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March 21, 2023

TO: Each Supervisor

FROM: Barbara Ferrer, Ph.D., M.P.H., M.Ed.
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SUBJECT: HEALTHY FOOD ACCESS FOR DIABETES AND PREDIABETES PREVENTION (ITEM 18, BOARD AGENDA OF NOVEMBER 15, 2022)

On November 15, 2022, the Board instructed the Department of Public Health (Public Health), Department of Health Services (DHS), the Anti-Racism, Diversity, and Inclusion (ARDI) initiative in the Chief Executive Office, Department of Public Social Services (DPSS), the Alliance for Health Integration, the Los Angeles County Food Equity Roundtable, and the Los Angeles-based health plans to: 1) disseminate a report focused on sugar sweetened beverage consumption among children and youth in Los Angeles County; 2) identify opportunities for implementing CalAIM Community Supports that focus on type 2 diabetes management and treatment; 3) explore the feasibility of expanding produce prescription projects; and 4) explore strategies for making the Market Match program sustainable. In addition, the Board Motion asked Public Health to report back in 120 days with results of the above directives.

Sugar Sweetened Beverage Report Dissemination Efforts

Sugar-sweetened beverages (SSBs), or sugary drinks, are the leading source of added sugars in the American diet. According to the American Academy of Pediatrics, excess consumption of added sugars, most notably from SSBs, contributes to the high prevalence of childhood and adolescent obesity and increases the risk for dental decay, cardiovascular disease, hypertension, insulin resistance, type 2 diabetes, fatty liver disease, and all-cause mortality.

On November 17, 2022, Public Health released the report, “Sugar- Sweetened Beverage Consumption Among Children and Adolescents in Los Angeles County” (see Attachment A). The report highlighted data from the Los Angeles County Health Survey, showing that consumption of SSBs remains an ongoing concern to the health of children and adolescents in the county.

The report showed stark disparities in SSB consumption among racial, ethnic, geographic, and socioeconomic groups. Also included in the report were recommendations for environmental and policy changes at the local, state, and national levels to reduce SSB consumption.

Public Health widely disseminated this report to community-based organizations, schools, faith-based organizations, and youth-focused organizations to raise awareness about the key findings and recommendations. The report was first distributed on November 17, 2022 through an announcement to over 1,000 subscribers of the Nutrition and Physical Activity listserv and Nutrition Access LA listserv and was later featured in a national Google listserv on SSBs on November 21, 2022. In early December 2022, Public Health engaged several media outlets and hosted a virtual press conference in English and Spanish presenting the findings and data. These efforts resulted in 29 online news articles and multiple media stories in English and Spanish on radio outlets such as KPCC and Radio Bilingue.

Public Health targeted dissemination of the report to early childhood and school-age sectors. For example, in mid-January 2023, the Department presented findings to WIC Directors and senior staff at various local WIC agencies from across Southern California. The presentation emphasized the protective effect of WIC participation on SSB consumption, as demonstrated by the data in the report. Public Health also shared the report with the Los Angeles County Office of Education to distribute to school districts throughout the county. During late January 2023, the Nutrition and Physical Activity Program held an educational webinar, “Sugar-Sweetened Beverage Reduction Game Plan: Turning Data into Action” for school districts and community partners. The event drew 118 registrants and featured both a presentation on the data from the report as well as a real-world example of *CalFresh Healthy Living* (SNAP-Ed)-funded work from a school district partner, Glendale Unified School District—they highlighted their efforts to implement recommendations from the report, including raising awareness about the negative health impacts of consuming SSBs and implementing youth engagement projects to increase water access and appeal through the installation of hydration stations throughout their school campuses. Public Health partnered with No Kid Hungry, which committed to providing funding to support the installation of hydration stations (satisfying one of the recommendations in the report). No Kid Hungry has pledged to provide grants totaling nearly \$10,000 to school districts who apply for this funding (see Attachment B). Public Health will work with the Board to provide broad outreach and promotion to make school districts aware of this funding opportunity.

Public Health collaborated with leading researchers from the Children’s Hospital of Los Angeles (CHLA) and the University of Southern California (USC) Dornsife College of Letters, Arts and Sciences to further study the negative health impacts of excessive sugar consumption on physiological health. Along with several community partners, plans are underway to host a three-part event series to raise awareness about excess SSB consumption, using the latest data from Public Health’s report and data from CHLA and USC. These presentations will focus on community-based approaches to reducing SSB consumption, and on policy and statewide interventions that could help address this health issue at the government and system levels. The event series will conclude with an in-person event focused on global approaches to fight sugary drink consumption. The three events are tentatively scheduled for March, April, and May 2023. In another venue—the 2023 Science Day at The Saban Research Institute of CHLA—Public Health has begun preparing for a similar presentation of SSB results from the report. To be held in June 2023, the day-long event intends to highlight many basic science, clinical research and clinical trial activities that are ongoing in this area of research and Public Health practice.

Finally, Public Health was invited and presented the report's findings and recommendations at a February 23, 2023 meeting hosted by the Californians for Less Soda coalition. This coalition's membership comprises several health equity advocates and health professionals who are committed to reducing excess SSB consumption through policy development and implementation, including imposing a tax on the sale of sodas and other SSBs.

