

PART B. INTRODUCTION

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SETTING THE STAGE

In 2008, the U.S. Department of Health and Human Services (HHS) released the first edition of the *Physical Activity Guidelines for Americans*.¹ The Guidelines provides science-based advice on how physical activity can help promote health and reduce the risk of chronic disease. The Guidelines serves as the benchmark and primary, authoritative voice of the federal government for providing science-based guidance on physical activity, fitness, and health for Americans. It provides a foundation for federal recommendations and education for physical activity programs for Americans, including those at risk of chronic disease.

The Guidelines were developed using information from a Physical Activity Guidelines Advisory Committee,² similar to the expert committees formed for the *Dietary Guidelines for Americans*³ process. This committee mechanism was recognized as an effective approach to obtain a comprehensive and systematic review of the science, which contributes to successful federal implementation as well as broad public acceptance of the Guidelines.

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In 2013, five years after the Guidelines was released, HHS developed the *Physical Activity Guidelines Midcourse Report: Strategies to Increase Physical Activity Among Youth*.⁴ This report built on the 2008 Guidelines¹ by focusing on strategies to help youth achieve the recommended 60 minutes of daily physical activity in a variety of settings, including school, preschool and childcare, community, family and home, and primary care.

The 2008 Guidelines¹ was developed because of strong evidence that regular physical activity promotes health and reduces risk of many chronic diseases, including heart disease, diabetes, and several cancers. This evidence base continues to grow; thus, in December 2015 HHS began the process of developing the second edition of the Physical Activity Guidelines by calling for nominations to the 2018 Physical Activity Guidelines Advisory Committee.

THE PHYSICAL ACTIVITY GUIDELINES ADVISORY COMMITTEE

The 2018 Physical Activity Guidelines Advisory Committee (Committee) was formed to provide independent advice and recommendations based on current scientific evidence for use by the federal government in developing the second edition of the *Physical Activity Guidelines for Americans*.

Nominations for nationally recognized experts in the field of physical activity and health were sought from the public through a *Federal Register* notice published on December 18, 2015. Criteria for Committee members included knowledge about current scientific research in human physical activity; familiarity with the purpose, communication, and application of federal physical activity guidelines; and demonstrated interest in the public's health and well-being through their research and/or educational endeavors. Expertise was sought in specific specialty areas related to physical activity and health promotion or disease prevention, including but not limited to: health promotion and chronic disease prevention; bone, joint, and muscle health and performance; obesity and weight management; physical activity and risk of musculoskeletal injury; physical activity and cognition; physical activity within specific settings, such as preschool or childcare, schools (e.g., activity breaks, physical education), the community, or built environment; physical activity dose-response; sedentary behavior; behavior change; systematic reviews; and special populations, including children, older adults, individuals with disabilities, and women who are pregnant or postpartum.

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To ensure that recommendations of the Committee took into account the needs of the diverse groups served by HHS, membership was sought to include, to the extent practicable, a diverse group of men and women with representation from various geographic locations, racial and ethnic groups, and individuals with disabilities. Equal opportunity practices, in line with HHS policies, were followed in all membership appointments to the Committee. Appointments were made without discrimination on the basis of age, race and ethnicity, gender, sexual orientation, disability, or cultural, religious, or socioeconomic status. Individuals were appointed to serve as members of the Committee to represent balanced viewpoints of the scientific evidence and not to represent the viewpoints of any specific group. Members of the Committee were classified as Special Government Employees during their term of appointment, and as such were subject to the ethical standards of conduct for all federal employees. The Committee served without pay and worked under the regulations of the Federal Advisory Committee Act, known as FACA (Public Law 92-463 (5 U.S.C. Appendix 2, the Federal Advisory Committee Act of 1972), as amended).

The Secretary of HHS appointed 17 individuals for membership to the Committee in June 2016. The selected individuals are highly respected by their peers for their depth and breadth of scientific knowledge of the relationship between physical activity and health in all relevant areas of the current Physical Activity Guidelines. Biographical sketches of the Committee members are presented in Part H. Appendix 3. Biographical sketches.

