The Current State of Obesity Solutions in the United States: Workshop Summary

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Steve Olson, Rapporteur; Roundtable on Obesity Solutions; Food and Nutrition Board; Institute of Medicine

THE CURRENT STATE OF OBESITY SOLUTIONS IN THE UNITED STATES

Workshop Summary

Steve Olson, *Rapporteur*

Roundtable on Obesity Solutions

Food and Nutrition Board

INSTITUTE OF MEDICINE
OF THE NATIONAL ACADEMIES

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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.

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

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RUSSELL R. PATE (*Vice Chair*), University of South Carolina, Columbia
MARY T. STORY (*Vice Chair*), Duke University, Durham, North Carolina
LISA GABLE, Healthy Weight Commitment Foundation, Washington, DC
SHIRIKI KUMANYIKA, University of Pennsylvania, Philadelphia
LOEL SOLOMON, Kaiser Permanente, Oakland, California

IOM Staff

LYNN PARKER, Scholar
LESLIE J. SIM, Senior Program Officer
HEATHER DEL VALLE COOK, Program Officer
SARAH ZIEGENHORN, Research Associate
SARAH SIEGEL, Senior Program Assistant

Consultant

WILLIAM H. DIETZ, Centers for Disease Control and Prevention (retired)

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MARY T. STORY (*Vice Chair*), Duke University, Durham, North Carolina
SHARON ADAMS-TAYLOR, American Association of School Administrators, Alexandria, Virginia
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THEODORE KYLE, The Obesity Society, Pittsburgh, Pennsylvania
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MARY-JO MAKARCHUK, Canadian Institutes of Health Research/ Instituts de recherche en santé du Canada, Toronto, Ontario
LINDA D. MEYERS, American Society for Nutrition, Bethesda, Maryland
H. MELVIN MING, Sesame Workshop, New York, New York
NEIL NICOLL, YMCA of the USA, Chicago, Illinois

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SHELLIE PFOHL, President's Council on Fitness, Sports, and Nutrition, Rockville, Maryland
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SYLVIA ROWE, S.R. Strategy, LLC, Washington, DC
JOSE (PEPE) M. SAAVEDRA, Nestlé Nutrition, North America, Florham Park, New Jersey
MARGIE SAIDEL, Chartwells School Dining Services, Toms River, New Jersey
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BRIAN SMEDLEY, Joint Center for Political and Economic Studies, Washington, DC
LAWRENCE SOLER, Partnership for a Healthier America, Washington, DC
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HEATHER DEL VALLE COOK, Program Officer
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SARAH SIEGEL, Senior Program Assistant
FAYE HILLMAN, Financial Associate
GERALDINE KENNEDO, Administrative Assistant
ANN L. YAKTINE, Interim Director, Food and Nutrition Board

Consultant

WILLIAM H. DIETZ, Centers for Disease Control and Prevention (retired)

Reviewers

This workshop 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 workshop summary as sound as possible and to ensure that the summary 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 process. We wish to thank the following individuals for their review of this workshop summary:

Jessica Donze-Black, The Pew Charitable Trusts
Tracy Fox, Food, Nutrition, and Policy, Consultants
Sandra Hassink, A.I. Dupont Hospital for Children
Geri Henchy, Food Research and Action Center
Ellen Wartella, Northwestern University

Although the reviewers listed above provided many constructive comments and suggestions, they did not see the final draft of the workshop summary before its release. The review of this summary was overseen by **Hugh Tilson,** University of North Carolina. Appointed by the Institute of Medicine, he was responsible for making certain that an independent examination of this summary was carried out in accordance with institutional procedures and that all review comments were carefully considered. Responsibility for the final content of this summary rests entirely with the rapporteur and the institution.

Contents

1

Introduction[1]

BACKGROUND

For the first time in decades, promising news has emerged regarding efforts to curb the obesity crisis in the United States. According to individual speakers throughout the workshop, obesity rates have fallen among low-income children in 18 states, the prevalence of obesity has plateaued among girls, regardless of ethnicity, and targeted efforts in states such as Massachusetts have demonstrably reduced the prevalence of obesity among children. Workshop speakers individually noted that although the reasons for this turnaround are as complex and multifaceted as the reasons for the dramatic rise in obesity rates in recent decades, interventions to improve nutrition and increase physical activity are almost certainly major contributors.

Yet major problems remain. Diseases associated with obesity continue to incur substantial costs and cause widespread human suffering (IOM, 2012a). Moreover, substantial disparities in obesity rates exist among population groups, and in some cases these disparities are widening. As noted by individual speakers, some groups and regions are continuing to experience increases in obesity rates, and the prevalence of severe obesity is continuing to rise. Recent good news is no guarantee that progress will continue.

[1]The planning committee's role was limited to planning the workshop, and the workshop summary has been prepared by the workshop rapporteur as a factual summary of what occurred at the workshop. Statements, recommendations, and opinions expressed are those of individual presenters and participants, and are not necessarily endorsed or verified by the Institute of Medicine, and they should not be construed as reflecting any group consensus.

The Institute of Medicine's (IOM's) pioneering work on obesity prevention has informed thought leaders at the forefront of the campaign to control obesity in the United States. It has published major consensus reports on obesity prevention and treatment (IOM, 2006, 2007a,b, 2009a,b, 2010a,b, 2011a, 2012a, 2013a,b) and held a number of workshops on more focused obesity-related topics (IOM, 2007c, 2011b, 2012b,c, 2013c,d). Standing committees established by the IOM have monitored particular aspects of the obesity crisis and have organized events and issued publications in those areas.

In 2013 the IOM formed the Roundtable on Obesity Solutions to engage leadership from multiple sectors in addressing the obesity crisis. The roundtable's membership includes representatives of public health, health care, government, the food industry, education, philanthropy, the nonprofit sector, and academia. Through meetings, public workshops, background papers, and innovative collaboratives, the roundtable aims to foster an ongoing dialogue on critical and emerging implementation, policy, and research issues to accelerate progress in obesity prevention and care. Box 1-1 summarizes the introduction to the roundtable offered by Harvey Fineberg, president of the IOM, at the workshop that is the subject of this volume.

On January 7, 2014, the roundtable held its first public event, a half-day workshop titled "The Current State of Obesity Solutions in the United

BOX 1-1
The Institute of Medicine and the Obesity Crisis

At the inaugural public event of the newly formed Roundtable on Obesity Solutions, Harvey Fineberg, president of the Institute of Medicine, lauded the recent declines in obesity rates among some population groups in the United States. "But how do we make the decline of obesity not the exception but the norm?" he asked. "What do we need to do?"

The Roundtable on Obesity Solutions was formed to bring together leaders who can work together to identify effective solutions and act to implement those solutions, Fineberg said. He particularly promoted the idea of "action innovation collaboratives" in which groups could work together on aspects of the problem such as physical activity among young people, child care and early education, the food system, prevention in the community, and indicators of success.

"The Institute of Medicine brings together the best expertise and the most thoughtful people to try to set forth solutions to the health challenges of our nation," said Fineberg. "There is no problem that more readily exemplifies both the challenge and the potential for solution than obesity in the United States."

States." More than 100 people gathered for the workshop in Washington, DC, while approximately 450 registered participants watched the webcast of the event. Twenty-three presenters described interventions designed to prevent and treat obesity in seven settings:

- early care and education,
- schools,
- worksites,
- health care institutions,
- communities and states,
- the federal government, and
- businesses and industry.

For each of these settings, an initial presenter and two respondents provided an overview of current efforts to improve nutrition, increase physical activity, and reduce disparities among population groups. In addition, individual speakers suggested opportunities and topics the roundtable may consider as it examines future obesity solutions.

The workshop was planned by Lisa Gable, president of the Healthy Weight Commitment Foundation; Shiriki Kumanyika, associate dean for health promotion and disease prevention at the University of Pennsylvania; Russell Pate, professor of exercise science at the University of South Carolina; Bill Purcell, attorney at law, Jones Hawkins & Farmer, PLC; Loel Solomon, vice president for community health at Kaiser Permanente; and Mary Story, professor of global health and community and family medicine at Duke University.

This workshop summary describes the major observations, conclusions, and suggestions made by the presenters during their talks and subsequent discussions with workshop participants. The statements in this summary represent the viewpoints of the individual speakers and should not be construed as the conclusions or recommendations of the workshop. Collectively they provide a valuable snapshot of the current state of obesity solutions and the most promising paths forward.

THEMES OF THE WORKSHOP

Over the course of the workshop, several themes emerged from the presentations and discussions among individual workshop participants. These themes are presented here not as the conclusions of the workshop but as an introduction to the major topics of discussion:

- The current opportunity
- A multifaceted multisectoral approach

- Reducing disparities
- Scale-up and dissemination
- Continued innovation and research

ORGANIZATION OF THIS SUMMARY

Following this introductory chapter, Chapter 2 provides an overview of the epidemiology of obesity in the United States. Chapters 3 through 9 then examine the seven settings discussed at the workshop: early care and education (Chapter 3), schools (Chapter 4), worksites (Chapter 5), health care institutions (Chapter 6), communities and states (Chapter 7), the federal government (Chapter 8), and businesses and industry (Chapter 9). A final chapter summarizes the closing remarks of the chair of the Roundtable on Obesity Solutions.

2

Current Epidemiology of Obesity in the United States

Key Points Highlighted by Individual Speakers

- Obesity has plateaued among women and girls regardless of ethnicity, although it continues to increase among men and boys. Obesity rates among low-income children aged 2-5 have decreased significantly in 18 states. (Dietz)
- Changes in tobacco consumption are a potential model for the plateaus in the prevalence of obesity in the United States. Awareness of the adverse health effects of tobacco was associated with a plateau in consumption before any major policy efforts were initiated. (Dietz)
- Rates of severe obesity have continued to increase in the United States, necessitating the addition of clinical approaches to initiatives aimed at prevention. (Dietz)

William Dietz, former director of the Division of Nutrition, Physical Activity, and Obesity at the Centers for Disease Control and Prevention (CDC), presented an overview of the current epidemiology of obesity in the United States. He reviewed, in turn, adult and child obesity rates, similarities between the tobacco and obesity epidemics, the prevalence of severe obesity, the costs of obesity, and policy interventions.

ADULT AND CHILD OBESITY RATES

Recent data on the status of obesity in U.S. adults and children reveal a mix of good and bad news, said Dietz. Some populations have achieved a plateau in obesity rates. According to data from the National Health and Nutrition Examination Survey (NHANES), which conducts continuous surveys and groups the data in 2-year increments, obesity appears to have plateaued among women and girls regardless of ethnicity, although it continues to increase among men and boys. In adult men, obesity increased by 7 percent from 1999-2000 to 2009-2010 and continues to increase (see Figure 2-1).

However, these summary data obscure persistent disparities. Obesity continues to increase among African American and Hispanic women. Among women, the highest prevalence of obesity occurs among African Americans: more than 50 percent of African American women are obese. About 40 percent of Hispanic women are obese. By comparison, about 30 percent of Caucasian women are obese. Among men, in contrast, obesity rates are similar across all major ethnic groups.

The summary data also can contribute to a common misunderstanding of the relationship between poverty and obesity, Dietz said. Despite the

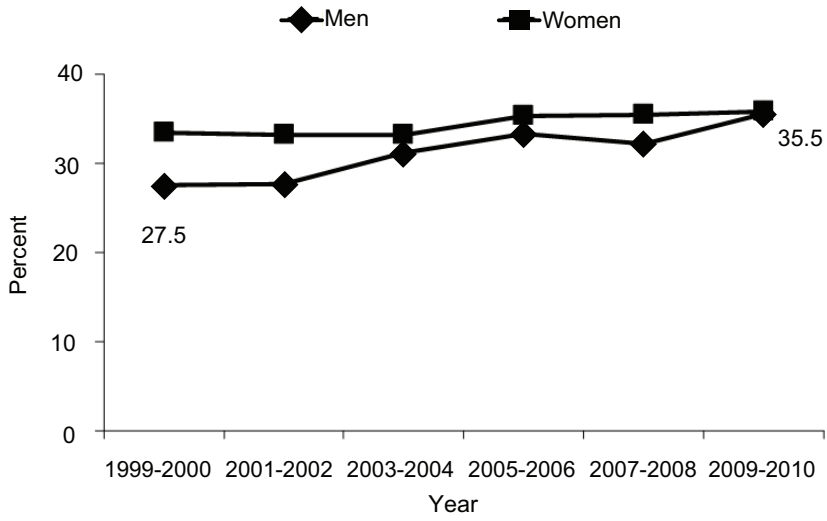

FIGURE 2-1 The prevalence of obesity in women has plateaued in recent years, while the rate among men has continued to increase.
SOURCE: Fryar et al., 2012.

widespread belief that poverty is correlated with obesity, that is true only among certain groups. Among African American and Hispanic men, higher-income groups have a higher prevalence of obesity relative to lower-income groups. In white women, the reverse is true.

Among children, the same general trends of a plateau for girls and continued increases for boys can be seen, but if African American boys are removed from the analysis, the prevalence in boys also is flat. Higher-income white children have lower obesity rates than their lower-income counterparts, but no significant socioeconomic relationship with obesity is seen in African American boys or girls. Among children, as with adults, Dietz pointed out, ethnic disparities will continue to widen if the incidence of obesity continues to differ by group.

A more detailed look at the data for young children and for children in high-risk populations, primarily those served by the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), reveals a flattening of the epidemic for many but not all groups (see Figure 2-2). Obesity rates among children aged 2-5 have undergone significant decreases in 18 states and in one territory, the Virgin Islands (see Figure 2-3). Thirteen communities also have reported significant decreases in the prevalence of childhood obesity. Statistically significant increases in obesity have occurred in only three states: Colorado, Pennsylvania, and Tennessee, the first of which

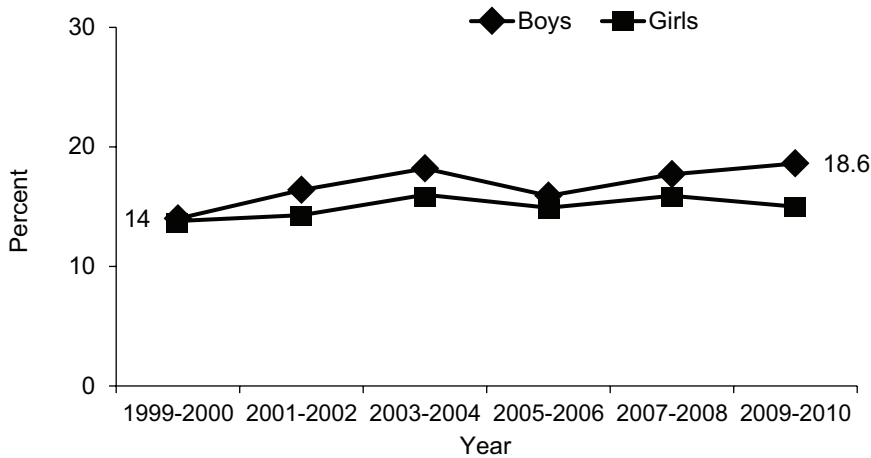

FIGURE 2-2 The prevalence of obesity among girls aged 2-19 has plateaued in recent years, while the rate among boys has continued to increase.
SOURCE: Fryar et al., 2012.

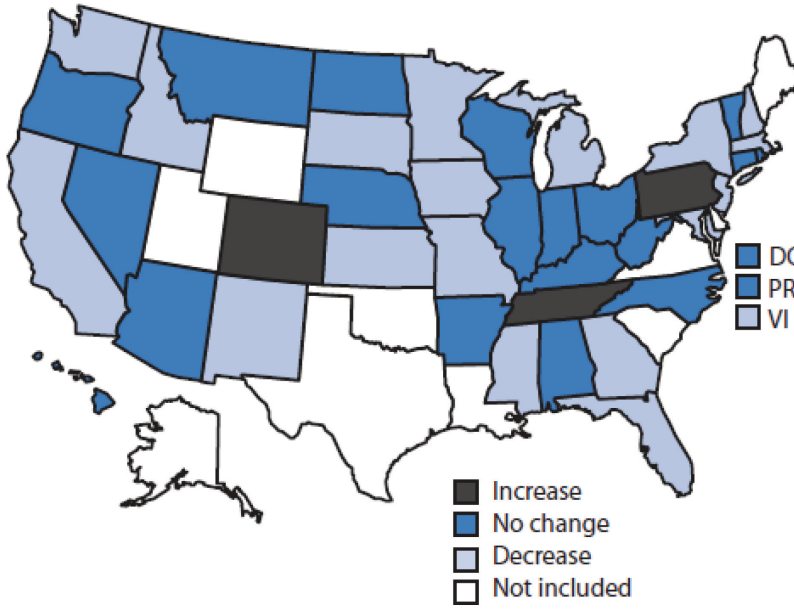

FIGURE 2-3 The prevalence of obesity among low-income preschool-aged children fell in most states from 2008 to 2011.
NOTE: DC = Washington, DC; PR = Puerto Rico; VI = Virgin Islands.
SOURCE: CDC, 2011.

has historically had relatively low adult obesity rates. The decreases in obesity rates have not yet been analyzed across income and ethnic groups.

