Welcome and Introductions

President’s Council on Fitness, Sports & Nutrition Members

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  Dan Barber                          Cornell McClellan
  Carl Edwards                       Stephen McDonough, MD
  Allyson Felix
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Ian Smith, MD
Background on the Physical Activity Guidelines

Don Wright, MD, MPH
Director

Office of Disease Prevention and Health Promotion
U.S. Department of Health and Human Services
Guidelines for Children and Adolescents

60 minutes (1 hour) or more of physical activity daily

- **Aerobic**: Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity at least 3 days a week.

- **Muscle-strengthening**: As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening physical activity on at least 3 days of the week.

- **Bone-strengthening**: As part of their 60 or more minutes of daily physical activity, children and adolescents should include bone-strengthening physical activity on at least 3 days of the week.
Background and Development of the PAG Midcourse Report

• Low rates of meeting the PAG (both adults and youth)
  – <20% of high school students\(^1\)
  – <25% of adults\(^2\)

• Interest in updating the 2008 Physical Activity Guidelines

• Federal Steering Committee created 2011

• PAG Midcourse Report recommended to examine a specific area to support recommendations in the 2008 Guidelines

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\(^1\) Youth Risk Behavior Surveillance System (YRBSS), 2010

\(^2\) National Health Interview Survey (NHIS), Centers for Disease Control and Prevention, National Center for Health Statistics (CDC, NCHS), 2010
Physical Activity Guidelines for Americans
Midcourse Report Subcommittee

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Physical Activity Guidelines for Americans Midcourse Report: Strategies for Increasing Physical Activity Among Youth

RISA LAVIZZO-MOUREY, MD, MBA
Chair

Physical Activity Guidelines for Americans Midcourse Report Subcommittee
Presentation Outline

• Key Findings and Recommendations
• Methods
• Results and Recommendations
• Limitations
• Public Comment
Key Findings and Recommendations

1. **School** settings hold a realistic and evidence-based opportunity to increase physical activity among youth and should be a key part of a national strategy to increase physical activity.

2. **Preschool and Childcare Centers** that serve young children are an important setting in which to enhance physical activity.

3. Changes involving the **Built Environment** and multiple sectors are promising.

4. To advance efforts to increase physical activity among youth, key **research gaps** should be addressed.
Methods

• A review-of-reviews approach was utilized to assess current literature on interventions to increase physical activity in youth

• Peer-review research articles published January 2001-July 2012

• The literature review included 31 review articles containing 910 studies
Inclusion and Exclusion Criteria

**Inclusion Criteria**
- Youth ages 3–17 years
- English language
- Peer-reviewed literature of intervention studies
- Systematic reviews and meta-analyses
- Reviews published January 2001 through July 2012
- Interventions must measure physical activity as an outcome
- Interventions including technology approaches to promote physical activity
- Primarily healthy population
- Results must be available specifically for children or adolescents

**Exclusion Criteria**
- Interventions focused on limiting screen time
- Interventions focused on decreasing sedentary behavior
- Interventions focused solely on weight loss
- Review containing only cross-sectional data
Review-of-Reviews Process

• Literature review team developed evidence tables to summarize results from review articles

• Findings discussed during subcommittee meetings
  – Original articles reviewed for clarification

• Most relevant review articles were used

• Recommendations made based on strength of evidence and need for additional research
Assessing the Strength of Evidence

- **Sufficient**: Consistent beneficial effects documented across studies and populations
  - The subcommittee recommended implementation of these approaches

- **Suggestive**: Reasonably consistent evidence of effect, but cannot make strong definitive conclusion
  - The subcommittee recommended implementation and continued research on the impact of these approaches. See the research recommendations in each section

- **Insufficient**: Do not have enough evidence to make a conclusion
  - The subcommittee did not recommend implementation. Some of these approaches merit additional research and recommendations are made in each section

- **Emerging evidence**: New data, currently being studied, but reviews do not yet exist
  - The subcommittee identified those areas where the technologies and evidence are changing rapidly, thus meriting additional research

- **No evidence**: Evidence within review articles does not exist in this area

- **Evidence of no effect**: Consistent lack of effect documented across studies and populations
Results by Intervention Settings
School Setting

- More than 55 million youth are enrolled in school
- A typical school day is 6-7 hours
- Growing literature on physical activity and academic achievement

Daily PE is provided in only 4% of elementary schools, 8% of middle schools, and 2% of high schools
School Sub-settings

Multi-component School-based Interventions

Physical Education (PE)

Active Transportation to School (Walking or Biking)

Activity Breaks

School Physical Environment

After-school Interventions
Multi-component School-based Interventions – Definition

- Two or more intervention strategies are concurrently implemented

- Typically been carried out by school staff who interact with interventionists (often university-based)
  - Usually include a component aimed to enhance the PE program
Evidence is sufficient that multi-component school interventions can increase physical activity during school hours among youth.

Effective strategies include:

- Providing enhanced PE that increases lesson time, is delivered by well-trained specialists, and emphasizes instructional practices that provide substantial moderate-to-vigorous intensity physical activity.

- Providing classroom activity breaks.

- Developing activity sessions before and/or after school, including active transportation.

- Building behavioral skills.

- Providing after-school activity space and equipment.
Evidence is sufficient that enhanced PE can increase overall physical activity among youth and can increase physical activity time during PE class.

Effective strategies include:

- Developing and implementing a well-designed PE curriculum
- Enhancing instructional practices to provide substantial moderate-to-vigorous physical activity
- Providing teachers with appropriate training
Active Transportation to School – Conclusion

Evidence is suggestive that active transportation to school increases physical activity among youth.

