

Subcommittee 4:

Food and Physical Activity Environments



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Scope

Food Environments

Physical environment

- Key settings – neighborhood and community food access, early care and education, schools, worksites
- Understand and assess the role of food environment in promoting or hindering healthy eating in various settings.
- Identify the most effective evidence-based diet-related programs, practices, environmental and policy approaches (“what works”) to improve health and reduce disparities.

Key Topic Areas

- Schools
- Worksite

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.

Experts and Consultants

Invited Experts (Sept to Nov 2014)

None

Consultant SC Members

None

Schools Questions

Topic Lead
Wayne Campbell



1. What is the impact of school-based approaches on the dietary intake, quality, behaviors and/or preferences of school-aged children?
2. ***What is the impact of school-based policies on the dietary intake, quality, behaviors and/or preferences of school-aged children?***
3. What is the impact of school-based approaches on the weight status of school-aged children?
4. What is the impact of school-based policies on the weight status of school-aged children?

Approach: Existing Systematic Reviews

Schools (Q2)

Key Findings: School-based Policies & Dietary Intakes

- Implementation of school policies to change competitive foods and beverage availability/accessibility is associated with:
 - Reduced availability/accessibility and consumption of SSB, candy, unhealthy snacks, and dessert foods
 - Replacement of regular soda with diet soda and water and healthier options in vending machines and at snack bars
- Strong and consistent enforcement of comprehensive policies was associated with greater changes in-school consumption, intake and/or purchasing.
- District or combined district and state policies restricting the use of food as a reward for academic performance or as a fundraiser was associated with a reduction in use of foods and beverages for these purposes.

Schools (Q2)

Draft Conclusion Statement: School-based Policies & Dietary Intakes

Strong evidence demonstrates that implementation of school policies for nutrition standards to change the availability, accessibility and consumption of foods and beverages sold outside the school meal programs (competitive foods and beverages) are associated with higher quality purchasing behavior and dietary intake while at school.

Grade: Strong

Worksite Questions

Topic Lead
Lucile Adams-Campbell



1. What is the impact of worksite-based approaches on the dietary intake, quality, behavior of employees?
2. What is the impact of worksite-based policies on the dietary intake, quality and behavior of employees?
3. What is the impact of worksite-based approaches on the weight status of employees?
4. What is the impact of worksite-based policies on the weight status of employees?

Approach: Existing Systematic Reviews

Worksite (Q1)

Description of the Evidence: Worksite-based Approaches & Dietary Intakes

- Includes 2 systematic reviews/meta-analyses
 - Published between 2013 and 2014
 - Risk of Bias: AMSTAR scores were high, ranging from 8/11 to 9/11
 - Total of 35 studies published prior to Nov 2012
 - No overlap of studies between reviews
- **Study Designs:** RCT, non-randomized controlled trials, pre/post studies
- **Subjects:** workers
- **Sample Size:** 65 to 4254
- **Outcomes**
 - Primary: dietary intake
 - Secondary: weight and various health outcomes

Worksite (Q1)

Key Findings: Worksite Approaches & Dietary Intakes

- Worksite approaches can increase fruit and vegetable intakes of employees. When reported, intakes increased $\frac{1}{4}$ to $\frac{1}{2}$ serving per day.
- Multi-component programs targeting behavior modification are more effective than single-component programs.
 - Nutrition education programs in combination with dietary modification interventions are effective.
 - Internet-based approaches appear to be a promising method to improve dietary intake.
 - Environmental modifications in combination with physical contact (face-to-face meetings) enhance effectiveness.

Worksite (Q1)

Draft Conclusion Statement: Worksite Approaches & Dietary Intakes

Moderate evidence indicates that multi-component worksite approaches can increase fruit and vegetable consumption of employees.

Grade: Moderate

Worksite (Q2)

Description of the Evidence: Worksite-based Policies & Dietary Intake

- Includes 1 systematic review
 - Published in 2012
 - Risk of Bias: AMSTAR scores was high, 8/11
 - Total of 27 studies published prior to Nov 2012
- **Study Designs:** RCT, quasi-experimental, without experimental design
- **Subjects:** workers
- **Sample Size:** 145 to 26,806
- **Outcomes:** dietary behaviors, indices of weight status, and various health outcomes

Worksite (Q2)

Key Findings: Worksite Policies & Dietary Intakes

- A variety of worksite policies targeting dietary modification (e.g., point-of-purchase information, catering policies, and menu labeling) are effective.
- Worksite policies targeting dietary intake are more likely to assess health outcomes (e.g., BMI) when combined with interventions targeting individuals.
- Worksite policies targeting dietary behavior, alone and in combination with individual-level strategies, significantly improve dietary outcomes (e.g., increased consumption of fruits, vegetables, and/or whole grains).

Worksite (Q2)

Draft Conclusion Statement: Worksite Policies & Dietary Intakes

Moderate and consistent evidence indicates that worksite nutrition policies, alone and in combination with individual-level strategies, can improve the dietary intake of employees. Multi-component strategies appear to be more effective than single-component strategies.