Identify Opportunities for Implementing CalAIM Community Supports and Other Resources

Beginning in January 1, 2022, managed care plans (MCPs) in California can offer their beneficiaries medically supportive food and nutrition services through the CalAIM Community Supports program; these services can include medically tailored meals, healthy groceries, produce prescriptions (Rx) or vouchers programs, and access to food pharmacies. Under California's Medi-Cal and Medicaid Waiver, MCPs has the discretion to decide on if and what they could offer—i.e., a diverse range of food and nutrition services and resources are available to eligible individuals based on their individualized nutrition goals at critical times in their care. MCPs also have ample latitude to define the criteria for the level of services that could and should be offered—i.e., they can determine whether or not a particular service or resource is considered medically appropriate and/or cost-effective for their plan members. In California, individual health plans can opt in or opt out of providing these services/resources.

In December 2022, Public Health, DHS, and the Los Angeles County Food Equity Roundtable met with two Los Angeles County-based MCPs to learn more about their programs that deliver food and nutrition services/resources to individuals who are medically eligible to receive them (this includes for persons with type 2 diabetes). Among the subjects that were discussed included: (a) how the MCPs have been engaging and providing eligible Medi-Cal patients with this benefit—i.e., medically supportive food service, tailored meals, and other food and nutrition-based resources through such programs as CalAIM Community Supports in California; (b) what barriers have the MCPs encountered in offering and providing these services; and (c) what opportunities exist where the County of Los Angeles could support MCPs in providing and expanding the reach of these services.

Findings from the Exploratory Discussions

According to both MCPs, they have established criteria for medically tailored meals (e.g., eligible if confirmed to be food insecure or has a diagnosis of type 2 diabetes or congestive heart failure) and have already partnered with various California-based providers to deliver meals to their Medi-Cal patients who are eligible for this benefit. MCPs indicated they elected to first offer medically tailored meals to many of their plan members (patients) because many of these meal services providers were well known, already in place, and has a strong track record of providing quality food service. In contrast, providers for other medically supportive food, meals, and other food and nutrition-based resources such as medically tailored groceries, food pharmacies, and produce Rx programs were less known and fewer in number. MCPs expressed an interest in expanding many of their offered services/resources beyond just medically tailored meals in the upcoming years, in particular other food and nutrition-based resources such as produce Rx programs.

Both MCPs reported that they have encountered several challenges in offering and delivering medically tailored meals to eligible Medi-Cal patients. One such challenge is the lack of standardization of services offered by various meal providers. For example, some providers provide meals and offer nutrition education to patients while others only provide meals without the ancillary education. These service combinations often result in variable costs, an area of service delivery that both MCPs would like to standardize with meal providers. Another challenge is the interactions with health care providers who are often confused about the different eligibility criteria and referral processes to these food and

nutrition services/resources, including referral platforms which are often new to them. Health care providers' participation in the referral process is critical because they are often the ones who must approve the delivery of such meals and services to the patients in need. The MCPs suggest that the confusion is a major contributor to the low rates of referrals that they are currently seeing. MCPs have also expressed some hesitation about reimbursing for less-well known or nontraditional/non-clinic initiated services (e.g., food pharmacies, medically supportive groceries) beyond just the medically tailored meals since they are frequently unaware of the readiness of non-profit organizations to provide these services. MCPs indicated they are still learning, especially from their experiences during the first year of implementing their medically tailored meal programs.

Ways in Which County Can Help

MCPs identified various ways that the County of Los Angeles and its partners can support their efforts. First, the County has the resources and community standing to help convene a learning group comprising health plans and organizations that are providing these food and nutrition-based resources; the group can serve as a place where health plans and community organizations can share lessons and learn from one another. Second, MCPs expressed interest in learning best practices on how to piece disparate food and nutrition-based programs together in a more efficient way. For example, a key question they raised was: which combination of programming will yield the best health outcomes for their patients? For example, will health outcomes improve if they transition many of their patients from medically tailored meals (which is presently restricted to twice a day delivery for up to 12 weeks per year per patient) to medically supportive groceries, and then potentially to produce Rx programs that may have less stringent limits? MCPs expressed a lot of interest in collecting data and information towards answering these programmatic, logistic, and health impact questions.

Finally, both MCPs thought it would be a good idea and expressed some interest in being part of a potential workgroup or task force that focuses on promoting and facilitating a culture of "Food as Medicine" in both the health systems as well as the food systems locally. In its recently released Strategic Plan, the Los Angeles County Food Equity Roundtable indicated its support and has championed the idea of elevating "Food as Medicine" as a priority that health plans, local governments, and community-based, nonprofit organizations should work on together.

Exploring the Feasibility of Expanding Produce Prescription Projects

Presently, the largest funding stream for produce prescription projects (PPR programs) comes from the United States Department of Agriculture (USDA) Gus Schumacher Nutrition Incentive Program (GusNIP). USDA releases this competitive funding at upwards of \$10 million annually. The primary goal of these projects is to demonstrate and evaluate the impact of PPRs, especially as they relate to: (a) the improvement of dietary health through increased consumption of fruits and vegetables; (b) the reduction of individual and household food insecurity; and (c) the reduction in healthcare use and associated costs due to poor diet quality.

Since 2020, Public Health has implemented several GusNIP funded PPRs in three Federally Qualified Health Centers throughout Los Angeles County, reaching over 1,100 patients to date. Patient eligibility criteria for these projects have included positive screening of enrollment in Medi-Cal, household food insecurity, and a diagnosis of type 2 diabetes or prediabetes. In 2022, Public Health secured additional funding to implement a similar pilot in two DHS clinics—i.e., at the Hubert H. Humphrey Comprehensive Health Center and the LAC+USC Medical Center (project implementation is forthcoming in 2023-24). Based on the outcome of the pilot projects at these DHS clinics, Public Health intends to explore PPR expansion throughout other DHS clinics and health centers.

