

Physical Activity Guidelines Advisory Committee Meeting 1

Sponsored by the U.S. Department of Health and Human Services (HHS)

***Held at the
National Institutes of Health
Building 35, John Edward Porter Neuroscience Research Center
9000 Rockville Pike
Bethesda, MD 20892***

July 14-15, 2016

Meeting Attendees

Physical Activity Guidelines Advisory Committee: Abby King, PhD (Co-Chair); Ken Powell, MD, MPH (Co-Chair); David Buchner, MD, MPH, FACSM; Wayne Campbell, PhD; Loretta DiPietro, PhD, MPH, FACSM; Kirk Erickson, PhD; Charles Hillman, PhD; John Jakicic, PhD; Kathleen Janz, EdD, FACSM; Peter Katzmarzyk, PhD; William Kraus, MD, FACSM; Richard Macko, MD; David Marquez, PhD, FACSM; Anne McTiernan, MD, PhD, FACSM; Russell Pate, PhD, FACSM; Linda Pescatello, PhD, FACSM (not in attendance); and Melicia Whitt-Glover, PhD, FACSM

Co- Executive Secretaries: Richard Olson, MD, MPH; Katrina Piercy, PhD, RD, ACSM-CEP; Janet Fulton, PhD, FACSM; Deb Galuska, PhD; Rachel Ballard, MD, MPH; Richard Troiano, PhD; and Shellie Pfohl, MS (not in attendance)

Federal Staff: Kellie Casavale, PhD, RD; Holly McPeak, MS; Alison Vaux Bjerke, MPH; Sarah Prowitt, MPH; Emily Bhutiani, MS; Stephanie George, PhD, MPH, MA; Sarah Keadle, PhD, MPH; Erika Rees, MPH; Andrew Uhlman; and Ebony Andrews, MPH

Other Presenters: Bonny Bloodgood, MA ICF International (literature review team)

Policy Officials: Karen DeSalvo, MD, MPH, MSc, Acting Assistant Secretary for Health and Don Wright, MD, MPH, Deputy Assistant Secretary for Health

Day 1 Meeting Summary

Thursday July 14th, 2016

(8:30am)

Welcome

Dr. Olson, Designated Federal Officer, Office of Disease Prevention and Health Promotion (ODPHP), U.S. Department of Health and Human Services (HHS) welcomed the Committee members as he called to order day one of the first meeting of the Physical Activity Guidelines Advisory Committee.

Dr. Wright, Deputy Assistant Secretary for Health and Director, ODPHP, HHS introduced Acting Assistant Secretary for Health, Dr. DeSalvo.

Swearing-in of the Committee & Remarks

Dr. DeSalvo, Acting Assistant Secretary for Health, HHS invited Co-Chairs Drs. King and Powell to the podium and asked the Committee members to stand for the swearing-in ceremony.

Dr. DeSalvo recognized the affiliation of each Committee member and acknowledged their contributions to the field of physical activity and health. She emphasized the importance of their role in developing the second edition of the Physical Activity Guidelines (Guidelines) and noted the opportunity to address the emerging evidence connecting physical activity, mental health, and health disparities. She reminded the Committee of its charge to review the current Guidelines as well as examine evidence in new topic areas related to physical activity and health outcomes to support the development of the second edition of the Guidelines.

Dr. DeSalvo reiterated the scientific rigor that informed the first edition of the Physical Activity Guidelines. The Guidelines have been reflected in federal programs such as Healthy People 2020, Let's Move!, the National Prevention Strategy, and the Surgeon's General's Call To Action on Walking and Walkable Communities.

Dr. DeSalvo emphasized that the Committee's expertise ensures that HHS can make a difference through evidence based policies that are informed by the strongest science. She noted that HHS has a responsibility to all Americans to write policies that give every citizen in every community the opportunity to live a healthy life.

Break

Dr. Troiano, Co-Executive Secretary, National Cancer Institute (NCI), National Institutes of Health (NIH), HHS presented the evolution of physical activity recommendations in the United States (1970s-present). He highlighted key documents such as the Physical Activity Guidelines for Americans and the Midcourse Report: Strategies to Increase Physical Activity Among Youth, released in 2013, as well as international physical activity guidelines. Dr. Troiano noted the current physical activity recommendations for Americans include guidelines for both youth (ages 6-17) and adults.

