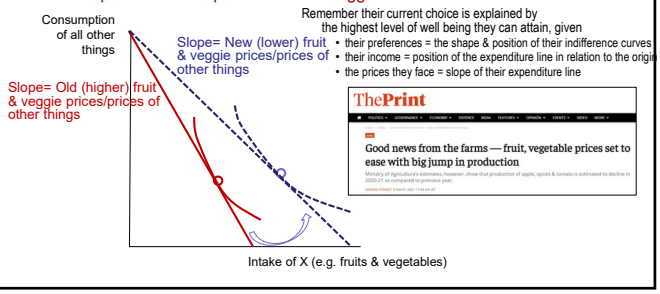
Explaining each observation as a person's choice can help us predict and evaluate change

For example: what if the price of fruits & veggies *decreases*?



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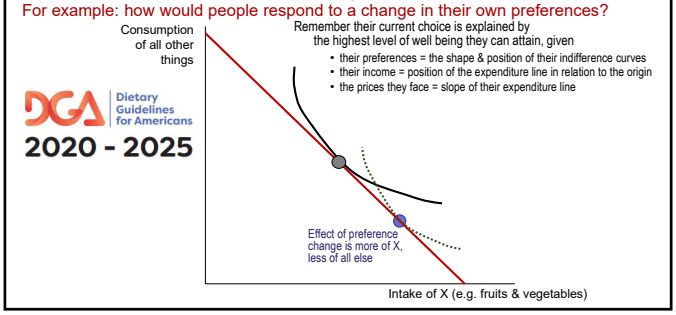
Explaining each observation as a person's choice can help us predict and evaluate change

For example: how would people respond to a change in their own preferences?



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There are many kinds of transfer programs: Some are broad - beneficiaries get cash or funds to buy groceries at participating stores

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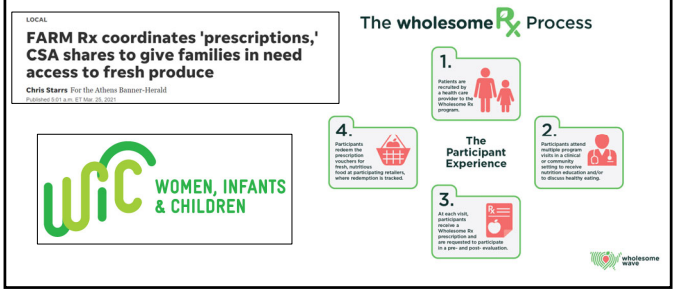
Some programs focus on incentives for specific health-promoting foods, or even *prescribe* fruits & veggies



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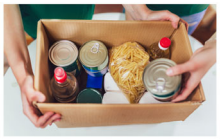
Some programs (gov't & NGO) give food in-kind, like food banks and the new (short-lived?) "America's Harvest Box."

The New York Times

How Food Banks Succeeded and What They Need Now

They source, store and supply food to local partners like food pantries, free or without profit. Most charitable food distributed in Chicago flows ...

5 hours ago



Trump Administration Wants To Decide What Food SNAP Recipients Will Get

npr

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USDA ASKS, IS IT TIME FOR FOOD BOX 2.0?

AFTER SPENDING NEARLY $5.5 BILLION IN 10 MONTHS ON ITS FARMERS TO FAMILIES FOOD BOX PROGRAM, THE USDA SAID ON MONDAY IT WAS OPEN TO SUGGESTIONS ON A REPLACEMENT.

By Chuck Abbott

3/9/2021

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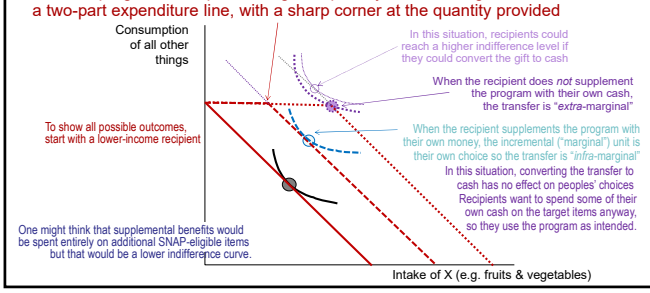
The impact of a transfer program depends on its magnitude, relative to the beneficiary's own spending

Transfer programs that provide a given quantity of something introduce a two-part expenditure line, with a sharp corner at the quantity provided



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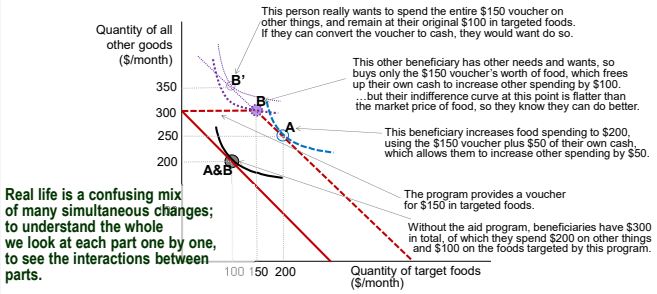
A given program may have different types of recipients

Here is a hypothetical example, with specific numbers (fictional, but plausible)



Real life is a confusing mix of many simultaneous changes; to understand the whole we look at each part one by one, to see the interactions between parts.

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Conclusions – everything is connected

Health effects of food choices are delayed and sometimes clash with other preferences

- People face a lot of tradeoffs and constraints in choosing their foods
- Scarce time & income, or changes to prices may force tradeoffs with other needs
- Decision-making might be complicated by discounting or distorted by cognitive bias

The big payoff to economics is in thinking about how to improve things:

- What can simple *persuasion* do, to convince ourselves and others to eat better?
- What *technology* can we use to improve diets, eating, and patient adherence?
- What *rules and arrangements* can we use to improve outcomes?
- What *public policies* should I advocate for, to improve outcomes?
- What *hospital policies & procedures* should I advocate for, to improve outcomes?
- What *unintended consequences* might there be to implementing a policy?

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Thank you!

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- Survey: 15-20 minutes
- See Villanova.edu/cope for more info
- Pass along to colleagues

CHAMPS
Caring about Health for All
A study of the COVID-19 workforce

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Daniel Monti, MD, MBA
Marcus Institute for Integrative Health
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Questions?

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