Many questions continue to surround these data, said Dietz. How valid were the data collections? How replicable are the data? In areas that demonstrate a decrease, what drove that change? How does one assess the dose of the public health interventions that have been implemented in these states and communities? What factors are responsible for the differing trends among ethnic and income groups? The answers to all of these questions offer potential opportunities to target interventions in productive ways.

AN ANALOGY WITH TOBACCO

Dietz pointed to the tobacco epidemic as a model for understanding obesity trends. Per capita cigarette consumption began to increase in 1900 and continued to increase until the 1950s, when the first report linking smoking and cancer appeared (see Figure 2-4). Tobacco use peaked at the time of the first surgeon general's report in 1964 and then plateaued for a number of years.

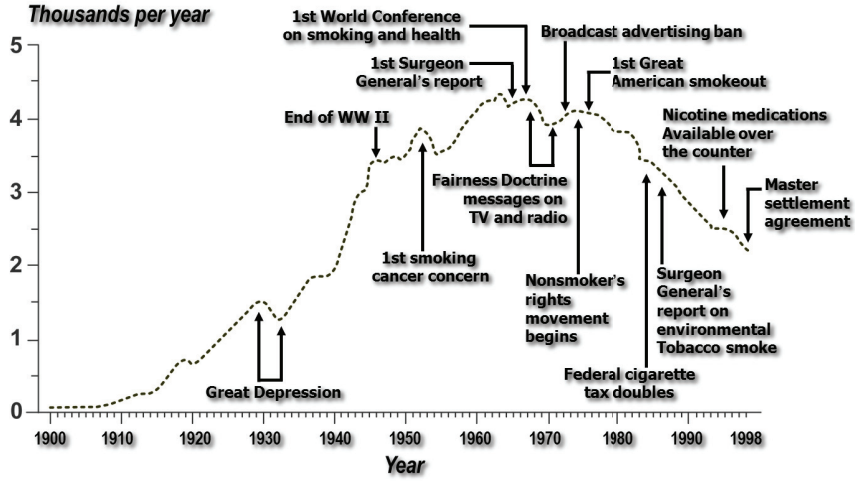

FIGURE 2-4 Annual adult per capita cigarette consumption plateaued in the 1960s and began to decline in the 1970s.
SOURCE: CDC, 1999.

The plateau occurred before a variety of policy and environmental initiatives were undertaken, Dietz observed. As people became increasingly aware of the adverse effects of tobacco use, they may have begun to change their habits in much the same way that people are beginning to change their food and beverage consumption habits. For example, the consumption of pizza—the second most important contributor to caloric intake in children and adolescents—has declined. Consumption of fast food and soda also is decreasing. Thus far the decreases have been modest, but they may be contributing to the observed plateaus in obesity rates, Dietz said.

Another important lesson from the tobacco epidemic is that changes did not begin at the federal level. They began at the local or state level in much the same way that changes at the local and state level may be affecting the prevalence of obesity.

SEVERE OBESITY

Despite the optimistic observations noted above, the prevalence of severe obesity in children and adolescents—defined as body mass index (BMI) more than 120 percent of the 95th percentile—is increasing. Approximately 6 to 7 percent of girls have severe obesity (see Figure 2-5). Rates are especially high among African American and Hispanic girls, but the rates

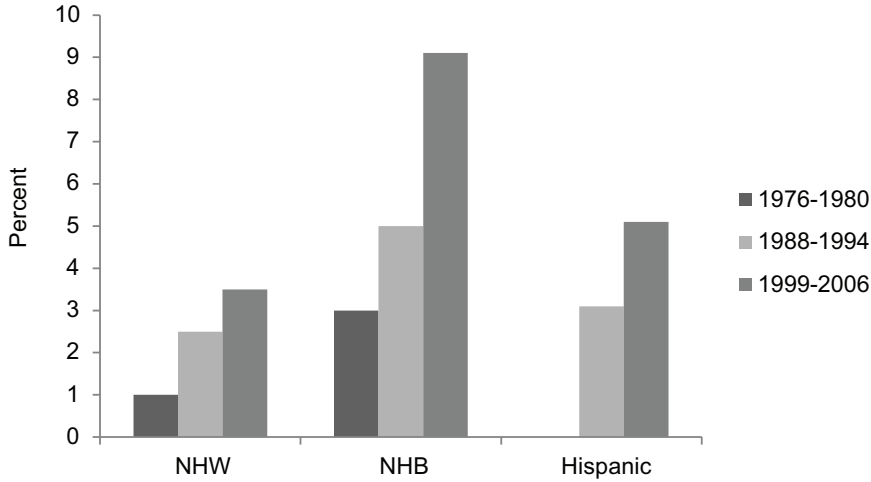

FIGURE 2-5 Severe obesity among girls rose in all ethnic groups from 1976-1980 through 1999-2006.
NOTE: NHB = non-Hispanic black; NHW = non-Hispanic white.
SOURCE: Wang et al., 2011.

for all ethnic groups have more than doubled over the past three decades, and boys show similar trends and disparities (see Figure 2-6).

Severe obesity remains a serious and increasing problem in adults as well. During the 12-year period covered by the most recent NHANES data, severe obesity increased by about 30 percent in both men and women (see Figure 2-7), with disparities particularly notable in African American women (see Figure 2-8).

Dietz asserted that the problem of severe obesity cannot be eliminated through the kinds of policy and environmental initiatives being pursued today. Rather, it requires a clinical approach in addition to initiatives aimed at the relatively small calorie changes needed for prevention.

THE COSTS OF OBESITY

The costs of obesity are substantial. According to conservative estimates, obesity accounted for $147 billion in health care costs in 2008, or 9 percent of the national health care budget, up from 6.5 percent of the budget in 1998 (Finkelstein et al., 2009). Medicare and Medicaid incurred 42 percent of these costs.

The majority of these costs are being generated by people with more

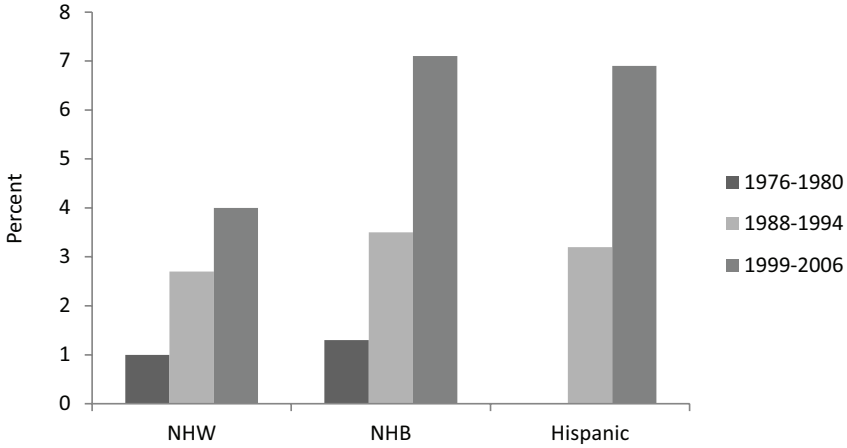

FIGURE 2-6 Severe obesity among boys rose in all ethnic groups from 1976-1980 through 1999-2006.
NOTE: NHB = non-Hispanic black; NHW = non-Hispanic white.
SOURCE: Wang et al., 2011.

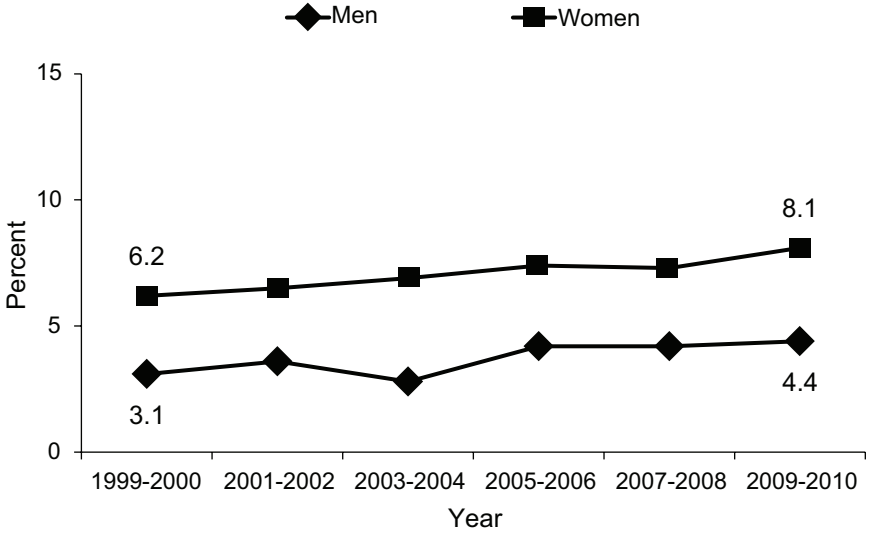

FIGURE 2-7 Severe obesity has continued to increase in both men and women.
SOURCE: Fryar et al., 2012.

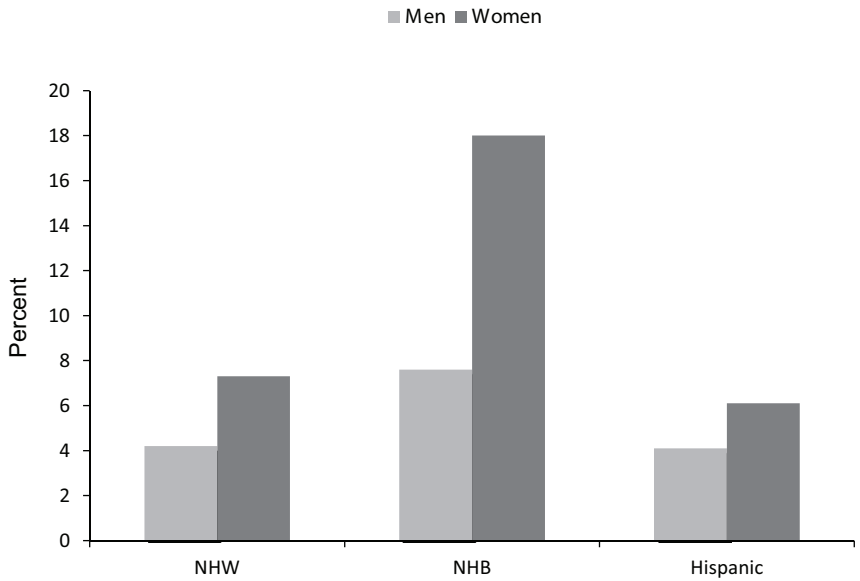

FIGURE 2-8 The prevalence of severe obesity is higher in women than in men and higher in non-Hispanic blacks (NHBs) than in non-Hispanic whites (NHWs) and Hispanics.
SOURCE: Flegal et al., 2012.

severe obesity According to a study by Arterburn and colleagues (2005), grade II and grade III obesity, defined as a BMI of 35 to 39 and 40 or greater, respectively, account for only 8 percent of the population but 40 percent of the cost. Yet the intensity of therapies currently is not aligned with the severity of obesity in either adults or children, Dietz said.

The advent of the Patient Protection and Affordable Care Act provides an opportunity to think about different ways of delivering care for people who are obese. Care extenders, group care, education for providers, and joint clinical and public health approaches all are possible ways of dealing with the problem that have not seen widespread use in the past. For example, Dietz observed that very few medical, nursing, or dietetic schools teach providers how to initiate discussion of obesity in ways and using terms that are not offensive. Nor are institutions addressing the biased attitudes toward overweight and obese people that affect the quality of care.

POLICY INTERVENTIONS

Efforts to stem the use of tobacco were successful because they did not focus solely on individual change, Dietz said. According to the social-ecological model of public health, interventions can encompass the knowledge, attitudes, beliefs, and behaviors of individuals; the interpersonal influence of family, peers, and social networks; policies, regulations, and informal structures in institutions; policies, standards, and social networks at the community level; and federal, state, and local policies designed to regulate and support healthy actions. A multilayered and multisectoral approach will be needed to accelerate progress against the obesity crisis.

Interventions are needed both to prevent obesity in the first place and to implement better strategies for those who are already overweight. Regarding prevention, a recent study by Wang and colleagues (2012) may provide an explanation for recent shifts in the prevalence of obesity among young children. According to this model, the energy deficits needed to achieve the Healthy People 2010 goal of an obesity prevalence of 5 percent by 2020 through prevention are just 33 calories a day for children aged 2-5, 149 calories a day for children aged 6-11, and 177 calories a day for adolescents through age 19. These are much smaller deficits than those necessary to achieve weight loss in children and adolescents who are already obese. For adults, the deficit needed to return to an obesity prevalence of 10 percent through prevention is about 220 calories per day. These goals are achievable with the strategies being implemented today, said Dietz.

Multiple strategies can reduce energy intake and increase physical activity. According to Dietz and research conducted by Wang and colleagues (2013), sound strategies for reducing calories are to apply the current standards in California to competitive foods,[1] eliminate sugar-sweetened drinks or switch from whole to low-fat milk in early care and education centers, and decrease fast food consumption. These three strategies could reduce consumption by an average of 78 calories, 80 calories, and 125 to 310 calories per day, respectively—more than enough to meet the Healthy People 2020 goals. Similarly, according to Bassett and colleagues (2013), strategies for increasing physical activity that have the greatest impact are mandatory physical education, classroom activity breaks, and walking or biking to school for the 20 percent of the student population who can do so. These three strategies could increase moderate to vigorous physical activity by as much as 23 minutes, 19 minutes, and 16 minutes per day, respectively.

[1]Competitive foods are defined as foods and beverages offered at schools other than meals and snacks served through the federally reimbursed school lunch, breakfast, and after-school snack programs. Competitive foods include food and beverages sold through a la carte lines, snack bars, student stores, vending machines, and school fundraisers (IOM, 2012a).

Data such as these can help narrow the target for obesity prevention efforts by providing estimates of the caloric impact of policy interventions, Dietz observed. Calculations of the costs and benefits of policy interventions may also influence the choice of strategies. For example, the Childhood Obesity Intervention Cost Effectiveness Study (CHOICES), analyzes the reach, the cost, the BMI unit decrease, and the cost per BMI unit decrease of four strategies. This study has found that the estimated costs per unit of decrease in BMI among youth aged 2-19 are $191 for active physical education in school (which is relatively high because of the required investment in teachers and infrastructure), $6.44 for an excise tax on sugar-sweetened drinks of a penny per ounce (which also generates revenues), $6.07 for implementing multiple early care and education policies, and $.08 for eliminating the tax deduction for television advertising. This analysis currently is being extended to 40 possible policy interventions.[2]

In each of the seven areas examined in the workshop (and discussed in Chapters 3-9), signs of progress can be found, Dietz concluded, even though much more remains to be done. As Winston Churchill said, "This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning."

[2]For more information about the CHOICES program, see http://www.hsph.harvard.edu/prc/projects/choices-childhood-obesity-intervention-cost-effectiveness-study (accessed April 29, 2014).

