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“The State of Nutrition in America 2021”

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Chair Booker, Ranking Member Braun and Members of the Agriculture Subcommittee on Food and Nutrition, Specialty Crops, Organics, and Research, thank you for allowing me the opportunity to speak before you today about the state of nutrition in America, with a specific focus on black communities. My name is Dr. Angela Odoms-Young and I am an Associate Professor and Director of the Food and Nutrition Education in Communities Program and New York State Expanded Food and Nutrition Education Program (EFNEP), in the Division of Nutritional Sciences at Cornell University.

The adverse health, social and economic consequences of suboptimal diets in the United States (US) are well documented.¹ Extensive evidence indicates that poor nutrition is a major driver of America’s high chronic disease burden, leading to sizeable rates of death and disability from cardiovascular disease (CVD), hypertension, type 2 diabetes, chronic kidney disease, and certain types of cancer.^{1,2} Between 2016 and 2030, it is estimated that chronic diseases will cost America on average \$2 trillion in medical costs and an extra \$794 billion per year in lost employee productivity.³ For the past several decades, the diets of most American adults and children have fallen short of national dietary recommendations, including higher intakes of saturated fat, sodium, and sugar sweetened beverages and lower consumption of fruits, vegetables, and fiber.^{4,5} Moreover, because nutrition is an essential building block of healthy growth and development in infancy and early childhood, research shows that negative dietary patterns early in life prevent children from having a healthy start and contribute to a negative trajectory toward ill health in adulthood.^{6,7}

Further exacerbating the national impact of poor nutrition, is the reality that its associated health burden is not shared equally across all racial/ethnic and socioeconomic groups. People of color overall, and black populations specifically, face higher rates of diet-related chronic conditions and have poorer dietary intakes as compared to whites.⁸ Non-Hispanic black adults (49.6%) had the highest age-adjusted prevalence of obesity, exceeding rates for most other racial/ethnic groups.⁹ Obesity disparities in children closely align to rates in adults with non-Hispanic black (20.8%) children having a higher prevalence of obesity compared to their white (15.9%) and Asian (12.8%) peers.¹⁰ These racial disparities in obesity drive inequitable differences in related health outcomes. For example, Black Americans are 60 percent more likely to be diagnosed with diabetes by a physician, 2.3 times more likely to be hospitalized for lower limb amputations, and

almost four times as likely to develop kidney failure when compared to rates for White Americans.¹¹

Most research has found that Black Americans are more likely to have inadequate intakes of nutrients associated with a lower risk of chronic disease and poor overall dietary quality than Hispanic and White Americans.¹²⁻¹⁴ These findings persist across all income categories and regardless of food assistance participation.¹³⁻¹⁵ Given their traditional dietary pattern, Black Americans' suboptimal intakes of vegetables and legumes and their associated dietary components are particularly concerning.¹⁶ For example, findings from a recent analysis of data from the National Health and Nutrition Examination Survey (NHANES) reported that non-Hispanic blacks had the lowest mean intake of dietary fiber compared to other racial/ethnic groups, far below the levels recommended in national dietary guidance.¹⁷

The excess nutrition and health burden experienced by Black Americans is notable at birth, with growing research indicating that racial disadvantage may even start preconception. Measured as the death of an infant before their first birthday, black babies die at higher rates than all other racial/ethnic groups and nearly three times higher than white babies.¹⁸ As reported by Dr. David Williams at the Harvard T.H. Chan, School of Public Health, "if blacks and whites had the same mortality rate, nearly 100,000 fewer black people would die each year in the United States."¹⁹ This association is bidirectional. The greater likelihood of Black Americans having chronic illnesses and associated complications also restricts their wealth and financial security, which can further suppress black communities' ability to thrive.