While GusNIP provides opportunities for qualifying patients to purchase fresh fruits and vegetables, resources to sustain these PPRs are limited. For example, the maximum amount for each three-year GusNIP funding cycle is \$500,000. This amount can supply produce prescriptions for only about 350 patients over three years per given project. Moving forward, a more reliable and steadier source of funding for produce prescriptions may be through reimbursements from Medi-Cal or the CalAIM Community Supports program, both are in their infancy in terms of implementation across the state.

Exploring Strategies for Making the Market Match Program Sustainable

Market Match is an evidence-based, nutrition incentive program that helps low-income households increase access to healthy food. The program matches customers' CalFresh and WIC nutrition assistance benefits with \$10-\$20 to extend the purchasing power of healthy foods at participating farmers' markets. Currently, the program is supported in two ways across Los Angeles County. One way is to access the benefit through the Ecology Center; the Center implements the original Market Match program in California and has since (>10 years) continued to partner with local community-based organizations and farmer's market operators to deliver the program in Los Angeles County. A second way—a more recent model—has been the establishment of an additional Market Match program implemented by Public Health, using funding from the American Rescue Plan (ARP) Act. In 2022, the CEO requested that Public Health establish such a program, in part, to support communities that were disproportionately impacted by the COVID-19 pandemic. To bring this second Market Match program to reality, the Department worked with CEO Anti-Racism, Diversity, and Inclusion Initiative (ARDI) to apply an equity lens to the program design of the program, so that the newly established benefit would extend service areas that are presently not covered by the Ecology Center's Market Match program. These eligible communities include those in Service Planning Areas 1 (Antelope Valley), 2 (northeast San Fernando Valley), and 6 (Compton, South Los Angeles). New sites were identified using the Los Angeles County Equity Explorer, a geographic information system (GIS) tool which highlights communities disproportionately affected by the COVID-19 pandemic. (The Equity Explorer can be accessed at: <https://experience.arcgis.com/experience/9d7a43397ea84ab98a534be5b5376fba/page/Page-1/>.) Since July 2022, over 34,000 ARP-funded Market Match transactions have been conducted, totaling over \$300,000, spanning 43 farmer's markets and other retail outlets in Los Angeles County. The ARP Market Match program, however, is time-limited, as the funding is expected to support the program only up through 2023-2024.

Although there are no specific plans to build beyond the ARP Market Match program at the moment, some initial ideas are being entertained to address program sustainability. For example, Los Angeles County can establish and grow an infrastructure to seek further funds, establishing local partnerships to implement the program, much like how Ecology Center started their much larger program. Presently, the largest funding stream for nutrition incentive programs comes directly from USDA's GusNIP. Each year, USDA releases a Request for Proposals for approximately \$33-\$37 million for programs that include Market Match. It is important to note, however, that grantees of these awards must provide matching contributions on a dollar-for-dollar basis for all federally funded awards disbursed to them. The match can comprise of a mix of both local and philanthropic funding. Additionally, based on the experiences of administering the ARP Market Match program and other food assistance programming, staffing resources of about 3.0 FTE (e.g., a program manager plus operations support staff) would also be needed to successfully pursue this competitive funding source and administer the program—e.g., to develop, manage, and monitor local service contracts with community-based organizations and farmer's market operators.

If the Board would like to pursue a Market Match infrastructure separate from the Ecology Center's program, Public Health is prepared to further explore this possibility. Public Health currently has strong collaborations and support from DPSS and the Los Angeles Food Equity Roundtable; philanthropic/ community partners will also be needed. A feasibility assessment will likely be the first step in this process.

BF:tk:ds

Attachments

- c: Chief Executive Officer
- County Counsel
- Executive Office, Board of Supervisors
- Anti-Racism, Diversity, and Inclusion
- Department of Health Services
- Department of Public Social Services
- Los Angeles County Food Equity Roundtable

SUGAR-SWEETENED BEVERAGE CONSUMPTION

Among Children and Adolescents in Los Angeles County



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Suggested Citation: Los Angeles County Department of Public Health, Sugar-Sweetened Beverage Consumption Among Children and Adolescents in Los Angeles County, November 2022.

For additional information about the Los Angeles County Health Survey, visit: publichealth.lacounty.gov/ha



The Los Angeles County Health Survey is a periodic, population-based telephone survey that collects information on sociodemographic characteristics, health status, health behaviors, and access to health services among adults and children in the county. The 2018 survey was conducted for the Los Angeles County Department of Public Health by Abt SRBI Inc., and was supported by funding from Kaiser Permanente Southern California Community Benefit program, the Los Angeles County Department of Mental Health, and Department of Public Health programs including the Division of Chronic Disease and Injury Prevention, Children's Medical Services, Division of HIV and STD Programs, Oral Health Program, Substance Abuse Prevention and Control, and Environmental Health.



Sugar-sweetened beverages (SSBs) are defined as drinks that are sweetened with various forms of added sugar such as regular soda, fruit drinks, sports drinks, and energy drinks.²

KEY FINDINGS



In Los Angeles County, approximately one in three children aged 17 years and younger, or 840,000 children, consumed at least one sugar-sweetened beverage (SSB) on an average day in 2018.



In 2018, SSB consumption was higher among Black and Latino children, 47.6% and 43.1% respectively, compared to Asian and White children (25.4% and 21.0% respectively).



Over the past decade, while rates of SSB consumption decreased overall, Black and Latino children continue to have approximately double the rate of SSB consumption when compared to White and Asian children.



Findings showed large regional differences in child SSB consumption across Los Angeles County, with SSB consumption lowest in the West Service Planning Area (SPA) (16.7% in 2018), which includes communities like Santa Monica, Beverly Hills, and Malibu, and highest in the South SPA (51.6%), which includes communities like Crenshaw, Lynwood, and Compton.



