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Proceedings of a Workshop

IN BRIEF

June 2019

A Health Equity Approach to Obesity Efforts

Proceedings of a Workshop—in Brief

On April 1, 2019, the Roundtable on Obesity Solutions of the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine, held a public workshop, A Health Equity Approach to Obesity Efforts, in Washington, DC. The workshop explored the history of health equity issues in demographic groups that have above-average obesity risk, and considered principles and approaches to address these issues as part of obesity prevention and treatment efforts. Speaker presentations addressed three areas: current policies and practices that either perpetuate health inequities or advance health equity; mechanisms to support community-driven solutions that can influence the social determinants of health; and approaches for fostering multisector collaboration to address disparities by exploring the issues related to the creation, implementation, and evaluation of equity-oriented programs, policies, and systems changes. Participants also discussed research needs to inform and mobilize equity-centered obesity prevention and treatment actions.

This Proceedings of a Workshop—in Brief highlights the presentations and discussions that occurred at the workshop and is not intended to provide a comprehensive summary of information shared during the workshop.[1] The information summarized here reflects the knowledge and opinions of individual workshop participants and should not be seen as a consensus of the workshop participants, the Roundtable on Obesity Solutions, or the National Academies of Sciences, Engineering, and Medicine.

SETTING THE STAGE

Shiriki Kumanyika, research professor in the Department of Community Health and Prevention at the Dornsife School of Public Health at Drexel University and professor emerita of epidemiology at the University of Pennsylvania, provided an overview of the workshop, explaining that it was intended to answer the question of why obesity is a health equity issue and what can be done about it. She outlined definitions for the terms *health equity,*[2] *disparities,*[3] and *excluded or marginalized groups,*[4] which she also referred to as *priority populations,* a term she said was developed to refer to populations that deserve priority in public health, prevention, and treatment efforts (Braveman et al., 2017).

Kumanyika presented a conceptual framework to describe how contexts influence obesity. The focus of prevention and treatment efforts tends to be on weight-related behaviors and outcomes, she explained, such as individual food intake and physical activity behaviors. This focus on individual behaviors can overlook the intermediate variables that perpetuate those behaviors, Kumanyika observed, such as those related to access to healthy food, opportunities for safe and affordable recreation, exposure to chronic stress, resource limitations, and poor sleep quality. Further upstream, Kumanyika went on, are the broader historical, social, economic, physical, and policy contexts that determine the intermediate variables, such as legal risks and protections, institutionalized racism or other forms of discrimination, employment, education, neighborhood, and political voice (see Figure 1). Within each of these contexts is a broader list of contextual influences on weight control and weight behavior,

[1] The workshop agenda, presentations, and other materials are available at http://www.nationalacademies.org/hmd/Activities/Nutrition/ObesitySolutions/2019-APR-1.aspx (accessed May 9, 2019).
[2] Health equity is the fair and just opportunity for all to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences.
[3] Disparities are differences in health or its key determinants (such as education, safe housing, and freedom from discrimination) that adversely affect excluded or marginalized groups.
[4] Excluded or marginalized groups are those that have often suffered discrimination or been excluded or marginalized from society and the health-promoting resources it has to offer.

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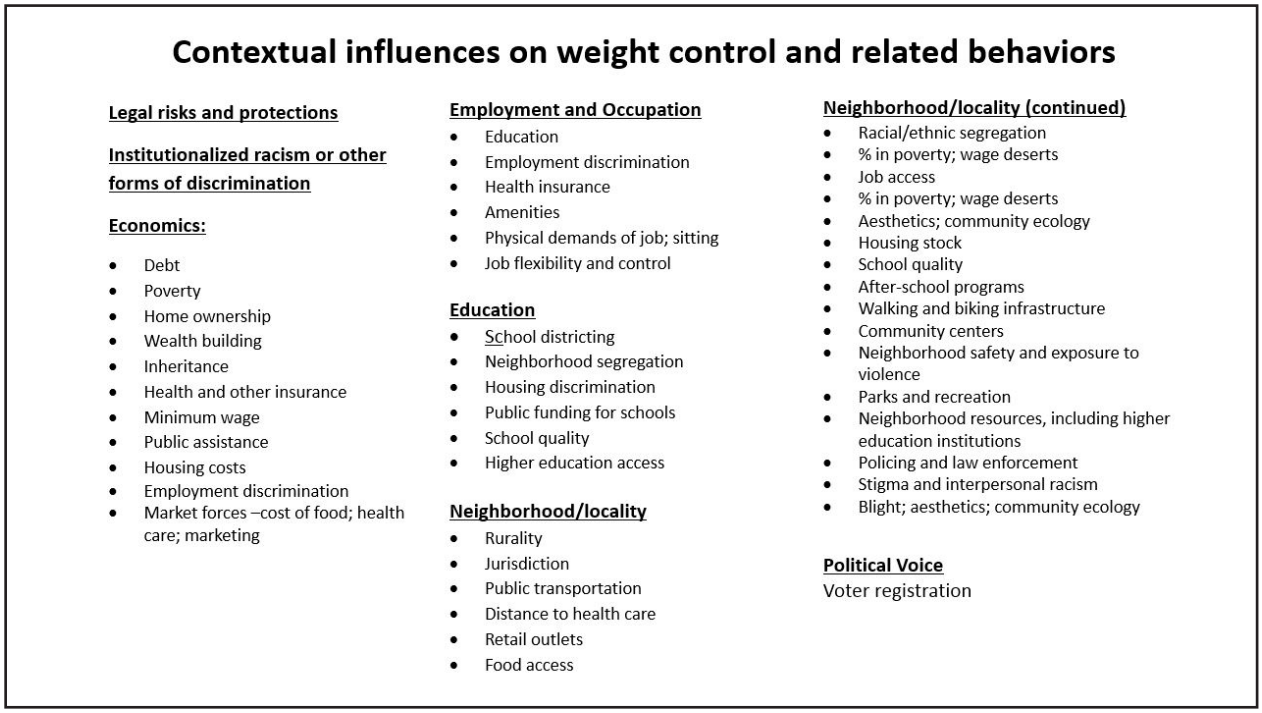

