Restricting Trans Fat Use in Foods: the New York City Experience

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Outline

- Making healthier choices easier choices
  - Spectrum of opportunities
- Examples of NYC systems level approaches to improve population nutrition with a focus on trans fat
  - NYC restaurants
  - Food Procurement
  - Expanding the reach – example of sodium
- Use of US Dietary Guidelines in their development
- Conclusions

Public Health: Make Healthy Choices Easier Choices

Individual
- Culture
- Attitudes/Beliefs
- Skills
- Knowledge
- Time
- Affordability

Environment & Systems
- Physical Access/Availability
- Pricing/Economic
- Communication/Media
- Point of Decision
- Education/Promotion

Level of Intervention

Small Impact
- Eating healthy, being physically active
- Re for high blood pressure, high cholesterol diseases
- Psychological, social, cultural, economic, environmental, educational/empowerment

Large Impact
- Socioeconomic Factors
- Changing the Context
- Long-lasting protective interventions
- Clinical interventions

Source: Adapted from presentation by Dr. Heidi Blanch, CDC, NCCHPDP, DNPAO

Presenter Disclosure
Sonia Y Angell, MD MPH

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No relevant financial relationships exist

Spectrum of Opportunities

- Individuals change in ingredients selected for home prepared foods
- Individual change in foods ordered in restaurants
- Labeling (packaged and restaurant foods)
- Marketing
- Pricing
- Media/awareness campaigns
- Feeding programs
- Procurement policies
  - All of government
  - Vulnerable/select populations
  - Private sector institutions
- Industry-wide reformulation in restaurant and packaged foods
Trans Fat Intake Increases LDL-C

There is "a positive linear trend between trans fatty acid intake and total and LDL-C concentration, and therefore increased risk of coronary heart disease…"
– Institute of Medicine

Trans Fat in the Diet

Average daily intake 2.6% of total calories (approx 5.8 grams)

79% Artificial
Source: Partially Hydrogenated Vegetable Oil

21% Naturally Occurring
Source: Meat and Dairy Products

Source: FDA Consumer magazine. September-October 2003. Pub No. FDA04-1329C

Background: What is Artificial Trans Fat?

Vegetable Oil + Hydrogen = Partially Hydrogenated Vegetable Oil (PHVO)

C9-9-octadecenoic acid (Oleic acid) vs. Trans 9-octadecenoic acid (Elaidic acid)

Major Food Sources of Trans Fat

<table>
<thead>
<tr>
<th>Food Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Shortening</td>
<td>5%</td>
</tr>
<tr>
<td>Potato Chips, Corn Chips, Popcorn</td>
<td>6%</td>
</tr>
<tr>
<td>Fried Potatoes</td>
<td>10%</td>
</tr>
<tr>
<td>Margarine</td>
<td>22%</td>
</tr>
<tr>
<td>Cakes, Cookies, Crackers, Pies, Bread, etc.</td>
<td>51%</td>
</tr>
<tr>
<td>Other</td>
<td>6%</td>
</tr>
</tbody>
</table>


US Dietary Guidelines 2005

Key Recommendations

- Adequate Nutrients within Caloric Needs
  - "Consume a variety of nutrient dense foods and beverages within and among the basic food groups while choosing foods that limit the intake of saturated and trans fats, cholesterol, added sugars, salt, and alcohol." (page 6)

- Fats
  - "Consume less than 10 percent of calories from saturated fatty acids and less than 300 mg/day of cholesterol, and keep trans fatty acid consumption as low as possible." (page 30)
  - Also, advised that "by looking at the food label, consumers can select products that are lowest in saturated fat, trans fats, and cholesterol."

Prior to January 2006

Ingredients:
Liquid Corn Oil, Partially Hydrogenated Soybean Oil, Salt, Vegetable Mono And Diglycerides And Soy Lecithin (Emulsifiers), Sodium Benzoate (To Preserve Freshness), Vitamin A Palmitate, Colored With Beta Carotene (Source Of Vitamin A), Artificial Flavor, Vitamin D3

Nutrition Facts
Serving Size 1/2 Cup Frying Oil

Amount Per Serving
Calories 250 3 % Daily Value
Total Fat 16g 25%
- Saturated Fat 7g 35%
- Trans Fat 0g
Cholesterol 180mg 60%
Sodium 180mg 8%
Total Carbohydrate 27g 9%
Dietary Fiber 0g
Sugars 3g
Protein 5g