Among households living below 100% of the federal poverty level (FPL), 47% of children consumed one or more SSB per day, compared to 22% of children living in households at or above 300% FPL.



Among low-income households, SSB consumption was lower among children who participated in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (32.1%) compared to children who did not participate in the program (40.7%).

INTRODUCTION

Sugar-sweetened beverages pose an ongoing threat to child and adolescent health within Los Angeles County

Sugar-sweetened beverages (SSBs), or sugary drinks, are the leading source of added sugars in the American diet.¹ SSBs are defined as drinks that are sweetened with various forms of added sugar such as regular soda, fruit drinks, sports drinks, and energy drinks.²

According to the American Academy of Pediatrics, excess consumption of added sugars, most notably from SSBs, contributes to the high prevalence of childhood and adolescent obesity and increases the risk for dental decay, cardiovascular disease, hypertension, insulin resistance, type 2 diabetes, fatty liver disease, and all-cause mortality.³ The Smile Survey 2020, a Los Angeles County-wide oral health assessment of more than 10,000 children, found that 27% of kindergarten children and 42% of third grade children in Los Angeles County are overweight or obese and obesity rates are higher among low-income, Latino, and Black children.⁴

Consumption of sugar, which includes SSBs, is one of the known causes of tooth decay and dental disease. Research has identified associations between SSB consumption and dental disease throughout the lifespan from infancy to adolescence to adulthood. A recent systematic review and meta-analysis concluded that increased SSB consumption is associated with not only an increased risk of dental caries, but also an increase in tooth erosion.⁵ Additionally, tooth decay remains more common in children from socioeconomically disadvantaged households, among children from Spanish speaking households, and among Asian, Black, and Latino children.⁶

Within the US in 2011-2014, approximately 6 in 10 youth (63%) consumed a SSB on a given day, with older youth ages 12 to 19 having a higher mean intake and percentage of daily calories from SSBs as compared to younger children.⁷ In California, one study found no significant change in SSB consumption among children from 2013-2014 to 2015-2016, with 22% of children ages 2-5 and 35% of children ages 6-11 consuming any SSB in the past day (2015-2016).⁸

1. Centers for Disease Control and Prevention. Get the facts: Sugar-sweetened beverages and consumption. Centers for Disease Control and Prevention. <https://www.cdc.gov/nutrition/data-statistics/sugar-sweetened-beverages-intake.html>. Updated April 11, 2022. Accessed April 12, 2022

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3. Muth ND, Dietz WH, Magge SN, et al. Public policies to reduce sugary drink consumption in children and adolescents. *J. Pediatr.* 2019;143(4). doi:10.1542/peds.2019-0282

4. Los Angeles County Department of Public Health, Oral Health Program. Smile Survey 2020: The oral health of Los Angeles County's children. . http://publichealth.lacounty.gov/ohp/docs/SmileSurvey2020_Final_info.pdf. Accessed 6/7/2022

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6. Dai J, Soto MJ, Dunn CG, Bleich SN. Trends and patterns in sugar-sweetened beverage consumption among children and adults by race and/or ethnicity, 2003–2018. *Public Health Nutr.* 2021;24(9):2405-2410. doi:10.1017/s1368980021001580

7. Rosinger A, Herrick K, Gahche J, et al. Sugar-sweetened beverage consumption among U.S. youth, 2011-2014. *NCHS Data Brief.* 2017;(271):1-8. <https://stacks.cdc.gov/view/cdc/44039>

8. Beck AL, Martinez S, Patel AI, Fernandez A. Trends in sugar-sweetened beverage consumption among California children. *Public Health Nutr.* 2020;23(16):2864-2869. doi:10.1017/S1368980020001147



SSB consumption data have consistently shown stark sociodemographic variations. Among youth, SSB consumption is higher in households with lower incomes and Black youth, as compared to White, Latino, and Asian youth.^{8,9} Moreover, in a study assessing the increased caloric contributions from SSBs among US children and adolescents from 1988-2004, there was no per-capita consumption change among White adolescents but a significant increase among Black and Mexican American youth.¹⁰ While data from the 2003-2004 through 2017-2018 National Health and Nutrition Examination Survey cycles show that SSB consumption has declined steadily for children, for Black children the rate of decline was slower.

This report summarizes the ongoing threat that SSBs pose to child and adolescent health within Los Angeles County. The report uses data from 2007 to 2018 and highlights the demographic and geographical health inequities that persist among Los Angeles County children and adolescents. Data specifically highlight variations and trends by racial and ethnic groups, across eight Service Planning Areas (SPAs), 26 health districts, and by participation in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). The report concludes with recommendations for governmental entities, cities, and organizations within Los Angeles County.

9. Ogden CL, Kit BK, Carroll MD, Park S. Consumption of sugar drinks in the United States, 2005-2008. *NCHS Data Brief*, 2011. <https://www.cdc.gov/nchs/data/databriefs/db71.pdf>. Accessed February 20, 2022

10. Wang YC, Bleich SN, Gortmaker SL. Increasing caloric contribution from sugar-sweetened beverages and 100% fruit juices among US children and adolescents, 1988-2004. *J. Pediatr.* 2008;121(6). doi:[10.1542/peds.2007-2834](https://doi.org/10.1542/peds.2007-2834)

METHODS

The report draws from the Los Angeles County Health Survey (LACHS)

This report draws from the Los Angeles County Health Survey (LACHS), which is a cross-sectional, population-based, random-digit-dialed telephone survey of adults and children who currently reside in Los Angeles County. The Los Angeles County Department of Public Health Office of Health Assessment and Epidemiology has conducted the survey since 1997 and administers the survey approximately every two to four years. The survey includes a representative sample of approximately 8,000 adults (≥ 18 years of age) and 6,000 children in each survey cycle; interviews are conducted in English, Spanish, Chinese (Mandarin and Cantonese), Korean, and Vietnamese.