FIGURE 1 Contextual influences on weight control and related behaviors.

SOURCE: Presented by Shiriki Kumanyika, April 1, 2019.

Kumanyika observed, highlighting that addressing disparities and considering health equity issues cannot be oversimplified. In closing, she emphasized that the average person who is in a socially disadvantaged situation is dealing with a cumulative set of factors that must be overcome in order to work toward achieving a healthier weight. Finally, Kumanyika noted that political voice cannot be taken for granted, as it is an important tool to overcome social disadvantage, especially for those experiencing discrimination.

DISPARITIES IN OBESITY PREVALENCE

The workshop's first session explored disparities in obesity prevalence among different ethnic groups in the United States. Cynthia Ogden, epidemiologist and National Health and Nutrition Examination Survey (NHANES) analysis branch chief at the National Center for Health Statistics of the Centers for Disease Control and Prevention (CDC), opened her presentation by declaring that disparities in obesity prevalence are complex. Ogden highlighted three nationally representative data sources she would reference: two using self-reported height and weight data—the National Health Interview Survey (NHIS) and the Behavioral Risk Factor Surveillance System (BRFSS)—and one using physical examination data, NHANES.

Ogden stated that prevalence of obesity in adults, but not youth, has increased over the past decade. Based on NHANES 2015–2016, 13.7 million youth (ages 2–19 years) and 93.3 million adults (≥ 20 years) have obesity (CDC, 2018). She explained that she chose to share data about race/Hispanic origin, income, education, geography, and rural/urban classification to show where disparities in prevalence exist.

Whites and Asians have lower prevalence of obesity overall in both adults and youth compared to other races, Ogden stated (CDC and National Center for Health Statistics, 2018; Hales et al., 2017). Different patterns emerge among all groups when obesity prevalence is examined by age and gender, urging granular thinking when interpreting these data. Ogden noted that prevalence of obesity is lower among adults who are not Hispanic or Latino, and that among Asian youth, overweight and obesity vary by sex and subgroup (APIAHF, 2016; CDC and National Center for Health Statistics, 2018). She stated that understanding the limitations of body mass index (BMI) is important for interpreting some of the differences by race/ethnicity. Because BMI is a measure of body mass and not a direct measure of body fat, Ogden clarified, disparities based on BMI may not translate to the same disparities based on adiposity, or to the same disparities in mortality risk (Flegal et al., 2010; Wen et al., 2009).

Turning to discuss income and education, Ogden highlighted lower prevalence of obesity with a family income greater than $100,000 (compared to lower-income groups) and lower prevalence of obesity among women (compared to men), with decreasing prevalence as income increases (CDC and National Center for Health Statistics, 2018). A deeper dive into the data shows varying patterns in prevalence among males and females of different race/Hispanic origin (for both adults and youth) as income increases. Patterns are more consistent by education than by income, Ogden observed, showing self-reported data that indicated lower prevalence of obesity among college graduates (compared to those without a college degree) for both men and women and for several race/ethnicity groups (Ogden et al., 2017, 2018).

With regard to geography, compared to urban areas, Southern states and rural areas have higher prevalence of obesity among both men and women and severe obesity among rural men, Ogden reported (CDC, 2017a; Hales et al., 2018).

Ann Bullock, director of the Division of Diabetes Treatment and Prevention at the Indian Health Service (IHS), reviewed prevalence and trends in obesity in American Indian (AI) and Alaska Native (AN) populations. These groups are not sufficiently included in national surveys owing to small population size, she said, so other federally supported data sources, such as the IHS's clinical database, are used to obtain AI/AN-specific estimates (CDC, 2017b).

