ISBN: 0-309-65832-2, 36 pages, 6 x 9, (2006)

Brief Summary

Institute of Medicine Regional Symposium

Progress in Preventing Childhood Obesity: Focus on Communities

In collaboration with the Healthcare Georgia Foundation
Supported by The Robert Wood Johnson Foundation

October 6-7, 2005
Georgia Tech Hotel and Conference Center
Atlanta, Georgia

Committee on Progress in Preventing Childhood Obesity

Food and Nutrition Board

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

THE NATIONAL ACADEMIES PRESS
Washington, D.C.
www.nap.edu

THE NATIONAL ACADEMIES PRESS • 500 Fifth Street, N.W. • Washington, DC 20001

NOTICE: The project that is the subject of this report was approved by the Governing Board of the National Research Council, whose members are drawn from the councils of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. The members of the committee responsible for the report were chosen for their special competences and with regard for appropriate balance.

The study is supported by Grant No. 052339 between the National Academy of Sciences and The Robert Wood Johnson Foundation. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the views of the organizations or agencies that provided support for the project.

Additional copies of this report are available from the National Academies Press, 500 Fifth Street, N.W., Box 285, Washington, DC 20055. Call (800) 624-6242 or (202) 334-3313 (in the Washington metropolitan area), Internet, http://www.nap.edu.

For more information about the Institute of Medicine, visit the IOM home page at: **www.iom.edu.**

Illustration by Becky Heavner.

Printed in the United States of America.

The serpent has been a symbol of long life, healing, and knowledge among almost all cultures and religions since the beginning of recorded history. The serpent, adopted as a logotype by the Institute of Medicine, is a relief carving from ancient Greece, now held by the Staatliche Museen in Berlin.

"Knowing is not enough; we must apply.
Willing is not enough; we must do."
—Goethe

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

Advising the Nation. Improving Health.

THE NATIONAL ACADEMIES

Advisers to the Nation on Science, Engineering, and Medicine

The **National Academy of Sciences** is a private, nonprofit, self-perpetuating society of distinguished scholars engaged in scientific and engineering research, dedicated to the furtherance of science and technology and to their use for the general welfare. Upon the authority of the charter granted to it by the Congress in 1863, the Academy has a mandate that requires it to advise the federal government on scientific and technical matters. Dr. Ralph J. Cicerone is president of the National Academy of Sciences.

The **National Academy of Engineering** was established in 1964, under the charter of the National Academy of Sciences, as a parallel organization of outstanding engineers. It is autonomous in its administration and in the selection of its members, sharing with the National Academy of Sciences the responsibility for advising the federal government. The National Academy of Engineering also sponsors engineering programs aimed at meeting national needs, encourages education and research, and recognizes the superior achievements of engineers. Dr. Wm. A. Wulf is president of the National Academy of Engineering.

The **Institute of Medicine** was established in 1970 by the National Academy of Sciences to secure the services of eminent members of appropriate professions in the examination of policy matters pertaining to the health of the public. The Institute acts under the responsibility given to the National Academy of Sciences by its congressional charter to be an adviser to the federal government and, upon its own initiative, to identify issues of medical care, research, and education. Dr. Harvey V. Fineberg is president of the Institute of Medicine.

The **National Research Council** was organized by the National Academy of Sciences in 1916 to associate the broad community of science and technology with the Academy's purposes of furthering knowledge and advising the federal government. Functioning in accordance with general policies determined by the Academy, the Council has become the principal operating agency of both the National Academy of Sciences and the National Academy of Engineering in providing services to the government, the public, and the scientific and engineering communities. The Council is administered jointly by both Academies and the Institute of Medicine. Dr. Ralph J. Cicerone and Dr. Wm. A. Wulf are chair and vice chair, respectively, of the National Research Council.

www.national-academies.org

COMMITTEE ON PROGRESS IN PREVENTING CHILDHOOD OBESITY

JEFFREY P. KOPLAN *(Chair)*, Woodruff Health Sciences Center, Emory University, Atlanta, GA
ROSS C. BROWNSON, Department of Community Health, St. Louis University School of Public Health, MO
ANN BULLOCK, Health and Medical Division, Eastern Band of Cherokee Indians, Cherokee, NC
SUSAN B. FOERSTER, Cancer Prevention and Nutrition Section, California Department of Health Services, Sacramento, CA
JENNIFER C. GREENE, Department of Educational Psychology, University of Illinois Urbana-Champaign
DOUGLAS B. KAMEROW, Health, Social and Economics Research, RTI International, Washington, DC
MARSHALL W. KREUTER, Institute of Public Health, College of Health and Human Sciences, Georgia State University, Atlanta, GA
RUSSELL R. PATE, Department of Exercise Science, University of South Carolina, Columbia
JOHN C. PETERS, Food and Beverage Technology, Procter & Gamble Company, Cincinnati, OH
KENNETH E. POWELL, Chronic Disease, Injury, and Environmental Epidemiology Section, Division of Public Health, Georgia Department of Human Resources (emeritus), Atlanta, GA
THOMAS N. ROBINSON, Division of General Pediatrics and Stanford Prevention Research Center, Stanford University School of Medicine, Palo Alto, CA
EDUARDO J. SANCHEZ, Texas Department of State Health Services, Austin, TX
ANTRONETTE YANCEY, Department of Health Services, UCLA School of Public Health, Los Angeles, CA

Consultant

SHIRIKI K. KUMANYIKA, Center for Clinical Epidemiology and Biostatistics, University of Pennsylvania School of Medicine, Philadelphia

Staff

VIVICA I. KRAAK, Co-Study Director
CATHARYN T. LIVERMAN, Co-Study Director
LINDA D. MEYERS, Director, Food and Nutrition Board
SHANNON L. WISHAM, Research Associate
JON Q. SANDERS, Senior Program Assistant

FOOD AND NUTRITION BOARD

Staff

LINDA D. MEYERS, Director
GERALDINE KENNEDO, Administrative Assistant
ANTON L. BANDY, Financial Associate

IOM boards do not review or approve individual reports and are not asked to endorse conclusions and recommendations. The responsibility for the content of the report rests with the authoring committee and the institution.