Dr. Piercy, Co-Executive Secretary, ODPHP, HHS presented the Committee's role, structure and overall timeline. The Committee will review the strongest scientific evidence regarding physical activity and health through systematic literature reviews. The Committee will work in topic specific subcommittees to develop questions to be addressed and will present their findings at the public Committee meetings. The Committee will meet publicly throughout its two-year tenure (five meetings anticipated) to discuss progress made in the subcommittees and will come to consensus on the level of evidence reviewed. The Committee's main deliverable is a scientific report which provides recommendations to the Secretary of HHS. Dr. Piercy noted the federal partnerships between ODPHP, the Centers for Disease Control and Prevention (CDC), NIH, and the President's Council on Fitness, Sports & Nutrition (PCFSN) in developing the second edition of the Guidelines. The Advisory Committee's Scientific Report, public comments and agency comments will all be taken into consideration when the federal government drafts the second edition of the Guidelines.

Bonny Bloodgood, Project Director, ICF International (ICF) provided an overview of the technical details of the systematic literature review process to the Committee members. She discussed the six steps of the literature review process and the roles of the Committee members and of the literature review team at each step. Each subcommittee will draft questions to be addressed through systematic reviews or with high-quality existing reports. ICF International will lead the systematic reviews and provide evidence

portfolios to the subcommittees to grade the level of evidence and write conclusion statements, implications, and areas for future research. The literature review team will abstract detailed information from relevant identified articles into tables for the subcommittee's review. The Committee was asked to determine the level of detail for the abstraction tables. A decision was made to continue this discussion on day 2 of the meeting.

Dr. King and Dr. Powell, Co-Chairs of the 2018 Physical Activity Guidelines Advisory Committee outlined how the Committee would break into subgroups for the rest of the day. The subgroups were asked to deliberate potential topic areas to address through the systematic literature review process. Dr. King asked the Committee to consider the topics included in the current Guidelines, those discussed at a state of the science meeting at the 2014 American College of Sports Medicine meeting, and new areas of research.

Dr. Olson, ODPHP, HHS adjourned the meeting for day one and called for the Committee to reconvene on July 15th at 8:00am.

(11:30 am)

Day 2 Meeting Summary

Friday July 15th, 2016

(8:00am)

Welcome

Dr. Olson welcomed the Committee members as he called to order day two of the first meeting of the Physical Activity Guidelines Advisory Committee.

Dr. Fulton, Co-Executive Secretary, Division of Nutrition, Physical Activity, and Obesity, Centers for Disease Control and Prevention (CDC), HHS presented data on the current levels of physical activity among Americans. The data were collected by self-report questionnaires which examined physical inactivity levels, individuals meeting the current Guidelines, and associations between physical activity and age, race, and education level. Dr. Fulton explained the benefits and limitations of self-report data collection tools. Dr. Fulton noted that in 2013 only one out of every four high school students met the aerobic guideline, while in 2014, five out of every ten adults met the aerobic guideline.

Dr. King and Dr. Powell presented the proposed subcommittees and their recommendations for subcommittee chairs, based on the priority topic areas discussed during the subgroup meetings the afternoon of July 14, 2016.

The proposed subcommittees and their respective chairs were:

- *Cardiometabolic Health and Weight Management: John Jakicic*
- *Cancer – Primary Prevention: Anne McTiernan*
- *Individuals with Chronic Conditions: David Buchner*
- *Brain Health: Kirk Erickson*
- *Dose Response: Bill Kraus*
- *Sedentary Behavior: Peter Katzmarzyk*
- *Youth: Russ Pate*
- *Aging: Loretta DiPietro*

- *Promotion of Physical Activity: Abby King*

Dr. King asked if there was consensus amongst the Committee on the proposed subcommittee topics and chairs, and the Committee confirmed their agreement. The Committee decided that social determinants of health and special populations will be studied within each of the subcommittee topic areas as cross-cutting themes. Drs. King and Powell discussed the need for subcommittee leaders to communicate with one another in order avoid areas of topic overlap. The Co-Chairs decided that regular meetings of the subcommittee chairs and Co-Chairs would be established to promote cross-subcommittee communication.