AI/AN people have the highest prevalence of adult diabetes, for both men and women, of all racial/ethnic groups in the United States, Bullock shared (CDC, 2017b). Although obesity in AI/AN people is not well characterized, she reported that available estimates indicate that prevalence is significantly higher among youth (ages 2–19 years) than in U.S. youth overall, but prevalence did not increase from 2006 to 2015, and decreased for 2- to 5-year-olds from 2010 to 2015 (Bullock et al., 2017).

Social determinants of health are linked with obesity and chronic disease, Bullock said, citing data revealing that Native American people have among the highest rates of poverty, food insecurity, and trauma (such as adverse childhood experiences) of all racial/ethnic groups (Kenney and Singh, 2016; Tomayko et al., 2017; U.S. Census Bureau, 2016). Despite these influences, she continued, data indicate significant progress in reducing diabetes and related complications and leveling off rates of diabetes prevalence and childhood obesity in AI/AN people, sharing that diabetes prevalence among AI/AN people stopped increasing around 2011 for adults and 2006 for youth (IHS, 2019). Community self-determination as well as grant funding from the Special Diabetes Program for Indians (SDPI) have been crucial to this progress, Bullock said. She acknowledged that these outcomes were distal from obesity, but she said that they represent the ripple effect of the socioeconomic opportunities that the AI/AN populations have experienced. She expressed hope that a decline in obesity will follow, and shared that she felt an even greater desire for improvements in life outcomes, such as the ability to bond with others and find joy and meaning in life. She ended by advocating for social determinants to be meaningfully addressed through both community approaches and broader policy changes.

Maria Rosario (Happy) Araneta, professor of epidemiology at the University of California, San Diego, discussed obesity in Asian and Pacific Islander Americans. Asians have surpassed Hispanics as the largest number of immigrant arrivals since 2010 in the United States, she reported, and are expected to comprise 14 percent of the U.S. population and surpass Hispanics to become the largest immigrant group by 2065 (Lopez et al., 2018). Despite the importance of disaggregating Asian and Pacific Islander data, such data are often reported collectively, she admitted.

Based on disaggregated data from the Hawaii BRFSS, Araneta pointed out that differences in prevalence of obesity among selected ethnic groups were not mirrored by similar differences in prevalence of diabetes among those groups (Hawaii State Department of Health, 2017; Uchima et al., 2019). She next highlighted a comparison of obesity prevalence among various Native Hawaiian and Pacific Islander (NHPI) groups compared with other racial/ethnic groups in the United States to reveal that prevalence was lowest among Asians and highest among NHPIs (Galinsky et al., 2017).

Turning to type 2 diabetes in California, where one-third of all U.S. Asians reside, Araneta said that the highest prevalence exists among Pacific Islanders, Filipinos, and South Asians, an observation that would be masked if all Asians and Pacific Islanders are grouped together because their overall prevalence is lower when reported collectively. Based on these and other data, Araneta explained that the American Diabetes Association revised its BMI cut points for diabetes screening in Asian Americans to "Screen at 23" based on data that a cut point of 23 kg/m^2 would lead to a diabetes diagnosis for 300,000 of the approximately 510,000 Asian Americans with undiagnosed diabetes (Araneta et al., 2015; Hsu et al., 2015).

Araneta shared data about the ethnic differences in levels of adipose tissue to show that Asian American women had higher levels of fat than women of other races, even at lower levels of BMI and waist circumference (Araneta and Barrett-Connor, 2005; Larsen et al., 2014; Shah et al., 2016). She also noted that abdominal muscle is inversely associated with type 2 diabetes, independent of visceral adipose tissue, among Filipinas with a BMI of < 25. She suggested that increasing muscle mass may be a more effective and practical intervention for Asian Americans without obesity.

To wrap up her presentation, Araneta reported that the equivalent metabolic abnormalities observed among whites at a particular BMI level (25 or 30) were observed at nearly 6–7 BMI units lower in other ethnic groups (Gujral et al., 2017). She also mentioned the potential role of adiponectin, a hormone that is derived from adipose tissue and seems to have a favorable effect on health outcomes such as diabetes, but is downregulated in the presence of visceral fat and is lower in Filipinas than in white women (Araneta and Barrett-Connor, 2007; Eckel et al., 2005; Lyon et al., 2003; Trayhurn and Wood, 2004).

SOCIAL DETERMINANTS OF HEALTH INEQUITIES IN OBESITY PREVENTION AND CONTROL

The workshop's second session examined why the concepts and principles of health equities and inequities are important to the whole of society. The session covered contextual perspectives of history, culture, law, immigration status, and socioeconomic status.