CHARGE TO THE COMMITTEE

The Committee was established for the single, time-limited task of reviewing the 2008 *Physical Activity Guidelines for Americans* and developing physical activity and related health recommendations in this Scientific Report to the Secretary of HHS. The Committee's charge, which was described in the Committee's charter, is as follows:

The Committee, whose duties are time-limited and solely advisory in nature, will:

- Examine the first edition of the Physical Activity Guidelines for Americans and determine topics for which new scientific evidence is likely to be available that may reconfirm or inform revisions to the current guidance or suggest new guidance.

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- Place its primary focus on the systematic review and analysis of the evidence published since the last Committee deliberations.
- Place its primary emphasis on the development of physical activity recommendations for the general population in the United States and for specific subgroups of the population where warranted by a public health need.
- Prepare and submit to the Secretary of HHS a scientific advisory report of technical recommendations with rationales to inform the development of the second edition of the Physical Activity Guidelines for Americans. The Committee is responsible for providing authorship for this scientific report; however, responsibilities do not include translating the recommendations into policy, developing a draft of the policy, or making recommendations for implementation, including communication and outreach strategies.
- Disband upon the submittal of the Committee’s recommendations via the scientific advisory report to the Secretary of HHS.
- Complete all work within the two-year charter time frame.

COMMITTEE PROCESSES

The Committee operated under the regulations of the Federal Advisory Committee Act as outlined in its charter which was filed with Congress on June 1, 2016. This process ensures independent review in an open public manner, with opportunities for public participation.

Committee Meetings

The Committee held five public meetings over the course of 16 months. Meetings were held in July and October 2016, and March, July, and October 2017. The members met in person on the campus of the National Institutes of Health in Bethesda, Maryland, for each meeting. All meetings were publicly available live by videocast. In addition, the public was invited to attend the Committee’s first two meetings in person. All meetings were announced through a *Federal Register* notice. Meeting summaries, presentations, archived recordings of all of the meetings, and other Committee related materials are available at <https://health.gov/paguidelines>.

Public Comments

Oral comments from the public were presented at the second public meeting, and written comments were accepted throughout the tenure of the Committee. Written comments were shared with the

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Committee members as they were received. These comments are available for review at <https://health.gov/paguidelines>. The public comments process is described in *Part H. Appendix 4. Public Comments*.

Committee Organization and Work Process

During its first public meeting, the Committee decided that the work of reviewing the science would be best achieved by establishing subcommittees, each of which would review and interpret the literature for specific health outcomes and/or populations and summarize their findings as a chapter in the report. The Subcommittees, composed of Committee members and consultants, communicated by email and conference calls and met during public Committee meetings. Each Subcommittee was responsible for presenting to the full Committee its literature review process, grade and conclusion statement for each question, and research recommendations. During the public meetings, the Subcommittees responded to questions and made changes as indicated. The conclusions in this report represent the consensus of the entire Committee.

The Committee formed nine subcommittees: Aging, Brain Health, Cancer – Primary Prevention, Cardiometabolic Health and Prevention of Weight Gain, Exposure, Individuals with Chronic Conditions, Promotion of Physical Activity, Sedentary Behavior, and Youth. After its first public meeting, the Committee formed three Work Groups to consider additional topics: Physical Fitness, Youth to Adult Transition, and Pregnancy and Postpartum. The Subcommittee and Work Group organization are detailed in *Part H. Appendix 2. PAGAC Subcommittee and Work Group Assignments*. Each Committee member served on at least two Subcommittees, with the exception of the Co-Chairs, one of whom was a Subcommittee chair. The other Co-Chair participated in all of the other Subcommittees and Work Groups.

To assist in the review process, Subcommittee chairs identified consultants to fill knowledge gaps in one or more specific areas (see consultant list in *Membership List*). Consultants participated in Subcommittee discussions and decisions, but were not considered Committee members. Similar to Committee members, they completed ethics training and went through a federal review and clearance process. In addition, outside experts (see list in *Membership List*) provided information or a presentation to Subcommittees or Work Groups on a specific topic or question at one meeting.

A Designated Federal Officer (DFO) and Alternate DFO from the Office of Disease Prevention and Health Promotion (ODPHP) supported the Committee members. ODPHP served as the administrative lead for

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this project. The DFO and Alternate DFO also served as two of the seven Co-Executive Secretaries, who represented the various agencies responsible for federal physical activity policy and programs. These agencies include ODPHP, the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the President’s Council on Fitness, Sports & Nutrition (PCFSN). Each Subcommittee was supported by a federal staff liaison trained in the Federal Advisory Committee Act management and a systematic review liaison from the literature review team.