Unfortunately, in the last year, we have seen racial inequities in health and nutrition worsen as a result of the COVID-19 pandemic.²⁰ Although black and white differences in life expectancy have narrowed over the last 30 years, Covid-19 reversed previous gains. In 2020, Black Americans experienced a 2.9 year decrease in life expectancy, increasing the black-white life expectancy gap from 3.6 years to 5 years.²¹ Evidence indicates that policies that create racial inequities in life expectancy not only have implications for black communities, but adversely impact the health and well-being of our nation overall including creating challenges for our economy, workforce, military, and national security.²²

The disproportionate toll from COVID can be partially explained by the higher prevalence of nutrition-related diseases among blacks compared with whites. Based on the high rates of chronic disease, this burden may be magnified because of family multimorbidity, specifically, family members simultaneously managing multiple chronic conditions at the same time, which more accurately mirrors the lived experience of many black families.²³ Additionally, the systemic, historical, political, and social barriers, including, a greater likelihood of living in racially segregated, disinvested, and impoverished areas, limited access to health care and living wage employment, and a wage disparity where Black American households earn almost half as much as white households, also set the stage for black communities to be more nutritionally vulnerable.²⁴ For example, although food insecurity rates in the US. generally remained stable from 2019 to 2020, the prevalence of food insecurity for black households increased from 19.1% to 21.7%.²⁵ Food insecurity is not only associated with higher chronic disease rates, but poorer self-reported health, maternal depression, developmental delays in early life, and lower academic achievement.²⁶ Consequently, it is likely that this increase will have lingering effects for years to

come. In addition to higher rates of chronic illness, lower wages and insufficient insurance coverage among blacks greatly limits their access to nutrition-related resources and treatment (such as Medical Nutrition Therapy) that can support the prevention and long-term management of chronic disease.²⁴

Since the Department of Health and Human Services (DHHS) Report of the Secretary's Task Force on Black and Minority Health was released in 1985, developing effective strategies to address health disparities has been a significant focus of our national agenda.²⁷ However, despite national attention, racial inequities in nutrition-related health continue to persist. While traditionally, researchers and practitioners focused attention on individual knowledge, attitudes, and motivations as key drivers of dietary and feeding behavior, science generated for more than three decades highlights the importance of the social and structural determinants of health.²⁸⁻³¹ Many studies have demonstrated that being healthy is not just about making smart choices or bad genes, for many Americans systemic and structural disadvantage moves good health out of their reach.³² Contemporary findings that environmental factors drive disparities in food purchasing and diet parallel the long-standing body of knowledge about the impact of racial segregation on economies, access, and opportunity in black communities. A common saying in public health is that your “ZIP Code Matters More Than Your Genetic Code”.

Black Americans are more likely to live in neighborhoods that are considered obesogenic--environments that promote obesity--specifically characterized by limited access to healthy food options and high availability and in-store promotion of low-cost energy dense food and drinks of minimal nutritive value.³³⁻³⁷ For example, an analysis of census and supermarket location data conducted by the Reinvestment Fund found that, on average, in the 50 largest US metro areas, nearly 18% of predominately black neighborhoods had limited access to supermarkets, compared to 8% of largely white neighborhoods.³⁸ Americans living in low access food areas travel a further distance to reach a supermarket and spend more time in travel (about 20 minutes more) to shop.^{39,40} Neighborhood racial composition and neighborhood poverty are independently associated with food store availability.⁴¹ Regardless of race/ethnicity, as neighborhood poverty increases, supermarket availability decreases and grocery and convenience stores increase. However, most research has shown that at equal levels of poverty, census tracts with predominately black residents have the fewest supermarkets, while tracts with predominately white residents have the most. Nevertheless, poor predominantly black neighborhoods face double jeopardy with the most limited access to quality food.⁴¹ Additionally, a study conducted by Grigsby-Toussaint and colleagues in Chicago, examined availability of fruits and vegetables that are commonly consumed nationally and those specifically consistent with a traditional Black American dietary pattern.⁴² The authors found that although culturally specific fruits and vegetables were more likely to be available at stores in predominately black compared to Latinx/Hispanic communities, all stores carried fewer than 50% of either category. Moreover, some evidence indicates that limited access to healthy neighborhood food options not only have serious implications for physical health, but also mental health, by increasing black shoppers' exposure to unfair treatment and discrimination as they seek better grocery options outside their community.⁴³

Historically, black populations have lived in, and continue to live in, the most under-resourced communities. In addition to food, these same communities face poor access to transportation, limited access to green space and poor-quality housing, and are located the furthest distance from high quality jobs.^{44, 45} Persistent disinvestment, lack of attention to equity in city planning, predatory lending/mortgage discrimination, and limited access to business credit and capital in black communities contribute to disparities in health and economic outcomes. Healthy food retail not only increases access to nutritious foods, but serves as an economic anchor for commercial revitalization and job creation, provides tax revenues, and retains local dollars within the communities.⁴⁵ For example, it is estimated that 24 new jobs are created for every 10,000 square feet of retail grocery space. As a result, an estimated 150-200 full and part-time jobs can be generated from the location of a large-scale supermarket.⁴⁶