Angela McGowan, project director at the Office of Disease Prevention and Health Promotion in the Office of the Assistant Secretary for Health at the U.S. Department of Health and Human Services (HHS), spoke about the role of civil rights

laws and policies in improving health and equity. She began her presentation with an overview of Healthy People, an HHS-led national health agenda for improving health and achieving health equity that uses a social determinants of health framework (ODPHP, 2019). Law can be used as a lever to protect and promote health, McGowan said, by creating societal norms, influencing individual behaviors, and authorizing governments to act on community needs. McGowan emphasized that federal, state, local, and tribal laws can all be critical determinants of health (Secretary's Advisory Committee for Healthy People 2030, 2018).

Turning back to the Healthy People social determinants of health framework, McGowan delved into two of its five domains—health and health care and education—by sharing several examples of relevant civil rights laws and protections dating from the Civil War to present day.

Civil rights laws have been integral to improving access to health care services and facilities, she explained, such as through desegregation of these facilities and prohibition of discrimination, conditions that she said became stipulations for receiving federal funding in the mid-1960s. Civil rights laws also addressed other barriers to access, including sex, limited English proficiency, and disabilities. She noted that obesity is covered by the Americans with Disabilities Act only if it is seen as a physical impairment limiting activity and affecting one or more body systems. McGowan went on to discuss the important impact of federal funding for public education on health. She noted that integration orders had improved educational outcomes and increased funding for schools, but many inequities do exist between school jurisdictions.

In closing, McGowan noted that though federal agencies are responsible for implementing, monitoring, and enforcing civil rights laws, civil rights approaches can be used broadly and applied on a community level. Civil rights laws can help achieve equality, she said, but working with communities is particularly important to move beyond that to achieve equity (see Figure 2).

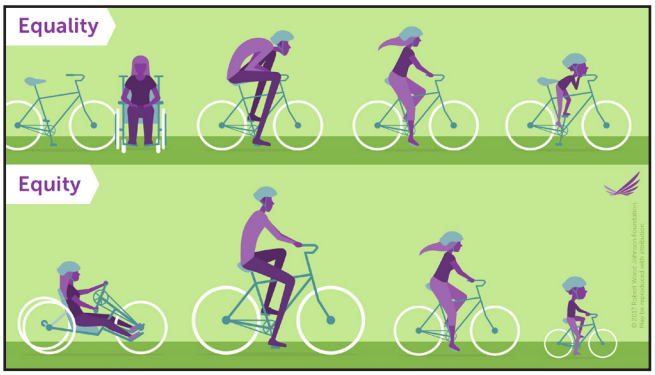

FIGURE 2 Equality versus equity.

SOURCES: Presented by Angela McGowan, April 1, 2019. Used with permission from the Robert Wood Johnson Foundation (2017).

Shavon L. Arline-Bradley, founding principal of R.E.A.C.H. Beyond Solutions, LLC, and co-founder of the Health Equity Cypher group, focused on health inequities that affect the African American population. She began by emphasizing a definition of health inequities that focuses on differences in health status or in distribution of health resources (NASEM, 2017). African Americans are more likely than whites to die at early ages from all causes, Arline-Bradley reported. They experience disparities in resources that affect the ability to be a healthy African American in the United States, such as cost and accessibility to health care; a built environment with safe spaces to play, work, and commute; and opportunities for education and employment (CDC, 2015).

These health experiences for the black community are driven by historical and present-day racism, discrimination, injustice, segregation, and social isolation, Arline-Bradley explained. These determinants have hidden behind terms such as *inequity* and *disparities,* she asserted, and called for understanding of the institutional and individual practices, whether intentional or not, that create and reinforce oppressive systems that disadvantage certain groups (Oliver, 2008). She touched on how the "lived experience" of race can either promote or constrain one's opportunity to be healthy, explaining that "upstream" determinants of health such as housing and education have been shaped by a history of racism (Smedley et al., 2008). Chattel slavery provides a historical context for social determinants of health, Arline-Bradley elaborated, comparing slavery's stripping of African Americans' basic human rights and social and legal protections with their past and present-day experiences with education, health care access, and voting rights. She highlighted that racism operates independently of class and that segregation and social isolation persist across income levels. This everyday discrimination can increase chronic stress, which she suggested may help explain why racial health inequities remain after controlling for socioeconomic status.

According to Arline-Bradley, best practices to address health inequities include amplifying and investing in cross-sector partnerships that advance institutional and public policies that improve opportunities to make healthier choices, and raising

awareness about structural issues that affect communities of color. She called for more research on how policy changes affect health outcomes and how cognitive and affective processes affect implicit bias; and for sustainable, evidence-based, cross-sector programs. Arline-Bradley urged researchers to integrate community-based models into their research portfolios, develop interventions that consider every social determinant of health for the target community, and use their data to empower and build the people. "We must connect research, programs, and policy, looking at civil rights advocacy and efforts as a catalyst to improve health behaviors and dismantle oppressive systems," she said in closing.