Reviewers

This symposium summary has been reviewed in draft form by individuals chosen for their diverse perspectives and technical expertise, in accordance with procedures approved by the National Research Council's Report Review Committee. The purpose of this independent review is to provide candid and critical comments that will assist the institution in making its published summary as sound as possible and to ensure that the report meets institutional standards for objectivity, evidence, and responsiveness to the study charge. The review comments and draft manuscript remain confidential to protect the integrity of the deliberative process. We wish to thank the following individuals for their review of this report:

STEWART GORDON, Louisiana Council on Obesity Prevention, Baton Rouge
SUSAN L. HANDY, Department of Environmental Science and Policy University of California, Davis
HELEN MATHENY, West Virginia State Medical Association, Charleston
AVIVA MUST, Tufts University School of Medicine, Boston
GARY NELSON, Healthcare Georgia Foundation, Inc., Atlanta

Although the reviewers listed above have provided many constructive comments and suggestions, they were not asked to endorse the the final draft of the symposium summary before its release. The review of this summary was overseen by **CHARLES ROYER,** Institute for Community Change, Seattle.

Appointed by the National Research Council, they were responsible for making certain that an independent examination of this report was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this report rests entirely with the authoring committee and the institution.

Summary
Institute of Medicine Regional Symposium
Progress in Preventing Childhood Obesity: Focus on Communities

In collaboration with the Healthcare Georgia Foundation
Supported by The Robert Wood Johnson Foundation

October 6-7, 2005
Georgia Tech Hotel and Conference Center
Atlanta, Georgia

The nation faces a growing epidemic of childhood obesity that threatens the immediate health of our children and their prospects of growing up healthy into adulthood. During the past 30 years, obesity in the United States has more than doubled among young children aged 2–5 years and adolescents aged 12–19 years, and it has more than tripled among youth aged 6–11 years. Currently, more than 9 million children 6 years of age and older are considered to be obese. The sequelae of obesity among children and youth are also rapidly increasing, including an increased risk of type 2 diabetes, hypertension, metabolic syndrome, asthma, and social and psychological consequences including low self-esteem and depression.

The changes needed to reverse the obesity trend must be robust enough to counteract the factors that led to obesity in the first place. Effective change requires a population-based prevention approach and a sustained, comprehensive response throughout the nation. At the individual level, this entails attaining energy balance that equalizes food or energy consumption with energy expenditure through physical activity to achieve a healthy weight. Yet this issue is not the responsibility of individuals alone, especially for children who have little or no control over the social and environmental factors with which they must live. The nation shares a collective responsibility in rectifying the childhood obesity trend, and a clear focus of prevention efforts should involve the communities that affect the daily lives of our children and youth. Moreover, a special focus must be placed on low-income, high-risk communities where obesity rates are highest due to factors such as lack

of access to healthful foods, a paucity of safe or available venues for physical activity, and a lack of education about proper nutrition and the benefits of physical activity. Minority children and youth are at greatest risk for obesity, especially African Americans, Hispanics, American Indians, and Asians/Pacific Islanders living in low-income communities throughout the nation.

In 2002, Congress charged the Institute of Medicine (IOM) with developing a prevention-focused action plan to reduce the number of obese children and youth in the United States. After analyzing the behavioral, social, cultural, and other environmental factors involved in childhood obesity and promising approaches for prevention efforts, the IOM released the report, *Preventing Childhood Obesity: Health in the Balance* (IOM, 2005), which identified promising approaches for obesity prevention efforts and put forth a set of recommendations for a variety of stakeholders and sectors to implement obesity prevention strategies for government, industry, communities, schools, and home. The IOM committee developed its recommendations based on the best available evidence at the time by integrating information from the obesity prevention literature, dietary and physical activity literature, and parallel evidence from other public health issues with an emphasis on and commitment to evaluate promising obesity prevention interventions.

In 2005, with support from the Robert Wood Johnson Foundation (RWJF), the IOM is building on its previous work by initiating a study to assess progress in childhood obesity prevention efforts. The IOM, through its Food and Nutrition Board, has appointed a 13-member multidisciplinary committee with expertise in child health, obesity, nutrition, physical activity, food industry, community-based evaluation, public health, and public policy to conduct the study. In 2005, the committee organized three regional symposia in the midwest, southeastern, and western United States to galvanize obesity prevention efforts of local, state, and national decision-makers, community and school leaders, grassroots organizations, and industry—including the food, beverage, restaurant, leisure, and entertainment industries. These three symposia involved disseminating the findings and recommendations of the original IOM report; catalyzing dialogues that highlight promising practices for schools, communities, and industry; and identifying assets and barriers to move forward with obesity prevention efforts in these sectors and selected regions.

In collaboration with the Healthcare Georgia Foundation, the committee held its second regional symposium in Atlanta, Georgia on

October 6–7, 2005. Recognizing that the health of children and youth is closely linked to the health of communities, this symposium focused on the specific IOM report recommendations for stakeholders at the local, state, regional, and federal levels to explore how to create healthy communities for U.S. children and youth (Box 1).

The symposium included three plenary panels that focused on mobilizing neighborhood and community grassroots efforts; mobilizing city, county, and state efforts; and exploring additional steps that can be taken by stakeholders to overcome barriers to further progress. Three break-out sessions focused on changing the environment, fostering collaboration between the public health and health care communities, and supporting and evaluating community efforts to prevent childhood obesity. A program agenda is at the end of this summary. The symposium provided a useful forum for stakeholders to explore viable strategies and exchange information about promising practices and approaches for addressing barriers to obesity prevention initiatives.

This brief summary highlights the recurring themes that emerged from the symposium for accelerating change and moving forward with obesity prevention efforts: empower communities and neighborhoods, change the environment, forge strategic partnerships, garner and mobilize political support, educate stakeholders, identify leaders and build on cultural assets, collect and disseminate local data, evaluate programs and interventions, and translate successful interventions to other communities. Approximately 90 individuals active in childhood obesity prevention efforts in the southeastern region of the United States who represented a range of stakeholder perspectives and innovative practices in local communities—including students, community leaders, physicians, health educators, clergy, teachers, and state and federal government officials—were invited to participate in the symposium. The contents of this summary reflect specific examples presented and discussed during the symposium, and unless otherwise noted, the general perspectives of the participants. This summary, along with two other symposia summaries, and a more detailed discussion of insights and regional examples, will be incorporated in the IOM committee's final report on progress in preventing childhood obesity that will be released in the fall of 2006.

