



Meeting 2

Subcommittee 8 Sedentary Behavior

Chair: Peter Katzmarzyk

Members: John Jakicic, Ken Powell

Question 1

What is the relationship between sedentary behavior and all-cause mortality?

- a) Is there a significant relationship?
- b) Is there a dose-response relationship? If yes, what is the shape of the relationship?
- c) Does the relationship vary by age, sex, ethnicity or socio-economic status?
- d) Is the relationship independent of levels of light, moderate or vigorous physical activity?
- e) Is there any evidence that bouts or breaks in sedentary behavior are important factors?

Analytical Framework



Systematic Review Questions

What is the relationship between sedentary behavior and all-cause mortality?
What is the relationship between sedentary behavior and mortality from cardiovascular disease?
What is the relationship between sedentary behavior and mortality from cancer?

Target Population

Adults, 18 years and older

Comparison

Adults who participate in varying levels and types of sedentary behavior

Exposure

Sedentary behavior

- Total sitting time
- Screen time
- Leisure-time sitting
- Occupational sitting time
- Objective measures of total sedentary time

Endpoint Health Outcomes

Incidence of:

- All-cause mortality
- Cardiovascular disease mortality
- Cancer mortality

Key Definitions

Sedentary Behavior: In general any waking behavior characterized by an energy expenditure ≤ 1.5 METs while in a sitting or reclining posture (Sedentary Behaviour Research Network. Standardized use of the terms "sedentary" and "sedentary behaviours". *Appl Physiol Nutr Metab* 2012;37:540-542).

Common Inclusion/ Exclusion Criteria



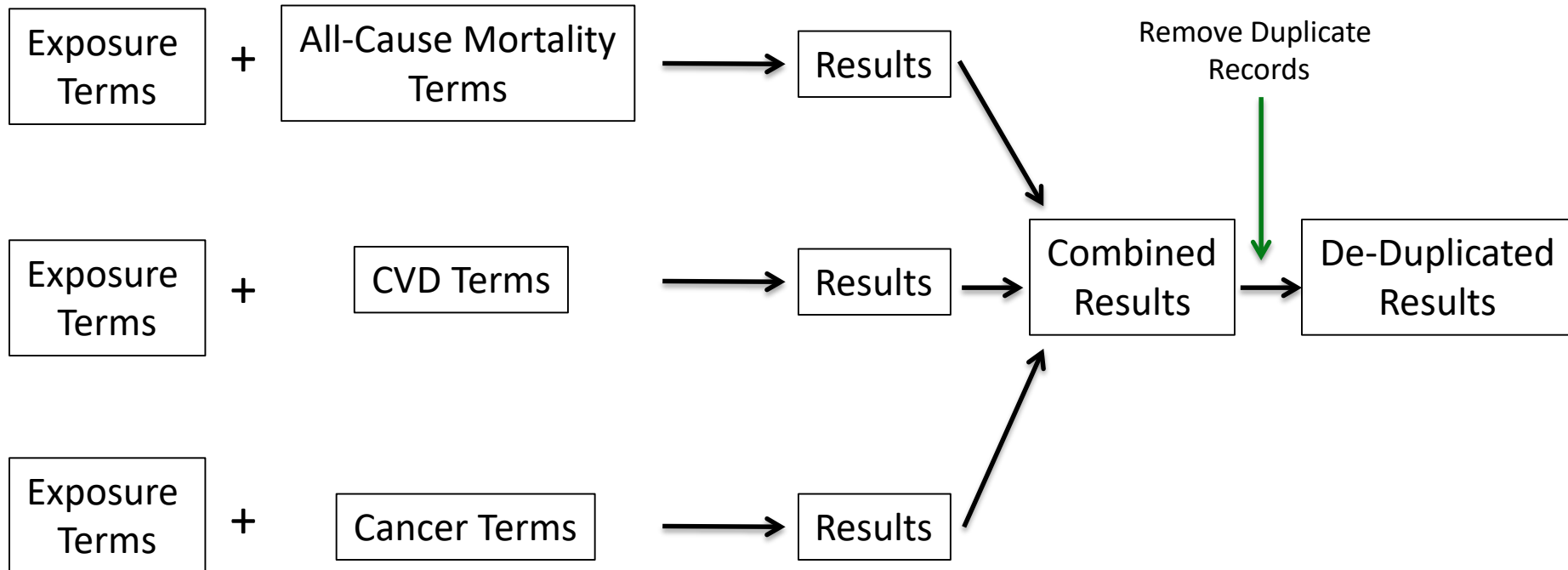
- Language
 - Exclude: Studies that do not have full text in English
- Publication Status
 - Include: Studies published in peer-reviewed journals, PAGAC-approved reports
 - Exclude: Grey literature
- Study Subjects
 - Exclude: Studies of animals only

