Divergent on main street: Eating better for less

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The nutritionism approach

• Food quality can be reduced to individual nutrients.
• Nutritional epidemiologists claim to have linked single nutrients and/or individual foods to health or disease risk.
• We have reduced foods to good and bad calories – and good and bad nutrients.
We cannot separate the food from the individual or the individual from society
There are many confounders: eating behaviors, food prices, diet costs and location, location, location, location that cannot be adjusted for
Do family dinners prevent childhood obesity?

Limit screen time, engage in physical activity, and encourage family meals on most, and preferably all, days of the week.
Fewer Americans eat at home

- Most Americans eat too few vegetables, fruits, and whole grains, and too much saturated fat, sodium, and added sugar.
- Americans spend **42 percent** of their **food budget** on food away from home.
- Experts (and the USDA) believe that food away from home is **less nutritious** than food prepared at home.
Most calories come from the grocery store

NHANES 2003-08, first 24-hour recall, Drewnowski and Rehm
Teens and young adults are more likely to eat out.

Calories NHANES 2003-08, first 24-hour recall.
There are questions on family dinners in NHANES
During the past 7 d, how many times did you or someone else in your family cook food for dinner or supper at home?

Drewnowski Rehm, unpublished data NHANES 2007-8
Who eats home-cooked meals? The young and the old

Drewnowski Rehm, unpublished data NHANES 2007-8
Number of home cooked dinners/week is linked to family size

Larger families were more likely to eat home cooking (>6/wk)

Drewnowski Rehm, unpublished data NHANES 2007-8
During the past 7 days, how many meals did all or most of your family sit down and eat together at home?
Adolescents and young adults were most likely to eat alone.
Least likely to have dinners at home:
- Teens and young adults
- Single parent households
- African Americans
- Higher SES groups (education, income)
Most likely to have dinners at home:
The young and the old
Mexican Americans and Hispanics
Large families
Lower education and incomes
Does cooking at home allow for better diet quality?
## Compliance with the 2010 Dietary Guidelines: HEI 2010

<table>
<thead>
<tr>
<th>Component</th>
<th>Points</th>
<th>Std. for max. score</th>
<th>Std. for min. score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fruit (includes 100% juice)</td>
<td>5</td>
<td>≥0.8 cup equiv. per 1,000 kcal</td>
<td>No Fruit</td>
</tr>
<tr>
<td>Whole Fruit (not juice)</td>
<td>5</td>
<td>≥0.4 cup equiv. per 1,000 kcal</td>
<td>No Whole Fruit</td>
</tr>
<tr>
<td>Total Vegetables</td>
<td>5</td>
<td>≥1.1 cup equiv. per 1,000 kcal</td>
<td>No Vegetables</td>
</tr>
<tr>
<td>Greens and beans</td>
<td>5</td>
<td>≥0.2 cup equiv. per 1,000 kcal</td>
<td>No Dark Green Vegetables or beans and peas</td>
</tr>
<tr>
<td>Whole Grains</td>
<td>10</td>
<td>≥1.5 oz equiv. per 1,000 kcal</td>
<td>No Whole Grains</td>
</tr>
<tr>
<td>Dairy</td>
<td>10</td>
<td>≥1.3 cup equiv. per 1,000 kcal</td>
<td>No Dairy</td>
</tr>
<tr>
<td>Total Protein Foods</td>
<td>5</td>
<td>≥2.5 oz equiv. per 1,000 kcal</td>
<td>No Protein Foods</td>
</tr>
<tr>
<td>Seafood and plant proteins</td>
<td>5</td>
<td>≥0.8 oz equiv. per 1,000 kcal</td>
<td>No seafood/plant proteins</td>
</tr>
<tr>
<td>Fatty acids</td>
<td>10</td>
<td>(PUFA+MUFA)/SFA&gt;2.5</td>
<td>Ratio &lt;1.2</td>
</tr>
<tr>
<td>Refined grains</td>
<td>10</td>
<td>&lt;1.8 oz equiv per 1000 kcal</td>
<td>≥4.3 oz equiv</td>
</tr>
<tr>
<td>Sodium</td>
<td>10</td>
<td>≤1.1 gram per 1,000 kcal</td>
<td>≥2.0 g per 1,000 kcal</td>
</tr>
<tr>
<td>Calories from Solid Fat, Alcohol, and Added Sugar (SoFAAS)</td>
<td>20</td>
<td>≤19% of energy</td>
<td>≥50% of energy</td>
</tr>
</tbody>
</table>
Generally, healthier diets cost more

Analyses based on national NHANES data, Rehm et al (Preventive Medicine 2015)
Home cooks can eat better for less

- Weekly home-cooked dinners – higher diet quality at no extra cost.
- Eating out – more expenditures, worse diets.
- More likely to eat in are couples and families with children.
- More likely to eat out are young professionals
Is diet quality determined by *where* you live?
Generally, the rich live better
Analyses based on Seattle based SOS I study, Drewnowski et al (Preventive Medicine 2015)
The rich eat better too: diets by CB

Analyses based on Seattle based SOS I study, Drewnowski et al (Preventive Medicine 2015)
We need to revise our approach to nutritional epidemiology
The nutritional epidemiology approach

Single nutrients, Individual foods

Health outcomes

Covariates
- Demographics
- Socioeconomic status
- Culture, Behavior
- Environment
- Food cost
The new nutrition approach

Drivers of food choice
• Socioeconomic status
• Culture, Society
• Behavior

Health outcomes

Elements in the pathway
• Dietary patterns
• Single nutrients
• Individual foods
The Giessen declaration 2005

As participants in the meeting held at the Schloss Rauischholzhausen on 5 – 8 April 2005 under the auspices of the President of the University of Giessen, the President of the International Union of Nutritional Sciences, and the President of the World Health Policy Forum, we affirm and declare the following:
The Giessen Declaration 2005: Personal, population, and planetary health

- It is time to reformulate nutrition science to include social and environmental as well as biological dimensions.
- Nutrition science includes the study of food systems and the environment.
- The expanded nutrition science should be the basis for food and nutrition policies.

Public Health Nutrition 2005;8:783-786
The 2015 Dietary Guidelines

• Follow a **healthy eating pattern** across the lifespan. All food and beverage choices matter.

• Focus on **variety, nutrient density**, and amount. Choose a variety of **nutrient-dense** foods in recommended amounts.

• Limit calories from **added sugars** and **saturated fats** and reduce **sodium** intake. Cut back ...to amounts that fit within **healthy eating patterns**.

• Choose **nutrient-dense** foods and beverages... Consider cultural and personal preferences..

• Support **healthy eating patterns** for all.

• Everyone has a role in helping to create and support **healthy eating patterns** in multiple settings nationwide.
The emphasis on culture and society

- The Guidelines also embody the idea that a **healthy eating pattern** is not a rigid prescription, but rather, an adaptable framework in which individuals can enjoy foods that meet their **personal, cultural, and traditional preferences** and fit within their budget.
We need to expand our scope
Include sociology, economics, behavior, and the environment

- Nutrients cannot be wholly separated from foods.
- A food cannot be separated from the consumer.
- A consumer cannot be separated from society.
- We should pay more attention to food patterns, not obsess about single nutrients.
- We should focus more on sustainable food and nutrition security and on the environment.
What is *on* the plate – versus what is *around* the plate
Thank you