Empower Communities and Neighborhoods

Communities are social entities that are either defined as groups of people who live within certain geographic boundaries or who share certain relational characteristics such as a common purpose, interests, culture, racial/ethnic background, religion, or occupation. Very generally, all communities have a shared sense of place, belonging, and identity. This collective sense of identity represents an important resource for fostering change among members of a community, and for designing or adapting interventions to improve a community. A strong sense of common identity and purpose can support community-based efforts, which are as essential to foster community change as are top-down strategies.

To help empower neighborhoods and communities, one speaker at the symposium presented his perspective that the nation needs to incorporate the many root causes of obesity—including poverty, disparities, low-quality housing, unemployment, and issues of access—into its discussions about this complex problem. As was shown during the Civil Rights movement in the 1960s, a nonviolent movement in which people unite together to strive for change can indeed be a powerful force to create change. He suggested that a key factor needed to mobilize communities around healthy lifestyles through community-based interventions is civic engagement, whereby community citizens become activated and work toward change. Children and youth are an integral part of this movement; if taught to be concerned about health disparities within their communities, they can become a major influence in promoting more equitable health access for their communities and future generations.

A panel of speakers at the symposium discussed issues relevant to increasing awareness and mobilizing the faith-based communities around childhood obesity prevention. A large proportion of Americans state that religion is important in their lives and may profoundly influence their world views, including African Americans and Hispanics—two U.S. ethnic populations that are at high risk for obesity. For this reason, many faith-based communities are currently adopting the challenge of obesity prevention within their places of worship by identifying factors either contributing to or deterring health promotion and childhood obesity prevention efforts in these communities. Efforts underway described by the panelists involve ministers conveying health tips to congregations and using scriptural principles that underscore a healthy lifestyle during

church services, disseminating materials that present information on nutrition and physical activity, hosting health fairs, training volunteers to be health promoters within their congregations, establishing wellness ministries, holding regular meetings where people from various faith communities can explore matters pertinent to their lives, providing more nutritious Sunday school snacks and church meals, and engaging children in physical activity before church school. Potential barriers identified by the panelists include a lack of pastoral commitment to health promotion and obesity prevention activities, lack of sufficient resources, limited participation of the congregation, difficulty in changing church traditions, and the unwillingness of ministers to work across denominations.

Several presenters emphasized that as communities become empowered, an adequate infrastructure must exist to capture the energy and enthusiasm of individuals who are activated. It was also suggested by presenters that bold, practical, communal, yet inexpensive approaches must be included in an intervention strategy to sustain their energy and commitment. Examples include building food security and community cohesion through community gardens or efforts to involve the community in traveling to work or school by walking or biking instead of a motorized vehicle. Fostering and sustaining the participation of individuals and communities most affected by obesity is vital to build strong coalitions that can effectively address the problem in the long-term.

Change the Physical Environment

Individual choice has increasingly been framed as a matter separate from its sociocultural and economic contexts. However, context and environment affect the personal choices that individuals make on a daily basis. Several speakers noted that many low-income communities in the United States are unintentionally developed such that there is greater availability of and access to high-calorie and low-nutrient foods and beverages and limited access to opportunities for regular physical activity. If fresh produce is not available or affordable, most families and their children may choose less nutritious snacks from the food environment, such as the neighborhood convenience store on the way home from school. If communities are developed without sidewalks or bike paths, a child may need to be driven or ride the bus to school rather

than walk or ride a bike. If safe places to play and be physically active are not available, children and youth have few options apart from television and other sedentary pursuits. By taking an ecological approach to changing the physical environment (e.g., recognizing the interconnectedness of biological, behavioral, physical, and socioeconomic domains), communities can be developed in a way that supports children and youth to achieve a healthy weight. For example, by adding play space to neighborhoods, parks, and programs, or by encouraging corner convenience stores to stock healthier food and beverage options, children, youth, and their families may begin to utilize these services and purchase these products.

Different types of interventions are used at the neighborhood, city, and state levels to provide venues for facilitating physical activity within communities. The first type changes the rules by which new communities are developed (e.g., zoning and subdivision ordinances), while the second type changes the physical environment in existing communities (e.g., sidewalk construction, new parks and playgrounds). It is possible to structure neighborhoods so they facilitate physical activity by how they are redeveloped (via sidewalks, bikeways, trails, parks) to promote safety and nurture a sense of community. For example, one effort succeeded in building more than 90 miles of a connected trail system for pedestrians throughout metropolitan Atlanta.

Certain types of community development are conducive with the principle of environmental justice—that every neighborhood or community should have the same degree of protection from environmental and health hazards and participate in developing public policies that create and shape the healthy environments in which people live, learn, and work. One environmental justice effort in the Bronx succeeded in raising more than $30 million to create a greenway along the waterfront to attract pedestrians.

Several presenters emphasized the principle that all people should have the right to access healthful and nutritious foods. Several public health interventions at the regional level are providing incentives for new supermarkets to be built in low-income neighborhoods to make it easier for families to have access to affordable fresh fruits and vegetables. A national coalition of more than 300 anti-hunger, sustainable agriculture, environmental, and social justice organizations strives to promote community food security—to ensue that all people have access to affordable, nutritious, and culturally appropriate food at all times. The coalition seeks to develop self-reliance among all communities in

obtaining their food locally or regionally by supporting local farmers through farmers' markets, community supported agriculture, and community gardens. One strategy entails schools buying fresh produce from local farmers to be used for snacks and school lunches, whereas another strategy has made it easier for low-income people to use their electronic benefit transfer cards at local farmer's markets. Bringing grocery stores and farmers' markets to low-income areas does more than enable access to healthful foods. It also serves to economically revitalize local communities by providing jobs and enhancing the value of an area with the amenities provided.