3

Early Care and Education

Key Points Highlighted by Individual Speakers

- Licensing, regulation, quality rating and improvement systems, technical assistance and support for providers, new tools, and innovative programs all can improve nutrition and physical activity in early care and education. (Chang, Ward)
- Integrating early care and education with public health and child health care systems would make efforts much more effective in helping children grow up healthy. (Chang)
- Strengthening the linkages between providers and families would enable them to work together on shared goals. (Chang)
- Regular monitoring of nutrition and physical activity policies and practices in early care and education would provide critical information to guide federal and state actions. (Ward)
- Technical assistance provided to early care and education providers should include a standard message about the types of physical activity programs needed for infants, toddlers, and preschoolers. (Ward)
- Maximizing the impact of the Healthy, Hunger-Free Kids Act nutrition and wellness provisions to strengthen and expand the Child and Adult Care Food Program provides an important opportunity to address obesity in early care and education settings. (Henchy)

Three speakers addressed obesity solutions in the early care and education setting. Debbie Chang, vice president of policy and prevention for Nemours Foundation, spoke about the status of obesity solutions and current needs. Dianne Ward, professor of nutrition at the University of North Carolina at Chapel Hill, explored the need for monitoring and technical assistance. Finally, Geri Henchy, director of nutrition policy and childhood programs at the Food Research and Action Center (FRAC), talked about ways of improving and expanding the Child and Adult Care Food Program (CACFP).

STATUS AND CURRENT NEEDS

Efforts to improve nutrition and physical activity and eliminate disparities have been expanding rapidly in the area of early care and education, said Chang. The Healthy Kids, Healthy Future Steering Committee, launched in 2009, brings together experts from early education and health to identify and diffuse policy, practice, and research related to the problem of obesity in children aged 0-5. The report *Spectrum of Opportunities for Obesity Prevention in the Early Care and Education Setting* (ECE)(CDC, 2012), released by the Centers for Disease Control and Prevention (CDC), delineates a comprehensive set of measures that states and communities can take to change early care and education environments.[1] The CACFP has encouraged states to focus on early care and education.[2] And programs such as Healthy Habits for Life,[3] Color Me Healthy,[4] Community Transformation Grants,[5] and the Early Care and Education Funders Collaborative[6] promote change in this area.

These and other initiatives have spread rapidly across the country, said Chang. When Nemours started working in this area in 2004, just a few states were focusing on early care and education; today, this is the case in most states.

Early care and education involves the intersection of home, the school or educational setting, and the community. As a result, a wide range of

[1]A briefing document is available at http://www.cdc.gov/obesity/downloads/Spectrum-of-Opportunities-for-Obesity-Prevention-in-Early-Care-and-Education-Setting_TAbriefing.pdf (accessed April 29, 2014).

[2]For more information, see http://www.fns.usda.gov/cacfp/child-and-adult-care-food-program (accessed April 29, 2014).

[3]For more information, see http://www.sesameworkshop.org/what-we-do/our-initiatives/healthy-habits-for-life (accessed April 29, 2014).

[4]For more information, see http://www.colormehealthy.com (accessed April 29, 2014).

[5]For more information, see http://www.cdc.gov/nccdphp/dch/programs/communitytransformation (accessed April 29, 2014).

[6]For more information, see http://thewomensfoundation.org/early-care-and-education-funders-collaborative (accessed April 29, 2014).

policies can help create healthier early care and education environments. Licensing and regulation can promote both healthy eating and physical activity. Quality rating and improvement systems can help align early care and education with best practices in healthy eating and physical activity. And new tools for child care providers can help them integrate healthy eating and physical activity into daily routines.

Desirable Changes

Several issues need particular attention as these and other initiatives move forward, Chang said. The first is sustainability. Policy changes, new regulations, and system-level changes all are needed to extend current initiatives to future generations. In particular, written policies and regulations are more sustainable than voluntary programs, but if they are to be instituted, work will need to be done in all the states.

Growing recognition of the link between health and education needs to be incorporated into early care and education policy and regulations, said Chang. Early care and education, public health, and child health care systems need to be integrated to increase the reach of initiatives and to break down silos. The challenge to fostering such collaboration is not a lack of desire, suggested Chang, but competing pressures and priorities.

With respect to system-level change, providers of child care are the greatest assets for sustainability. However, they need education, training, tools, and other types of support if progress is to be extended. Initiatives should build on existing systems rather than creating new ones, said Chang. In many places, for instance, systems for training and technical assistance for providers are already in place. New efforts can tap these existing systems. For example, technical assistance could be folded into collaborative initiatives on physical activity. In addition, all—not just some or even most—states need to be engaged in such efforts.

Programs that work need to be scaled up and diffused. For example, a collaborative in Delaware that has brought together groups of child care centers to engage in a structured learning process and has generated evidence of effectiveness is now being extended to other states with CDC's help. At the same time, initiatives with demonstrated effectiveness need to be balanced with ongoing innovation. Innovation needs to be directed at how to accelerate change and how to use research to determine what works. Pilot programs, along with research evaluating new approaches, could support the extension and scale-up of innovations.

In the area of research, more well-designed studies are needed to inform the implementation of effective strategies. Areas in need of attention, said Chang, include physical activity, particularly for children between birth and age 2; family and home settings; and disparities.

A Potential Breakthrough Action

A breakthrough action, said Chang, could be to strengthen the linkages between early care and education providers and families. Both share the goal of improving the health and wellness of children, yet too often they are characterized by an "us versus them" mentality. Providers frequently do not see parents as partners, while many parents are overwhelmed by the demands of daily life. Child care centers need to be family friendly and open to partnerships with parents. A set of shared goals could help parents and providers work together.

MONITORING AND TECHNICAL ASSISTANCE

Ward described several major obesity prevention opportunities.

Monitoring

The first opportunity is to incorporate regular monitoring of nutrition and physical activity policies and practices into licensed early care and education settings in all states. Regular monitoring would greatly increase the available information about the obesity prevention efforts to which infants, toddlers, and preschoolers are exposed in these settings, Ward observed. That information would in turn enable state child care agencies and relevant federal agencies, such as the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Services (HHS), to assist child care programs in working more effectively to prevent obesity in the children in their charge. In addition, some states are considering the inclusion of specific nutrition and physical activity standards in their quality rating improvement systems. More precise and timely information about current policies and practices would provide critical information to these agencies and would contribute to important federal and state changes and support the development of guidelines for obesity prevention.

An early care and education monitoring initiative could be modeled after the school health policies and practices study that has been conducted periodically in schools since 1994. Key objectives of such a program might be to understand nutrition and physical activity practices in early care and education programs; identify the training and technical assistance needs of directors, owners, and staff; and determine how key policies and practices change over time. While such monitoring would represent an additional expense, it could be subsidized by sources of revenue such as a tax on sugar-sweetened beverages.

It would be important for this monitoring program to include child care centers and family homes as well as Head Start programs, said Ward. Also,

support and coordination of this monitoring effort should originate with the secretaries of USDA and HHS to help reduce potential redundancies with existing evaluation requirements.

Physical Activity

A second opportunity is for technical assistance provided by child care agencies, public health staffs, and USDA personnel to include a standard message about the types of physical activity programs that should be provided for infants, toddlers, and preschoolers in organized child care. As noted in CDC's *Spectrum of Opportunities* report, technical assistance that can affect obesity in child care settings currently is provided by a number of sources within states. Each state has a child care resource and referral agency with professionals who can be reached for help and support. Also available within the states are child care licensing consultants, and many states have child care health consultants. USDA provides CACFP consultants as well as cooperative extension agents. Health departments have county and state nutritionists as well as public health professionals who provide assistance to child care staff. Head Start and Early Head Start programs use consultants to provide preservice and in-service training to program staff and volunteers.

All of these individuals could be trained to provide a consistent message about physical activity programs for child care centers and homes through workshops and one-on-one consultations, Ward said. Because no single agency currently provides guidance on physical activity programs in early care and education, a lead agency such as Child Care Aware[7] should be identified to coordinate such an effort. It will be important to provide extra assistance and support for low-resourced early care and education facilities and those serving low-income families to help them achieve their physical activity program goals.

Ward suggested that the physical activity programs for infants, toddlers, and preschoolers provided by early care and education facilities should include sufficient time for both child-directed and teacher-directed activities. In addition, facilities should encourage child care staff to play an active role in implementing the program. Attention should be given to the importance of play spaces both outdoors and indoors and to play equipment. These suggested actions are consistent with the Institute of Medicine's (IOM's) report *Early Childhood Obesity Prevention Policies* (2011a).

[7]For more information, see http://childcareaware.org (accessed April 29, 2014).

Research Gaps

In 2011, approximately 50 researchers and child care leaders participated in a conference sponsored by the Altarum Institute, the National Institutes of Health, Nemours Foundation, and the Robert Wood Johnson Foundation. The meeting identified a number of important research gaps with respect to obesity prevention in early care and education, said Ward. One of the identified needs was to examine the environmental and policy characteristics of early care and education programs to determine the characteristics that provide optimal diet and physical activity opportunities for preschoolers, and to evaluate the effectiveness of early care and education standards across states. The implementation of early care and education monitoring as discussed above would directly address this need.

IMPROVING AND EXPANDING THE CHILD AND ADULT FOOD CARE PROGRAM

Henchy focused her remarks on the importance of maximizing the impact of CACFP provisions in the Healthy, Hunger-Free Kids Act of 2010 to address obesity in early care and education settings. CACFP serves 3.5 million predominantly low-income children every day, she noted, which makes it an excellent vehicle for addressing health disparities by improving nutrition in early care and education. About 1.9 billion meals and snacks were distributed under CACFP in 2013, and the IOM has recommended that the program be expanded because of its contributions to healthy eating (IOM, 2010a).

The IOM also has pointed out that CACFP could be improved (IOM, 2010a). Under the Healthy, Hunger-Free Kids Act, the program must provide education in nutrition and in increasing physical activity and decreasing screen time in CACFP child care. "That is an important and historic change," said Henchy. Implementation of these requirements is ongoing. It is also designed to help providers get ready for the upcoming revised CACFP nutrition standards

The Healthy, Hunger-Free Kids Act CACFP improvements bring nutrition education, standards, and resources to support child care providers serving low-income children to improve nutrition and wellness. This is important to reducing health disparities and addressing obesity in early care and education settings. The changes made will need to be supported at the national, state, and local levels, Henchy said. The program also needs to be expanded to cover low-income children who today are receiving poor-quality care. "Many days they are getting a lot of ramen and crackers and are parked in front of the TV. This is something that we all want to make sure does not go on anymore," she said.

Collaborating on Change

In recent years, states have been holding summits to bring together stakeholders in early care and education, including nutrition experts, obesity advocates, antihunger advocates, industry representatives, researchers, and foundation personnel, to discuss how the changes in CACFP can help achieve shared goals for improving child care, addressing health disparities, and reducing obesity. These summits have resulted in recommendations for moving forward and commitments from all the parties. These action-related collaboratives are an excellent way to improve child care and reduce disparities among children, Henchy suggested.

In addition, HHS has established new standards for training and education for all subsidized child care. Many informal care settings participate in the subsidy program, which connects them to training and education in nutrition and physical activity. FRAC also has been working for two decades to bring CACFP into informal-care homes, and in most states has been successful in doing so. This is an important way to provide oversight and support for informal care, said Henchy, because CACFP visits those homes at least three times a year to review nutrition standards and provide support and technical assistance.

Finally, Henchy pointed out that the Obama administration is working to expand child care. Unless the expansion of child care is supported by sufficient resources, however, it could result in a reduction of quality and resources. Federal standards for child care could replace the "hodge-podge" of standards at the state level, Henchy said, just as federal standards have done at the school level, and businesses and industry could be powerful allies in working toward such standards. However, unless an expansion of child care is done with sufficient resources, one consequence can be a reduction of quality and resources. She suggested that working toward federal standards could be an important activity for the Roundtable on Obesity Solutions, even as efforts to improve standards continue at the state and local levels.

4

Schools

Key Points Highlighted by Individual Speakers

- Evidence on what works in school-based obesity prevention efforts has grown dramatically over the past decade. The result has been guidelines, recommendations, and programs that have improved students' health, with some school-based strategies also yielding cost savings. (Lee)
- Continued attention to translation, dissemination, and diffusion could increase the uptake and sustainability of evidence-based tools, resources, and professional development for diverse school communities. (Lee)
- Designating physical education as a core subject in schools and making better use of grassroots innovation and champions could help bend the obesity curve. (Economos)
- Technical assistance and training, school–community collaborations, and adequate resources could help ensure that every food sold to a child in school is healthy. (Donze Black)

Three speakers addressed obesity prevention in the school setting. Sarah Lee, health scientist at the Centers for Disease Control and Prevention (CDC), considered how increasing evidence on what works in obesity prevention could be applied to make further progress on fighting the obesity epidemic. Christina Economos, director of ChildObesity180 and associate

professor at Tufts University, and Jessica Donze Black, director of the Kids' Safe & Healthful Foods project at the Pew Charitable Trusts, spoke about promoting physical activity and nutrition, respectively, in schools.

PUTTING THE EVIDENCE TO WORK

The evidence on what works in school-based childhood obesity prevention has grown dramatically over the past decade, said Lee. Examples include CDC's School Health Guidelines to Promote Healthy Eating and Physical Activity,[1] a *Cochrane Review* on obesity prevention in children (Waters et al., 2011), and articles by Flynn and colleagues (2006) and Folz and colleagues (2012) on population-level interventions. Other publications have complemented comprehensive evidence-based reviews; they include reports from the Institute of Medicine (IOM) on school meals (2009b), competitive foods in schools (2007a), and physical activity (2013a).

Based on this evidence, a multitude of guidelines and recommendations have been developed in which the following strategies are common:

- establishing an environment that promotes healthy eating and physical activity;
- incorporating healthy eating, physical activity, and body image topics across the school curriculum;
- adding more time for physical activity both during the school day and throughout the school week;
- improving the nutritional quality of school foods; and
- providing training for teachers and other school staff on the implementation of such evidence-based health-promoting strategies.

Lee noted further that certain school-based strategies identified in reviews have been shown to yield cost savings. These strategies include providing classroom-based lessons about reducing time spent watching television and reducing the consumption of sugar-sweetened beverages, as well as multifaceted programs that encompass both improved nutrition and physical activity.

A growing number of evidence-based programs have been launched in recent years. Examples at the federal level include Let's Move! Active Schools,[2] Let's Move Salad Bars to Schools,[3] and the Presidential Youth

[1]Available at http://www.cdc.gov/mmwr/pdf/rr/rr6005.pdf (accessed April 29, 2014).

[2]For more information, see http://www.letsmove.gov/active-schools (accessed April 29, 2014).

[3]For more information, see http://saladbars2schools.org (accessed April 29, 2014).

Fitness Program.[4] The U.S. Department of Agriculture (USDA), through its Team Nutrition, has used the HealthierUS School Challenge[5] to recognize schools that are making important evidence-based changes. In addition, nonprofit organizations and other national groups have developed programs such as Action for Healthy Kids, Alliance for a Healthier Generation, and ChildObesity180, which collectively have reached thousands of schools to change nutrition and physical activity policies, systems, and environments.

Potential Future Directions

Lee divided her proposed next steps into four areas: research; translation, dissemination, and diffusion; communication; and policy.

In the area of **research**, many important questions remain unanswered:

- What is the impact of parent engagement on both child and family health behaviors?
- What is the role of school health services in helping students who are already obese or overweight?
- What are the effects of increasing access to safe, free drinking water in schools?
- What is the impact of a comprehensive physical activity program on the overall activity level of students?
- What is the impact of food marketing in schools?
- What policies, practices, and programs can reduce health disparities? For example, how can interventions be culturally tailored to be relevant and feasible for the populations that are most affected?

In this last area of health disparities, Lee noted that the topic cuts across all four of the areas she discussed. For example, the link between disparities in health and education is well established, but interventions typically target one or the other, not the link between the two.

In the area of **translation, dissemination, and diffusion**, much more needs to be known about how to translate findings for underserved and disparate populations. In addition, the uptake and sustainability of evidence-based tools, resources, and professional development need to be examined for diverse school communities.

With respect to **communication**, the evidence regarding effective programs, policies, and practices needs to be communicated more effectively,

[4]For more information, see http://www.pyfp.org (accessed April 29, 2014).

[5]For more information, see http://www.fns.usda.gov/hussc/healthierus-school-challenge (accessed April 29, 2014).

Lee said. The benefits to different stakeholders could be identified to foster and sustain change. For example, stronger communications and messaging for a variety of stakeholders could help promote greater implementation of the National Physical Activity Plan[6] within the education community.