Effective strategies include:

✓ Involving school personnel in intervention efforts

✓ Educating and encouraging parents to participate with their children in active transportation to school
Evidence is emerging that school-based physical activity breaks can increase physical activity among youth.

Effective strategies include:

- Adding short bouts of physical activity to existing classroom activities
- Encouraging activity during recess, lunch, and other break periods
- Promoting environmental or systems change approaches, such as providing physical activity and game equipment, teacher training, and organized physical activity during breaks and before and after school
School – Research Needs

- Evaluate the translation and dissemination of effective interventions, particularly in the multi-component and PE areas.

- Determine the specific strategies and approaches that contribute importantly to the success of multi-component interventions, active transportation to school, and activity breaks.

- Examine intervention effects on overall daily and weekly physical activity levels and intervention studies with long-term follow-up measures.

- Conduct intervention studies with robust process evaluation protocols, in addition to examining implementation and sustainability.

- Compare intervention effects across race, ethnicity, and socioeconomic groups.
Preschool and Childcare Centers

• More than 4.2 million children are enrolled in center-based preschools in the U.S.

• Characteristics of the childcare environment can impact youth’s level of physical activity
Evidence is suggestive that interventions to modify the social and/or physical environment in early care and education centers can increase physical activity among young children during the school day.

Strategies, applied independently or collectively, that may increase physical activity include:

- Providing portable play equipment on playgrounds and other play spaces
- Providing staff with training in delivery of structured physical activity sessions for children and increasing the time allocated for such sessions
- Integrating physically active teaching and learning activities into pre-academic instructional routines
- Increasing time that children spend outside
Preschool and Childcare Centers – Research Needs

- Conduct longitudinal, observational studies with rigorous measures
- Examine specific strategies to promote physical activity in the childcare setting
- Conduct policy research to examine the effects of state and institutional policy innovations
- Examine the effect of the center physical environment on child physical activity
- Investigate center-based interventions that involve parents and activities at home
- Compare intervention effects across race, ethnicity, and socioeconomic groups
Community Setting

- Changes at the community level can shape the sociocultural and physical environment
- Can impact physical activity at the population level
Community Sub-settings

- Built Environment
- Camps and Youth Organizations
- Other Community-based Programs
Evidence is suggestive that modifying aspects of the built environment can increase physical activity among youth, particularly:

- Improving the land-use mix to increase the number of walkable and bikeable destinations in neighborhoods
- Increasing residential and commercial density so that people can use methods other than driving to reach the places they need or want to visit and can use safe and attractive pathways
- Implementing traffic-calming measures, such as traffic circles and speed bumps

Evidence also suggests that changes in the following may increase activity in children:

- Increasing access to, density of, and proximity to parks and recreation facilities
- Improving walking and biking facilities
- Increasing walkability
- Improving pedestrian safety structures
- Increasing vegetation
- Decreasing traffic speed and volume
- Reducing incivilities and disorders
Community – Research Needs

• Conduct studies with longer intervention periods and long-term follow up

• Conduct quasi-experimental evaluation research on the built environment and youth physical activity, taking advantage of “natural experiments” (i.e., environmental changes implemented by policymakers and/or others)

• Assess the effect of neighborhood crime-related safety on youth physical activity

• Develop methods to improve attendance in the programs and interventions under study and convert summer camp into habitual activity

• Examine the role of “location in the community”

• Compare intervention effects across race, ethnicity, and socioeconomic groups
Family and Home Setting

- Children develop physical activity behaviors, attitudes, and values in the home.
- Parents structure much of their children’s time during early childhood through adolescence.
- Current evidence is insufficient.
Family and Home – Research Needs

• Conduct observational studies to examine the relevance of family and home-based strategies throughout childhood and adolescence

• Conduct longitudinal, observational studies to delineate which components of family life influence children’s physical activity behavior

• Test specific strategies that engage parents and other family members in physical activity promotion

• Test specific strategies that enrich the home environment to favor activity over sedentary pursuits

• Compare intervention effects across race, ethnicity, and socioeconomic groups
Primary Care Setting

• Opportunity through yearly physical exams to assess and counsel on physical activity

• Potential mechanism for large reach

• Current evidence is insufficent
Primary Care – Research Needs

- Conduct randomized, controlled studies of the effectiveness of primary care counseling on physical activity behavior.

- Identify the optimal intensity and delivery mode of physical activity interventions and optimal age for effective interventions.

- Consider the utility of interventions that combine primary counseling with referral and integration into community youth-focused programs.

- Examine strategies to promote physical activity in different primary care settings.

- Conduct cost-effectiveness research after effective interventions have been identified.

- Compare intervention effects across race, ethnicity, and socioeconomic groups.
Additional Approaches to Consider

- Policy
- VERB
- Technology-based Approaches
- Playing Outdoors
Overarching Research Needs and Gaps

• Long-term assessment and rigorous evaluation of interventions, policies, and programs related to youth physical activity

• Research comparing intervention effects with a variety of demographic, geographic, health status, racial and ethnic, and socioeconomic status groups

• Research in the community, family and home, and primary care settings

• Further examination of behavioral theories underlying the interventions that yield the strongest effects in youth
Limitations

• Individual studies were not examined for their contribution to the findings

• Peer-reviewed literature only

• Specific theories could not be identified to structure potentially effective interventions

• External validity not addressed

• Some strategies could not be addressed because they are too new to have been attempted very often, too new to have generated a review paper, or underused for other reasons
Public Comment

• 30 day period

• Invited reviewers

• Subcommittee reviewed and deliberated comments in context of literature reviewed

• Final report to be released in 2013
Discussion by the members of the President’s Council on Fitness, Sports & Nutrition and Questions

For more information, visit http://health.gov/paguidelines/midcourse/