In New York City, Harlem is a neighborhood in the borough of Manhattan that experiences disproportionate levels of violence and poverty. One speaker described how a fitness and nutrition center was created that engages young people in proactive health initiatives that nurture social responsibility, promote investment in the community, and help to prevent obesity. The center provides adolescents with a safe space to enhance well-being, informs them about risks that impact their health and the health of their families, demonstrates the importance of physical activity and nutrition in maintaining wellness and preventing disease, involves them in developing public health strategies, and promotes academic excellence. The center recently undertook a project where it reclaimed an abandoned city-owned lot and transformed it into a community garden. To demonstrate their mission of social responsibility, the youth tending the garden donate hundreds of pounds of the food harvested annually to a local kitchen that serves homeless and hungry people within their community. A key element of the intervention—intergenerational role modeling and storytelling in accordance with African-American tradition—reinforced positive ethnic identity and self-efficacy. One adolescent involved in many of the center's activities commented that his experience at the center had empowered him by encouraging him to be transformed from a follower into a leader. This underscores the necessity of attending to the sociocultural environment to complement physical environmental interventions in underserved communities with many competing demands, priorities, and needs.

Forge Strategic Partnerships

Forging strategic partnerships emerged as common theme for promoting success of many interventions presented at the symposium.

Partnerships need to involve multiple sectors—local businesses, local and state government support, community-based organizations, and industry support—to leverage the strength needed to precipitate change. Partnerships are useful in that they provide a network of support, bring increased credibility to each partner, use limited resources for mutual benefit, and create networking advantages through shared communication channels. A statewide school-based nutrition and physical activity intervention in Mississippi found that the initial development of a health advisory council representing different stakeholder perspectives at each school greatly facilitated the negotiations, agreement, and implementation of the program. In addition, the partners in the intervention have served as a sounding board for suggestions regarding program implementation. Seeking out and gaining the trust of those who might not support a given intervention can also greatly facilitate a movement. For example, several people noted that they attained success in achieving their healthy vending machine initiatives by bringing the vendors to the discussion table along with nutritionists.

Partnerships may also enable programs to overcome funding shortages by utilizing internal resources as opposed to relying on grants. For example, one speaker described a partnership consisting of youth organizations, the American Heart Association, a local grocery store chain, and others that focused on initiating after-school programs in Florida. They formed an alliance with the student nursing program at the University of Central Florida to assist in evaluation efforts for the program. Accordingly, partnerships may also provide technical assistance to groups or organizations that otherwise lack scientific, statistical, or evaluation expertise.

There is great potential for promoting partnerships through coalition building that involves faith-based communities. Faith-based groups that engage with local youth-related organizations may provide a unique avenue for reaching subgroups of children and their parents in communities to promote a healthy lifestyle. The intersection of faith-based communities with local and national government agencies tends to be a sensitive area, but there are many opportunities to explore joint efforts. One faith-based organization is assembling a report for government agencies on how to work effectively with African-American churches.

Garner and Mobilize Political Support

The intersection between public policy and public health can be a dramatic influence to change societal norms. Attaining the support of governmental leaders for initiatives related to obesity prevention can generate considerable momentum to institute interventions and initiate change. Approaches to work effectively with political entities entail establishing credibility for individuals and their organizations as advocates for change, building a statewide support network with local capacity, influencing key opinion leaders who develop policy and allocate resources, gaining insight into the distribution of power and formal and informal policy-making processes, and acquiring familiarity with political issues and laws to speak in an informed manner about change (e.g., understanding land use laws when advocating for new sidewalks within neighborhoods). All of these factors contribute to the important need to promote civic engagement that can mobilize political support.

Mobilizing government efforts for obesity prevention within a given state helps to create a wide-reaching infrastructure of support. Sustainability is more likely to be achieved when a comprehensive plan rallies state residents behind an issue because people's expectations, and their cultural perspectives and societal norms, may begin to change. The West Virginia Healthy Lifestyle Coalition was established as an obesity prevention initiative after assessing the health and economic burden that obesity was creating throughout the state. The mission of the Coalition is to coordinate and promote healthy lifestyle programs through surveillance, education, community-based intervention and outcomes research as well as legislative and public policy. Specifically, the group provides policy recommendations to the governor and legislators related to increasing physical activity, fruit and vegetable consumption, and the proportion of West Virginians who are at a healthy weight. Recent legislative efforts in the state have focused on mandating increased physical activity in schools, limiting the types of beverages sold in schools, performing regular measurements of students' body mass indexes (BMIs) to evaluate progress, providing incentives for worksite wellness, and creating a governor's office-led coalition that helps to make policy decisions for the state. The state is currently working on initiatives that will require full-service and quick-serve restaurants to provide nutritional information to the public about the foods, beverages,

and meals served; explore the use of selectively taxing less healthful foods; encouraging the use of food stamps to purchase more healthful foods and beverages; and promoting breastfeeding among new mothers.

Likewise, another statewide initiative called Eat Smart, Move More…North Carolina promotes opportunities for healthful eating and physical activity. The state builds capacity at the community level by funding regional and county programs based on the view that people are more likely to work toward objectives that they helped to create. Various sectors (e.g., civic groups, schools, faith-based groups) have the latitude to adopt the strategies they deem appropriate for promoting a healthy lifestyle, and the state then awards the organizations certification for the programs provided that the interventions pass a set of standards mandated by the state. The North Carolina initiative also provides funding and incentives for developers to alter the built environment to expand opportunities for physical activity. Under this initiative, more than 41 miles of new walking and biking trails have been created throughout the state.

In 1999, the Louisiana Council on Obesity Prevention was created to administer and coordinate obesity initiatives in the state and between the state and the federal government by developing a comprehensive approach to obesity prevention and the management of obesity-related conditions. The Council advises the state health department with regard to organizing efforts to achieve programmatic objectives, disseminating expert opinions and developing policies, and creating awareness among various state sectors. The Council has assisted in passing several state laws including requiring 30 minutes of physical activity per day in elementary schools, allowing only healthy food choices in elementary and middle school vending machines, and mandating that at least 50 percent of the vending machine choices in high schools are healthy options. The Council and state worked directly with the food service industry to get these latter two laws passed.