Another subject that needs better communication is the evidence linking healthy eating, physical activity, and academic achievement. This is "speaking the language of those in the education sector," said Lee. Evidence on the link between health and educational attainment needs to be communicated to school boards in ways that resonate with them, using the language of education rather than health. Evidence regarding the link between disparities in health and education also could be disseminated to create a stronger message and greater impact. At the same time, negative messages need to be countered, said Lee. For example, new school meal patterns are still being criticized, and these messages can influence the general public, parents, and students. Communicating the positive benefits of nutritious school meals could counter these messages.

Much also remains to be learned about **policy** development and implementation, from both the top down and the bottom up. Large-scale policies can be critically important, but school-level practices and programs can capture the attention of decision makers and lead to more widespread change. As an example of how greater understanding of policy could help, Lee cited the establishment and revision of local wellness policies. Deeper examination of the implementation of such policies would provide information that could be used to help school districts move forward.

Lee noted that few interventions have implemented and evaluated a multistrategy approach, focusing instead on a single component, such as physical activity or nutrition. Also, little is known about what kinds of policies and systems are needed to implement evidence-based curricula and programs in a scalable and sustainable way. There has been minimal implementation and evaluation of interventions that reach large numbers of K-12 schools and entire school districts.

A Potential Breakthrough Action

As a breakthrough action, Lee cited the need for federal, state, and local physical education and physical activity policies and practices that could dramatically change the landscape of physical activity in schools. Continued support for the U.S. Department of Education's Carol M. White Physical Education Program[7] will be important, as will continuing to allow

[6]For more information, see www.physicalactivityplan.org (accessed April 29, 2014).

[7]For more information, see http://www2.ed.gov/programs/whitephysed/index.html (accessed April 29, 2014).

local districts and schools to tailor their physical education and physical activity programs to local needs. Under a new CDC cooperative agreement, all 50 states are funded to develop multicomponent physical education and recess policies that can achieve both high quantity and high quality. Thirty-two states are receiving additional funds to implement comprehensive physical activity programs in high-need school districts.

At the local and district level, education systems must be able to adopt, implement, and monitor evidence-based wellness policies, said Lee. Many of the nation's wellness policies have strong physical activity components, but many do not.

Finally, Lee pointed to the relationship between health and education agencies as key to making change sustainable. "Without this type of relationship, it will be very difficult to achieve and sustain this level of a breakthrough action," she suggested.

PROMOTING PHYSICAL ACTIVITY

The United States is dedicated to increasing educational attainment and closing achievement gaps, yet policy makers often disregard emerging research showing that simple strategies such as physical activity breaks during the school day can improve academic focus and behavior in the classroom, observed Economos. "We tweak our educational curricula based on test scores," she said. "But we have yet to make a commitment to use physical activity and fitness data systematically to inform programmatic efforts."

Children need 60 minutes of moderate to vigorous activity daily to promote health, said Economos. Because they spend a significant portion of their days in school, schools need to become hubs for quality physical activity, providing at least half of that requirement.

Economos proposed two breakthrough actions. The first would be to designate physical education as a core subject in schools, delivering high-quality school-wide moderate to vigorous physical activity as recommended by the IOM (2013a). Economos suggested that schools need to help generate the data that will reverse the decline of physical education programs seen in recent years. A group of forward-thinking schools, districts, or states could take on this challenge and produce the evidence for return on investment and cost-effectiveness needed to spark national change.

The second breakthrough action Economos identified would be to foster and make better use of grassroots innovation and local champions. Educators and parents across America recognize the need to get children up and moving and are not waiting for someone else to make it happen. ChildObesity180, a collaborative effort of academic researchers and leaders from government, business, and nonprofit organizations, has been working

to identify innovative and integrated solutions with the potential to work on a national scale. It has identified scalable physical activity programs from a national competition that drew more than 500 applicants and is currently attempting to replicate the most promising programs. Programs that work well in school environments are low-barrier, low-cost, flexible, efficient, and equitable and provide an opportunity to work toward a common goal, said Economos. Examples include in-classroom physical activity breaks; all-school workouts; and walking, running, and wheeling clubs. "The most rewarding visual I have ever seen is an entire school of 5- to 12-year-olds on the blacktop outside exercising simultaneously with the entire school staff," said Economos. "That can be done at every school across America."

Implementing such innovative physical activity programs at the local level requires identifying and supporting local school-based champions, noted Economos, including teachers, physical activity educators, administrators, parents, nurses, and cafeteria workers. These champions create momentum as early adopters, can serve as role models, and inspire peer-to-peer networks.

Together, the above two actions could help bend the obesity curve by changing the physical activity levels of America's children, Economos concluded.

PROMOTING NUTRITION

Many children consume as much as half their calories in schools, and while changes in schools over the past decade have been "extraordinarily successful" in improving children's health, more can be done, suggested Donze Black. First, she proposed that every food sold to a child in every school in America should be a healthy food. Districts, states, and the federal government all have issued policies aimed at achieving this objective, and experience has demonstrated that these policies can be implemented and succeed.

Second, comprehensive strategies could ensure that both the nutrition and nutrition education that students receive are of high quality and impactful. In addition to changes in what is sold in vending machines, students need to be taught the value of the difference and how such change can be leveraged in the community. For example, the Let's Move Salad Bars to Schools program has gotten multiple community players to work with schools to improve the quality of school meals, snacks, and foods available in the a la carte environment. As a result, students have increased access to fruits and vegetables while also learning to enjoy those foods.

Such initiatives require ensuring that schools have the equipment, the technical assistance and training, and the resources needed to serve healthy

meals. In this regard, collaboration can be critical. For example, a school may need updated facilities while a community needs a community kitchen, creating a win-win opportunity. Superintendents, principals, teachers, and others who have seen positive outcomes in practice can act as advocates to move the culture forward and bring more schools into the conversation.

Action cannot wait for the best possible evidence, Donze Black said. Logic, intuition, and the available evidence all indicate that improving the school health environment will make a difference. Ensuring that everything sold to students is healthy and leveraging community, state, and federal resources to maximize the quality of students' educational experience could ensure that they receive both the nutrition and the nutrition education they need to have a healthy eating lifestyle for the rest of their lives.

5

Worksites

Key Points Highlighted by Individual Speakers

- The Hy-Vee grocery chain in the upper Midwest has instituted a multifaceted campaign that blends services for its employees with services for its customers while bringing those programs to scale at the community level. (Eddy)
- General Mills also has taken a multifaceted approach, ranging from healthy cooking classes, to stress management, to improving the health of its employees and customers. (Halberg)
- Initiatives such as countering the sedentary nature of modern work, increasing access to fruits and vegetables, connecting the workplace with the community, and promoting health equity can be undertaken in most worksites. (Pronk)

Three speakers addressed obesity solutions in worksites. Helen Eddy, assistant vice president of health and wellness for Hy-Vee, Inc., spoke about that grocery chain's campaign to improve the health of not only its employees, but also its customers and the community. Julia Halberg, chief medical officer for General Mills, Inc., described the company's multifaceted approach to promoting weight management and overall health among its employees and customers. Finally, Nico Pronk, vice president and chief science officer for HealthPartners, Inc., in Minneapolis, talked about interventions that have broad applicability in most worksites.

HY-VEE: AN EXAMPLE OF SUCCESS

Worksites can have a powerful influence not just on those who work there but also on customers and on businesses associated with the site. For example, said Eddy, the Hy-Vee grocery chain has instituted a multifaceted campaign that blends services for its employees with services for its customers while bringing those initiatives to scale at the community level. Hy-Vee operates 235 retail stores in 8 states, along with 150 convenience stores and 240 pharmacies. It employs 70,000 people and is the largest private employer in the state of Iowa. Health and wellness is a strategic platform at Hy-Vee. The company seeks to provide a healthy work environment for its employees and to make the healthy choice the easy choice for its customers. "We are committed as a retailer and as an employer to providing affordable, accessible solutions to our customers, to our employees, and to other businesses," said Eddy.

Eddy noted that the most important health decisions most people make begin in the aisles of grocery stores with the foods they choose to take home. Hy-Vee has more than 200 registered dietitians on staff serving 225 of its retail stores and more than 200 chefs who help teach employees and customers how to cook healthy, affordable food. It offers nutrition counseling, recipes, free grocery store tours, cooking classes, education classes, health coaching, signage throughout the stores designed to encouraged healthy choices, newsletters, websites, and forums. It uses a nutritional scoring system on shelf tags throughout its stores and educates people on how to use the system. It provides healthy checkout lanes, dietitian's choice sections, and natural and organic foods within the stores. It conducts outreach activities in the community, in schools, and in other businesses, and it has sponsored more than 500 community gardens. The company's headquarters has free fresh fruit in break rooms, standing workstations, and healthy options in the cafeteria, and is moving to smaller plates as a way to control portion size. It offers a 10-week behavior modification program called Hy-Vee Begin that includes pre- and postprogram biometric screening of health risks. It also offers these strategies, such as biometric screenings, to other businesses in its communities.

In addition, Hy-Vee is focused on fitness and movement. It has a fitness center at its headquarters and at one of its stores, and sponsors events such as races and triathalons for children and a 10-week activity and weight loss challenge for its customers. The company seeks to "get our employees and our customers and other businesses up and moving," said Eddy.

As an employer, the company recognizes its need to address the drivers of its own health care costs. It is a self-insured private company with an annual budget of $123 million for providing insurance coverage and health care to its employees. Because of the programs it has implemented,

its insurance costs per employee average only $6,400 per year, compared with a national average of $10,000 to $12,000 per employee per year. The company returns these savings to its employees in the form of 1-month insurance premium holidays, which it has been able to offer in 5 of the past 6 years.

The company uses a carrot, not a stick approach to engage its employees, said Eddy. Under the Live Healthy Hy-Vee[1] program, employees can participate annually in a biometric screening and health risk appraisal. If they then complete two healthy activities, they receive a health insurance premium discount of $700 per year. The company also is considering using biometric results to identify employees at risk for such conditions as metabolic syndrome and requiring them to complete Hy-Vee Begin.

Finally, Hy-Vee has been engaged in a public–private partnership through Iowa's Healthiest State Initiative, which is seeking to make Iowa number one among states in well-being by 2016. One emphasis of the initiative is the needs of small businesses. More than half of the workforce in the United States is employed by small businesses, and these companies need to have access to turnkey strategies and community resources if they are to help their employees and customers stay healthy.

GENERAL MILLS: A MULTIFACETED APPROACH

General Mills, Inc., which is a founding member of the Healthy Weight Commitment Foundation, also has been focusing on the education of its employees and customers. According to Halberg, it has been emphasizing the energy equation—"calories in and calories out"—because that resonates with people, is easy to understand, and is actionable. But different people respond to different approaches, she noted, which calls for a multifaceted campaign. Subsidizing healthy foods, encouraging employees to eat the rainbow and smaller portion sizes, having healthy foods in vending machines, providing onsite fitness centers in some locations, and offering healthy holiday cooking classes are among the options the company makes available to its employees. General Mills also has onsite lactation rooms for breastfeeding women, a measure that provides for healthy babies and helps mothers lose some of their pregnancy weight. General Mills' employees span three generations, Halberg noted, and many employees have been with the company for decades. "We have a lot of opportunities to work with them and find formulas that work," she said.

Stealth health strategies also are effective. For example, General Mills has taught its employees about chair yoga and stretches that can be done during a meeting without anyone noticing. Treadmill working stations

[1]For more information, see http://www.livehealthyhy-vee.org (accessed April 29, 2014).

and designated walking paths are available for employees. The company's clinics emphasize prevention, because chronic disease is handled well in the community, but opportunities for prevention can be overlooked. For example, a preventive cardiologist is available to offer lipid management, a dermatologist has detected numerous melanomas over the years, optometrists check vision, and a dentist and hygienist are available for dental exams and cleaning.

For the food it manufactures, General Mills has adopted an approach developed by its Bell Institute of Health and Nutrition, which entails reducing unhealthy components, including fats, sugars, and salt, slowly and carefully while maintaining taste. "No matter how healthy food is, if it does not taste good, people will not eat it," noted Halberg.

Another emphasis of General Mills is resiliency and stress management. People can learn to be more resilient, said Halberg. General Mills therefore has designed programming both to build strong managers and to help employees develop the resiliency they need while at work. For example, mindful meditation is used to help employees innovate. Some departments have adopted flexible shared workspaces that allow professionals to sit and work where they need to be, giving them the flexibility to collaborate more easily with other team members and use their workspace more efficiently. General Mills has a renowned art collection, and it is working with its part-time curator to develop tours that can help with stress management. Employees soon will have an app with which they can scan a piece of artwork, learn about the artist, and put work behind them for a few minutes.

Finally, General Mills has been working to eliminate health disparities through the General Mills Foundation and its connection to the community. It provides grants to nonprofit programs, such as the company's Champions for Healthy Kids, through which donations of more than $5 million since 2002 have served nearly 1 million youth, and the Presidential Youth Fitness Program, for which a $10 million commitment over 6 years is empowering students to achieve active, healthy lives. In addition, more than 80 percent of the company's employees volunteer. "For those of us fortunate to work in a company like General Mills, we can give back, and feel good about it, but also learn about the different populations that we serve," Halberg concludes.

TRANSPORTABLE WORKSITE INITIATIVES

Pronk cited several initiatives that, like those of Hy-Vee and General Mills, can be undertaken in most workplaces. The first consists of efforts to counteract the sedentary nature of work. As work has become more sedentary, prolonged sitting time has become a significant risk factor for increased weight. Sit-stand devices for employees, while not designed to

produce weight loss per se, can yield better mood states, greater energy expenditure, less upper back and neck pain, heightened workplace productivity, and increased movement that may aid in the prevention of weight gain. HealthPartners' Take-a-Stand Project has demonstrated the feasibility as well as the effectiveness of this program in changing the work environment of employees, involving management, and improving workers' psychosocial environments.[2]

The second initiative entails increasing access to and consumption of fruits and vegetables. A recent review of half a million employee health assessment results found that only 17.5 percent of employees were consuming five or more servings of fruits and vegetables per day. Employees stated that the high price of salads was a significant barrier to their purchase. Accordingly, HealthPartners tested an organizational policy intervention that reduced the price of salad bar purchases in a corporate cafeteria by 50 percent, a measure that more than tripled salad bar sales.[3] Policies that make the price of salads advantageous compared with other choices in corporate cafeteria settings therefore may significantly increase consumption of healthful foods, Pronk said.

The third initiative Pronk described involves connecting the workplace with the larger community. For example, a simple tactic to support employees in finding better food options is to send them a text right before lunch reminding them to seek out healthy foods. Apps also can help employees find healthier food options in restaurants wherever they may be. A business case needs to be made for employers to allocate resources to such efforts, suggested Pronk. But he emphasized that connecting the workplace with the community can help support the sustainability and scalability of an intervention.

Finally, Pronk mentioned the role that employers can play in promoting health equity. Employers have data on many issues, including the health status of their employees. These data could help identify populations subject to disparities and suggest ways of reducing those disparities.

[2]More information is available at http://www.cdc.gov/pcd/issues/2012/11_0323.htm (accessed April 29, 2014).

[3]More information is available at http://www.cdc.gov/pcd/issues/2013/12_0214.htm (accessed April 29, 2014).

6

Health Care

Key Points Highlighted by Individual Speakers

- Health care providers and patients need education and training in the prevention and treatment of obesity. (Bradley)
- Many health care providers are not prepared to have the delicate and complicated conversations needed to change behaviors in overweight and obese patients. (Solomon)
- The medical care system is just part of a much larger health system, and all parts of this broader system contribute to the prevention and treatment of obesity. (Sanchez)
- Reforms of the reimbursement system could support change in this larger system, along with evidence-based, community-integrated, family-centered interventions. (Sanchez)

Three speakers addressed obesity solutions in the health care setting. Don Bradley, senior vice president for health care and chief medical officer of Blue Cross and Blue Shield of North Carolina (BCBSNC), spoke about the role of the insurance industry. Loel Solomon, vice president for community health at Kaiser Permanente, explored the role of health care providers. Finally, Eduardo Sanchez, deputy chief medical officer for the American Heart Association, talked about the contributions of the broader health system.

THE ROLE OF THE INSURANCE INDUSTRY

It takes a village to prevent and treat obesity, said Bradley, and one member of that village is the insurance industry. Bradley divided the industry's progress as it relates to obesity into four areas.