In addition to having limited access to healthy food options, Black Americans, particularly youth, also experience higher exposure to unhealthy food and beverage marketing within their neighborhoods, as well as, through television, print media, and potentially the internet. Targeted marketing efforts gained momentum during the civil rights movements and have continued to inequitably monetize the sales of unhealthy foods at the expense of black health.^{47,48} Many US food companies have identified black and other communities of color in the US as a major business growth opportunity. Evidence indicates that advertisement of high-calorie food products (such as fast food, sugar-sweetened beverages, candy, and unhealthy snack brands), are disproportionately targeted at black populations, relative to more healthful foods, contributing to inequities in obesity and other diet-related chronic conditions.⁴⁹⁻⁵¹ Studies show that frequent and widespread exposure to unhealthy food marketing increases children and adolescents' preferences for, and consumption of foods that are high in calories, sugar, fat, and sodium and shapes youth's attitudes about its positive social and economic value.⁵¹ For example, a recent report from the Rudd Center at the University of Connecticut, found that Junk food comprised 86% of ad spending on black-targeted programming. Only 1% of ad dollars went to promoting healthier food options. In 2019, 23 restaurants spent \$99 million to advertise on black-targeted TV. On all national TV in 2019, black preschoolers (2-5 years) and black children (6-11 years) saw on average nearly three unhealthy food ads-per-day. Compared to their White peers, black preschoolers viewed 72% more fast food ads, and black children and teens viewed 77% more ads.⁵² Similarly, a 2009 study of local food marketing environments conducted by Yancy and colleagues, reported a higher density of outdoor advertisements for high-calorie, low nutrient-dense foods and beverages in black zip codes compared to white zip codes in Los Angeles, California, Philadelphia, Pennsylvania, Austin, Texas and New York City, New York.⁵³ This is particularly concerning given a National Academy of Sciences, Engineering, and Medicine report concluding that food and beverage marketing influences the preferences and purchase requests of children for junk/fast foods.⁵⁴

The first White House Conference on Food, Nutrition and Health resulted in landmark legislation that provided the foundation for the federal food and nutrition infrastructure we know today and raised awareness about widespread malnutrition and hunger being experienced by families and communities throughout rural and urban America. This seminal event informed the national nutrition agenda for the next several decades. Identifying the need for programs like WIC, emphasized the importance of removing barriers to the health and well-being of our youngest residents. We have the opportunity to expand the impact of these programs and build on a

foundation that was established over 50 years ago. For example, increasing WIC participants access to breastfeeding support and expanding financial incentives to encourage healthy eating provide an opportunity for this program to have an even greater long-term impact on nutrition security. Studies have shown that incentives such as those provided through the WIC Cash Value Benefit and SNAP Healthy Incentives Pilot have the potential to improve dietary intake in economically vulnerable families.⁵⁵⁻⁵⁷ Additionally, inequities in food access start in infancy. As indicated by researcher, practitioner and advocate, Kimberly Seals Allers, “first food justice is food justice.” Consequently, building equitable food systems starting with breast/human milk feeding is critical to young children’s health and the health of our nation.⁵⁸

Similar to 1969, the events of 2020 amplified our level of consciousness about the ways in which social, cultural, and political conditions create different experiences and opportunities for people living in the US. The intersection of race and persistent poverty, gender, gender identity, sexual orientation, disability, and rural status further adds a layer of complexity to understanding the impact of social and structural disadvantage on Black Americans ‘nutrition and health, and identifying policy and programmatic solutions to reduce barriers to nutrition security. For instance, rural black populations are concentrated in the Southeast, where the legacy of Jim Crow laws has had lasting effects on economic mobility and where poverty persists at rates far higher than for the rest of the country.⁵⁹

We did not get here by chance but through policy. Policies over centuries and at every level of government, such as redlining and yellowlining, that restrict access for some but create opportunities for others to build financial security, collect generational wealth, and experience economic mobility, have significant implications for nutrition security.⁶⁰⁻⁶² Understanding relationships between nutrition security, racism and other forms of marginalization including occupational segregation, racial and gender unemployment disparities, and barriers to employment for those involved in the criminal justice system, are critical emerging opportunities for funded research. Likewise, given that racial/ethnic inequities in nutrition have continued for decades, the need to fund research that moves beyond just adjusting for race/ethnicity to examining how systemic oppression impact the experiences of both people of color and white populations is warranted.

