Optimizing Energy Balance to Reduce the Cancer Burden

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National Cancer Institute
Food and Eating Consequences of Time-Use Decisions: A Research and Policy Conference
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Energy Balance, Energetics and Cancer

Weight

Diet

Physical Activity
Goals of the NCI Energy Balance Initiative

- Understand the causes of adverse patterns of weight, physical activity and diet
- Define their contribution to cancer
- Apply this knowledge to cancer prevention and control.
Objectives of NCI EB Initiative

1. Discover how body weight, physical activity, and diet, along with genetic and environmental factors, interact over a lifetime to influence the cancer process.


3. Develop improved measurement methods of body mass and composition, physical activity and fitness, diet, and bioactive food components through self-report measures and advances in technology for objective reference measures.

4. Improve cancer-related health outcomes, especially in high risk populations, by accelerating research on energy balance-related behaviors and developing interventions.
Objective 2:

Monitor trends in and determinants of diet, weight, and physical activity and their cancer-related consequences by expanding nationwide research and surveillance infrastructure.

- **Enhanced Surveillance of Energy Balance Related Health Behaviors:**
  - National Health Interview Survey (NHIS)
  - California Health Interview Survey (CHIS)

- **Objective Measurement of Physical Activity:**
  - National Health and Nutrition Examination Survey (NHANES)

- **Tracking Physical Activity and Nutrition Legislative Policies and Their Impact**
Initiatives Relevant to ATUS

PA on Studies of Energy Balance and Cancer in Humans – Virginia Hartmuller

RFA on Transdisciplinary Research on Energetics and Cancer – Linda Nebeling

RFA on Physical Activity and the Built Environment – NIEHS

PA on Innovative Research on Economic Factors Related to Diet, Activity, and Energy Balance – Martin Brown
Economic research on energy balance has been limited to:

- “Macro” studies that examine time-series associations between obesity trends and trends in economy-wide indicators of prices, incomes and technology.
- Evaluation studies of public sector nutrition programs.

Little integration or synthesis between economic and other disciplinary approaches to the study of energy balance.
Purpose of the Economics PA

- The intent of the PA is to solicit proposals that address:
  - **Consumer Economics** (e.g., individual choices about diet and physical activity, behavioral)
  - **Industrial Organization** (e.g., food production, distribution and marketing systems; healthcare reimbursement policies)
  - **Community Structure** (e.g., public finance, transportation, land-use, zoning; distribution of resources)
  - **Policy** (e.g., advertising, labeling, food aid, taxation)
  - **Cost-effectiveness/Cost-benefit Studies** (e.g., school health promotion programs)
Why Issue the Economics PA?

To provide support for priority areas of research identified in:

- NCI Bypass Budget (Energy Balance, Health Disparities) 2005
- NIH Strategic Plan for Obesity Research 2004
- DHHS Healthy Lifestyles and Disease Prevention Initiative 2003
- Healthy People 2010
- Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity, 2001

To stimulate interest in economic research on diet, activity, and energy balance within the extramural community

To encourage collaborative multi-disciplinary research between economics, behavioral research, public health research, and clinical researchers

To take advantage of critical opportunities for natural experiments within the rapidly changing policy and private sector environment
Portfolio Analysis: Distribution of Grants over PA’s Main Research Areas

<table>
<thead>
<tr>
<th>PA Research Area</th>
<th>Number of Related Grants (%)</th>
<th>Number (%) NCI funded</th>
<th>Number (%) Funded by Other NIH I/Cs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Consumer Economics</td>
<td>3 (16.7%)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. Industrial Organization</td>
<td>1 (5.6%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>3. Community Structure</td>
<td>3 (16.7%)</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>4. Policy</td>
<td>1 (5.6%)</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>5. Cost-effectiveness/Cost-benefit Studies</td>
<td>10 (55.6%)</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>18 (100%)</td>
<td>4 (22.2%)</td>
<td>14 (77.8%)</td>
</tr>
</tbody>
</table>
Examples of Related NIH Grants

- A Behavioral Economic Approach to Childhood Obesity (NICHD)
- A Cafeteria-Based Study of Weight Gain Prevention (NHLBI)
- Cancer Prevention for Small Businesses (NCI)
- Evaluation of California’s SB19 Pupil Nutrition Act (NIDDK)
- Role of Parks in Physical Activity and Health (NIEHS)
The PA includes both R01 and R21 mechanisms.

R21 mechanism allows investigators to conduct data validation before submitting R01 proposals.

Planned as an NIH-wide PA.

Release in Fall 2004.
NIH Obesity Research Task Force

- Cross NIH
- Obesity Research Strategic Plan
  - [http://www.obesityresearch.nih.gov/About/strategic-plan.htm](http://www.obesityresearch.nih.gov/About/strategic-plan.htm)
- Addresses basic to population sciences
- Stimulating trans NIH initiatives