The child survey is completed by an adult member of the same household who knows the child well enough to answer questions about the child's health, their doctor visits, what kinds of food they eat, and their general activities. The survey collects information on topics such as health conditions, health behaviors, and attributes of the physical and social environment. Most of the data in this report come from the 2018 LACHS. Results from earlier cycles of the survey were used to assess trends and to conduct descriptive analyses on SSB consumption by age, race, and ethnicity. Details about the survey, including its full methodology, can be found at www.publichealth.lacounty.gov/ha.

In the LACHS child questionnaire, SSB consumption was assessed using the question, "on an AVERAGE DAY, about how many sodas or sweetened drinks such as Gatorade, Red Bull, or Sunny Delight does (your child) drink? Do not include diet sodas or sugar-free drinks. Please count a 12-ounce can, bottle, or glass as one drink." If the respondent says the child drinks 0 to 1 soda/sweetened drink a day, a few times a week, a few times a month, or occasionally, responses were coded as less than 1 a day.

The analyses presented in this report have several limitations. In the LACHS SSB consumption question for children, fruit juice with added sugar, flavored milks, and sweetened coffee/tea drinks were not included as examples. Drinks using non-sugar substitutes or artificial sweeteners were also not included in the analysis. Given that fruit juice, flavored milks, and sweetened coffee/tea drinks can have added sugar, the estimates in this report may be an underreport of SSB consumption. A second limitation is that no questions on water consumption were included in the LACHS. A third limitation is that the data are from 2018. Updated data on SSB consumption will be collected by the LACHS in 2022.

Lastly, data presented in this report provide unadjusted estimates of children's SSB consumption. Future research should consider multivariable statistical analyses to more comprehensively examine disparities in SSB consumption by accounting for factors such as income, which are known to influence SSB consumption.

RESULTS

In Los Angeles County, approximately 840,000, or 1 in 3 children, consumed SSBs on an average day (2018) (Table 1). Male children were more likely to consume SSBs than female children, 40.8% versus 33.5%. Among children less than 17 years old, SSB consumption on an average day was highest among adolescents age 12-17 at 45%. Daily consumption among children 6–11 years and 0-5 years was 39.3% and 26.5%, respectively. Among households living below 100% of the federal poverty level (FPL), 47% of children consumed one or more SSB per day, compared to 22% of children living in households at or above 300% FPL. SSB consumption was higher among Black and Latino children, 47.6% and 43.1% respectively, compared to Asian and White children (25.4% and 21.0% respectively).



42.1% of children ages 6 to 17 consumed one or more SSBs per day in Los Angeles County in 2018.

Table 1: Percent of Children (Ages 17 Years and Younger) Who Drink One or More SSB Per Day, Los Angeles County, 2018

	Percent	95% CI	Estimated #
LA County	37.2%	35.2 - 39.2	840,000
Gender			
Male	40.8%	38.0 - 43.7	470,000
Female	33.5%	30.7 - 36.3	370,000
Age Group			
0-5	26.5%	23.2 - 29.9	189,000
6-11	39.3%	35.6 - 43.1	305,000
12-17	45.1%	41.7 - 48.2	346,000
Federal Poverty Level*			
0-99% FPL	47.2%	43.3 - 51.1	336,000
100%-199% FPL	43.4%	39.6 - 47.3	254,000
200%-299% FPL	36.3%	30.6 - 42.0	100,000
300% FPL or above	22.0%	18.9 - 25.0	150,000
Race/Ethnicity			
Latino	43.1%	40.5 - 45.6	590,000
White	21.0%	16.9 - 25.1	90,000
Black	47.6%	41.1 - 54.1	85,000
Asian	25.4%	18.4 - 32.5	60,000
Native Hawaiian and Pacific Islander [†]	25.8%	0.0 - 56.4	n/a
American Indian and Alaska Native [†]	68.8%	33.3 - 100.00	n/a

Source: 2018 Los Angeles County Health Survey; Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

*Based on U.S. Census 2016 FPL thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$24,339 (100% FPL), \$48,678 (200% FPL), and \$73,017 (300% FPL). These thresholds were the values at the time of survey interviewing.

[†]The estimate is statistically unstable (relative standard error >30%) and therefore may not be appropriate to use for planning or policy purposes.