Over the past two days, I had the pleasure of being engaged in a strategic planning process with Grow Greater Englewood, a local urban agriculture and social justice organization on the south side of Chicago. For me, this reinforced the need to identify and explore approaches that provide communities the opportunity to be at the center of their own healing and liberation. Policies that elevate, support, and empower the voices, agency, and leadership of those with the lived experience are essential. Examples of efforts to improve nutrition security could include providing access to capital for the development and scale up of Black, Indigenous, People of Color businesses and creating systems to connect these businesses to new market opportunities; fostering linkages between black urban and rural food systems; providing debt relief to black farmers, businesses, and families; further supporting a diverse and community-based extension workforce by creating a national Nutrition Security Corps for youth of color; supporting the development of anti-racist, trauma informed nutrition education curricula; investing in fresh food stocking equipment and infrastructure at existing small and medium sized grocery and corner stores; and developing innovative strategies to explore how federal food assistance programs can

be leveraged to reduce racial disparities in diet. Moreover, it is important to ensure that all these efforts are part of a comprehensive strategy to improve overall community cohesion and economic well-being.

In closing, we need to continue prioritizing nutrition security with a lens on racial equity. The time to leverage new policy and programmatic efforts to decrease food-related hardship in black communities and increase opportunities for better access and affordability is now. Included should be funding to support pilot studies to test and evaluate these strategies to ensure that we bring science-based solutions to scale and elevate interventions that consider individuals' and families' real-world circumstances.

For me, this is not only an academic exercise. As an African American researcher, mother, and nutrition educator, I have observed the impact of poor nutrition, lack of adequate culturally responsive nutrition education and breastfeeding supports, economic disinvestment in local food systems, and obesogenic neighborhood food environments on the health of individuals, families, and communities firsthand. At the age of 52, during my lifetime, I have also witnessed the positive results from the first White House convening and understand the need for more work to be done.

Thank you for your attention in considering nutrition's pivotal role in promoting our nation's health. I look forward to working with you to advance innovative solutions for improving the health and well-being of all communities, including addressing the needs of those that historical experiences have made the most socially and economically vulnerable.

References:

1. Dietary Guidelines Advisory Committee. 2020. Scientific Report of the 2020 Dietary Guidelines Advisory Committee: Advisory Report to the Secretary of Agriculture and the Secretary of Health and Human Services. U.S. Department of Agriculture, Agricultural Research Service, Washington, DC.
2. Afshin A, Sur PJ, Fay KA, Cornaby L, Ferrara G, Salama JS, Mullany EC, Abate KH, Abbafati C, Abebe Z, Afarideh M. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*. 2019 May 11;393(10184):1958-72.
3. Thorpe K, Ko Chin K, Cruz Y, Innocent M, Singh L. The United States Can Reduce Socioeconomic Disparities by Focusing On Chronic Diseases Health Affairs Blog. August 17, 2017.
4. Wang DD, Leung CW, Li Y, Ding EL, Chiuve SE, Hu FB, Willett WC. Trends in dietary quality among adults in the United States, 1999 through 2010. *JAMA Intern Med.*; 2014;174:1587–1595.
5. Rehm CD, Peñalvo JL, Afshin A, Mozaffarian D. Dietary intake among US adults, 1999–2012. *JAMA*; 2016. 315:2542–2553.
6. Ellen Piwoz, Shelly Sundberg, Jenny Rooke, Promoting Healthy Growth: What Are the Priorities for Research and Action? *Advances in Nutrition*, Volume 3, Issue 2, March 2012, Pages 234–241.

