

# Translating Epidemiology into Action: Towards a Research to Policy Framework

## *The Case for Promoting Physical Activity in School Settings*

Based on:

Brownson RC, Chiqui JF, Burgeson CR, Fisher MC, Ness RB. Translating epidemiology into policy to prevent childhood obesity: the case for promoting physical activity in school settings. *Ann Epidemiol.* 2010;Jun;20(6):436-444

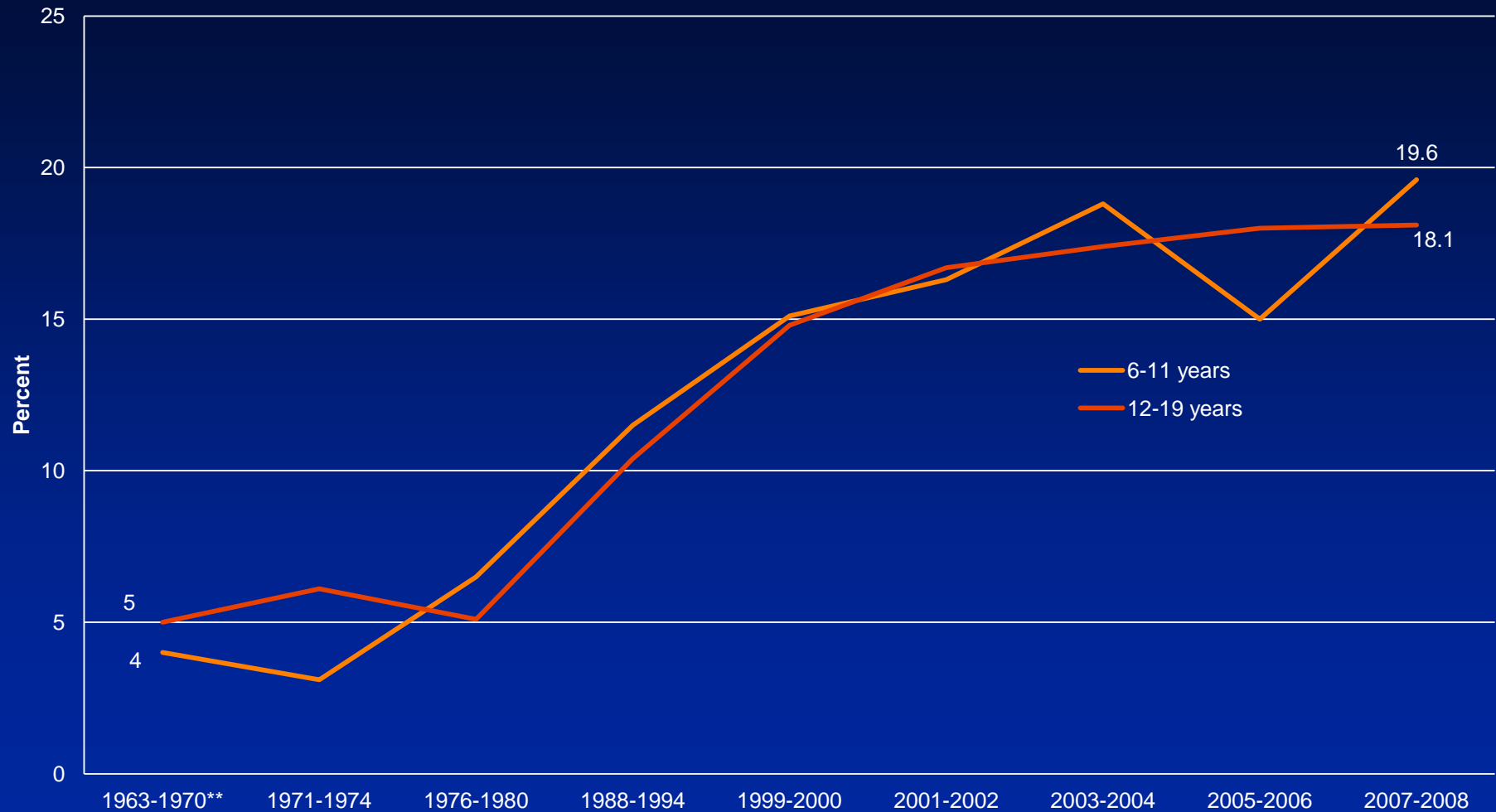
# Presentation Overview

- Brief overview of childhood obesity and physical inactivity/activity trends
- Ecological framework for promoting physical activity
- Relevance of epidemiologic data throughout the policy making process using physical activity/education examples
- Opportunities for continued study