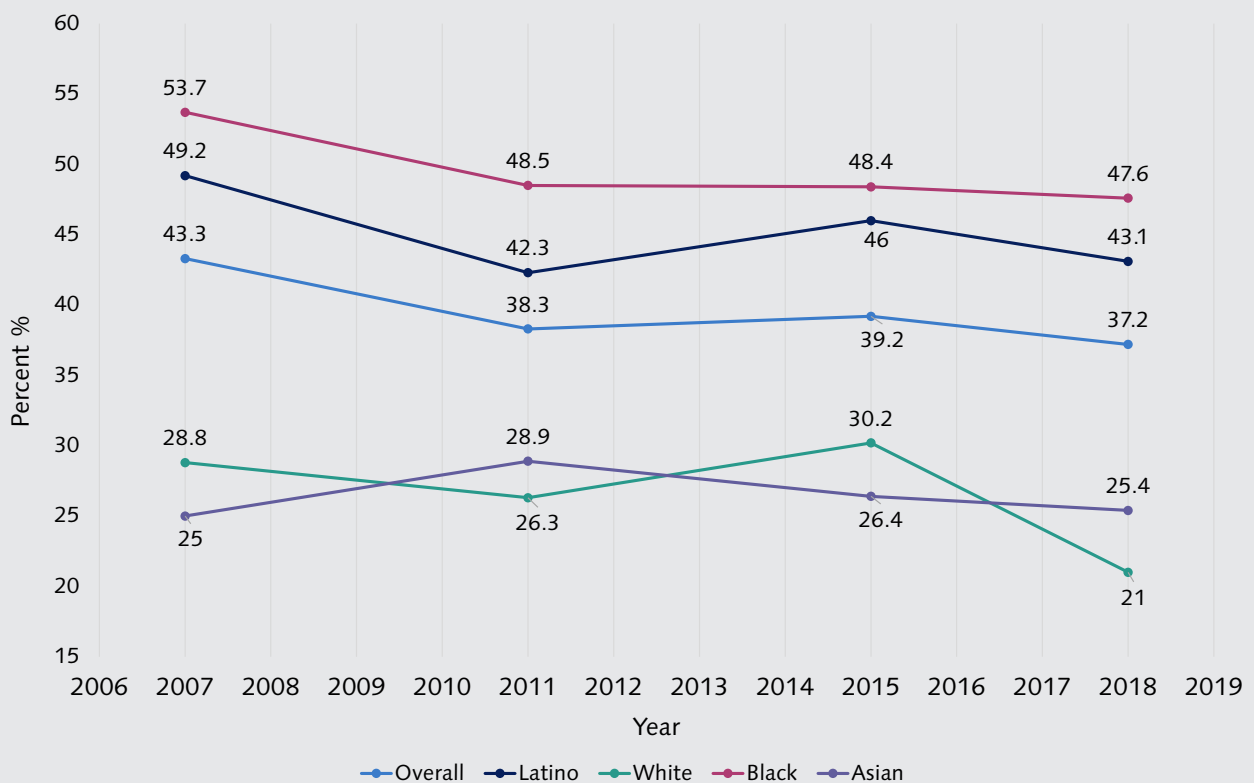
Trends in SSB Consumption by Race and Ethnicity

Overall, from 2007 to 2018, Los Angeles County child SSB daily consumption decreased by 6.1%, from 43.3% to 37.2% (Figure 1). While rates of SSB consumption decreased overall, rates of consumption among Black and Latino children were consistently higher than those among White and Asian children.

Consumption among Black children decreased by 6.1% from 2007 to 2018, however, in 2018 it remained 10.4% above the overall population consumption. Similar trends were observed among Latino children, where SSB consumption since 2007 has decreased, but remained higher than the overall population consumption. Lower percentages of White and Asian children consumed SSBs than the overall population, with 21% of White children and 25% of Asian children consuming at least one SSB in the past day, in 2018.

Note that consumption data for Native Hawaiians and Pacific Islanders, and American Indians and Alaska Natives were not available for some years and therefore are not included in Figure 1.

Figure 1: Percent of Children (Ages 17 Years and Younger) Who Drink One or More SSB Per Day by Race/Ethnicity, Los Angeles County, 2007-2018



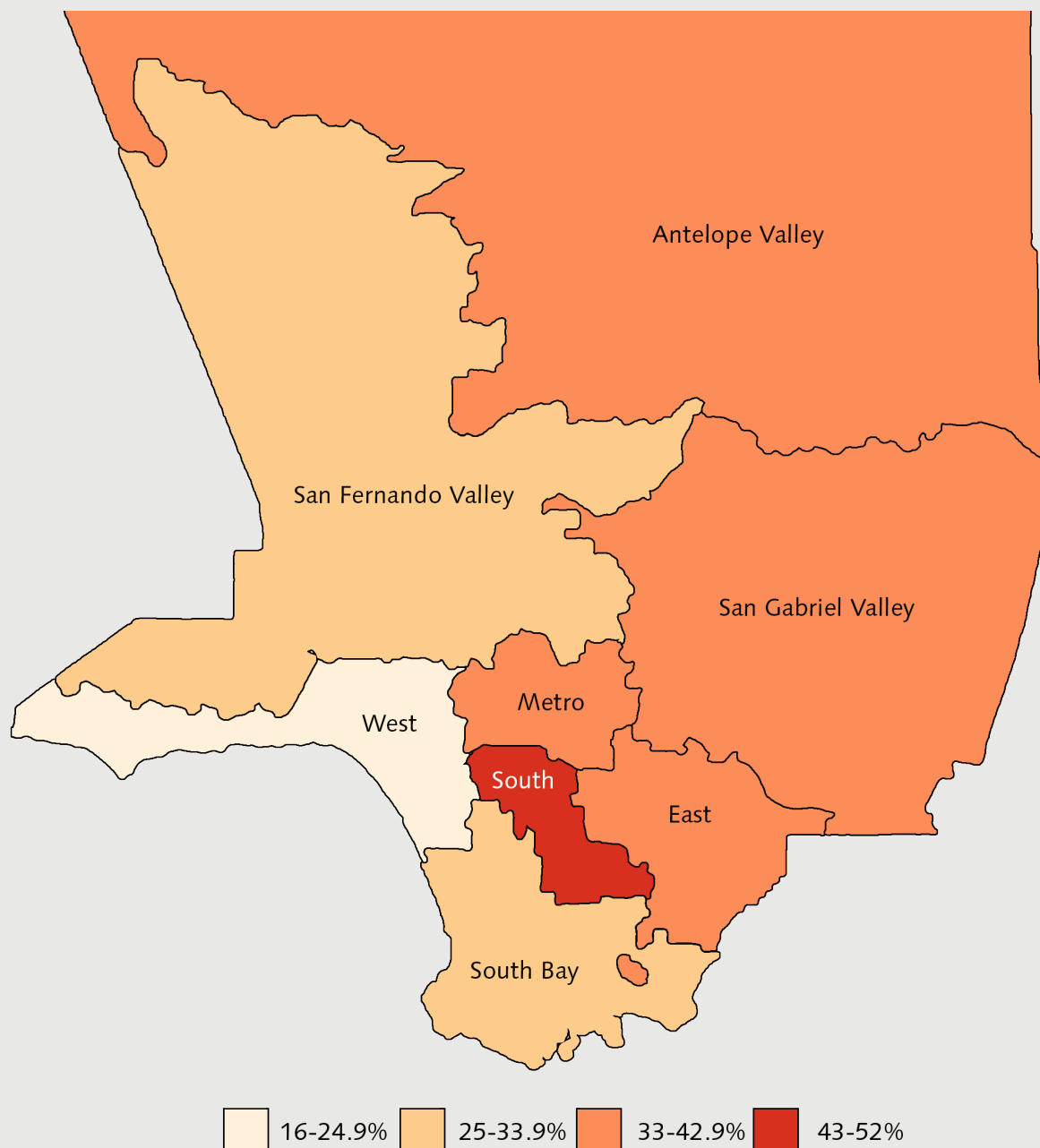
Source: 2018, 2015, 2011, and 2007 Los Angeles County Health Survey; Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