7. Black MM, Dewey KG. Promoting equity through integrated early child development and nutrition interventions. *Ann N Y Acad Sci* 2014;1308:1–10
8. Satia J. A. (2009). Diet-related disparities: understanding the problem and accelerating solutions. *J Acad Nutr Diet*, 109(4), 610–615.
9. Hales CM, Carroll MD, Fryar CD, Ogden CL. Prevalence of obesity and severe obesity among adults: United States, 2017–2018. NCHS Data Brief, no 360. Hyattsville, MD: National Center for Health Statistics. 2020
10. Fryar CD, Carroll MD, Afful J. Prevalence of overweight, obesity, and severe obesity among children and adolescents aged 2–19 years: United States, 1963–1965 through 2017–2018. NCHS Health E-Stats. 2020
11. United States Department of Health and Human Services Office of Minority Health. Diabetes and African Americans. 3/1/2021. Retrieved from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=18> on October 29, 2021.
12. Wall HK, Ritchey MD, Gillespie C, Omura JD, Jamal A, George MG. (2018). Vital signs: prevalence of key cardiovascular disease risk factors for million hearts 2022—United States, 2011–2016. *MMWR Morb Mortal Wkly Rep*; 67:983–991.
13. Kirkpatrick SI, Dodd KW, Reedy J, Krebs-Smith SM. Income and race/ethnicity are associated with adherence to food-based dietary guidance among US adults and children. *J Acad Nutr Diet*; 2012, 112:624–635.e6
14. Hiza HA, Casavale KO, Guenther PM, Davis CA. Diet quality of Americans differs by age, sex, race/ethnicity, income, and education level. *J Acad Nutr Diet*. 2013; 113:297–306
15. Di Noia J, Monica D, Cullen KW, Pérez-Escamilla R, Gray HL, Sikorskii A. Differences in Fruit and Vegetable Intake by Race/Ethnicity and by Hispanic Origin and Nativity Among Women in the Special Supplemental Nutrition Program for Women, Infants, and Children, 2015. *Prev Chronic Dis* 2016;13:160130.
16. Harris J. *High on the Hog: A Culinary Journey from Africa to America*. New York: Bloomsbury. 2011.
17. Storey M, Anderson P. Income and race/ethnicity influence dietary fiber intake and vegetable consumption. *Nutr Res*. 2014 Oct;34(10):844-50. Epub 2014 Sep 3.
18. United States Department of Health and Human Services Office of Minority Health. Infant Mortality and African Americans. 3/1/2021. Retrieved from <https://minorityhealth.hhs.gov/omh/browse.aspx?lvl=4&lvlid=23> on October 29, 2021.
19. Lavizzo-Mourey R, Williams D. Being Black Is Bad for Your Health. *U.S. News and World Report*. April 14, 2016. Retrieved from <https://www.usnews.com/opinion/blogs/policy-dose/articles/2016-04-14/theres-a-huge-health-equity-gap-between-whites-and-minorities> on October 26, 2021.
20. Chad Stone. Center on Budget and Policy Priorities, Tracking the COVID-19 Recession’s Effects on Food, Housing, and Employment Hardships. Retrieved from <https://www.cbpp.org/research/poverty-and-inequality/tracking-the-covid-19-recessions-effects-on-food-housing-and.updated> January 15, 2021, on October 25, 2021.
21. Andrasfay T, Goldman N. Reductions in 2020 US life expectancy due to COVID-19 and the disproportionate impact on the Black and Latino populations. *Proceedings of the National Academy of Sciences* Feb 2021, 118 (5)
22. Petersen R. Addressing Racial and Ethnic Health Disparities in Adult Obesity and Encouraging Physical Activity this National Minority Health Month. *Conversation in Equity*. Centers for Disease Control and Prevention. April 24, 2019. Retrieved from

<https://blogs.cdc.gov/healthequity/2019/04/24/addressing-racial-and-ethnic-health-disparities-in-adult-obesity-and-encouraging-physical-activity-this-national-minority-health-month/> on October 5, 2021.