The first involves benefits for the treatment of obesity in health care settings. BCBSNC has been offering benefits for physician assessment, referral, and treatment of obesity for about a decade. It also has offered nutritional counseling at no cost during the same period. Particularly helpful have been the synergies created with worksites, said Bradley, because the worksite can direct people to the medical benefits available to them.

The second area of progress encompasses health programs. Hospitals, clinics, primary care physicians, and other health care providers have used a variety of models to work with severely obese patients, although these efforts are still sporadic and expensive. An area in which progress has been good is bariatric surgery, Bradley noted, and BCBSNC has worked with bariatric centers of excellence to reduce complication rates and augment success.

The third area entails community impact. The BCBSNC Foundation has funded a number of activities in this area, such as farm-to-school programs, nutrition education for child care workers, and bicycle commuting programs.

Finally, the insurance industry has provided thought leadership. For example, it has demonstrated that providing benefits for the treatment of obesity is not particularly expensive. BCBSNC covers six nutrition visits a year at no cost, but the average number of visits is only about two. "We will not go broke for two nutrition visits a year," said Bradley. "It is not a service of abuse."

Bradley also listed five potential breakthroughs in fighting obesity:

- provider education, training, and teamwork;
- patient engagement;
- addressing obesity throughout life, from breastfeeding to treatment of severe obesity;
- safe environments for physical activity, which is determined by society as much as by the health care system; and
- better nutritional choices.

Providers of care are not just physicians, nurses, nutritionists, and pharmacists, Bradley emphasized. They include parents, grandparents, child care providers, teachers, pharmacists, ministers, insurers, politicians, and policy makers. All need education, training, and engagement. Today, they tend not

to talk with each other, but the example of tobacco control demonstrates what can be done when they collaborate and act as coordinated teams.

With regard to patient engagement, Bradley noted that obesity entails complex behaviors and that developing healthy habits is a complex process. Money and knowledge alone are not enough to explain people's behaviors. The insurance industry needs to help all the other stakeholders in obesity prevention and treatment think about how to support people in developing healthy habits and apply that knowledge to achieve better outcomes.

HEALTH CARE PROVIDERS

Most people engage with their health care providers on only a few days per year, or perhaps for a week or more if they are sick. During the rest of the time, family members, friends, and community members are the caregivers. "People are much more heavily influenced by the places that they live, where they go to school, where they go to work, and so on, than they are by their health care providers," said Solomon.

Nevertheless, the health sector has important responsibilities, which Solomon described as the "five As":

- asking patients about their readiness to change,
- assessing their risks,
- advising them on therapeutic alternatives,
- agreeing on treatment plans, and
- assisting with or arranging for the resources necessary for people to take action.

With regard to obesity, much of the health sector has been focusing on assessment, and on measuring body mass index (BMI) in particular, Solomon said. Knowing a person's BMI is important but is insufficient. In the area of assessment alone, there are other needs, such as assessing what people eat and how much physical activity they engage in. Such assessments can lead to conversations that change behavior.

Health care providers also need to devote more attention to the quality of the advice they provide, Solomon continued. Many providers are not prepared to have the delicate and complex conversations needed with overweight and obese patients. Kaiser Permanente and other organizations have developed online training for providers, including training in brief negotiation and motivational interviewing that can produce quality conversations and support prevention.

Health care providers need to go beyond the idea that a quality encounter is all about motivating people to change. People who are overweight and obese already have plenty of motivation to change, said Solomon. Behav-

ioral scientists have shown that the important opportunities are instead lowering the threshold of activation and creating triggers for behavior change, and identifying optimal defaults that make the healthy choice the easy, convenient, and affordable choice.

More attention also is needed to helping people connect to outside resources, Solomon said. Health care systems are embedded within vast arrays of community-based resources. Integration between clinic and community is critical.

With health care accounting for 18 percent of the nation's gross domestic product, health care systems have an obligation, as well as the power, to influence community environments. The Patient Protection and Affordable Care Act requires all nonprofit hospitals to conduct community health needs assessments, and these assessments routinely identify problems with physical activity and the food environment. "We need to seize the levers of change," said Solomon. "We need to model healthy behaviors by [creating] change for our own employees, through our civic leadership responsibilities, and by using our grant money and social influence to change community environments."

HEALTH SYSTEMS

The medical care system is just part of a much larger health system, said Sanchez, and all parts of this broader system contribute to the prevention and treatment of obesity. At the same time, the people and organizations that make up the medical care system play many roles in their communities as part of this broader health system. They are health educators, employers, and sometimes payers (for example, through philanthropy). In these roles, they can be advocates for evidence-based change.

A variety of clinical guidelines exist for the prevention and treatment of obesity, including joint guidelines on obesity treatment from the American College of Cardiology, the American Heart Association, and The Obesity Society; lifestyle modification guidelines from the American Heart Association and the American College of Cardiology; diagnosis, prevention, and treatment guidelines from the American Academy of Pediatrics; and a monograph on how to treat obesity from the American Academy of Family Physicians.

A systems approach is needed to prevent and treat obesity in the clinical setting, said Sanchez. Drawing on a blood pressure initiative undertaken by Kaiser Permanente, he pointed to the essential elements of such an approach:

- assessment and technical assistance for clinical practices;
- a registry of overweight and obese patients;

- clinical guidelines that are relatively simple and easy to follow;
- data metrics and reports from providers and health care systems, including adherence to guidelines;
- expanded health teams that include dietitians, health coaches, social workers, medical assistants, and community health workers; and
- physician training and engagement in advocacy around evidence-based community intervention.

Sanchez also discussed the prospects for reimbursement reform led by Medicare, Medicaid, and other payers. Such reform could help support systems change, although resources would be needed to implement such change. But the initiatives of Kaiser Permanente and others, such as the YMCA's Diabetes Prevention Program,[1] demonstrate the potential for evidence-based, community-integrated, family-centered interventions to achieve even ambitious goals.

Finally, Sanchez stressed that research and evaluation are needed to measure costs, estimate outcomes, and make improvements.

[1]For more information, see http://www.ymca.net/diabetes-prevention (accessed April 29, 2014).

7

Communities and States

Key Points Highlighted by Individual Speakers

- Reflecting the systems nature of obesity prevention and treatment, an increasing number of mayors and other elected officials are recognizing the economic value of healthy communities. (Andrews)
- In Massachusetts, a coordinated effort by community leaders that included body mass index screening for students, school nutrition regulations, public information campaigns, municipal wellness grants, farmers' market programs, safe sidewalks and lighting, and a wide range of other measures has reduced the prevalence of obesity among state residents. (Bartlett)
- Policies that are scalable and enforceable and promote community engagement can build momentum to change the course of the obesity epidemic. (Standish)

Three speakers addressed obesity solutions in communities and states. Leon Andrews, senior fellow at the National League of Cities (NLC), spoke about action at the local level—cities, towns, and counties. Cheryl Bartlett, commissioner of the Massachusetts Department of Public Health, described her state's strategies for combating obesity. Finally, Marion Standish, director of community health at The California Endowment, presented on the power of policies to change the course of the epidemic.

ACTION AT THE LOCAL LEVEL

In partnership with the U.S. Department of Health and Human Services, NLC has been leading a collaborative partnership called Let's Move! Cities, Towns, and Counties. This initiative incorporates five key components for healthy communities:

- engaging diverse stakeholders,
- implementing policies and strategies,
- forging a common vision,
- coordinating infrastructure, and
- sharing accountability.

Andrews outlined some of the steps taken by NLC's Institute for Youth, Education, and Families to develop knowledge in the area of childhood obesity. The Institute has:

- created an action kit for leaders (available at http://www.nlc.org/iyef [accessed April 29, 2014]);
- completed 2 years of technical assistance with the School Superintendents Association;
- hosted workshops at NLC annual conferences and at the biannual Your City's Families summit sessions;
- disseminated e-newsletters that highlight examples of city programs and national resources;
- worked closely with First Lady Michelle Obama on Let's Move! Cities, Towns, and Counties;
- established the Municipal Network for Combating Obesity Steering Committee;
- conducted community wellness case studies in Charleston (South Carolina), Jackson (Tennessee), La Mesa (California), Oakland (California), and San Antonio (Texas); and
- partnered with YMCA USA on health communication.

NLC also has been providing local elected officials with technical assistance; supporting peer-learning opportunities; and offering customized guidance through webinars, conferences, calls, and other methods. In just a year and a half, said Andrews, NLC has been able to engage more than 400 local elected officials and communities across the country, even though it previously had been difficult to engage local leaders in conversations about obesity. An increasing number of mayors and other local elected officials are recognizing the economic value of healthy communities, noted Andrews.

Now this leadership needs to be sustained, Andrews emphasized. "Mayors come and go," he said. "We are very mindful of that." He cited several policies and strategies that can sustain city leadership:

- Balance strategies focused on developing and sustaining effective interventions that promote physical activity, access to healthy foods, and healthy eating among children and youth.
- Implement policies for recreational opportunities and improved access to healthy eating.
- Define a shared and comprehensive framework that reaches high-risk populations, establishes sustained partnerships with schools, makes the most of out-of-school time, promotes access to nutritious foods, uses parks and recreation, and reshapes the physical environment.
- Engage young people, parents, and the local media in sharing ownership of efforts to promote healthy communities.

Andrews then detailed a wide variety of strategies designed to provide recreational opportunities:

- joint-use agreements for recreation facilities;
- mandated physical activity requirements for city-funded youth programs;
- commitments to ensure that all children live within walking distance of a playground or recreation center;
- conversion of unused railways to trails;
- roadways designed to provide access for cars, pedestrians, and bicyclists ("complete streets");
- conversion or rehabilitation of blighted areas into community gardens, parks, or green spaces;
- public–private partnerships with local gyms and recreation facilities to offer reduced-cost fees for low-income residents;
- city master plans that include provisions to encourage walking and biking;
- policies requiring the construction of new recreation facilities along trails or public transit routes to make them more accessible to residents;
- policies to ensure sidewalk continuity and direct routes for pedestrians and bicyclists to city centers and recreation areas; and
- streetscape design guidelines aimed at improving streetscapes to promote walkability and bikeability.

Andrews also highlighted an assortment of policies designed to increase access to fresh and healthy food:

- grants, loan programs, small business development programs, and tax incentives that encourage grocery stores to locate in underserved areas;
- zoning requirements that encourage supermarkets to move into densely populated urban and rural areas;
- local development plans that include grocery stores as a consideration in neighborhood development;
- public–private partnerships to identify and procure land for retail grocery stores;
- financial, promotional, and other incentives to encourage convenience store owners to offer healthier food options;
- policies requiring grocery and convenience store owners to accept electronic benefit transfer cards for Supplemental Nutrition Assistance Program (SNAP) benefits;
- policies to limit marketing of unhealthy food in grocery and convenience stores located near schools;
- incentives, grants, and subsidies to farmers' market organizers to support new and existing farmers' markets;
- policies requiring farmers' markets to accept Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) and SNAP benefits;
- land use protections for community gardens;
- incentives for mobile produce markets to locate in low-income areas;
- government and school procurement policies that favor local, healthy foods; and
- financial assistance to regional produce farmers for processing and distribution to governments and schools.

Finally, Andrews discussed the idea of false universalism (Powell, 2009). Many communities take a universal approach to obesity-related strategy, policy, programming, and evaluation. But universal approaches that are not sensitive to particular needs can have uneven impacts and even exacerbate inequalities. Goals need to be universal, but this is not necessarily the case for processes, said Andrews. Some policies need to target the populations most in need of help, an approach that has been labeled "targeted universalism."

STRATEGIES IN MASSACHUSETTS

Massachusetts has been implementing many of the strategies discussed at the workshop through its Mass in Motion[1] program, said Bartlett. Initiated in 2008, Mass in Motion is a multifaceted state initiative focused on better eating and increased physical activity. Executive orders from the governor addressed nutrition standards for all food procured throughout the commonwealth and required body mass index (BMI) screening for all students in grades 1, 4, 7, and 10, with aggregate data being reported to the Department of Public Health. School nutrition regulations implemented in 2010 cover competitive foods and establish wellness committees in all school districts. Public information campaigns and a website provide tips to families, communities, schools, and worksites on what they can do to promote health and wellness in their settings.

The cornerstone of the program has been municipal wellness grants aimed at changing public health approaches to obesity, Bartlett said. Taking lessons from antismoking campaigns, the grants have emphasized policies, systems, and the built environment so that the healthy choice will be the easy choice. A public–private partnership among health foundations, Blue Cross and Blue Shield, and the Department of Public Health has provided pilot grants to communities to form coalitions that can assess the barriers to healthy eating and active living. With the assistance of Mass in Motion coordinators, these coalitions then can consider policies and programs that will benefit all sectors while promoting health. Individual initiatives have included corner store programs; farmers' markets, including mobile farmers' markets that go to public housing facilities; community gardens; the implementation of school nutrition standards; the building and repairing of sidewalks; the provision of lighting and safe activities in communities; joint-use agreements so that people in communities can make use of facilities at educational institutions; and the creation of new walking and biking trails.

Because of the early successes of this work, Massachusetts was able to apply for Community Transformation Grants and was the only state awarded two such grants. The Mass in Motion program expanded from 11 to 52 municipalities, representing about 33 percent of the state's population. The grants also have enabled the program to establish clinical linkages that have made it possible to address chronic diseases and tobacco use.

Together, these strategies have been paying dividends, Bartlett said. BMI reporting has revealed significant reductions in obesity and overweight

[1]For more information, see http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion (accessed April 29, 2014).

in the Mass in Motion communities. This is true of both genders, with the biggest reductions seen in grades 1 and 4.

Dealing with Challenges

Bartlett noted that Mass in Motion has had to deal with some controversy. The year before the workshop, Massachusetts rescinded the policy of sending a letter to parents notifying them of their child's BMI score. Legislative efforts to eliminate the ability to perform BMI screening had led the governor to ask whether the letters made sense. Still, aggregate data from the BMI screenings are being retained, Bartlett reported, making it possible to continue following trends.

The school nutrition guidelines also created challenges, leading to legislative attempts to make changes. Parents have objected, for example, that the guidelines remove the ability to have celebrations in schools involving cupcakes and sweets. "It is important for us to come together so that we do not start to take some steps backwards when people try to legislate these good efforts away," said Bartlett.

THE POWER OF POLICIES

Many programs, services, and activities that affect nutrition and physical activity are under way, observed Standish, but the overarching element that unites these efforts is policy. Good policies that are well implemented offer the greatest opportunities for sustainability and equity. Policies emphasize the "how" rather than the "what," said Standish, which can "build the kind of momentum that will change the course of [the obesity] epidemic."

Good policies are scalable; work that succeeds at the local level can be scaled up to the national level quickly. This has been seen with school meals, menu labeling, water in schools, competitive food regulations, and other innovations. This scaling up "broadens the impact of what we are trying to do by taking it to a population level that we could not imagine when we began," said Standish.

Good policies also are enforceable. Especially when outcomes can be measured, policies can be a mechanism for implementing such changes as physical activity regulations.

Finally, good policies meaningfully engage communities. They can build sustainable momentum for change and create new leaders who can articulate issues in ways that are most relevant to a community. Scalability, enforceability, and engagement all are criteria that can be used in identifying the most powerful opportunities for change.

Standish also emphasized the need to adopt a health-in-all-policies

approach. If all policy making supports health, actions can engage multiple sectors and create indicators for success.

Sources of revenue for obesity prevention and treatment need to be protected and extended, noted Standish. But she also pointed to the need for new revenues, whether from taxes on sugar-sweetened beverage or other kinds of fees. Another option, she said, would be to create wellness trusts using hospital community benefit funds and other sources of coordinated funding.

Finally, Standish suggested that new constituencies need to be leveraged. People working on obesity issues often are quite isolated, but many constituencies care about the issue, even if they may talk about it in different ways. The health care sector is one such constituency, but others include sustainable food groups, community development organizations, disease advocacy groups (such as those focused on diabetes), climate change advocates, and education reformers. "These are all sectors that we need to engage more actively if we are going to be successful at the community and the statewide level," Standish emphasized.