Note: The estimates for SSB consumption data for Native Hawaiians and Pacific Islanders, and American Indians and Alaska Natives were not available for some years of the Los Angeles County Health Survey or were statistically unstable (relative standard error >30%) and therefore not appropriate to use for planning or policy purposes.

Service Planning Areas and SSB Consumption

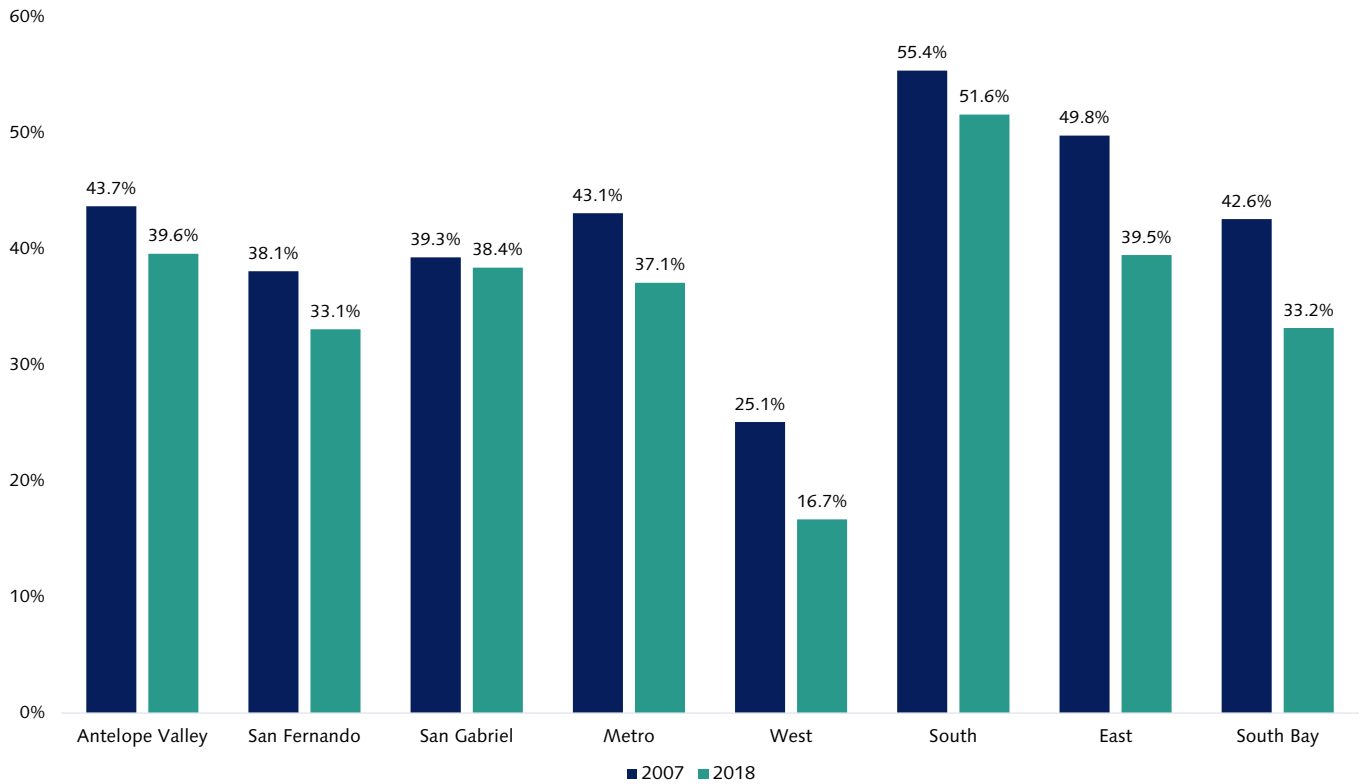
Variation in SSB consumption was also noted across the eight service planning areas (SPAs) throughout Los Angeles County, which have differences in socioeconomic, racial, and ethnic characteristics. In 2018, the most pronounced difference in child SSB consumption was between the South and West SPAs, with consumption in the South SPA (51.6%) three times higher than in the West SPA (16.7%) (Figure 2).