# Childhood Obesity and Physical Inactivity

- During past 3 decades, obesity rates tripled among U.S. children and adolescents
- 16% of children and adolescents aged 2-19 are obese
- Obesity causes numerous chronic diseases
- Only 1/3 of high school students meet recommended levels of physical activity

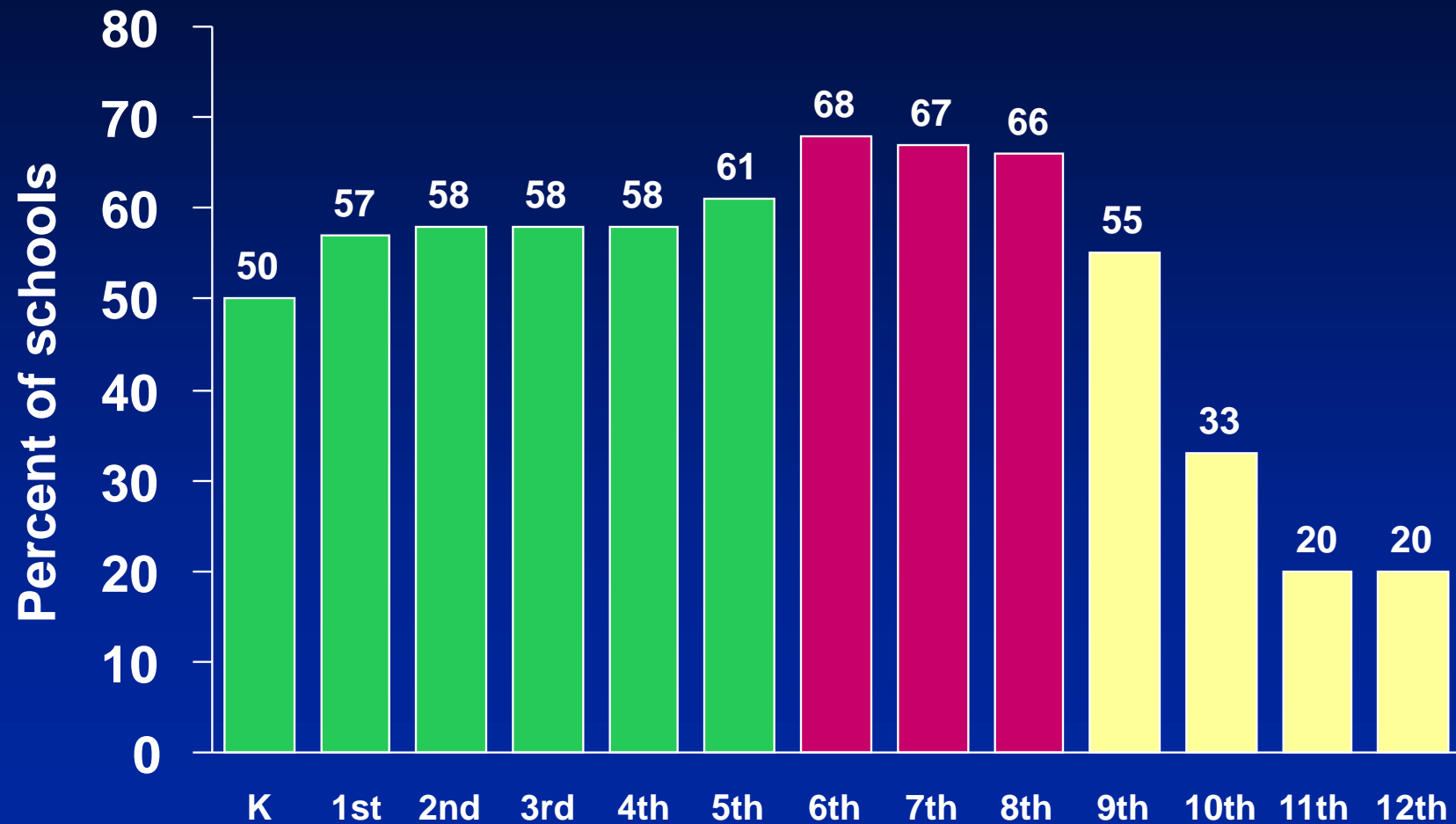
# Overweight U.S. Children and Adolescents, 1963-2008\*



*\*1963-1970 data are from 1963-1965 for children 6-11 years of age and from 1966-1970 for adolescents 12-17 years of age.*

*Source: CDC, National Center for Health Statistics*

# Physical Education Requirements by Grade, 2006\*

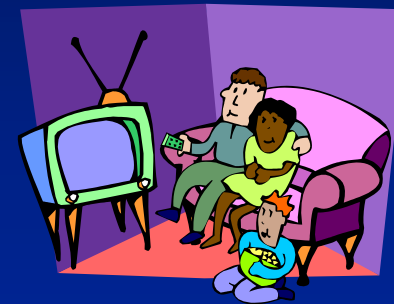


\*Among schools that had students in that grade.