In addition to adopting many of the policies found in other states, The Georgia Physical Activity Network (GPAN) advocates for physical activity and nutrition within the state of Georgia that disseminates information to residents that encourages them to act politically in the obesity prevention effort. For example, the network encourages Georgians to inform legislators about their health-related concerns, such as ensuring that physical education is offered in schools throughout the state, and it asks residents to be politically active by voting on measures

that support new and existing local and state initiatives promoting physical activity and healthful eating.

As some of the examples discussed indicate, change is more easily achieved when a plan for such change exists, to create a framework and map out how the change will take place in communities. A county commissioner from Georgia recommended that all communities create a comprehensive plan for land use development that extends 20 years into the future. This might include requiring that all future neighborhoods be built with sidewalks, that a residential area of a given size must have a green space or park, and other such design issues related to public health.

Federal, state, and local governments can be major change agents to facilitate obesity prevention efforts. The federal government can serve as a source of guidance and provide recommendations based on evidence about promising practices, and it has the power to institute national policies. For example, the Centers for Disease Control and Prevention (CDC) can work with state partners, particularly in providing technical assistance to evaluate efforts. Federal strategies are needed to weave the many obesity prevention programs together and bolster the public health infrastructure to strengthen obesity prevention efforts.

Educate Stakeholders

At-risk communities are often very concerned about and eager to secure changes that promote the health of community members; the key is providing them with the information they need to be effective. Preventing childhood obesity requires the ongoing interactions among children, families, communities, and state and government officials. With many issues to be concerned about, many individuals may fail to recognize a problem unless they are directly informed about the matter. For instance, people may make the connection with issues surrounding hunger and food insecurity, but proper nutrition may be overlooked. Efforts must be made to inform people about the root causes of obesity and the lifestyle changes needed to reverse the trend. Stakeholders at various levels (e.g., children, parents, families, racial/ethnic and cultural groups) should be targeted for ongoing education about the risks of obesity, the value of a healthy lifestyle, the options available to them, and the health disparities that exist among different demographic groups.

Education on nutrition and healthy lifestyles is enhanced by making the learning experience fun and engaging. The Mississippi Extension

Service and Mississippi State University are promoting a walk-through exhibit of the human body with 10 interactive learning stations throughout for children from kindergarten to grade 5. Students receive a take-home activity book to read with their families and parental information to reinforce proper nutrition principles at home. An intervention advocating for healthy lifestyles in Harlem engages adolescents in hands-on, direct observation of the problems and assets within their communities that either hinder or promote health. Students performed a community survey of the location and prevalence of local food stores, and they conducted a survey of abandoned areas of green space that could be made available for recreation or converted to community gardens.

Because parents want their children to grow up to lead happy and healthy lives, they make ideal health advocates when provided with the information they need to make informed choices and opportunities to engage in healthy lifestyles. The success of preventing childhood obesity requires parental involvement. In addition to teaching children about proper nutrition, it is important to teach parents about proper nutrition as well, since they often are the primary purchasers of food for the household. One intervention described at the symposium took parents on tours of the local grocery store to teach them about healthy and affordable food choices. Similarly, a faith-based organization educates mothers within the congregation about proper nutrition, portion control, and healthy food preparation. Encouraging family meals and spending time with children while they eat to monitor their intake and eating patterns and to serve as role models for healthy eating habits is also encouraged. A Mississippi ministry group is connecting elderly members of its congregation with children so that they can share their nutrition knowledge and wisdom with children to support healthy lifestyles. Teaching parents about the benefits of physical activity and the detriments of sedentary activities, such as excessive television viewing, was also identified as an important intervention.

Obesity prevention education must also be extended to larger segments of the population including regional, state, and federal government officials who hold positions that can help to facilitate obesity prevention initiatives; physicians who can directly target at-risk children and their parents; and the greater population at large. The Louisiana Council on Obesity Prevention strives to educate and inform people within numerous sectors across the state. The Council ensures that the public and state legislators are informed about the obesity epidemic,

along with steps that communities can take to address the situation; sponsors exhibits at state meetings to help disseminate information about obesity and health to the general population; and educated the medical community by devoting an issue of a state medical journal to the topic of obesity.

Physicians represent vital targets for obesity prevention education. Many practitioners adopt a perspective focused more on medical management than prevention—a view that is compounded and reinforced by current reimbursement policies that do not support preventive services. Educating physicians about the obesity epidemic and steps that they can take within their practices to help prevent the problem can help to alter their medical paradigms. This education entails not only learning how to identify obesity among patients, but how to counsel children and their parents in a sensitive manner, as many physicians are not comfortable discussing obesity with their patients, as well as learning about the resources available to address the problem. To assist in this endeavor, Kaiser Permanente has developed programs to train health-care providers to screen children's BMIs (now a standard "vital sign" like blood pressure) at regularly scheduled check-ups. Additionally, basic counseling instruction on obesity prevention is provided to health-care professionals. Physicians may also refer their patients to nutritionists or certified fitness instructors who often are better equipped to address these issues.

The best public health information has several characteristics: it is evidence-based, the result of systematic reviews, derived from an independent source but representative of a variety of views from the multiple partners, representative of clinical services and population-based strategies, and organized around both chronic disease risk reduction and health promotion. Moreover, culturally competent health information is more likely to reach and affect the targeted communities.

Identify Leaders and Build on Cultural Assets

Health behaviors and lifestyles are important contributors to the childhood obesity epidemic. One presenter indicated that the development of both health-promoting and risky behaviors early in children's lives may be rooted in family socialization and societal norms. Behavioral patterns form throughout childhood and adolescence and may have lasting impacts on adult health. Behaviors are also influenced by

education—both formal and experiential—and environmental factors, such as the influence of the built environment on physical activity patterns. For these reasons, identifying community leaders may be instrumental to serve as healthy role models and teachers for children in all aspects of their lives. Such leaders may include mentors or advisors within schools or community groups, community elders, church leaders, and physicians. Although schools are an ideal focus of obesity prevention efforts given the amount of time that children and youth spend at school, they represent only one community institution and need assistance from other institutions and sectors to share the responsibility for obesity prevention.