Inclusion/Exclusion Criteria



- **Date of Publication**
 - Original Research: Include 2000 - Present
 - Existing Sources: Include 2000 - Present
- **Study Subjects**
 - Include: Adults ages 18 and older
 - Exclude: • Non-ambulatory adults; hospitalized patients; chronic disease populations
- **Study Design**
 - Include: Prospective cohort studies, Systematic reviews, Meta-analyses, PAGAC-Approved reports
 - Exclude: Randomized controlled trials, Non-randomized controlled trials, Retrospective cohort studies, Case-control studies, Cross-sectional studies, Before-and-after studies, Narrative reviews, Commentaries, Editorials
- **Exposure/Intervention**
 - Include: All types of sedentary behavior
 - Exclude: Studies that use sedentary behavior solely as confounding variable
- **Outcome**
 - Include: All-cause mortality, Mortality from cardiovascular disease, Mortality from cancer

Search Terms (1)



Search Terms (2)



Exposure Terms:

((Physical* AND Inactiv*) OR "inactivity" OR "Sedentarism" OR "Sedentary" OR "Sedentari*" OR "Sitting" OR "Screen time" OR "Television" OR "TV" OR "Video game" OR "Video gaming" OR "Computer use" OR "Computer time")

Search Terms (3)

Outcome Terms:

All-Cause Mortality

("Mortalit*" OR "Death" OR "Dying" OR "Fatal*" OR "Postmortem")

CVD

("Cardiovascular Disease" OR "Coronary Heart Disease" OR "Hypertensive" OR "Hypertension" OR "Ischemic" OR "myocardial infarction" OR "ischemic heart disease" OR "Arterioscleroti*" OR "Atheroscleroti*" OR "Heart failure" OR "Congestive heart failure" OR "Cerebrovascular disease" OR "Subarachnoid hemorrhage" OR "Intracranial hemorrhage" OR "Intracerebral Hemorrhage" OR "Cerebral infarction" OR "Stroke" OR "Aortic Aneurysm, Thoracic")

Cancer

("Cancer" OR "Neoplasm" OR "Tumor" OR "Carcinogenesis" OR "Leukemia" OR "Lymphoma" OR "Malignancy" OR "Metastatic" OR "Adenoma" OR "*Blastoma" OR "Tumour" OR "Melanoma" OR "Myeloma" OR "Carcinoma" OR "Neoplasia" OR "Sarcoma")

Prioritized Questions



- Question 1. What is the relationship between sedentary behavior and all-cause mortality?**
- Question 2. What is the relationship between sedentary behavior and mortality from cardiovascular disease?**
- Question 3. What is the relationship between sedentary behavior and mortality from cancer?**
- Question 4. What is the relationship between sedentary behavior and incidence of diabetes, obesity, cardiovascular disease and cancer?**
- Question 5. Is there a level of physical activity which negates the negative health effects of sedentary behavior?**

Areas for PAGAC Input or Discussion

- 1) Question 4 on cancer incidence – focus on invasive site-specific cancers?
 - Coordinate with cancer subcommittee

- 2) Question 4 – Obesity versus weight gain as an outcome?
 - Coordinate with obesity subcommittee