23. Ellis KR, Hecht HK, Young TL, Oh S, Thomas S, Hoggard LS, et al. Chronic Disease Among African American Families: A Systematic Scoping Review. *Prev Chronic Dis* 2020; 17:190431.
24. Morita, Julie. *Unequal Cities: Structural Racism and the Death Gap in America's Largest Cities*. JHU Press, 2021.
25. Coleman-Jensen A, Rabbitt M, Gregory G, Singh A. Household Food Security in the United States in 2020, ERR-298, U.S. Department of Agriculture, Economic Research Service. 2021
26. Odoms-Young A, Bruce MA. Examining the Impact of Structural Racism on Food Insecurity: Implications for Addressing Racial/Ethnic Disparities. *Fam Community Health*. 2018 Apr/Jun;41 Suppl 2 Suppl, Food Insecurity and Obesity (Suppl 2 FOOD INSECURITY AND OBESITY): S3-S6.
27. Heckler MM. Report of the Secretary's Task Force Report on Black and Minority Health. Washington, DC: US Department of Health and Human Services; 1985
28. Gee, G., & Ford, C. (2011). Structural racism and health inequities: Old issues, New Directions. *Du Bois Review: Social Science Research on Race*, 8(1), 115-132.
29. Crear-Perry J, Correa-de-Araujo R, Lewis Johnson T, McLemore MR, Neilson E, Wallace M. Social and structural determinants of health inequities in maternal health. *Journal of Women's Health*. 2021 Feb 1;30(2):230-5.
30. Solar O, Irwin A. Social determinants, political contexts and civil society action: a historical perspective on the Commission on Social Determinants of Health. *Health promotion journal of Australia*. 2006;17(3):180-5185.
31. Havranek EP, Mujahid MS, Barr DA, Blair IV, Cohen MS, Cruz-Flores S, Davey-Smith G, Dennison-Himmelfarb CR, Lauer MS, Lockwood DW, et al. Social determinants of risk and outcomes for cardiovascular disease: a scientific statement from the American Heart Association. *Circulation*. 2015; 132:873–898.
32. Irwin A, Valentine N, Brown C, Loewenson R, Solar O, Brown H, Koller T, Vega J. The commission on social determinants of health: tackling the social roots of health inequities. *PLoS medicine*. 2006 Jun;3(6):e106.
33. Casagrande SS, Whitt-Glover M, Lancaster KJ, et al. Built environment and health behaviors among African Americans: a systematic review. *Am J Prev Med*. 2009 Feb;36:174– 81. 1106
34. Lovasi GS, Hutson MA, Guerra M, et al. Built environments and obesity in disadvantaged populations. *Epidemiol Rev*. 2009;31:7– 20. Epub 2009 Jul 9.
35. Zenk SN, Schulz AJ, Israel BA, et al. Neighborhood racial composition, neighborhood poverty, and the spatial accessibility of supermarkets in metropolitan Detroit. *Am J Public Health*. 2005 Apr;95(4):660– 7.
36. Kraft, Amber N., et al. "Neighborhood Food Environment and Health Outcomes in U.S. Low-Socioeconomic Status, Racial/Ethnic Minority, and Rural Populations: A Systematic Review." *Journal of Health Care for the Poor and Underserved*, vol. 31, no. 3, Johns Hopkins University Press, 2020, pp. 1078–114.
37. Walker RE, Keane CR, Burke JG. Disparities and access to healthy food in the United States: a review of food deserts literature. *Health Place*. 2010 Sep;16(5):876– 84.