Identifying leaders who can help stimulate change around health and nutrition and serve as role models for healthy lifestyles is essential for the success of obesity prevention efforts. Individuals who can relate to children and their parents based on cultural similarities often make more credible and effective leaders than individuals outside of the community. Intergenerational collaboration was also emphasized by several presenters to encourage culturally relevant role models to serve as a guiding force for children and youth. The Cherokee Diabetes Prevention Program in North Carolina has created a community of mentors who educate children and youth about nutrition and diabetes, enhance their self-esteem and emotional well-being, and serve as confidants for those without family mentors. However, barriers to mentoring programs may include the complexity of children's and youth's emotional lives and lack of parental involvement to reinforce mentoring support.

Teachers may serve as trusted adults for children and adolescents, who are being trained in Mississippi to incorporate nutrition education and physical activity into ongoing lessons for at least 10 minutes three times per week. Older children and youth can also serve as influential peer leaders for younger children. One intervention described at the symposium focuses on developing youth mentors. Youth learn skills such as decision making, critical thinking, and stress management, and work with adults in developing community strategies that prepare young people to make healthier lifestyle choices. Adolescent mentors benefit from raised self-confidence and by gaining a sense of leadership, while the younger children receive the benefits of health education and positive interactions with adolescent role models.

Many faith-based organizations, given their influence on certain communities, are striving to promote health from a faith perspective to address childhood obesity. Ministers represent the most visible leaders

within such organizations, but additional role models are emerging. The Health Ministries in Georgia trains Hispanic volunteers to be health promoters who work within their communities to teach others about proper nutrition. Other tactics may also prove fruitful. Because a central aspect of southern culture involves food that is often high-fat, high-sugar, and low in nutrients, The Mid-South Faith-Based Development Center in Mississippi helped to create a healthy southern cookbook for the community.

If leaders in the obesity prevention endeavor are to be advocates for this cause, they must be able to endorse the values that they espouse by being both healthy and fit. Many pastors and faith leaders, especially in the South, may struggle with their own overweight and obesity, and must contend with managing their weight through diet and physical activity to set a good example for the members of their faith communities. Similarly, physicians who are at a healthy weight may speak more authoritatively about health and nutrition to their patients.

Collect and Disseminate Local Data

To facilitate the childhood obesity prevention movement, data should be collected on the prevalence of obesity, physical inactivity and sedentary behaviors, and dietary problems at a variety of geopolitical levels—neighborhoods, cities, counties, states, and the nation. With this information, appropriate interventions can then be designed to help reverse the obesity trends. During the intervention process, it is essential that there are mechanisms in place to evaluate progress and refine the efforts and objectives as needed.

The collection and dissemination of local data can be an effective means of motivating change within communities. Breaking obesity statistics down into statewide, countywide, and citywide categories makes the information potentially more relevant to the communities and the political figures representing these communities. Local government officials in Wilkes County, Georgia were concerned that members in the community were at increased risk for cancer. The county partnered with the University of Georgia and the Medical College of Georgia to perform a countywide assessment of the health of its residents. The assessment revealed that a large percentage of county residents were either obese or at risk for becoming overweight. Consequently, the county convened a

task force of community leaders and set in motion several messages and programs throughout the county to help address obesity.

Several assessment tools exist for collecting health, nutrition, physical activity, and obesity prevalence data in schools. The CDC has developed the *School Health Index Self-Assessment & Planning Guide* in partnership with school administrators and staff, school health experts, parents, and national nongovernment health and education agencies. Schools can use this guide to identify strengths and weaknesses of their policies and programs, develop an action plan, and engage teachers, parents, students, and the community in promoting health-enhancing behaviors that improve health. The FitnessGram is a tool that allows physical education teachers to collaborate with schools to collect information about BMI, percent body fat, aerobic fitness, muscle strength, endurance, and flexibility to assess the health of students. Using a positive approach, children are categorized in terms of being "in the healthy fitness zone" or "needing improvement." These data are now being used as surveillance measures, and to further the utility of the data, efforts are being made to develop a system where the data can be imported into district-level or state-level databases.

State-level data are particularly powerful at driving policy change. The CDC established the Behavioral Risk Factor Surveillance System (BRFSS) in 1984, which uses standard core questionnaires via telephone surveys to track health risks, including obesity, among U.S. adults. At the time of its inception, 15 states participated in monthly data collection; by 1994, all states, the District of Columbia, and three territories were participating in the BRFSS. The collected data may not only be compared across states, but some states have stratified their samples to allow the data to be analyzed by region within their respective states. Similar to the BRFSS, the smaller Youth Risk Behavioral Surveillance System (YRBSS) is a population-based measure tracking tobacco use, drug use, physical activity, fruit and vegetable consumption, and the BMI of high school youth and selected middle-school youth over time. Although national, state, and local survey data have been collected since 1991 and the system provides comparable data among different groups of children and youth with different levels of health risks, there are gaps in data collection for younger children.

Evaluate Programs and Interventions

Community initiatives addressing obesity among the nation's children and youth share the common goal of creating environments that reduce the obesity risk and promoting healthy behaviors. For that reason, it is important to document new programs, policies, and practices that help to advance knowledge and information exchange for obesity prevention over time. Insufficient evidence about an intervention is not the same as evidence that an intervention does not work. Otherwise promising interventions for which the evidence is insufficient should be more thoroughly researched. Interventions that produce no effect, or that may have unintended consequences, should be replaced with more effective interventions. Monitoring and tracking changes within communities following the implementation of obesity prevention interventions is imperative for assessing the success of such strategies. Positive change needs to be publicly promoted and rewarded. Taking pride in incremental successes is important for sustaining long-term goals, especially given the complexity of childhood obesity prevention, and the importance of cumulative effects of multiple interventions to obtain measurable results.

As recommended by the Work Group on Health Promotion and Community Development at the University of Kansas, key questions to ask during a community evaluation process include:

(1) Is the intervention catalyzing community change to prevent childhood obesity?
(2) What factors or processes are associated with the rate of community change for preventing childhood obesity?
(3) How are community changes contributing to the efforts to promote health?
(4) Are community changes associated with improvements in population-level outcomes related to childhood obesity?