Ruth Zambrana, professor in the Department of Women's Studies and director of the Consortium on Race, Gender and Ethnicity at the University of Maryland, College Park, discussed health equity in Latino communities. Latinos are from 22 countries throughout the world, Zambrana began, clarifying that the term *Hispanic* captures only Spain's influence in a country's history. She provided a brief historical context of the migration of Hispanic populations to the United States, noting where structural and institutional racism emerged and how it affected this group's education and employment opportunities. She next reviewed sociodemographic data for the nation's six largest Hispanic origin groups—Mexican, Puerto Rican, Cuban, Salvadoran, Dominican, and Guatemalan—and described differences in country of birth, educational attainment, income, health insurance status, English proficiency, and likelihood of citizenship (Pew Research Center, 2017). She underscored in her subsequent remarks a decades-long consistency in many of these sociodemographic patterns.

Zambrana presented data to illustrate the poverty status of Hispanic groups, which she said are among those most likely to have family income below the poverty level (Artiga et al., 2016). Zambrana described how poverty is a barrier to education and employment opportunities, and as a result, affects one's ability to access quality health care, healthy foods, and safe recreation and physical activity. She raised caution around the acculturation construct, which in her view, homogenizes all immigrants and Latinos into a single category (even though certain subgroups tend to be from upper classes) and disallows focus on social determinants.

Zambrana next showed data on the low rates of adult health insurance coverage among Latinos and their relatively high prevalence of delayed access to health care (Artiga et al., 2016). Zambrana then compared prevalence of smoking, physical inactivity, obesity, and overweight among Hispanic subgroups, proposing that Mexicans, Dominicans, and Puerto Ricans are the populations that deserve more priority because they have some of the highest obesity levels within Latinos and are more affected by social determinants including poverty, psychosocial stressors, and lack of benefits (Daviglus et al., 2012; Singh et al., 2013).

Zambrana ended by urging studies focused on social determinants and inequalities in Latinos instead of culture, insisting that a culture focus has derailed knowledge production and contributed to increasing disparities and inequity (Zambrana, 2011). She proposed translating what is known, instead of studying the same material conditions and expecting to find a different answer.

Valarie Blue Bird Jernigan, professor of rural health and director of the Center for Indigenous Health Research and Policy at Oklahoma State University, spoke about social determinants of inequities in AI/AN populations. The federal government recognizes native people as citizens of sovereign nations, Jernigan explained, and this government-to-government relationship affords tribes the ability to deal directly with the federal government. She briefly outlined key time periods in the history of tribal nations and American governments that included epidemic disease, removal and restriction to reservations, and forced assimilation and urbanization, noting that native people's health disparities arise from socioeconomic factors as well as from cultural and historical factors. Jernigan called for recognition and study of the relationship between this historical trauma and present-day health conditions such as obesity and diabetes.

She focused on the food environment in native communities, highlighting a lack of access to healthy foods and widespread food insecurity, along with a reliance on convenience stores that sell foods high in fat, sugar, and sodium (Jernigan et al., 2012, 2017). Jernigan explained that previously, removal and restriction of native people to reservations resulted in their reliance on the U.S. Department of Agriculture's Food Distribution Program on Indian Reservations (FDPIR), a monthly program that provides canned and packaged surplus foods with most of the food being high in sugar and fat. While improvements have been made to the FDPIR, she continued, it has been associated with the prevalence of diabetes, hypertension, and obesity among natives (Dillinger et al., 1999).

Jernigan drew attention to the lack of indigenous models of health and wellness to use to design culturally appropriate, sustainable interventions (Blue Bird Jernigan et al., 2018). Community centeredness is a key wellness concept for communities of native people, she noted, adding that the historical loss of land has led to loss of culture, knowledge, traditional foods, and ultimately purpose and meaning for native people (Donatuto et al., 2011; King et al., 2009). She suggested that obesity is "the tip of the iceberg" with regard to the effects of disconnection from the land. In her summary of key implications, Jernigan highlighted that U.S. federal and state obesity policies may not reach tribal citizens because of their sovereign status, and that the generalizability of "evidence-based" obesity programs and policies in the context of diverse tribal settings and infrastructures is unclear. She called for the use of community-based participatory research that respects tribal sovereignty, including economic sovereignty, and for funding for culturally centered, rigorously designed studies with strong evaluation components.

LESSONS FROM THE FIELD: ACHIEVING EQUITY IN COMMUNITY AND PUBLIC HEALTH APPROACHES FOR PREVENTING AND TREATING OBESITY

The workshop's third session presented examples of community and public health approaches to achieving equity in obesity prevention and treatment. Debra Haire-Joshu, Joyce Wood Professor of public health and medicine at Washington University in St. Louis, discussed promising approaches for delivering and scaling up interventions for women 18 to 39 years old. Women are vulnerable to weight gain during the childbearing years, she explained, but they are often unreached by effective interventions such as the National Diabetes Prevention Program because they are busy with careers and children (Dietz, 2017; Ritchie et al., 2017).