Source: CDC, School Health Policies and Programs Study 2006

# Physical Inactivity

- Increase in TV, Internet, Computer Use
- Physical activity declines steadily during adolescence.
  - MMWR, CDC Guidelines, 1997
- Only 36% of kids in the US have daily PE class
- Only ½ of all American youth regularly participate in vigorous physical activity
  - Youth Risk Behavior Survey



# "No Child Left Inside"

## Nature programs' goal: No child left inside

Updated 11/22/2006 8:16 PM ET

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By Wendy Koch, USA TODAY

A back-to-nature movement to reconnect children with the outdoors is burgeoning nationwide.

Programs, public and private, are starting or expanding as research shows kids suffer health problems, including obesity, from too much sedentary time indoors with TV and computers.

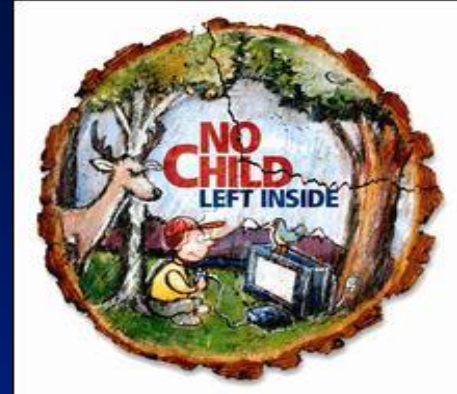
**NATURE CALLS:** Group aims to 'plant seeds' with youth



[Enlarge](#)

AFP 2002 file photo

President Bush autographs the shirt of London Smith, 7, as she sits in a canoe, with (from left) Toraine Clark, Jamar Crawford and Tareeq Turner during a fitness expo on the White House's South Lawn. The children belong to the Wonderful Outdoor World program, a program that takes urban