Break

Physical Activity Guidelines Advisory Committee Discussion on Topic Formation, Subcommittee Structure, Review of Evidence *Following a break, the Committee discussed whether to include age-specific subcommittees or to treat age as a continuum. The Committee members favored age-specific subcommittees due to the growing body of evidence relating physical activity to outcomes specific to different age populations (e.g., children younger than age six, the youth-specific outcome of academic performance, and the range of outcomes associated with increased life expectancy).*

The Committee then discussed the inclusion and exclusion criteria for the study design and sample size of potential data. In striving to include the strongest evidence, the Committee decided that studies will be accepted only from peer-reviewed journals. Smaller sample sizes and cross-sectional studies may be necessary for certain topic areas with emerging scientific evidence; thus, subcommittee discretion will be used to determine which of those studies are worth including in their review of the evidence. Dr. King asked for clarification regarding any federal guidance surrounding the different kinds of evidence the Committee can review. Rachel Ballard of NIH noted that there is no specific rule quantifying a minimum sample size and that decision to include findings of small sample studies may be justified if the study has high statistical power. In regards to animal studies, federal guidelines of this nature historically have not been based on animal studies.

The Committee discussed generating systematic review questions before the next public meeting so that the literature review process could start. The Committee then discussed the potential to review evidence in the college age/young adult population and noted the abrupt transition from the youth guidelines of 60 minutes per day up to age 17 and the adult guidelines of 150 minutes per week, or roughly 30 minutes per day for ages 18 and older.

Lunch

Physical Activity Guidelines Advisory Committee Discussion on Topic Formation, Subcommittee Structure, Review of Evidence *This discussion continued with the Committee considering the level of detail for the abstraction tables from ICF. The three options, varying in level of detail were presented again. After discussing pros and cons of having more vs. less information, the Committee decided on option 1 which had the least level of detail. Several Committee members noted they would prefer to go back to the original article themselves. The Committee discussed interest in including cross-cutting themes of race, ethnicity, and socioeconomic status in the abstraction template.*

Each subcommittee chair then took turns presenting potential topics/questions for their subcommittee to address and welcomed feedback from all other Committee members. Also noted were cross-cutting areas and areas of potential overlap with other subcommittees.

Dr. Jakicic, chair of the Cardiometabolic Health and Weight Management Subcommittee, discussed reviewing the existing evidence relating physical activity to weight management, maintenance of weight loss, and prevention of excessive weight gain. This subcommittee also discussed which cardiometabolic risk factors to include as well as how to operationalize fitness as a cardiometabolic risk factor. The subcommittee is also interested in the relationship between physical activity and cardiometabolic risk factors independent of weight loss.

Dr. Kraus, chair of the Dose Response Subcommittee, discussed reviewing the current Guidelines within the context of declining basal activity and the '10,000 steps per day' recommendation. The subcommittee proposed tackling the concepts of relative intensities of activity performed, length of individual periods of engagement in physical activity (i.e. bouts), and total time spent engaging in physical activity (i.e. accumulation). Additionally, questions of dose response were discussed in the context of all-cause mortality, heart disease outcomes, and fitness as an indicator of health.

Dr. Katzmarzyk, chair of the Sedentary Behavior Subcommittee, discussed examining the association between sedentary behavior and all-cause mortality as well as the relationship between sedentary behavior and moderate-to-vigorous physical activity. The Committee discussed examining prospective cohort studies to ascertain whether the relationships between physical activity and outcomes, such as weight control and risk for chronic disease, are causal or associative. Dr. Katzmarzyk noted that sedentary behavior is operationalized as less than 1.5 METs of work by the sedentary behavior research network.

Dr. Pate, chair of the Youth Subcommittee, discussed reviewing the current Guidelines and adding a range of health outcomes including attention deficit hyperactivity disorder, the relationship between cognition and learning, as well as evidence for recommendations for children younger than age six. This subcommittee noted an earlier conversation about the change in recommended amounts of physical activity from youth (60 minutes per day) to adulthood (150 minutes per week). The group suggested exploring evidence to inform guidelines for young adults as an age group to bridge the gap between the existing guidelines for youth to age seventeen and adults eighteen years and older.