Haire-Joshu described two examples of partnerships between academia and home visiting organizations that aimed to translate the National Diabetes Prevention Program for women of childbearing age and compensate for the disparities in social determinants that they experience. Home visiting organizations are available, accessible, affordable, and convenient for mothers, Haire-Joshu pointed out, and they address essential needs and reinforce ongoing support (Ali et al., 2012; Salvy et al., 2017).

Parents as Teachers (PAT) is a home visiting organization with a local focus and national reach in its mission to promote optimal early child development by supporting and engaging families. For the Healthy Eating and Active Living Taught at Home (HEALTH) intervention, PAT adapted and embedded into its curriculum the National Diabetes Prevention Program's content for healthy eating and active living behaviors. It then delivered the information to mothers of preschool children with overweight or obesity as opportunities arose during the course of its standard operation. Compared with the regular PAT curriculum, Haire-Joshu reported, HEALTH led to greater improvement in reducing added sugars intake and sugar-sweetened beverage consumption, increasing the prevalence of physical activity, and to a higher prevalence of achieving a 5 percent weight loss at 24 months. She highlighted a gradual decline in maternal weight over 24 months of the HEALTH intervention, compared with a gradual increase during the same time period with the standard PAT curriculum (Haire-Joshu et al., 2018). According to Haire-Joshu, this shows that working with groups such as PAT "within their rules," and letting them address social determinants first could make a difference, even though it takes longer.

Haire-Joshu's second example was LIFE-Moms, a multisite national trial of weight management interventions for African American women during and after pregnancy. Compared with the standard PAT curriculum, she reported, the LIFE-Moms + PAT intervention resulted in lower gestational weight gain and smaller increases in body fat (Haire-Joshu et al., 2018) and a higher prevalence of return to baseline (or lower) weight postpartum (Haire-Joshu et al., 2019). Haire-Joshu underscored that the intervention addressed social determinants first, such as pursuing stable housing and food security.

Haire-Joshu closed with three lessons from her research: first, nonhealth care organizations that address essential conditions may offer a roadmap to promote health equity; second, long-term follow-up is needed to capture the full effect of interventions that prioritize "real life needs" (i.e., social determinants); and third, bringing effective lifestyle interventions to scale is a priority.

Pamela Schwartz, senior director for community health impact and learning at Kaiser Permanente, discussed its Community Health Initiative, a multisector, community-based obesity prevention intervention that operated in more than 60 communities nationwide. The interventions target the entire geography where they are implemented, she explained, rather than focusing on a single racial or ethnic group. For the initiative to achieve its goal to advance population health, Kaiser Permanente recognized that "dose" was important, Schwartz said, elaborating that many lives had to be touched in one or more ways to make a difference. She highlighted the initiative's community-driven approach, which she said sometimes required an initial focus on pressing community issues before undertaking efforts that were more directly related to obesity prevention.

Schwartz explained how the initiative's evaluation strategy evolved to capture additional data on the effect of the initiative, and she shared examples of the initiative's population health outcomes and proximal outcomes such as community member beliefs, attitudes, and behaviors. A common theme in the communities that experienced the greatest improvement in population health, she shared, was that they experienced a combined dose of policy, systems, and environmental change that affected a single outcome and "saturated" a single population, such as physical activity in school children.

Schwartz shifted to discuss Kaiser Permanente's Community Health Strategic Framework, which she said aims to assess and improve the health of Kaiser Permanente's communities. An integral part of that objective, she continued, is to create and use an equity index to determine a community's average level of opportunity to be as healthy as possible, as well as the inequality or variability in opportunity within the community's geography. Schwartz said that the index accounts for social determinants of health and is already yielding insights despite its nascence. She added that Kaiser Permanente is also working to apply an equity lens in its grant making and community health needs assessments.

Jernigan returned to discuss the THRIVE (Tribal Health and Resilience in Vulnerable Environments) study, an intervention to improve tribal food environments in Chickasaw and Choctaw nations by implementing what she called "healthy makeovers" in tribal convenience stores. Using a published conceptual model of food systems and food security (Rutten et al., 2011), her research team assessed participating convenience stores and used strategies for products, placement, promotion, and pricing to

improve the stores' food environment. Pricing for the healthier food options did not change from the standard suggested retail price, Jernigan noted, because they sold out every week.