38. Reinvestment Fund and Opportunity Finance Network. A Summary of Searching for Markets: The Geography of Inequitable Access to Healthy & Affordable Food in the United States. [Online] 2012.
39. Ver Ploeg, M., Mancino, L., Todd, J.E., Clay, D.M. and Scharadin, B., 2015. Where do Americans usually shop for food and how do they travel to get there? Initial findings from the National Household Food Acquisition and Purchase Survey (No. 1476-2017-3882).
40. Hamrick, Karen & Hopkins, David. (2012). The time cost of access to food – Distance to the grocery store as measured in minutes. *electronic International Journal of Time Use Research*. 9. 10.13085/eIJTUR.9.1.28-58.
41. Bower KM, Thorpe RJ Jr, Rohde C, et al. The intersection of neighborhood racial segregation, poverty, and urbanicity and its impact on food store availability in the United States. *Prev Med*. 2014 Jan;58:33– 9. [https:// doi.org/10.1016/j.ypmed.2013.10.010](https://doi.org/10.1016/j.ypmed.2013.10.010) PMID:24161713 4.
42. Grigsby-Toussaint DS, Zenk SN, Odoms-Young A, Ruggiero L, Moise I. Availability of commonly consumed and culturally specific fruits and vegetables in African-american and Latino neighborhoods. *J Am Diet Assoc*. 2010 May;110(5):746-52.
43. Zenk SN, Schulz AJ, Israel BA, Mentz G, Miranda PY, Opperman A, Odoms-Young AM. Food shopping behaviours and exposure to discrimination. *Public Health Nutr*. 2014 May;17(5):1167-76.
44. National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States; Baciu A, Negussie Y, Geller A, et al., editors. Washington (DC): [National Academies Press \(US\)](#); 2017 Jan 11.
45. Treuhaft, S. and Karpyn, A. *The Grocery Gap*. Oakland, CA: PolicyLink, 2010.
46. Hagan E, Rubin V. *Economic and Community Development Outcomes of Healthy Food Retail*. s.l. : PolicyLink, 2013.
47. Harris, J.L. (2020). Targeted food marketing to Black and Hispanic consumers: The Tobacco Playbook.pdf. *American Journal of Public Health*, 110(3), 271-272.
48. Grier SA, Kumanyika S. Targeted marketing and public health. *Annu Rev Public Health*. 2010;31:349–369.
49. Grier SA, Lassiter VC. Understanding community perspectives: a step towards achieving food marketing equity. In: Williams JD, Pasch KE, Collin CA, eds. *Advances in Communication Research to Reduce Childhood Obesity*. New York, NY: Springer; 2013:343–366.
50. Harris JL, Frazier W, Kumanyika S, Ramirez AG. Increasing disparities in unhealthy food advertising targeted to Hispanic and Black youth. January 2019. Available at: <http://uconnruddcenter.org/files/Pdfs/TargetedMarketingReport2019.pdf>. Accessed November 30, 2019.
51. Harris JL, Frazier W III, Fleming-Milici F, et al. A qualitative assessment of US Black and Latino adolescents' attitudes about targeted marketing of unhealthy food and beverages. *J Child Media*. 2019; 13(3):295–316.
52. Harris JL, Frazier W III, Fleming-Milici F, Phaneuf L, Jensen J, Young Choi Y, McCann M, Mancini S. FAST FOOD FACTS 2021 Fast food advertising: Billions in spending, continued high exposure by youth. UConn Rudd Center for Food Policy & Obesity June 2021

53. Yancey AK, Cole BL, Brown R, Williams JD, Hillier A, Kline RS, Ashe M, Grier SA, Backman D, McCarthy WJ. A cross-sectional prevalence study of ethnically targeted and general audience outdoor obesity-related advertising. *Milbank Q.* 2009 Mar;87(1):155-84.
54. Institute of Medicine. 2006. *Food Marketing to Children and Youth: Threat or Opportunity?* Washington, DC: The National Academies Press
55. United States Department of Agriculture. Healthy Incentives Pilot Final Evaluation Report. 09/18/2014. Retrieved from <https://www.fns.usda.gov/snap/hip/final-evaluation-report-on-october-28>.
56. Odoms-Young AM, Kong A, Schiffer LA, Porter SJ, Blumstein L, Bess S, Berbaum ML, Fitzgibbon ML. Evaluating the initial impact of the revised Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) food packages on dietary intake and home food availability in African American and Hispanic families. *Public Health Nutr.* 2014 Jan;17(1):83-93.
57. Zimmer MC, Vernarelli JA. Select Food Group Intake of US Children Aged 2 to 4 Years by WIC Participation Status and Income. *J Acad Nutr Diet.* 2020 Dec;120(12):2032-2038.e1
58. Seals Allers K. *The Big Letdown: How Medicine, Big Business, and Feminism Undermine Breastfeeding.* New York, NY: St. Martin's Press, 2017.
59. Rothstein, Richard. *The color of law: A forgotten history of how our government segregated America.* Liveright Publishing, 2017.
60. Immergluck, Dan. "Redlining redux: Black neighborhoods, black-owned firms, and the regulatory cold shoulder." *Urban Affairs Review* 38, no. 1 (2002): 22-41.
61. Kwate, Naa Oyo A., Ji Meng Loh, Kellee White, and Nelson Saldana. "Retail redlining in New York City: Racialized access to day-to-day retail resources." *Journal of Urban Health* 90, no. 4 (2013): 632-652.
62. Aalbers, Manuel B. "How do mortgage lenders influence neighbourhood dynamics? Redlining and predatory lending." In *Understanding neighbourhood dynamics*, pp. 63-85. Springer, Dordrecht, 2012.