Designing and incorporating an evaluation into the overall strategic plan of a specific intervention from the time of its inception will help to systematically document how the intervention develops under dynamic and diverse contexts. For example, one tri-state intervention evaluated by East Tennessee State University carefully devised a plan to measure the intensity, duration, and frequency of the implemented activities; the change in students' knowledge about physical activity, nutrition, and

general health via pre-post tests; the amount of accumulated activity during the school day; the extent to which the intervention objectives were met; and the change in children's BMI over the study period.

Evaluations need not follow the strict structure of randomized, controlled trials in order to provide useful information. Evaluations can be designed based on a logic model or program theory framework that explicitly delineates the short-term and long-term goals and outcomes of an intervention. Many communities may lack the expertise or funding to conduct thorough scientific evaluations. In these instances, inviting university collaboration to help evaluate an intervention may provide a viable option. The Work Group on Health Promotion and Community Development at the University of Kansas has created a community toolbox that includes practical guidance for implementing community health interventions. These guidelines include a section on evaluation. The federal government has also designed various surveillance systems to help cities and states collect obesity data that can be used to gauge intervention efficacy at a larger level, such as the CDC's BRFSS and YRBSS. Moreover, the CDC provides technical assistance at the state and local levels on how to collect and analyze evaluation data.

In addition to evaluating implemented initiatives to track progress in obesity for individuals, other levels of research are required as well. Data for large-scale, evidence-based public policy would be useful to assess whether states or governments are effectively investing in the range of resources needed and used. Similarly, community-based participatory action research at the population level and consumer behavior research represent other areas where additional information is needed to inform interventions. Evaluating the success of collaborations and partnerships and the sustainability of changes achieved by an intervention may also lend insight into winning strategies.

Translate Successful Interventions to Other Communities

To disseminate information about best practices and implement these strategies elsewhere, individual interventions should identify what portions of their programs are exportable to other communities. By enabling others to understand documented changes, promising intervention elements can be adapted for another community, as all interventions must be specific for the groups that are being targeted in order to achieve relevance. For example, obesity prevention public

education efforts and media campaigns need to be developed and tailored to target different racial/ethnic and specific demographic groups. No two community interventions are identical, but by building upon other successful interventions and carefully combining information about related interventions, it may help to represent the context and lead to more successful interventions.

To address this need, The West Virginia Healthy Lifestyle Coalition created a toolkit for its communities regarding how to implement obesity prevention initiatives and established a website that features a searchable directory of programs. Likewise, a successful intervention that has created a statewide partnership throughout Florida is planning to create a toolkit for other communities to serve as a guide for implementing the program. Toolkits will include the curricula designed for children and parents such as pre-post tests, evaluations, meal plans, giveaway suggestions, various education brochures/handouts, partnership recommendations, and population/community targets. Using another tactic, the Louisiana Council on Obesity Prevention plans to use many of the successful program elements from its statewide second-hand smoke campaign and adapt them for a statewide obesity prevention campaign.

Concluding Comments

The epidemic of childhood obesity in the United States has the potential to reverse the considerable progress that had been made in the health of the nation's children and youth over the past several decades. The issue is much more complex than it appears. Although low-income and racial/ethnic minority populations have the highest rates, the surge in childhood obesity encompasses all economic and racial/ethnic groups and all geographic areas within the United States. It is a complicated multifactorial problem involving our food supply and distribution system; restrictions and opportunities for regular physical activity; public policies, individual and collective choices; and interactions among families, schools, communities, businesses, and worksites; and all levels of government—federal, state, and local. A concurrent and collaborative involvement of multiple sectors and stakeholders at all societal levels is required to change the collective societal norms that have contributed to the childhood obesity epidemic. As with laws instituting the mandatory use of seatbelts or that promote tobacco control and smoking prevention, our nation has the power to change societal norms in order to prevent

childhood obesity. Although there is a long road ahead of the nation to effectively address the growing childhood obesity rates, building healthy communities is an essential leverage point, as the health of each individual is closely linked to the health of the community.

Program Agenda
Institute of Medicine Symposium

Progress in Preventing Childhood Obesity:
Focus on Communities

In collaboration with Healthcare Georgia Foundation
Supported by The Robert Wood Johnson Foundation

October 6-7, 2005
Georgia Tech Hotel and Conference Center
Atlanta, Georgia

October 6, 2005
Opening Session

Welcome
Martha Katz, Healthcare Georgia Foundation

Overview of the IOM Report and Goals for the Meeting
Jeffrey Koplan, IOM Committee on Progress in Preventing Childhood Obesity

Youth Efforts in Preventing Childhood Obesity
Ray Figueroa, Anthony George, Kenneth Alleyne, Artrese Reid, Eboni Bowman, TRUCE Fitness and Nutrition Center of the Harlem Children's Zone, New York City

Setting the Context for Obesity Prevention in Communities
James Marks, The Robert Wood Johnson Foundation

Plenary Panel Presentations and Discussion
Mobilizing Neighborhood and Community Grassroots Efforts
Developing, implementing, and evaluating grassroots changes related to childhood obesity prevention: barriers and opportunities.

Moderator: *Antronette Yancey*, UCLA School of Public Health

Plenary Panel Presentations and Panel Discussion

Community Initiatives
Stewart Watson and *Nancy DeVault,* Seminole County Healthy Kids Partnership, Florida
Jeff Bachar, Cherokee Diabetes Prevention Program, North Carolina
Beverly Howell, Project Delta Hope and Mississippi Partnerships on Childhood Obesity

Plenary Panel Presentations and Panel Discussion
Faith-Based Initiatives
Anthony Evans, National Black Church Initiative
Jean Murphy, Health Ministries, Doraville, Georgia
Bethann Cottrell, Concerned Black Clergy of Metropolitan Atlanta
Steven Cooper, Mid-South Faith-Based Development Center, Mississippi

Plenary Panel Presentations and Discussion
Mobilizing City, County, and State Efforts
Developing, implementing, and evaluating changes related to childhood obesity prevention at the county and state levels: barriers and opportunities.