The THRIVE intervention improved objective and perceived measures of tribal food environments, Jernigan reported, and led to positive changes in purchasing behavior by shoppers but not in fruit and vegetable intake. It also resulted in widespread changes to the types of foods that vendors offered in both participating tribal nations and all of the tribal programs served by those vendors, she added (Bird Jernigan et al., 2019). Reflecting on the intervention, Jernigan suggested that its sole focus on environmental change may not have been enough to change dietary intake. A key takeaway, she recounted, was the gradual recognition that health belongs in all sectors of tribal nations, not just its clinical settings, highlighting the study's investment in partnering with the business sector of tribes to agree on a process that would align economic, environmental, and health agendas. In closing, Jernigan emphasized that the study's message was to advance health in all policies and health for future generations.

Joseph Keawe'aimoku Kaholokula, professor and chair of native Hawaiian health in the John A. Burns School of Medicine at the University of Hawaii at Mānoa, discussed culturally responsive obesity and diabetes intervention research in Native Hawaiians. He outlined several factors associated with obesity and diabetes in this population, and flagged that those who report high levels of racial discrimination are three times more likely to have overweight or obesity compared to those who do not (McCubbin and Antonio, 2012).

Kaholokula highlighted the importance of cultural determinants of health for indigenous populations, adding that many native people believe a return to traditional values and practices is a solution for health inequities. Most interventions focus on biological, behavioral, and psychological determinants of health, he observed. The interventions are unrealistic and irrelevant to many Hawaiians because they neglect other determinants, such as historical, cultural, and sociopolitical factors (Kaholokula, 2017).

Kaholokula described two types of culturally responsive approaches that have addressed obesity and its related health inequities in Hawaii: (1) cultural adaptation (tailoring) preserves core elements of an evidence-based intervention and incorporates culturally relevant elements for a new population, and (2) cultural grounding (ground up) uses the target population's sociocultural context and worldviews as a foundation for program elements (Kaholokula et al., 2018).

Kaholokula discussed the Partnership for Improving Lifestyle Intervention (PILI) 'Ohana lifestyle program, which was adapted from the National Diabetes Prevention Program and tailored to NHPIs. Through qualitative research, he said, contributing factors such as cultural stereotypes and access to culturally relevant activities and affordable healthy foods became apparent (Kaholokula et al., 2018). Community peer educators delivered the program in group settings, Kaholokula continued, to capitalize on cultural values of social support and role modeling. At 9 months, PILI participants were more likely to achieve clinically significant weight loss and less likely to regain weight than participants in a standard lifestyle program (Kaholokula et al., 2012, 2013).

Kaholokula next described a culturally adapted approach to diabetes called Partners in Care, which incorporated storytelling that allowed the peer educators to use metaphors to link participants' situations to effective self-management behaviors. After 3 months, he reported, participants achieved significant reductions in hemoglobin A1c levels (Sinclair et al., 2012). He also briefly mentioned that participants in an intervention using hula, a traditional Hawaiian dance, improved their blood pressure and reported significant reductions in perceived racism (Kaholokula et al., 2017).

Kaholokula summarized several lessons learned from the three interventions: peer educators' commitment is more important than their education level; one size does not fit all owing to ethnic group differences in acculturation-related factors, motivation, and community resources; greater participant engagement seems to enhance weight loss, and greater initial weight loss leads to greater long-term weight loss; and culturally grounded interventions can improve clinical and sociocultural outcomes.

LESSONS FROM THE FIELD: ACHIEVING EQUITY IN OBESITY TREATMENT IN HEALTH CARE SETTINGS

Speakers in the workshop's final session offered perspectives from obesity treatment and health care settings. Melissa Simon, George H. Gardner Professor of Clinical Gynecology at the Feinberg School of Medicine at Northwestern University, spoke about reengineering primary health care delivery to reduce disparities in obesity care, and the effect of the design of places and relationships in primary care on health equity upstream, downstream, and in between.

Many obesity interventions in primary care settings help families overcome obstacles, Simon said, but in some cases they are only temporary solutions. Integrating obesity interventions in primary care settings is complicated by the dynamic complexity of multiple overlapping strategies to address the many interrelated causal factors and the host of barriers to overcome, she explained. Simon reviewed the U.S. Preventive Services Task Force guidelines for obesity screening, adding the caveat that the level of rigor required for evidence to be considered in the development of guidelines makes it difficult to find eligible studies that include minority, underserved, and underrepresented populations.

Simon briefly reviewed evidence on effective diet and physical activity strategies for obesity in primary care, emphasizing that implementation of these strategies requires a supportive primary care design that integrates social determinants of health and addresses the other priorities for care. Reducing stigma and building trust with patients are critical to effective communication, Simon emphasized, urging primary care providers to recognize and control their stereotypes and biases about obesity, and to provide a welcoming health care environment (Bromfield, 2009; Phelan et al., 2015; Pont et al., 2017; Schwartz et al., 2003; Tomiyama et al., 2018).