Approaches to Reviewing the Evidence

The Committee used the state-of-the-art methodology—systematic reviews—to address its 38 research questions and 104 subquestions. These reviews are publicly available on <https://health.gov/paguidelines/second-edition/report/supplementary-material.aspx>. *Part E. Systematic Review Literature Search Methodology* of this report details the process used by the Committee to evaluate the scientific evidence. This section also describes the grading rubric the Committee used to grade the level of evidence available to answer its questions. Each Subcommittee drafted a chapter that summarizes and synthesizes the results of its review and includes the evidence grades and conclusion statements for each question (see *Part F. The Science Base*). Research recommendations to address gaps that could advance knowledge related to the question posed and inform future federal physical activity guidance, as well as other policies and programs, are included at the end of each chapter and in *Part G. Needs for Future Research*. At least two Committee members who were not members of the drafting Subcommittee and federal staff liaisons reviewed each chapter.

Report Structure

Reflecting the Subcommittee and Work Group structure, the bulk of the report consists of 11 science-based chapters that summarize the evidence assessed and evaluated by the Committee. Ten chapters correspond to the work of the nine Subcommittees—the Exposure Subcommittee’s findings are split into two chapters—and one chapter covers the work of the Pregnancy and Postpartum Work Group.

In addition to summarizing the evidence relating physical activity to individual health outcomes, one of the Committee’s major goals was to integrate the scientific information on the relationship between physical activity and health and to summarize it in a manner that could be used effectively by HHS to develop the Physical Activity Guidelines and related statements. This information is contained in Part D. Integrating the Evidence.

CONTENTS AND ORGANIZATION OF THE SCIENTIFIC REPORT

The report starts with a *Membership List* of the Physical Activity Guidelines Advisory Committee members, consultants, and federal staff to acknowledge the individuals involved in the development of this report. There are four major components in the report. The first component provides essential background and synthesis information and includes:

- *Part A. Executive Summary* provides an executive summary of the entire report.
- *Part B. Introduction* provides a brief background on the rationale for updating the *Physical Activity Guidelines for Americans* and an explanation of the Committee's formation, structure, and process to develop its report.
- *Part C. Background and Key Physical Activity Concepts* explains the concepts and terminology that provide the foundation for the report's content and framing, including those relating to physical activity, sedentary behavior, dimensions of physical activity, physical fitness, and measurement.
- *Part D. Integrating the Evidence* synthesizes the Committee's findings about the relation of physical activity to a broad array of health outcomes.
- *Part E. Systematic Review Literature Search Methodology* explains the process used to systematically review the literature review questions.

The second component, *Part F. The Science Base*, includes 11 chapters organized into four sections that review and summarize the scientific literature relating physical activity to individual health-related outcomes and populations:

New Issues in Defining Physical Activity

- Chapter 1. Physical Activity Behaviors: Steps, Bouts, and High Intensity Training
- Chapter 2. Sedentary Behavior

Physical Activity and Selected Health Outcomes

- Chapter 3. Brain Health
- Chapter 4. Cancer Prevention
- Chapter 5. Cardiometabolic Health and Prevention of Weight Gain
- Chapter 6. All-cause Mortality, Cardiovascular Mortality, and Incident Cardiovascular Disease

Physical Activity Considerations for Selected Populations

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- Chapter 7. Youth
- Chapter 8. Women Who are Pregnant or Postpartum
- Chapter 9. Older Adults
- Chapter 10. Individuals with Chronic Conditions

Promoting Physical Activity

- Chapter 11. Promoting Regular Physical Activity

The third component, *Part G. Needs for Future Research* provides the Committee's collective recommendations about key areas of research that could address gaps they encountered and further enhance the science base on physical activity and health.

The fourth component, *Part H. Appendices*, includes 1) glossary of terms, 2) list of Subcommittee and Work Group assignments, 3) biographical sketches of Committee members, and 4) description of the public comment process with a link to the public comment database.

REFERENCES

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