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GREAT ACTIVITIES

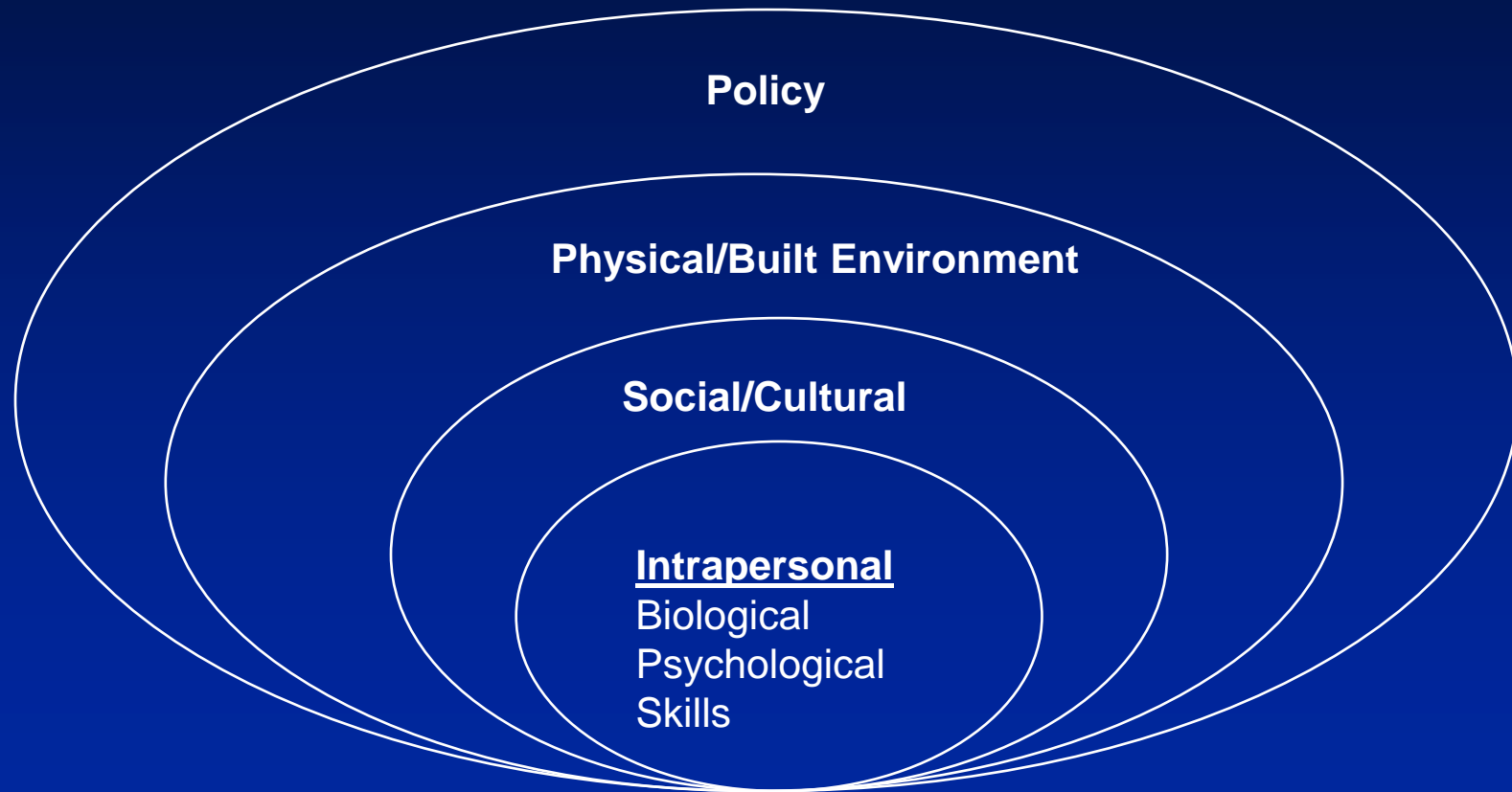


LEARN MORE



Welcome to "No Child Left Inside," a special initiative of Connecticut Governor M. Jodi Rell, coordinated by the Connecticut Department of Environmental Protection to encourage Connecticut families and visitors alike to enjoy all the recreational resources and outdoor activities available in Connecticut's state parks, forests and waterways. From Kent Falls in Kent to Stratton Brook in Simsbury to Fort Trumbull in New London, it's time to discover the great outdoors!

# An Ecologic Approach to Promoting Physical Activity





# Relevance of Ecological Models for Physical Activity

- Changes to the school-related PA policies often emanate from state/school district policies:
  - Changes in state law requiring a specific amount of time for physical education
  - District/school policies requiring that elementary students be provided recess for 20 minutes daily

# Physical activity-related policymaking cannot wait for “perfect” information

- Inverse evidence law/conducting RCTs not practical with policy interventions
- Models that weigh risks and benefits are first step
- Consider harm from inaction as well as action

# Data needs vary based on the stage of the policy making process: Examples from school-based physical education policymaking

Policy Stage	PA-related example	Relevance of Epidemiologic Data
Agenda setting	Statewide data indicate high levels of sedentary behavior among youth which is related to increased obesity	<b>HIGH</b>
Policy formulation	Various school-based PE/PA policy options considered	<b>HIGH</b>
Policy adoption	State law adopted based on evidence reviewed in formulation stage requiring minimum time requirements for PE class time (150 mins/week ES; 225 mins/week MS/HS)	Limited
Policy implementation	School districts/schools implement minimum PE time	Limited
Policy evaluation	Impact of new PE time req. evaluated	<b>High</b>
Feedback loop	Evaluation informs ways to expand upon PE time law and other options for increasing PA time	Moderate-to-High

# Analytic Tools to Inform Policy Interventions for PE in Youth

- Systematic reviews, economic evaluations, and health impact assessments
  - *Guide to Community Preventive Services* (the *Community Guide*) [www.thecommunityguide.org](http://www.thecommunityguide.org)
- Provide efficient way to indentify, assess and present relevant research findings
- Follow an explicit set of decision rules
- Yet many existing reviews have lacked a focus on external validity

# School-based PE Curricula and Policy



# Effective School-Based PE

Recommendations from the *Community Guide*

- Increase in minutes of PE
- Inclusion of moderate or vigorous activity in PE class
- Specification of PE teacher certification or professional development
- Inclusion of environmental enhancements (facilities, equipment)
- Adaption of interventions to specific target population

# Coordinated Approach To Child Health

# CATCH



[CATCHTexas.org](http://CATCHTexas.org)  
[CATCHInfo.org](http://CATCHInfo.org)

# Lessons Learned

- Enhance the focus on external validity
- Understand that policymaking is political
- Better articulate the factors that influence policy dissemination
- Build transdisciplinary teams for policy progress



# Possible Next Steps

- Develop new ways of capturing data on external validity (to ensure it's generalizable beyond just the study at hand)
- Develop a process/mechanism that better engages researchers and policy makers so they understand each other's language
- Engage policy makers more fully in the debate to understand how evidence could be better presented for their use
- Support pilot projects that bring together transdisciplinary teams

# Conclusion

- Policy changes recommended to address childhood obesity and physical inactivity
  - Recommendations often not put into action
- Lessons learned illustrate key issues for practitioners, policy makers, and researchers