Scope

- **Dietary/physical activity (PA) behaviors**
  - Motivators/facilitators/barriers
  - Recommended dietary and PA behaviors
  - Interventions to improve adherence to dietary and PA recommendations
- Models of individual and small group dietary and lifestyle behavior change interventions:
  - Behavioral change strategies and intervention characteristics
  - Innovations in modes of intervention for individual dietary and lifestyle behavior change

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**Scope**

- **Household Food Insecurity**
- **Acculturation**
- **Family/Shared Meals**
- **Eating Out**
- **Sleep**
- **Dietary Patterns**
- **Nutrient Intake**
- **Food and Nutrient Quality Index**
- **Physical Activity Patterns and practices**
- **Nutritional Status Indicators**
- **Body Weight & Anthropometry**
- **Reproductive & Birth Outcomes**
- **Growth & Development**
- **Healthy Aging**
- **Healthy Ageing**
- **Risk Factor Profile**
- **CVDs**
- **Diabetes**
- **Certain Cancers**
- **Bone Health**
- **Mental Health**
- **Sedentary Behavior Including Screen Time**
- **Acculturation**
- **Mobile Health**
- **Self-monitoring (behavioral interventions)**
- **Eating Out**
- **Household Food Insecurity**
- **Family Shared Meals**
- **Sleep**
- **Food/Menu Label Use**
Invited Experts and Consultants

Invited Experts
Individuals invited by the SC, usually on a one time basis, to provide their expertise to inform the SC's work. Invited experts do not participate in decisions at the SC level.

Consultant SC Members
Individuals sought by the SC to participate in SC discussions and decisions on an ongoing basis but are not members of the full DGAC. Like DGAC members, consultants complete training and have been reviewed and cleared through a formal process within the Federal government.

Questions Addressed Today

Sedentary Behavior Including Screen Time

Topic leads: Wayne Campbell, Lucile Adams-Campbell

Experts & Consultants

Invited Experts

Consultant SC Members
Michael G. Perri, PhD, ABPP  
– Dean, College of Public Health and Health Professions  
– The Robert G. Frank Endowed Professor of Clinical and Health Psychology University of Florida

Sedentary Behavior Draft Question

What is the relationship between sedentary behaviors (including recreational and occupational, and screen time) and dietary intake and body weight in adults?

NEL Systematic Review

Analytical Framework: Sedentary Behavior

<table>
<thead>
<tr>
<th>Target Population</th>
<th>Healthy adults 19 years and older</th>
</tr>
</thead>
</table>

| Intervention/Exposure | Sedentary behaviors (recreational and occupational)  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen time and type (including TV, console games including PS or not, computer, cell phones, other handheld devices)</td>
<td></td>
</tr>
</tbody>
</table>

| Comparator | Different levels of sedentary behavior and screen time  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Different types of sedentary behavior and screen time (including sedentary work, driving, watching TV, using console games, or computer)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intervention/Outcomes</th>
<th>Sedentary behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diet quality indices</td>
<td></td>
</tr>
<tr>
<td>Foods/food groups</td>
<td></td>
</tr>
<tr>
<td>Macronutrient intakes/proportions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endpoint/Health Outcomes</th>
<th>Weight change, % body fat, Child growth indices</th>
</tr>
</thead>
</table>

Potential Confounders

- Total energy intake  
- BMI  
- SES  
- Ethnicity/race  
- Physical activity  
- Hours of sleep
**Sedentary Behavior**

**Literature Search: Inclusion/Exclusion Criteria**

- Peer-reviewed articles published in English between Jan 2004 – Jan 2014
- Human subjects >19 years; longitudinal studies from childhood to adulthood
- Healthy or with elevated chronic disease risk; excluded post-partum women (excluded studies with all subjects diagnosed with disease)
- Populations from countries with high or very high 2012 Human Development Index
- Randomized or non-randomized controlled trials, cohort studies (excluded acute feeding studies)
  - Intervention arms with ≥30 subjects, drop-out rate ≤20%; differential dropout rate <15%
- Intervention/exposure: sedentary behavior
- Outcome: diet quality, foods/food groups, macronutrient intakes/proportions, obesity, overweight, BMI, waist circumference, body weight, growth, % body fat change

**Sedentary Behavior**

**Literature Search Results**

<table>
<thead>
<tr>
<th>Articles identified through database searching (n=1,412)</th>
<th>Articles excluded (n=486)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles screened (Title) (n=1,412)</td>
<td>Articles excluded (n=883)</td>
</tr>
<tr>
<td>Articles screened (Abstract) (n=529)</td>
<td>Full-text excluded (n=24)</td>
</tr>
<tr>
<td>Hand search (n=2)</td>
<td></td>
</tr>
</tbody>
</table>

**Sedentary Behavior**

**Description of the Evidence**

- 20 prospective cohorts (1 retrospective): 15 sedentary behavior in adults, 6 longitudinal studies on childhood screen time and body weight in adulthood
- Duration: 1 to 33 years
- Location: 5 US
- Sample size: 170 to 18,583
- Longitudinal studies: 5 - 15.9 years to 21 – 45 years

**Draft Key Findings**

- Increasing levels of TV viewing during childhood and adolescence are predictive of higher BMI in adults
- No critical mass of evidence examining potential mediators such as diet
- Methodological approaches differed with regard to how variables are defined, timeframes, cohort size, and populations
- Despite methodological differences in measurement of sedentary behavior, the lack of association with TV viewing and body fat outcomes in adolescent-adult and adult-adult are remarkably consistent
- Minority groups not well represented

**Draft Conclusion Statements**

Consistent evidence exists associating increased TV viewing with increased body weight/BMI/body fat as children transition from adolescence to adulthood.

No prospective association between sedentary behavior in adulthood and body weight or body weight changes over a time period of approximately 4-7 years.

Insufficient evidence exists to address the association between sedentary behavior and dietary intake in adults.

What is the relationship between sedentary behaviors (including recreational and occupational, and screen time) and dietary intake and body weight in adults?

**Discussion**
Next Steps: Topics to Address

- Youth - Sedentary Behavior Including Screen Time
- Acculturation
- Mobile Health
- Self-monitoring (behavioral interventions)
- Eating Out
- Household Food Insecurity
- Family Shared Meals
- Sleep
- Food/Menu Label Use

Subcommittee 3: Diet and Physical Activity Behavior Change

Discussion

Rafael Pérez Escamilla
Lucile Adams Campbell
Wayne Campbell
Steven Clinton
Anna Maria Siega-Riz
Barbara Millen