Grade: Moderate

Worksite (Q3)

Description of the Evidence: Worksite-based Approaches & Weight Status

- Includes 2 systematic reviews (1 included a meta-analysis)
 - Published between 2011 and 2014
 - Risk of Bias: AMSTAR scores were high, ranging from 9/11 to 10/11
 - Total of 70 studies published prior to Nov 2012
 - Overlap of studies: 2
- **Study Designs:** RCT (n=59), pre/post studies (n=11)
- **Subjects:** workers
- **Sample Size:** 33 to 10,282
- **Outcomes:** indices of weight status

Worksite (Q3)

Key Findings: Worksite Approaches & Weight Status

- Internet-based approaches demonstrate inconsistent results regarding weight-related outcomes.
- Randomized controlled trials assessing the impact of worksite interventions targeting diet and physical activity significantly improve weight-related outcomes.
Meta-analysis findings:
 - Body weight (9 studies)
MD* = -1.19 kg (95% CI: -1.64, -0.74)
 - Body mass index (11 studies)
MD = -0.34 (95% CI: -0.46, -0.22)
 - Body fat percentage assessed by skin folds (3 studies)
MD = -1.12% (95% CI: -1.86, -0.38)

*MD = mean difference

Worksite (Q3)

Draft Conclusion Statement: Worksite Approaches & Weight Status

Moderate and consistent evidence indicates that multi-component worksite approaches targeting physical activity and dietary behaviors favorably impact weight-related outcomes.

Grade: Moderate

Worksite (Q4)

Description of the Evidence: Worksite-based Policies & Weight Status

- Includes 1 systematic review
 - Published in 2012
 - Risk of Bias: AMSTAR scores was high, 8/11
 - Total of 27 studies published prior to Nov 2012
- **Study Designs:** RCT, quasi-experimental, without experimental design
- **Subjects:** workers
- **Sample Size:** 145 to 26,806
- **Outcomes:** dietary behaviors, indices of weight status, and various health outcomes

Worksite (Q4)

Key Findings: Worksite Policies & Weight Status

- Few studies assess the impact of worksite policies on weight-related outcomes; most focus on behaviors.
- Despite improving dietary intake, worksite policies for health promotion targeting dietary and physical activity behaviors, alone and in combination with individual-level strategies, do not impact weight-related outcomes.

Worksite (Q4)

Draft Conclusion Statement: Worksite Policies & Weight Status

The body of evidence assessing the impact of worksite policies on the weight status of employees is very limited.

Grade: Not assignable

Worksite (Q4)

Draft Implications

Existing evidence indicates that worksite approaches focused on dietary intake can increase fruit and vegetable intakes of employees. Multi-component programs targeting nutrition education in combination with dietary modification interventions are found to be effective.

Environmental modifications in conjunction with a variety of worksite policies targeting dietary modification inclusive of point-of-purchase information, catering policies, and menu labeling also are effective.

Given that approximately 64 percent of adults are employed and spend an average of 34 hours per week at work, the workplace remains an important setting for environmental interventions for health promotion and disease prevention.

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REMINDER: DGAC Members, please state your name before asking a question.

NEL Grading Rubric

Elements	Grade I: Strong	Grade II: Moderate	Grade III: Limited	Grade IV: Grade Not Assignable
Quality (as determined using the NEL BAT) <ul style="list-style-type: none"> Scientific rigor and validity Consider study design and execution 	Studies of strong design Free from design flaws, bias, and execution problems	Studies of strong design with minor methodological concerns OR only studies of weaker study design for question	Studies of weak design for answering the question OR inconclusive findings due to design flaws, bias, or execution problems	Serious design flaws, bias, or execution problems across the body of evidence
Quantity <ul style="list-style-type: none"> Number of studies Number of subjects in studies 	Several good quality studies Large number of subjects studied Studies have sufficiently large sample size for adequate statistical power	Several studies by independent investigators Doubts about adequacy of sample size to avoid Type I and Type II error	Limited number of studies Low number of subjects studied and/or inadequate sample size within studies	Available studies do not directly answer the question OR no studies available
Consistency of findings across studies	Findings generally consistent in direction and size of effect or degree of association, and statistical significance with very minor exceptions	Some inconsistency in results across studies in direction and size of effect, degree of association, or statistical significance	Unexplained inconsistency among results from different studies	Independent variables and/or outcomes are too disparate to synthesize OR single small study unconfirmed by other studies
Impact <ul style="list-style-type: none"> Directness of studied outcomes Magnitude of effect 	Studied outcome relates directly to the question Size of effect is clinically meaningful	Some study outcomes relate to the question indirectly Some doubt about the clinical significance of the effect	Most studied outcomes relate to the question indirectly Size of effect is small or lacks clinical significance	Studied outcomes relate to the question indirectly Size of effect cannot be determined
Generalizability to the U.S. population of interest	Studied population, intervention and outcomes are free from serious doubts about generalizability	Minor doubts about generalizability	Serious doubts about generalizability due to narrow or different study population, intervention or outcomes studied	Highly unlikely that the studied population, intervention AND/OR outcomes are generalizable to the population of interest