8

The Federal Government

Key Points Highlighted by Individual Speakers

- The Special Supplemental Nutrition Program for Women, Infants, and Children, the Child and Adult Care Food Program, the Supplemental Nutrition Assistance Program, the HealthierUS School Challenge, and initiatives established under the Healthy, Hunger-Free Kids Act of 2010 all include provisions designed to improve the nutritional quality of Americans' diet. (Concannon)
- The Physical Activity Guidelines for Americans, the work of the President's Council on Fitness, Sports, and Nutrition; the Presidential Youth Fitness Program; the public health and prevention provisions of the Patient Protection and Affordable Care Act; Community Transformation Grants; and the Let's Move! initiative all are helping to increase physical activity and reduce obesity among children and adults. (Koh)
- As the health care sector redirects its attention to outcomes and the social determinants of health, obesity prevention and control can be emphasized. (Levi)
- Greater collaboration among federal agencies can leverage available resources to change the community environments that shape nutrition and physical activity. (Levi)

Three speakers addressed obesity solutions within the federal government. Kevin Concannon, under secretary for food, nutrition, and consumer services at the U.S. Department of Agriculture (USDA), described the programs of that agency. Howard Koh, assistant secretary for health at the U.S. Department of Health and Human Services (HHS), detailed that agency's programs and policies related to physical activity. Finally, Jeff Levi, executive director of the Trust for America's Health, proposed principles and ideas for the roundtable to consider going forward.

NUTRITION PROGRAMS AT USDA

Concannon reviewed some of the USDA programs that have contributed to the improvement in obesity rates seen in recent years.

The first is the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), which now serves 53 percent of all infants in the United States, including 75 percent of Hispanic infants. The program is having a major effect in promoting more breastfeeding, particularly among lower-income women. The program's implementation of a new food package that includes more fruits, vegetables, and whole grains also has had an impact on WIC households across the country, said Concannon.

The Child and Adult Care Food Program (CACFP) serves about 3.5 million children in child care, representing about a third of all children who attend child care each day. The program has had an important influence on the nutrition of both children and adults, although Concannon said he is worried about the slow growth of the program, as well as the child care programs the program does not reach.

The new meal patterns recently instituted for the School Lunch and School Breakfast Programs are affecting 31 million children across the country and 100,000 public and private schools. For the most part, they have worked well, said Concannon, although some elements had to be adjusted. In addition, new rules affecting competitive foods go into effect in 2014 for all schools that participate in the programs.

The Supplemental Nutritional Assistance Program (SNAP) also is undergoing changes designed to combat obesity. A pilot program in western Massachusetts, for example, has demonstrated that low-income people will respond to incentives to buy healthier foods, and a variation on that program is under way in Texas. SNAP serves 47 million people each month, nearly half of whom are children. Part of the recent increase in numbers served reflects economic problems, but states also have made efforts to provide access for eligible families. The program now serves about 79 percent of those who are eligible in the United States, compared with just 50 percent in the relatively recent past.

SNAP also has an education component, funded at about $400 million

annually, which focuses on nutrition. For example, it teaches people about the MyPlate program developed at USDA's Center for Nutrition Policy and Promotion. Three million people have signed up on the center's website to receive direct advice about their diet and their nutritional progress.

The Healthy, Hunger-Free Kids Act of 2010, enacted with the support of First Lady Michelle Obama, also has been making a difference in the lives of students across the country, said Concannon. Enrollment in the School Breakfast Program has increased, as has the percentage of free and reduced-priced meals being served to students. Under the Healthy, Hunger-Free Kids Act, students are provided fruits and vegetables every day of the week, which was not the case in the past, along with more whole grains and low-fat or nonfat diary, within overall calorie limits.

Many elementary schools across the country are participating in the Fresh Fruit and Vegetable Program, designed both to promote healthier eating and to introduce children to fruits and vegetables they might not otherwise encounter. In addition, under the HealthierUS School Challenge, 6,500 American schools have voluntarily met high standards for both wellness policies and nutrition programs.

In regard to the nutrition education component of SNAP, an amendment to the Healthy, Hunger-Free Kids Act required that the distribution of funds under the act reflect more closely the numbers of consumers receiving benefits through the SNAP program. As a result, funds will gradually shift to a larger number of states. The amendment also made these funds more accessible for classroom education or for provider groups and policy advocacy.

Concannon emphasized the need to accumulate evidence. If policies and programs are based on evidence, he said, people are more likely to accept them, despite the efforts of some groups to confuse the message.

PHYSICAL ACTIVITY PROGRAMS AND POLICIES AT HHS

Koh focused on programs and policies relevant to the physical activity side of the energy balance equation.

HHS has established national frameworks for improving physical activity. In 2008, the agency published its first Physical Activity Guidelines for Americans, and a Midcourse report was released in 2013.[1] That report highlights opportunities for youth to be active and emphasizes areas in which research is especially strong, particularly in schools, preschools, child care centers, and the built environment. Increasingly, leaders are contributing to advancing physical activity as a vital form of disease prevention.

The President's Council on Fitness, Sports, and Nutrition also has

[1]Available at www.health.gov/paguidelines (accessed April 29, 2014).

catalyzed substantial change. In 2012, for example, the Council partnered with leaders in fitness education to launch the Presidential Youth Fitness Program, an updated and modernized version of the long-standing Youth Fitness Test. This new fitness program places a greater emphasis on personal health and fitness, and minimizes competition and comparisons between children. It provides professional development and support to physical educators, and encourages children to pursue healthy lifestyles through physical activity—not just as part of their school activities, but as a lifelong commitment.

The Patient Protection and Affordable Care Act has the potential to have a major impact on obesity, said Koh. In addition to enrolling people into insurance, health care reform embodies a vision and a system of prevention and public health that have not yet been widely publicized. For example, all new private health care and Medicaid expansion plans cover obesity-related screening and behavioral counseling. Additionally, through the prevention and public health fund that is now entering its fifth year, recipients of Community Transformation Grants and their partners are implementing changes to improve the health of some 120 million Americans residing in those communities. These grants reflect the fact that strategies need to be based on populations, communities, and the broader society, said Koh. "Health does not just start in a doctor's office," he noted. "Health starts where people live, labor, learn, play and pray."

The First Lady's Let's Move! initiative also has been working to improve children's health on a number of fronts and across a variety of sectors. In 2013, for example, the First Lady convened a meeting focused on marketing healthier foods and beverages to children. One major outcome of that meeting was a new partnership agreement between Sesame Street and the Produce Marketing Association to promote fresh fruit and vegetable consumption among youth.

Similarly, HHS, in partnership with the National League of Cities, has advanced the Let's Move! Cities, Towns, and Counties initiative. No one person or group can solve this problem alone, Koh emphasized. But mayors, county executives, and other local elected officials can exert pivotal leadership in creating community environments that promote physical activity and healthy eating for many.

Let's Move! Active Schools also has made great progress, in part by emphasizing the theme that healthy students do better academically. "Kids must learn to be active and must be active to learn," said Koh.

According to the Centers for Disease Control and Prevention (CDC), more than half of American adults do not engage in the cardiorespiratory physical activity they need, and only 20 percent meet recommendations for both aerobic and muscle strengthening activity. HHS and other agencies provide survey information and data to help determine status and trends

in physical activity, as well as which policies, programs, and other changes make a difference. More work is needed with regard to the policy and environmental survey information, suggested Koh.

Koh emphasized the importance of leadership. People at the highest levels need to commit to an objective and then convey that commitment to people throughout their organization. As one major example, President Obama formed a White House task force in 2010 that brought federal departments and agencies together to develop an action plan for solving the problem of childhood obesity within a generation. All leaders in the field, especially local champions, need to be honored, recognized, fostered, and encouraged, Koh stressed. "If a key leader steps forward in every community, brings everybody to the table, and says we are going to do this together," he said, "such action can elevate commitment to a much higher level."

The health sector also needs to work and communicate more effectively with nontraditional partners that influence health, such as education, urban planning, transportation, and other segments of society, Koh noted. For example, neighborhoods that are walkable and bikeable can have many benefits for community residents, such as improved livability, economic revitalization, and social capital, in addition to better health.

POTENTIAL PRINCIPLES AND ACTIONS

Levi offered three principles on which those in the field may consider when taking action.

First, multifaceted interventions are needed. When policy makers ask for just one solution for the obesity crisis, those most familiar can insist that no such magic bullet exists.

Second, the distinction between primary and secondary prevention of obesity is not always clear, which is a good thing because it brings more interested parties to the table. For example, improving physical activity and nutrition can both prevent obesity and manage diabetes, and the interventions needed for either purpose are very similar or identical.

Third, different communities face different challenges, which means that a multifaceted approach will look different in each community. This variation can pose difficulties for communications, but this difficulty can be reframed as an emphasis on local decision making. Thus, a Community Transformation Grant does not amount to the federal government's telling a community what to do. Rather, it represents an opportunity to bring players to the table to determine what is best for a community.

The health care financing system is changing, said Levi, which creates "an incredible opening for those of us who care about obesity prevention and control." The change is pushing the health care system to focus

on outcomes while also emphasizing short-term returns on investment. Meanwhile, greater recognition of the social determinants of health within the health care system has revealed the importance of social services to health. People cannot exercise their personal responsibility for health unless they have an environment and the resources to do what they know they should do.

Based on the above principles and this changing context, Levi offered three ideas for the obesity prevention community to consider. First, communities need more capacity to partner with the health care system. Community Transformation Grants provide one framework for change, but others exist as well. What these frameworks have in common is the need for an integrator, a backbone organization that can bring the relevant players together. Systematic investment in integrators is therefore necessary to create the partnerships that are needed, said Levi.

Second, as the leading governmental payer for health care, the Centers for Medicare & Medicaid Services (CMS) needs to develop a more sophisticated understanding of the role of accountable care organizations and other experiments in health system design and delivery in addressing obesity and other population health problems, said Levi. CMS has made tremendous progress in providing financial support for community-level investments, but it needs to adjust its time frames to recognize the long-term returns of such investments.

Finally, the National Prevention Council, which consists of 20 federal agencies that have come together to work on prevention and health issues, needs to stimulate much more direct collaboration among federal agencies, Levi suggested. Individual agencies have adopted a prevention lens, but they need to collaborate, merge funds, and together pursue the common goal of improving health and addressing their core missions. As agencies work across agency lines, they create a base of experience and expertise that can transcend shifts in leadership and change the culture within agencies. In this way, Levi concluded, the federal government can leverage its resources to change community environments and address the social determinants of health.

9

Businesses and Industry

Key Points Highlighted by Individual Speakers

- Through such initiatives as the Healthy Weight Commitment Foundation and the Partnership for a Healthier America, food and beverage companies have been removing calories from the marketplace, selling fewer calories, and reducing the amount of calories Americans consume. (Gable)
- Companies can provide business processes and expertise for the obesity-reduction programs of nonprofits, schools, churches, and other organizations, yielding sustainable, integrated systems that operate cost-effectively. (Soler)
- Public–private partnerships focused on health and wellness are producing change in stores, communities, child care centers, schools, homes, hospitals, and other settings. (Soler)

Two speakers addressed obesity solutions in businesses and industry. Lisa Gable, president of the Healthy Weight Commitment Foundation, described initiatives of the food and beverage industry. Larry Soler, president and chief executive office of the Partnership for a Healthier America, spoke about the opportunities and challenges entailed in forming effective public–private partnerships.

INITIATIVES OF THE FOOD AND BEVERAGE INDUSTRY

In 2008, Indra Nooyi, chief executive officer of PepsiCo, delivered an important message to her peers at the midwinter conference of the Food Marketing Institute. She noted that more than one in three American adults and nearly one in five American children were obese. The potential health consequences of obesity include type 2 diabetes, hypertension, and cardiovascular disease. Nooyi had an important message about childhood obesity to deliver to her peers: "This is an area where we can make a difference and should."

Gable described some of the actions the industry has taken since then to become more active and engaged. In fall 2009, the Health Weight Commitment Foundation was created by some of the country's largest food and beverage companies and retailers.[1] It focused on three key elements: making a significant marketplace commitment, with outcomes to be evaluated by an independent outside evaluator; putting resources behind a consumer education campaign; and partnering with any organization willing to participate. As one example of the Foundation's actions, the 16 participating companies committed to removing 1.5 trillion calories from the marketplace by the end of 2015.

In 2010, First Lady Michelle Obama asked the industry to step up its efforts as part of her Let's Move! initiative. The result was formation of the Partnership for a Healthier America, which has brought together public, private, and nonprofit leaders to broker meaningful commitments and develop strategies for ending childhood obesity.[2] The Partnership has worked with others, including Darden Restaurants, the nation's largest restaurant company, and Walmart, the largest retailer, to provide greater choice and variety in their menus and on their shelves. "When the biggest players step up," said Gable, "the impact of their efforts is disproportionately large and the momentum they generate is in the right direction."

In a recent interim report to the Partnership for a Healthier America, the Healthy Weight Commitment Foundation companies stated that they had achieved and indeed exceeded their 2015 goal of removing 1.5 trillion calories from the marketplace. In addition, the U.S. Department of Agriculture's Economic Research Service has reported that the total number of calories available in the marketplace has declined over time. And Centers for Disease Control and Prevention (CDC) experts, citing National Health and Nutrition Examination Survey (NHANES) data, have reported declines in energy intake in both adults and children. "This is a trilogy of achievement which everyone can be proud of," said Gable.

[1]For more information, see http://www.healthyweightcommit.org (accessed April 29, 2014).
[2]For more information, see http://ahealthieramerica.org (accessed April 29, 2014).

Continued progress is within reach. A May 2013 Hudson Institute study found that lower-calorie products drove 82 percent of the sales growth among the food and beverage companies participating in the Healthy Weight Commitment Foundation, representing more than four times the sales growth of higher-calorie products. Of the 15 new products attaining annual sales of $50 million or more—a major benchmark in the industry—10 were lower-calorie items. Based on these data, the Hudson Institute recommended that companies emphasize selling lower-calorie foods and beverages as an effective pathway to improving overall sales growth. "In other words," Gable said, "selling more lower-calorie foods and beverages was good for business."

Gable encouraged more companies and communities to join these efforts to make changes in the marketplace. She also encouraged schools, parents, and other caregivers to commit to the cause. Given the wide range of choices people have about where and how to consume food, a holistic approach will be most effective, she suggested. In addition, activities being conducted in different sectors can be coordinated so that all are more effective.

A particularly helpful action would be for companies to provide their business processes and expertise to the obesity-reduction programs of nonprofits, schools, churches, and other organizations. "With these tools, we can create sustainable, integrated systems that operate in a cost-effective manner," said Gable. For example, the application of continuous improvement systems that are prevalent in manufacturing to the delivery of nonprofit services could enhance success while lowering costs.

By aligning efforts, filling gaps, reducing barriers, and focusing on individuals and communities with the greatest needs, said Gable, customers can be given access to the information and tools they need to maintain a healthy weight. "Our collective effort is stronger than our individual parts," she concluded.

EFFECTIVE PUBLIC–PRIVATE PARTNERSHIPS

Soler outlined some of the opportunities and challenges of forming effective public–private partnerships.

The Partnership for a Healthier America has made approximately 70 agreements with companies focused in such areas as food formulation, nutrition, access, and affordability. It has worked with Walmart to make the food sold by that company healthier and more affordable. It has worked with Darden Restaurants and others in the food industry to make healthy choices easier for American families. The Partnership also has worked in communities, schools, and homes to increase physical activity. For example, it has worked with the early childhood education sector to raise standards

for food and physical activity and with hospitals to ensure the provision of healthier options in food service.

One important initiative has been to bring competitors together to cooperate on healthier approaches to food and physical activity. For example, the Partnership brought water suppliers and bottlers together to work on the Drink Up campaign, which champions the health benefits of drinking water. The Partnership also has been approaching a wide variety of enterprises, such as health plans and entertainment companies, to promote obesity solutions.

Signs of the effectiveness of these approaches are beginning to be seen, Soler said. As one example, Birds Eye Foods, with support from the Partnership, ran a campaign to encourage children to eat fruits and vegetables. In the following sales quarter, the company's profits increased even as revenues in the frozen food industry declined overall. "That is real life positive results," said Soler.

Many challenges remain, however. Meaningful change is difficult, suggested Soler. Companies frequently see management changes and strategy shifts, and particular approaches sometimes fail. To ensure meaningful commitments, the Partnership requires signed contracts, transparent accountability, and results. "For every ten companies we talk to, maybe one makes it through our process," Soler noted.

Also, the American public is only now beginning to appreciate the difference between a press release announcing a change and an announcement that involves third-party verification. As the use of independent verification grows, Soler said, public trust of companies also will grow.

