

2015 DGAC: MEETING 3
March 14, 2014

Subcommittee 3:

Diet and Physical Activity Behavior Change

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

Barbara Millen

2015 DGAC: MEETING 3

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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Scope

Contextual factors	Household Food Insecurity	Acculturation	
Behaviors	Family/shared meals	Food/menu label use	Sedentary behaviors
		Sleep	Eating Out
	Outcomes <ul style="list-style-type: none"> • Diet, Physical Activity • Weight/anthropometry outcomes • Chronic disease risk/biomarkers 		

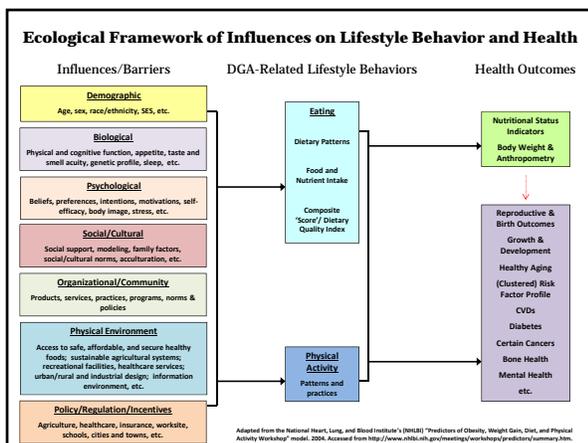
SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Scope

Behavioral change interventions	Diet and PA individual change interventions delivered through different modalities based on behavior change strategies
Outcomes	<ul style="list-style-type: none"> • Diet, PA • Intention, motivation, self-efficacy, stage of change, coping skills, etc... • Behaviors • Weight/anthropometry outcomes • Chronic disease risk/biomarkers

SC 3: Diet and Physical Activity Behavior Change



2015 DGAC: MEETING 3

Key Topic Areas

- 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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

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.

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Experts & Consultants

Invited Experts

- None

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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Questions Addressed Today

**Sedentary Behavior
Including Screen Time**

Topic leads: Wayne Campbell, Lucile Adams-Campbell

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Sedentary Behavior Definition

Sedentary behavior refers to any waking activity characterized by an energy expenditure ≤ 1.5 metabolic equivalents and a sitting or reclining posture. In general this means that any time a person is sitting or lying down, they are engaging in sedentary behavior.

Sedentary Behaviour Research Network. 2012. Standardized use of the terms "sedentary" and "sedentary behaviours." Appl Physiol Nutr Metab. 37: 540–542.)

SC 3: Diet and Physical Activity Behavior Change

Analytical Framework: Sedentary Behavior

Target Population
Healthy adults-19 years of age and older

Intervention/Exposure
Sedentary behaviors (recreational and occupational)
Screen time and type (including TV, console games including PA or not, computer, cell phones, other handheld devices)

Comparator
Different levels of sedentary behavior and screen time
Different types of sedentary behavior and screen time (including sedentary work, driving, watching TV, using console games, or computer)

Intermediate Outcomes

- Diet quality indices
- Foods/food groups
- Macronutrient intakes/proportions
- BMI
- Weight change, % body fat
- Child growth indices

Endpoint Health Outcomes
• Incidence of healthy weight, overweight, obesity

Potential Confounders

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

Question: What is the relationship between sedentary behaviors and measures of dietary intake and body weight in adults?

SC 3: Diet and Physical Activity Behavior Change

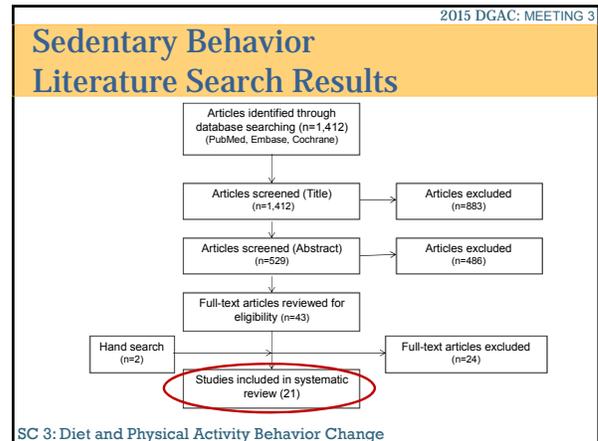
2015 DGAC: MEETING 3

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 $\leq 20\%$; 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

SC 3: Diet and Physical Activity Behavior Change



2015 DGAC: MEETING 3

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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Sedentary Behavior

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

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Sedentary Behavior

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.

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

Sedentary Behavior

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

Discussion

SC 3: Diet and Physical Activity Behavior Change

2015 DGAC: MEETING 3

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

SC 3: Diet and Physical Activity Behavior Change

Discussion

Subcommittee 3:

Diet and Physical Activity Behavior Change

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