Shifting to discuss obstetrics care, Simon briefly reviewed the varying guidelines for gestational weight gain around the world and noted that gestational weight gain is considered both an exposure and an outcome (IOM and NRC, 2009). Because of the high frequency of and engagement in care, pregnancy is an ideal time to intervene and affect the "window to future health" for both mother and baby, she noted. The available data have not yielded clear strategies for modifying the delivery of perinatal care to affect gestational weight gain and maternal morbidity, Simon said, but additional trials are under way. Health inequities do not just happen, she said in conclusion, and the architecture and design of policies, clinical care settings, and provider training play a role.

Marshall Chin, Richard Parrillo Family Professor in Healthcare Ethics in the Department of Medicine at the University of Chicago, shared insights from nonobesity fields for achieving equity in health care settings. The equity goal, he said, is to move the national numbers on disparities. He presented five lessons derived from his research with multilevel health disparity interventions and his experience conducting health equity programs.

First, Chin began, there is no magic bullet solution. Context matters, he emphasized, and organizations value a menu of evidence-based interventions that they can tailor to develop their own solutions. He listed six themes for reducing health disparities in health care settings: multifactorial interventions that target different drivers of disparities; culturally tailored quality improvement approaches; team-based care; engagement of families and community partners; involvement of community health workers; and interactive skills-based training with patients.

The second lesson, Chin continued, is that achieving equity is a process. He outlined a roadmap for reducing disparities, highlighting its emphases on creating a culture of equity; embedding equity interventions into quality improvement infrastructure and processes; designing interventions with an equity lens; and evaluating, adjusting, and sustaining interventions (Chin et al., 2012). Identifying the root cause of inequity is critical for diagnosing the problem and developing solutions, he added, declaring that it is an iterative, complex process with no substitute for talking with the affected patients and communities.

Third, is addressing social determinants of health, Chin continued, and implored health care organizations to go beyond addressing a patient's social needs to also candidly discuss underlying structural drivers such as racism, colonialism, and social privilege. The conversation is difficult, he acknowledged, because of issues of power and control over resources and over the historical narrative, but he urged people of all backgrounds to contribute to the discussion.

The fourth lesson is to address payment and incentives, Chin went on, advocating for a business case to address equity. He pointed out the policy gap between what he termed the country's "rhetoric" about valuing health equity and lack of policies to support and incentivize it. He suggested three policy goals around quality of care and payment, accountability, and support to help fill the gap and shared examples of the National Quality Forum's recommendations to incentivize reducing health disparities and achieving equity (NQF, 2017).

The final lesson is to frame equity as a moral and social justice issue, which Chin argued is a prerequisite for success with any of the solutions discussed during the workshop. He displayed a conceptual framework illustrating that culture, history, and values drive health equity (Chin et al., 2018). "There are only so many things you can incentivize," he said, asserting that intrinsic motivation is essential for framing health equity as a moral and social justice issue.

REFLECTIONS ON ACHIEVING HEALTH EQUITY IN OBESITY PREVENTION AND TREATMENT

The workshop wrap-up included perspectives from three panelists: Don Bradley, professor in the Department of Community and Family Medicine at Duke University; Ruth Petersen, director of the Division of Nutrition, Physical Activity, and Obesity at CDC; and Marjorie Innocent, senior director of health programs at the National Association for the Advancement of Colored People (NAACP).

Bradley underscored that words matter, urging the use of person-first language and careful terminology such as *people of color* versus *minority.* People of color are not minor people, he said as an example. He also suggested the need to assess racial inequities with more granularity, given the differences among racial and ethnic subgroups; to acknowledge racism and white privilege; and to focus on "dose" in policy, systems, and environmental changes.

Petersen echoed the importance of a granular assessment of inequities, but cautioned that this perspective should not turn into a competition for the limited resources to address health equity. She encouraged participants that some communities are achieving evidence-based health guidelines by using community needs assessments to tailor the guidelines to their own

needs and values. Trust the communities, she appealed, because there is a skilled public health workforce and community-based organizations that are ready to apply the evidence at the ground level.

Innocent maintained that stakeholders must be steadfast in redefining the way they think about health, address health, and incorporate health in all policies in order to work more collaboratively and holistically. She called out the importance of engaging communities to identify their assets and barriers, and urged mindfulness about the social and political challenges that currently pervade the nation and contribute to the communities' perception that health-related initiatives are necessary yet inaccessible in the midst of concern about what she termed "basic survival."

Following the panelists' remarks, Bill Dietz, chair of the Sumner M. Redstone Global Center for Prevention and Wellness, Milken Institute School of Public Health, The George Washington University, reflected that most obesity prevention and control efforts have focused on individual behavior change. Engaging and empowering communities and building their capacity for change is also critical, he reflected, noting that building trust is an integral component.

Kumanyika returned to close the meeting, appealing to participants that something different should come out of the workshop. The next step for the obesity community, she suggested, might be to combine solutions that target behaviors with those that address social determinants and engage communities to change environments and policies.

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