Finally, Soler stressed that no single change will solve the problem, but the combination of many changes in both the public and private sectors, together with the use of new marketing and communication tools, will yield continued progress. Companies are taking risks in doing this work, but the changes can be profitable, and "if they are profitable, they are going to be sustainable," Soler asserted.

Great momentum has developed over the past 5 years, Soler noted. The First Lady's support has changed the way people think about issues of health and wellness. The public is excited to learn more and is bringing pressure to bear on industry to change. Companies are realizing that they can make a profit by making healthier options available. "Things are looking up," Soler concluded.

10

Closing Remarks

Those attending the workshop and watching on the webcast have many different backgrounds and perspectives, said Bill Purcell, chair of the Roundtable on Obesity Solutions, in his closing remarks at the workshop. But they have a common goal—reducing obesity and improving the health of Americans—and that shared goal will shape actions going forward. Much of what needs to be done is clear, he said. The challenge now is to figure out how to do what needs to be done.

The work of the roundtable represents "a new adventure and a new set of opportunities," said Purcell. The roundtable seeks to use the knowledge that exists today to extend and accelerate progress while pursuing the new knowledge that will make a difference in the future. Preventing and treating obesity is some of "the most important work going on" in America today, Purcell concluded, which will motivate and inspire the roundtable's future efforts.

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A

Workshop Agenda

THE CURRENT STATE OF OBESITY SOLUTIONS IN THE UNITED STATES

A public session hosted by the Institute of Medicine Roundtable on Obesity Solutions

January 7, 2014

National Academy of Sciences (NAS) Building, NAS Auditorium
2101 Constitution Avenue, NW, Washington, DC

Workshop Goals

- Describe the current obesity prevention and control landscape
- Increase awareness of progress and opportunities in obesity prevention and control
- Identify strategies with greatest impact and opportunities for cross-sector alignment and collaboration
- Identify gaps in programs and implementation

Opening Remarks

12:30 pm **Welcome**
Lynn Parker, Director, Roundtable on Obesity Solutions

12:35 pm **Introduction to the Roundtable on Obesity Solutions**
Harvey V. Fineberg, President, Institute of Medicine

12:45 pm **Update on the Current Epidemiology of Obesity in the United States**
William Dietz, Consultant, Institute of Medicine

Settings Where Change Is Happening: Progress in Nutrition, Physical Activity, and Elimination of Disparities

Session Facilitator: *Mary Story, Professor of Global Health and Community and Family Medicine, Duke University*

1:05 pm **Early Care and Education**
- *Debbie Chang, Vice President, Nemours Foundation*
- Comments
  - *Dianne Ward, Professor of Nutrition, University of North Carolina at Chapel Hill*
  - *Geri Henchy, Director of Nutrition Policy and Early Childhood Programs, Food Resource and Action Center*
- Facilitated panel discussion

1:35 pm **Schools**
- *Sarah Lee, Health Scientist, Centers for Disease Control and Prevention*
- Comments
  - *Christina Economos, Director, ChildObesity180*
  - *Jessica Donze Black, Director of Kids' Safe and Healthful Foods Project, Pew Charitable Trusts*
- Facilitated panel discussion

2:05 pm **Worksites**
- *Helen Eddy, Assistant Vice President, Health and Wellness, Hy-Vee, Inc.*
- Comments
  - *Nico Pronk, Vice President and Chief Science Officer, HealthPartners, Inc.*
  - *Julia Halberg, Chief Medical Officer, General Mills, Inc.*
- Facilitated panel discussion

2:35 pm **Health Care: Hospitals, Clinics, and Insurance Companies**

- *Don Bradley, Chief Medical Officer and Senior Vice President, Blue Cross and Blue Shield of North Carolina*
- Comments
  - *Loel Solomon, Vice President, Community Health, Kaiser Permanente*
  - *Eduardo Sanchez, Chief Medical Officer, American Heart Association*
- Facilitated panel discussion

3:05 pm **BREAK**

Session Facilitator: *Russell Pate, Professor, Department of Exercise Science, University of South Carolina*

3:20 pm **Communities and States**

- *Leon Andrews, Senior Fellow, National League of Cities*
- *Cheryl Bartlett, Commissioner of Massachusetts Department of Public Health*
- Comments
  - *Marion Standish, Director of Community Health, California Endowment*
- Facilitated panel discussion

3:55 pm **Federal Government**

- *Kevin Concannon, Under Secretary for Food, Nutrition, and Consumer Services, U.S. Department of Agriculture*
- *Howard Koh, U.S. Department of Health and Human Services*
- Comments
  - *Jeff Levi, Executive Director, The Trust for America's Health*
- Facilitated panel discussion

4:30 pm **Businesses and Industry**

- *Lisa Gable, President, Healthy Weight Commitment Foundation*

- Comments
  - *Larry Soler, President, Partnership for a Healthier America*
- Facilitated panel discussion

Closing Remarks

5:00 pm **Closing Keynote**
Bill Purcell, Roundtable Chair

5:15 pm **Adjourn Workshop**

B

Speaker Biographical Sketches

Leon Andrews, M.S., is a senior fellow at the National League of Cities' (NLC's) Institute for Youth, Education, and Families. Prior to joining NLC, Mr. Andrews was a fellow at the Forum for Youth Investment, where he coordinated a multistate youth policy and engagement initiative. He also serves on the boards of ChangeLab Solutions, the National Recreation and Parks Association, the Youth Planners Network, Healthy Kids Healthy Schools, and the Safe Routes to School National Review Group. Mr. Andrews is currently a Ph.D. candidate at the Taubman College of Architecture and Urban Planning at the University of Michigan and holds a master's degree in public policy and management from Carnegie Mellon University.

Cheryl Bartlett, R.N., was named commissioner of the Massachusetts Department of Public Health in June 2013. As commissioner, Ms. Bartlett chairs the newly appointed Prevention and Wellness Advisory Board, which oversees a $60 million Prevention Trust Fund—the first of its kind in the nation. As former interim deputy commissioner, Ms. Bartlett led the Department's creation and implementation of regulations to support the use of marijuana for medicinal purposes. Prior to being named deputy commissioner, she was director of the Bureau of Community Health and Prevention, where she provided strategic direction and oversight for Mass in Motion—the initiative designed to help Massachusetts residents eat better and move more in the places they live, learn, work, and play. Ms. Bartlett has extensive experience as a registered nurse and hospital administrator implementing health system changes through quality assessment

and improvement practices. She received national certification in the following nursing specialties: cardiovascular, epidemiology, surveillance and infection control, dialysis, and HIV/AIDS. Ms. Bartlett has held elected and appointed positions at the local level in several municipalities, including serving on the Nantucket Board of Selectman. She received her nursing training at Yale New Haven Hospital and Quinnipiac University and graduated summa cum laude from Stonehill College with a degree in health care administration.

Don Bradley, M.D., M.H.S.-C.L., is senior vice president for healthcare and chief medical officer at Blue Cross and Blue Shield of North Carolina (BCBSNC). Dr. Bradley is responsible for programs, interventions, and information designed to assist BCBSNC customers in making informed choices for optimal health and to help keep health care affordable. His accomplishments over the past 25 years at BCBSNC include leading the implementation of open-access online medical policy; the development of extensive primary care provider performance feedback; the institution of the annual State of Preventive Health forum; the implementation of comprehensive benefits and programs for the medical assessment and treatment of obesity (Healthy Lifestyle Choices); the creation of one of the nation's first Bariatric Surgery Centers of Excellence programs; and the development of performance-based provider reimbursement and tiered provider networks. Dr. Bradley holds faculty appointments at Duke University and the University of North Carolina School of Medicine. He received gubernatorial appointments to the North Carolina State Health Coordinating Council and the North Carolina Institute of Medicine. He also serves as chair of the North Carolina Healthcare Quality Alliance, as a member of the executive committee for the National Council of Physician and Pharmacy Executives within the Blue Cross and Blue Shield Association, and as a member of the Board of Managers for North Carolina Health Innovations. Dr. Bradley completed his medical degree at the Medical College of Virginia; a family medicine residency in Harrisburg, Pennsylvania; and a Kellogg fellowship and a master's degree in clinical leadership at Duke University. He practiced medicine in rural Virginia before joining the Duke Family Medicine Residency faculty in 1981. He served as medical director for the 50-physician Patient Centered Medical Home clinical practice, for which he successfully implemented multiple capitation and risk contracts.

Debbie I. Chang, M.P.H., is vice president of policy and prevention at Nemours Foundation. She serves as a corporate officer of Nemours, an operating foundation focused on children's health and health care. Previously at Nemours, Ms. Chang was founding executive director of Nemours Health & Prevention Services, an operating division devoted to improving

children's health through a comprehensive multisector, place-based model in Delaware. She has more than 26 years of federal and state government and private-sector experience in the health field. She has worked on a range of key health programs and issues, including Medicaid, the State Children's Health Insurance Program (SCHIP), Medicare, maternal and child health, national health care reform, and financing coverage for the uninsured. She has held the following federal and state positions: deputy secretary of health care financing at the Maryland Department of Health and Mental Hygiene, with oversight for the State of Maryland's Medicaid program and the Maryland Children's Health Program; national director of SCHIP when it was first implemented in 1997; director of the Office of Legislation and Policy for the Health Care Financing Administration (now the Centers for Medicare & Medicaid Services); and senior health policy advisor to former U.S. Senator Donald W. Riegle, Jr., former chair of the Senate Finance Subcommittee on Health for Families and the Uninsured. Ms. Chang serves on the Institute of Medicine's (IOM's) Board on Children, Youth, and Families and its Roundtables on Population Health and Improvement and Obesity Solutions; the Agency for Healthcare Research and Quality's (AHRQ's) Health Care Innovation Exchange Board; and the Winter Park Health Foundation Board. She has published work on population health; child health systems transformation; Medicaid; SCHIP; and Nemours' prevention-oriented health system, including its Centers for Disease Control and Prevention (CDC) Pioneering Innovation award-winning statewide childhood obesity program. Nemours is a founding member of the Partnership for a Healthier America and the National Convergence Partnership, a unique collaboration of leading foundations focused on healthy people and healthy places. Ms. Chang holds a master's degree in public health policy and administration from the University of Michigan School of Public Health and a bachelor's degree in chemical engineering from the Massachusetts Institute of Technology.

Kevin W. Concannon, M.S.W., is under secretary for food, nutrition, and consumer services in the U.S. Department of Agriculture (USDA). He was nominated by President Obama and Secretary Vilsack and confirmed by the U.S. Senate in July 2009. Food, Nutrition, and Consumer Services has principal responsibilities and funding authority for the Food and Nutrition Service, which serves an estimated one in four Americans, and has lead responsibilities for promoting healthful diet through the Center for Nutrition Policy and Promotion. Over the past 25 years, Mr. Concannon has served as director of state health and human services departments in Iowa, Maine, and Oregon. He has championed expanded services, improved access, alternatives to institutions, consumer choices, affordable health care, diversity in workplaces and programs, and the modernization of

public information technology systems. He has also served in a number of national organizations, including as president of the American Public Welfare Association, president of the National Association of State Mental Health Program Directors, trustee of the American Public Human Services Association, board member of the American Humane Association, and co-chair of the Milbank Memorial Fund state steering committee. He has received a number of awards, including the Lifetime Human Services Award from the American Public Human Services Association in 2007, the 2012 Catholic Charities USA Keep the Dream Alive Award, and the 2012 National WIC (Special Supplemental Nutrition Program for Women, Infants, and Children) Association Leadership award. Mr. Concannon is a native of Portland, Maine, and a graduate of Saint Francis Xavier University, Nova Scotia, with both bachelor of arts and master of social work degrees. He has continued his studies at the University of Southern Maine and the University of Connecticut Graduate School of Social Work. He has taught graduate courses at the University of Connecticut; Portland State University, Oregon; and the University of Iowa as adjunct professor of social work.

William (Bill) H. Dietz, M.D., Ph.D., is a consultant to the IOM Roundtable on Obesity Solutions, and the director of the Sumner M. Redstone Global Center on Prevention and Wellness at the Milken Institute School of Public Health at George Washington University. He was director of the Division of Nutrition, Physical Activity, and Obesity in the Center for Chronic Disease Prevention and Health Promotion at CDC from 1997-2012. Prior to his appointment to CDC, he was a professor of pediatrics at the Tuft's University School of Medicine, and director of clinical nutrition at the Floating Hospital of New England Medical Center Hospitals. Dr. Dietz has been a councilor and past president of the American Society for Clinical Nutrition, and past president of the North American Association for the Study of Obesity. From 2001-2003 he served as a member of the Advisory Board to the Institute of Nutrition, Metabolism, and Diabetes of the Canadian Institutes for Health Research. In 2000, Dr. Dietz received the William G. Anderson Award from the American Alliance for Health, Physical Education, Recreation and Dance, and was recognized for excellence in his work and advocacy by the Association of State and Territorial Public Health Nutrition Directors. In 2002, he was made an honorary member of the American Dietetic Association, and received the Holroyd-Sherry award for his outstanding contributions to the field of children, adolescents, and the media. In 2005 Dr. Dietz received the George Bray Founders Award from the North American Association for the Study of Obesity. In 2006, he received the Nutrition Award from the American Academy of Pediatrics for outstanding research related to nutrition of infants and children. In 2008

Dr. Dietz received the Oded Bar-Or award from the Obesity Society for excellence in pediatric obesity research. In 2012, he received a Special Recognition Award from the American Academy of Pediatrics Provisional Section on Obesity, and the Outstanding Achievement Award from the Georgia Chapter of the American Academy of Pediatrics. Dr. Dietz is the author of more than 200 publications in the scientific literature, and the editor of 5 books, including *Clinical Obesity in Adults and Children*, and *Nutrition: What Every Parent Needs to Know*. Dr. Dietz received his B.A. from Wesleyan University in 1966 and his M.D. from the University of Pennsylvania in 1970. After the completion of his residency at Upstate Medical Center, he received a Ph.D. in Nutritional Biochemistry from Massachusetts Institute of Technology. Dr. Dietz is a member of the IOM.

Jessica Donze Black, R.D., M.P.H., is director of the Kids Safe and Healthful Foods Project—a joint initiative of the Pew Charitable Trusts and the Robert Wood Johnson Foundation. In this capacity, she leads research, policy, and advocacy efforts aimed at improving school nutrition. Prior to joining Pew, Ms. Donze Black served as national director of the Healthy Schools Program for the Alliance for a Healthier Generation. In her work at the Alliance, she led a team of more than 60 people in 37 states who were helping schools make healthy and sustainable changes in their environments, policies, and practices. Ms. Donze Black's past work also includes directing obesity initiatives for the American Heart Association, managing national nutrition policy for the American Dietetic Association, serving as a health policy fellow for Senator Jeff Bingaman (NM-D), and practicing clinical nutrition at DuPont Hospital for Children. Ms. Donze Black is a registered dietitian with a bachelor of science degree from the University of Wisconsin, Madison, and a master's degree in public health from the University of Maryland, College Park.

Christina Economos, Ph.D., is vice chair and director of ChildObesity180, New Balance chair in Childhood Nutrition, and associate professor at the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy and the School of Medicine, Tufts University. Dr. Economos's research efforts have addressed the interaction among exercise, diet, body composition, bone health, and the built environment with the aim of preventing osteoporosis and obesity starting in early childhood. She is principal investigator of multiple large-scale studies examining childhood nutrition and physical activity with the goal of inspiring behavior, policy, and environmental change to improve the health of America's children. She has worked effectively with diverse communities and has crafted, implemented, and evaluated physical activity and nutrition education curricula. At ChildObesity180 she blends scientific evidence and rigor with innova-

tion and experience from the private sector to develop, implement, evaluate, and scale up high-impact obesity prevention initiatives. Dr. Economos is involved in multiple national obesity and public health activities and has served on several IOM committees, including the Committee on an Evidence Framework for Obesity Prevention Decision Making, the Committee on Accelerating Progress in Obesity Prevention, and the Standing Committee on Childhood Obesity Prevention. She received a bachelor of science degree from Boston University, a master of science degree in applied physiology and nutrition from Columbia University, and a doctorate in nutritional biochemistry from Tufts University.