Dr. McTiernan, chair of the Cancer Subcommittee, discussed the growing body of evidence relating physical activity with different types of cancer, and use of physical activity as primary prevention. She discussed looking at cancers not addressed in the 2008 Physical Activity Guidelines as well as site-specific and subtypes of cancer.

Dr. Erickson, chair of the Brain Health Subcommittee, noted that they will review the evidence surrounding the interaction between physical activity and brain health outcomes. Their proposed topics for study included properties of brain function such as cognition, mood, academic achievement, sleep, well-being, and quality of life. Areas of potential study include the mental health outcomes of depression, affective disorders, sleep disorders, post-traumatic stress disorder, and attention deficit hyperactivity disorder. Another potential area for study will be the effects of physical activity on subpopulations that have increased prevalence for impaired brain health such as Alzheimer's disease and vascular dementia. This subcommittee also noted the possibility of studying emerging evidence of adverse brain events such as concussion and traumatic brain injury on physical activity.

Dr. DiPietro, chair of the Aging Subcommittee, discussed the role of physical activity and successful aging on the ability to carry out activities of daily living. Their proposed topics of study included functional ability, specific modes of physical activity, dose response, adherence, and quality of life.

Dr. Buchner, chair of the Individuals with Chronic Conditions Subcommittee, noted that they will examine whether dose response and health benefits vary among subgroups. This subcommittee will explore evidence of types and amounts of physical activity on the general health of these populations, not including therapeutic effects for specific conditions, and examine evidence that dose response differs from that of the general population. The group will develop criteria to include which chronic conditions will be studied. Potential chronic conditions for inclusion are neuromuscular conditions, HIV, arthritis, and cancer survivors.

Dr. King, chair of the Promotion of Physical Activity Subcommittee, discussed examining the interventions that have the greatest level of impact as well as adherence. Their proposed topics for further study included level of intervention, sustained physical activity, the built environment, and policies encouraging physical activity. Dr. King noted that there is a large body of evidence that is published in review articles that could be used to address several of their questions.

Committee members then selected which subcommittees they will serve on and suggested which subcommittees Linda Pescatello may be interested in serving on, as she was absent. Membership is listed below, with the chairs listed first after the name of the subcommittee.

- *Cardiometabolic Health and Weight Management: John Jakicic, Wayne Campbell, Loretta DiPietro, Linda Pescatello, Russ Pate*
- *Cancer - Primary Prevention: Anne McTiernan, Ken Powell, Peter Katzmarzyk*
- *Individuals with Chronic Conditions: David Buchner, Anne McTiernan, Rich Macko, Bill Kraus, Linda Pescatello*
- *Brain Health: Kirk Erickson, Chuck Hillman, David Marquez, Rich Macko*
- *Dose Response: Bill Kraus, John Jakicic, Ken Powell, Wayne Campbell, Kathy Janz*
- *Sedentary Behavior: Peter Katzmarzyk, John Jakicic, Ken Powell*
- *Youth: Russ Pate, Chuck Hillman, Kathy Janz, Melicia Whitt-Glover, Peter Katzmarzyk*
- *Aging: Loretta DiPietro, David Buchner, Kirk Erickson, Abby King, Wayne Campbell*
- *Promotion of Physical Activity: Abby King, Melicia Whitt-Glover, David Marquez, John Jakicic*

Dr. King and Dr. Powell asked the Committee to decide on a few preliminary questions for which ICF could begin the systematic literature review process. The following questions were selected:

- *What is the relationship between physical activity and all-cause mortality with specific indicators for age, race, and gender?*
- *What is the relationship between physical activity and functional status?*
- *What is the relationship between health indicators and physical activity for children younger than six years old?*
- *What is the relationship between physical activity and cognition?*

Dr. Olson adjourned the meeting, and noted that the second meeting will be held in the fall of 2016 and would be announced via a Federal Register notice. (3:15 pm)