Moderator: *Susan Foerster*, California Department of Health Services

Plenary Panel Presentations and Panel Discussion
Helen Matheny and Dan Foster, West Virginia Healthy Lifestyle Coalition
Marcus Plescia, Eat Smart, Move More… North Carolina
Stewart Gordon, Chair of Louisiana Council on Obesity Prevention
Joan Miller, Bexar County Community Health Collaborative, Texas
Carol Johnson, Georgia Physical Activity Network

Breakout Sessions
What are the barriers to change? What is needed to implement and sustain these changes?

Breakout Session #1
Changing the Environment to Prevent Childhood Obesity

Facilitators: *Ken Powell*, Georgia Department of Human Resources; *John Peters,* Procter & Gamble Company

Howard Frumkin, Centers for Disease Control and Prevention, Atlanta
Ed McBrayer, PATH Foundation, Atlanta
Andy Fisher, Community Food Security Coalition, Venice, California
Duane Perry, The Food Trust, Philadelphia
Majora Carter, Sustainable South Bronx, New York

Breakout #2
Fostering Collaboration between the Public Health and Health Care Communities to Prevent Childhood Obesity

Facilitators: *Ann Bullock, Health and Medical Division*, Eastern Band of Cherokee Indians; *Susan Foerster*, California Department of Health Services

Veda Johnson, Whitefoord Community Program, Atlanta
Donna Hardy, Washington Wilkes County/Medical College of Georgia Partnership
Luke Beno, Operation Zero, Kaiser Permanente, Atlanta
John Batson, Pediatrician, Columbia, South Carolina

Breakout #3
Supporting and Evaluating Community Efforts to Prevent Childhood Obesity

Facilitators: *Marshall Kreuter*, Georgia State University, Atlanta; *Jennifer Greene*, University of Illinois, Urbana-Champaign

Steve Fawcett, University of Kansas, Lawrence
Laura Kann, Centers for Disease Control and Prevention, Atlanta
Greg Welk, FITNESSGRAM Scientific Advisory Board, Ames, Iowa
Karen Schetzina, East Tennessee State University, Johnson City

Reception
Speaker: *David Satcher*, Morehouse School of Medicine, Atlanta

Friday, October 7, 2005

Welcome
Jeffrey Koplan, Emory University and Institute of Medicine (IOM) Committee on Progress in Preventing Childhood Obesity

Opportunities and Challenges in Community-Level Obesity Prevention Efforts
James Gavin, Emory University School of Medicine, Atlanta

Reports from Breakout Groups
Rapporteurs: Ken Powell (Break out #1), Ann Bullock (Break Out #3), Jennifer Greene (Break Out #3)

Plenary Panel Presentations and Discussion

Preventing Childhood Obesity: What More Can Be Done?
What are the barriers to further progress? What more can be done at the national, state, and local levels?

Moderator: *Douglas Kamerow*, RTI International, Washington, DC

State Perspective
Daniel Foster, West Virginia Senate

Federal Perspective
Janet Collins, Centers for Disease Control and Prevention

Local Perspective
Larry Johnson, DeKalb County Commission, Georgia

Youth Perspective
Leann Alexander and Chance Holder, Mississippi 4-H

Summary and Next Steps
Jeffrey Koplan, Emory University and Institute of Medicine (IOM) Committee on Progress in Preventing Childhood Obesity

Group Discussion

Closing Session

BOX 1

Recommendations for Communities from the Institute of Medicine

Community Programs
Local governments, public health agencies, schools, and community organizations should collaboratively develop and promote programs that encourage healthful eating behaviors and regular physical activity, particularly for populations at high risk of childhood obesity. Community coalitions should be formed to facilitate and promote cross-cutting programs and community-wide efforts.

To implement this recommendation:

- Private and public efforts to eliminate health disparities should include obesity prevention as one of their primary areas of focus and should support community-based collaborative programs to address social, economic, and environmental barriers that contribute to the increased obesity prevalence among certain populations.
- Community child- and youth-centered organizations should promote healthful eating behaviors and regular physical activity through new and existing programs that will be sustained over the long term.
- Community evaluation tools should incorporate measures of the availability of opportunities for physical activity and healthful eating.
- Communities should improve access to supermarkets, farmers' markets, and community gardens to expand healthful food options, particularly in low-income and underserved areas.

Built Environment
Local governments, private developers, and community groups should expand opportunities for physical activity including recreational facilities, parks, playgrounds, sidewalks, bike paths, routes for walking or bicycling to school, and safe streets and neighborhoods, especially for populations at high risk of childhood obesity.

To implement this recommendation:

Local governments, working with private developers and community groups, should:
- Revise comprehensive plans, zoning and subdivision ordinances, and other planning practices to increase availability and accessibility of opportunities for physical activity in new developments
- Prioritize capital improvement projects to increase opportunities for physical activity in existing areas
- Improve the street, sidewalk, and street-crossing safety of routes to school, develop programs to encourage walking and bicycling to school, and build schools within walking and bicycling distance of the neighborhoods they serve.

Community groups should:

- Work with local governments to change their planning and capital improvement practices to give higher priority to opportunities for physical activity.

The Department of Health and Human Services (DHHS) and the Department of Transportation should:

- Fund community-based research to examine the impact of changes to the built environment on the levels of physical activity in the relevant communities and populations.

Health Care

Pediatricians, family physicians, nurses, and other clinicians should engage in the prevention of childhood obesity. Health-care professional organizations, insurers, and accrediting groups should support individual and population-based obesity prevention efforts.

To implement this recommendation:

- Health-care professionals should routinely track body mass index, offer relevant evidence-based counseling and guidance, serve as role models, and provide leadership in their communities for obesity prevention efforts.
- Professional organizations should disseminate evidence-based clinical guidance and establish programs on obesity prevention.
- Training programs and certifying entities should require obesity prevention knowledge and skills in their curricula and examinations.
- Insurers and accrediting organizations should provide incentives for maintaining healthy body weight and include screening and obesity preventive services in routine clinical practice and quality assessment measures.

SOURCE: IOM (Institute of Medicine). 2005. *Preventing Childhood Obesity: Health in the Balance.* Washington, DC: The National Academies Press.