Helen Eddy, R.Ph., M.B.A., is assistant vice president, Health and Wellness, for Hy-Vee, Inc. (since 2009) and executive director of the Healthiest State Initiative (since 2012). Ms. Eddy has been employed by Hy-Vee, Inc. for 25 years, holding various positions in pharmacy operations until 2009. Her current responsibilities include Hy-Vee's retail health and wellness initiatives, such as wellness screenings, pharmacy and dietitian services, and natural and organic products. In 2011 Governor Terry Branstad launched Iowa's Healthiest State Initiative, a public–private partnership with the goal of making Iowa number 1 in well-being by 2016. Ms. Eddy graduated from the University of Iowa with a bachelor of science degree in pharmacy and received her M.B.A. from Drake University in 1984.

Lisa Gable, M.A., is president of the Healthy Weight Commitment Foundation, a chief executive officer-led initiative aimed at helping to reduce obesity, especially childhood obesity, in America. Her background includes tenure as U.S. ambassador and commissioner general, Aichi World EXPO 2005; global brand identity manager for INTEL Corporation; partner, The Brand Group; member, the Governor's Economic Development and Jobs Creation Commission; advisory board member, Base Technologies; trustee of Thunderbird School of Global Management; board member, Lovelace Respiratory Research Institute; board member, Virginia Foundation for the Humanities; a commissioner of the President's Commission on White House Fellowships; U.S. delegate to the United Nations; vice chairman for the U.S. Defense Department's Defense Advisory Committee on Women in the Services; trustee for the California State Summer School of the Arts; deputy associate director, Office of Presidential Personnel, the White House; and special assistant for technology transfer policy, Office of the Secretary of Defense. Ms. Gable is a graduate of the University of Virginia with a bachelor's degree in international relations and holds a master's degree from Georgetown University's National Security Studies program.

Julia Halberg, M.D., M.P.H., M.S., FACOEM, is vice president, global health and chief medical officer at General Mills, Inc. Dr. Halberg leads the company's global approach to preventive care, health education, wellness programs, and medical treatment. She joined General Mills in 2001 as director of health services. Dr. Halberg has published extensively on several topics, including shift work, blood pressure, and circadian rhythms. She is a fellow of the American College of Occupational and Environmental Medicine and served on its board of directors for 6 years. At the University of Minnesota, she is an adjunct assistant professor in the Department of Environmental and Occupational Health, where she mentors environmental/public health Ph.D. candidates, medical students, and occupational medicine residents. Dr. Halberg serves on the boards of Way to Grow and the Midwest Center for Occupational Health and Safety. She earned her medical degree from the University of Connecticut, and received a master's degree in biology/ecology and a master of public health degree in epidemiology from the University of Minnesota. Dr. Halberg completed residency training in internal medicine and fellowship training in occupational medicine, in which she is board certified.

Geraldine Henchy, M.P.H., is director of nutrition policy at the Food Research and Action Center. Ms. Henchy's work focuses on nutrition policies, such as increasing the healthfulness of nutrition programs, necessary to reach the goals of eradicating domestic hunger and improving the nutrition and health of low-income individuals and families. She was a member of the IOM's Committee to Review the Child and Adult Care Food Program Meal Requirements, which had the task of creating nutrition standards to bring the meals served into compliance with the Dietary Guidelines for Americans. She is currently chair of the policy committee of the American Public Health Association's Food and Nutrition Section. Ms. Henchy serves on the USDA's Management Improvement Task Force. She has been honored to receive awards for her work on child nutrition programs from the Sponsors Association, the National Sponsors Forum, and the California Roundtable. Most recently, the National Association of Family Child Care honored Ms. Henchy with its Advocate of the Year Award. She is the author of numerous policy briefs on the federal child nutrition programs and has co-authored a number of publications, including *Making WIC Work for Multicultural Communities: Best Practices for Outreach and Nutrition Education*, *Time for a Change: WIC Food Package Guide*, *WIC in Native American Communities: Building a Healthier America*, and *WIC Partnerships and the Nurturing Parent*. Ms. Henchy is also the author of a number of Web-based tools, including most recently the "Child Care Wellness Tool Kit: Child and Adult Care Food Program." She is a registered dietitian and holds an M.P.H. in nutrition from the University of California, Berkeley.

Howard K. Koh, M.D., M.P.H., is the 14th assistant secretary for health for the U.S. Department of Health and Human Services (HHS), having been nominated by President Barack Obama and confirmed by the U.S. Senate in 2009. Dr. Koh oversees 12 core public health offices, including the Office of the Surgeon General and the U.S. Public Health Service Commissioned Corps; 10 regional health offices across the nation; and 10 presidential and secretarial advisory committees. He also serves as senior public health advisor to the secretary of HHS. As assistant secretary for health, Dr. Koh is dedicated to creating better public health systems for prevention and care so that all people can reach their highest attainable standard of health. He previously served as Harvey V. Fineberg professor of the practice of public health and associate dean for public health practice at the Harvard School of Public Health. He was also director of the Harvard School of Public Health's Center for Public Health Preparedness. He has published more than 250 articles in the medical and public health literature. Dr. Koh served as commissioner of public health for the Commonwealth of Massachusetts (1997-2003) after being appointed by Governor William Weld. He has earned numerous awards and honors for interdisciplinary accomplishments in medicine and public health, including the Dr. Martin Luther King Jr. Legacy Award for National Service, the Distinguished Service Award from the American Cancer Society, and the Drs. Jack E. White/LaSalle D. Leffall Cancer Prevention Award from the American Association for Cancer Research and the Intercultural Cancer Council. He is an elected member of the IOM. President Bill Clinton appointed Dr. Koh to the National Cancer Advisory Board (2000-2002). A past chair of the Massachusetts Coalition for a Healthy Future (the group that advocated for the commonwealth's groundbreaking tobacco control initiative), Dr. Koh was named by the New England Division of the American Cancer Society as "one of the most influential persons in the fight against tobacco during the last 25 years." He has also received the 2012 Champion Award from the Campaign for Tobacco Free Kids, the Hero of Epilepsy Award from the Epilepsy Foundation, and the Baruch S. Blumberg Prize from the Hepatitis B Foundation. He was named to the K100 (the 100 leading Korean Americans in the first century of Korean immigration to the United States) and has received the Boston University Distinguished Alumnus Award, as well as two honorary degrees. Dr. Koh graduated from Yale College. He completed postgraduate training at Boston City Hospital and Massachusetts General Hospital, serving as chief resident in both. He has earned board certification in four medical fields—internal medicine, hematology, medical oncology, and dermatology—as well as a master of public health degree from Boston University.

Sarah Lee, Ph.D., is team lead for the Research Application and Evaluation Team in the School Health Branch, Division of Population Health, CDC. The team is focused on chronic disease prevention in schools, including promotion of physical activity and healthy eating and prevention of tobacco use. She provides scientific expertise and leadership on numerous documents, resources, surveillance studies, and CDC school health programs related to youth physical activity and obesity prevention. Her previous and current research interests include school policies and environmental influences on physical activity among youth, physical activity assessment, dissemination and diffusion of school health tools and resources, and the coordinated school health model applied to designing effective programs. Dr. Lee is lead author for CDC's Physical Education Curriculum Analysis Tool and CDC's Guidelines for Schools to Promote Lifelong Healthy Eating and Physical Activity among Young People. Additionally, she has published more than 25 peer-reviewed manuscripts related to youth physical activity, childhood obesity prevention, and evidence-based strategies for use by schools in implementing effective policies and programs related to both of these topics. Dr. Lee earned her Ph.D. in exercise and wellness education from Arizona State University.

Jeffrey Levi, Ph.D., is executive director of the Trust for America's Health (TFAH), where he leads the organization's advocacy efforts on behalf of a modernized public health system. He oversees TFAH's work on a range of public health policy issues, including implementation of the public health provisions of the Patient Protection and Affordable Care Act and annual reports assessing the nation's public health preparedness, investment in public health infrastructure, and response to chronic diseases such as obesity. In January 2011, President Obama appointed Dr. Levi to serve as a member of the Advisory Group on Prevention, Health Promotion, and Integrative and Public Health. In April 2011, Surgeon General Benjamin appointed him the group's chair. Dr. Levi is also professor of health policy in George Washington University's School of Public Health, where his research has focused on HIV/AIDS, Medicaid, and integration of public health with the health care delivery system. He has also served as an associate editor of the *American Journal of Public Health* and deputy director of the White House Office of National AIDS Policy. Dr. Levi received a bachelor of arts degree from Oberlin College, a master of arts degree from Cornell University, and a Ph.D. from George Washington University.

Nicolas P. Pronk, Ph.D., FACSM, is vice president for health management and chief science officer for HealthPartners, Inc. Dr. Pronk is also a senior research investigator at the HealthPartners Institute for Education

and Research; adjunct professor of social and behavioral sciences at the Harvard School of Public Health; visiting research professor in environmental health sciences at the University of Minnesota, School of Public Health; member of the Task Force on Community Preventive Services; and founding and past president of the International Association for Worksite Health Promotion. His research expertise lies in the areas of population health improvement, the role of physical activity in health, and the impact of multiple health behaviors on health outcomes. Dr. Pronk is particularly interested in improving population health in the context of the employer setting; the integration of health promotion with occupational safety and health; and the integration of health promotion, behavioral health, and primary care. He is senior editor of the American College of Sports Medicine's *Worksite Health Handbook*, 2nd ed. (2009), and author of the scientific background paper for the U.S. National Physical Activity Plan for Business and Industry. Dr. Pronk received a Ph.D. in exercise physiology from Texas A&M University and completed postdoctoral studies in behavioral medicine at the University of Pittsburgh Medical Center and the Western Psychiatric Institute and Clinic in Pittsburgh.

Bill Purcell III, J.D., is an attorney in Nashville, Tennessee. He served most recently as special advisor on Allston (a neighborhood of Boston) and co-chair of the Work Team for Allston in the Office of the President at Harvard University. From 2008 to 2010, Mr. Purcell served as director of the Institute of Politics at the Kennedy School of Government at Harvard. His accomplishments as a civic leader earned him Public Official of the Year honors in 2006 from *Governing Magazine*. Mr. Purcell's prior civic leadership positions include mayor of Nashville from 1999 to 2007 and five terms in the Tennessee House of Representatives. During his tenure in the Tennessee House, he held the positions of majority leader and chair of the Select Committee on Children and Youth. After retiring from the General Assembly, Mr. Purcell founded and became director of the Child and Family Policy Center at the Vanderbilt Institute of Public Policy Studies. He previously served in various capacities on IOM obesity-related committees, including the Standing Committee on Childhood Obesity Prevention (member), Committee on an Evidence Framework for Obesity Prevention Decision Making (member), and Committee on Accelerating Progress in Obesity Prevention (vice chair). Mr. Purcell is currently the chair of the Roundtable on Obesity Solutions. He is an adjunct professor of public policy at Vanderbilt University. He graduated from Hamilton College and Vanderbilt University School of Law.

Eduardo Sanchez, M.D., M.P.H., FAAFP, is deputy chief medical officer (CMO) for the American Heart Association. Formerly, Dr. Sanchez served

as vice president and CMO for Blue Cross and Blue Shield of Texas, where he focused on worker and worksite wellness; clinical prevention; and management of chronic disease, particularly diabetes and cardiovascular disease. Dr. Sanchez served as director of the Institute for Health Policy at the University of Texas School of Public Health from 2006 to 2008, as Texas state health officer from 2001 to 2006, and as commissioner of the Texas Department of State Health Services from 2004 to 2006 and of the Texas Department of Health from 2001 to 2004. He also served as local public health officer in Austin-Travis County from 1994 to 1998. Dr. Sanchez currently serves as chair of the Partnership for Prevention's Board of Directors and chair of the National Commission on Prevention Priorities. He recently served on the IOM Standing Committee on Childhood Obesity, was a member of the IOM Committee on Accelerating Progress in Obesity Prevention, and served as chair of the IOM Committee on Childhood Obesity Prevention Actions for Local Governments. He will be serving on the IOM's Roundtable on Obesity Solutions. From 2008 to 2012, he chaired the Advisory Committee to the Director of CDC. Dr. Sanchez received his M.D. from the University of Texas Southwestern Medical School in Dallas, an M.P.H. from the University of Texas Health Science Center at Houston School of Public Health, and a master of science degree in biomedical engineering from Duke University. He holds a bachelor of science degree in biomedical engineering and a bachelor of arts degree in chemistry from Boston University. Dr. Sanchez is board certified in family medicine.

Lawrence A. Soler, J.D., is president and chief executive officer of the Partnership for a Healthier America (PHA), an organization dedicated to making the healthy choice the easy choice by working with the private sector to bring about healthier options for American families. Prior to joining PHA, Mr. Soler was chief operating officer for the Juvenile Diabetes Research Foundation (JDRF). He oversaw the bulk of JDRF's activities, including all fundraising and local chapters, marketing and communications, information technology, government relations, and international development. Mr. Soler received a bachelor of arts degree with honors from Clark University and his J.D. degree from George Washington University. He is a member of both the Maryland and Washington, DC, bar associations.

Loel Solomon, Ph.D., M.P.P., joined Kaiser Permanente's Community Benefit Program in 2003 and presently serves as vice president for community health. In this position, Dr. Solomon works with health plan and medical group leaders to establish the strategic direction for Kaiser Permanente's multifaceted approach to prevention and community health and develops national partnerships to advance those ends. He was a co-founder of the

Convergence Partnership, a collaborative of national funders working to advance policy and environmental approaches to community health, and currently serves on the Partnership's steering committee. Dr. Solomon also leads Kaiser Permanente's Community Benefit Community of Practice and oversees the program's evaluation and community health needs assessment activities. Before joining Kaiser Permanente, Dr. Solomon served as deputy director of the California Office of Statewide Health Planning and Development for Healthcare Quality and Analysis, where he oversaw the state's hospital outcomes reporting program, analyses of racial and ethnic health disparities, and dissemination of health care data to researchers and members of the public. He served as a senior manager at the Lewin Group in Washington, DC, and as a member of Senator Edward Kennedy's health staff. Dr. Solomon received his Ph.D. in health policy from Harvard University and a master of public policy degree at the University of California, Berkeley.

Marion Standish, J.D., is senior advisor, Office of the President, at The California Endowment. She leads the foundation's multiple philanthropic partnerships, provides strategic guidance to its Health Happens Here Campaigns, and provides programmatic support to impact investing activities. In that capacity, Ms. Standish serves as lead officer for the Endowment with the Partnership for a Healthier America, the First Lady's Let's Move! campaign, the National Convergence Partnership, and collaboration among California's Community Transformation Grant recipients. Prior to assuming her role as senior advisor, Ms. Standish was director of community health for the Endowment, overseeing multiple grant-making initiatives focused on transforming communities so that the healthy choice is the easy choice. Before joining the Endowment, she was founder and director of California Food Policy Advocates (CFPA), a statewide nutrition and health research and advocacy organization focusing on access to nutritious food for low-income families. Before launching CFPA, she served as director of the California Rural Legal Assistance Foundation, a statewide advocacy organization focusing on health, education, and labor issues facing farmworkers and the rural poor. She began her career as a staff attorney with California Rural Legal Assistance, a federally funded legal services program. Ms. Standish serves on the board of directors of the Food Research and Action Center and the San Francisco Community Boards Program. She received her J.D. from the University of San Francisco School of Law, and both her master of arts and undergraduate degrees from New York University.

Dianne S. Ward, Ed.D., is a professor in the Department of Nutrition at the Gillings School of Global Public Health at the University of North Carolina

at Chapel Hill. She has experience conducting research in the area of child health, specifically obesity prevention. During the past 10 years, she has been the principal investigator or co–principal investigator for a number of research studies exploring environmental determinants of obesity and testing preschool, school, and home-based interventions for preventing obesity in children and families through promotion of healthy eating and/or physical activity. Dr. Ward's recent work has been focused on child care settings. She led the team that developed Nutrition and Physical Activity Self-Assessment for Child Care, an environmental and policy intervention that has been adopted for use by a number of communities across the United States. In addition, she and her colleagues developed an instrument for assessing the nutrition and physical activity environments in child care settings. Her success in that effort led to the National Cancer Institute-funded project HomeSTEAD: the Home Self-Administered Tool for Environmental Assessment of Activity and Diet. Dr. Ward received a bachelor of science degree in physical education from Coker College, a master of science degree in physical education from the University of North Carolina at Greensboro, and her Ed.D. degree from the University of North Carolina at Greensboro.