Vitamin A 150% 100%
C 2% 0%

People Are Eating Out More

- Cardiovascular disease the leading cause of death in the NYC
- Trans fat in the diet increases the risk for coronary heart disease
- Key public health and scientific authorities recommend reducing trans fat intake
- On packaged foods, federal Nutrition Facts Panel labeling requirements going into effect
- In restaurants, no practical way for consumers to avoid
- NYC DOHMH Recommended Policy: NYC restaurants should voluntarily eliminate the use of trans fat in foods

Rationale for Programming and Approach

NYC Trans Fat Education Campaign 2005-2006

Survey:
- Prevalence of use pre- and post-intervention

Educational Materials to:
- 200,000 to consumers
- 30,000 to restaurants and other food service establishments (FSEs)
- 15,000 to suppliers

Also:
- Trans fat module in food protection courses
- Printed information on inspection reports
- Press launch

Evaluation: Trans Fat Use Did Not Decline Despite Education Campaign

- % of Restaurants Known to be Using Trans Fat in Oils and Spreads
- 2005: 50%
- 2006: 51%
Health Code Amendment

- Phased in over 18 months
  - July 1, 2007: frying and spreads
  - July 1, 2008: all other foods
- Food served in manufacturers’ original sealed, packaging are exempt
- Applies to all NYC restaurants and mobile vending commissaries
- Passed by Board of Health December 2006
- Soon after, New York City Council Restricts the Use of Trans Fat In Restaurants

Evaluation: Change in Saturated & Trans Fat in French Fries in Major Fast Food Chains

Change in Trans Fatty Acid Content of Fast-Food Meal Purchases in NYC, 2007 to 2009

State Trans Fat Regulations As of June 2012

Change in Trans Fatty Acid Content of Fast-Food Meal Purchases in NYC, 2007 to 2009

- Mean trans fat decreased by 2.5 g, saturated fat increased by 0.55 g.
- No difference by store location neighborhood income

Evaluation: Change in Saturated & Trans Fat in French Fries in Major Fast Food Chains

Change in Trans Fatty Acid Content of Fast-Food Meal Purchases in NYC, 2007 to 2009

State Trans Fat Regulations As of June 2012

- Enacted or passed trans fat regulation in food service establishments (FSEs)
- Trans fat regulation in FSEs introduced, debated, or stalled

Whole of Government
Changing City Food Purchasing to Improve Diet

Context
- NYC serves 260+ million meals and snacks annually
- 12 city agencies
- Sites include: schools, after-school programs, senior centers, homeless shelters, child care centers, correctional facilities, public hospitals and parks, emergency food centers, mental health programs

Strategy
- Create and implement nutrition standards for all foods purchased and served by NYC Agencies
- Mayoral position: Food Policy Coordinator
- Development included review of nutrition literature, discussions about product availability, and iterative process of agency feedback

Criteria Setting Requires Consideration of Four Types of Agency Food Procurement Processes

Nutrition Standards for all NYC Agencies

- Three Sections of Standards
  - Purchased food
  - Meals and snacks served
  - Agency and population-specific standards and exceptions
- Requirements:
  - Sodium, fat, saturated fat, fiber and calorie limits for daily/meal intake
  - Sodium limits by food category
  - No artificial trans fat
- Informed by leading health authority guidance
  - Dietary Guidelines for Americans
  - IOM
  - Food and Drug Administration
  - relevant published research

NYC Coordinated National Salt Reduction Initiative

Reducing Salt Intake Will Save Lives

Most Salt Comes from Processed and Restaurant Foods

Processed & restaurant foods: 77%
Natural occurring: 12%
While eating: 6%
Home cooking: 5%


Population Approach:
Consider Sodium in Foods As Purchased
- NYC-coordinated model based upon UK success
  - Government-industry collaboration
- UK approach establishes voluntary industry sodium content targets in foods that are
  - Substantive
  - Achievable
  - Gradual
  - Voluntary
  - Measurable

Population interventions can make ‘Healthy Choices Easy Choices”
Because the global community is increasingly similar with respect to dietary patterns, lessons learned in any country could be important to every country.
- A robust global learning community is essential
- Scalable, evidence-based models are essential
  - Evaluation is key
- Prior US Dietary Guidelines were important reference points in the development of the NYC programs described here, but the creation of population level interventions required use of additional resources to shape nutrition related criteria

Thank you!

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

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