Figure 2: Map of Percentage of Children (Ages 17 Years and Younger) Who Drink One or More SSB Per Day by SPA, Los Angeles County, 2018



Across all SPAs, SSB consumption decreased in 2018 as compared to 2007 (Figure 3). However, the decrease in child SSB consumption from 2007 to 2018 did not drop as rapidly for some SPAs. For instance, child SSB consumption in the South SPA decreased by 3.8% and San Gabriel SPA decreased by 0.9% from 2007 to 2018. In comparison, the East and South Bay SPAs dropped by 10.3% and 9.4%, respectively, from 2007 to 2018.

Figure 3: Percentage of Children (Ages 17 Years and Younger) Who Drink One or More SSB Per Day by SPA, Los Angeles County, 2007 and 2018



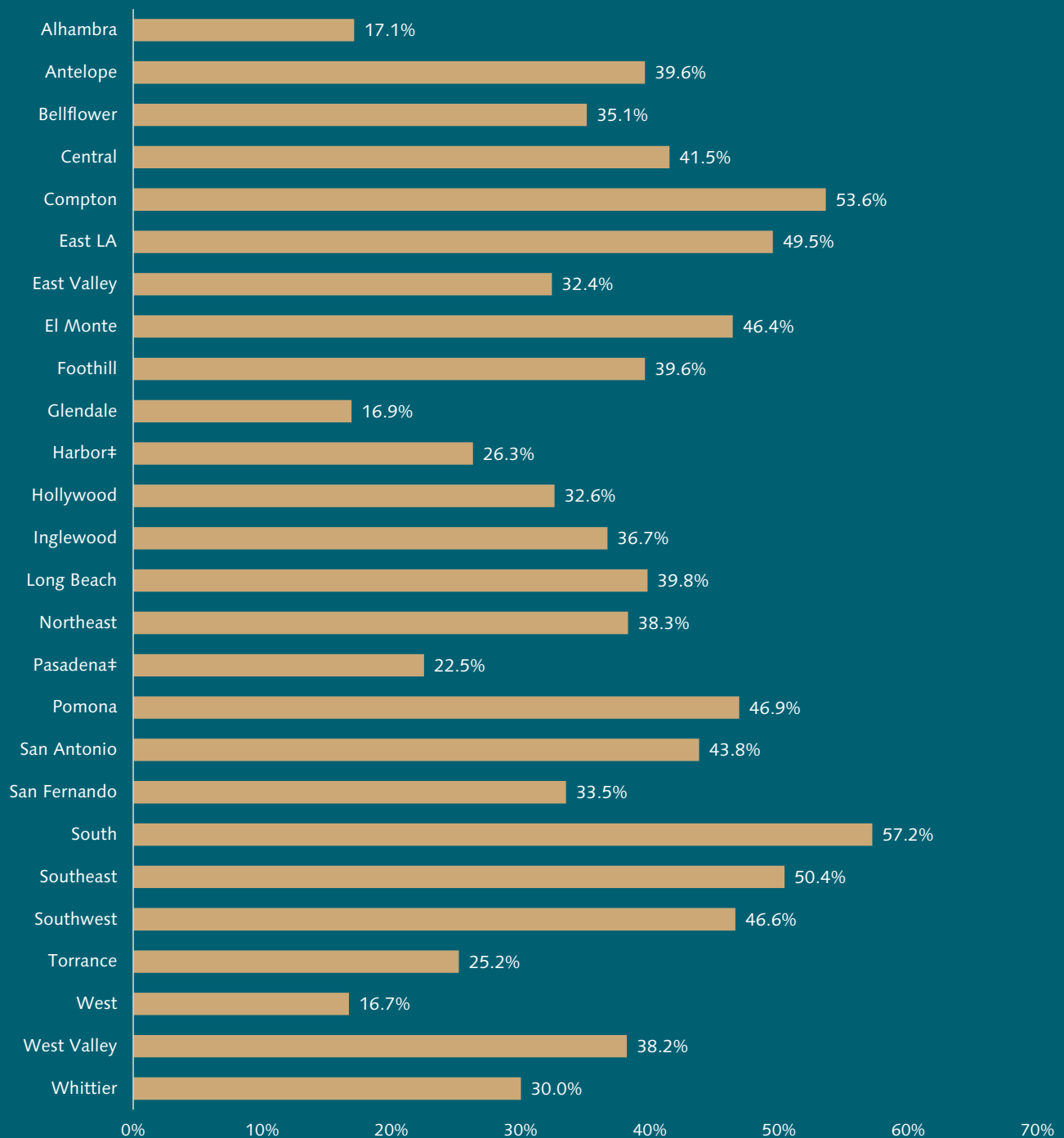
Source: 2007 and 2018 Los Angeles County Health Survey; Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.



Los Angeles County Health Districts and SSB Consumption

Los Angeles County health districts, subdivisions of SPAs that are used to plan and manage public health service delivery across the county, also had differences in SSB consumption in 2018. Of the 26 districts, the districts with the highest SSB consumption were South (Watts, Florence), Compton, and Southeast (Historic South Central, South Park, Florence), at 57.2%, 53.6%, and 50.4%, respectively (Figure 4). Conversely, the districts with the lowest consumption were West, Glendale, and Alhambra, at 16.7%, 16.9%, and 17.1%, respectively.

Figure 4: Percentage of Children (Ages 17 Years and Younger) Who Drink One or More SSB Per Day by Health District, Los Angeles County, 2018



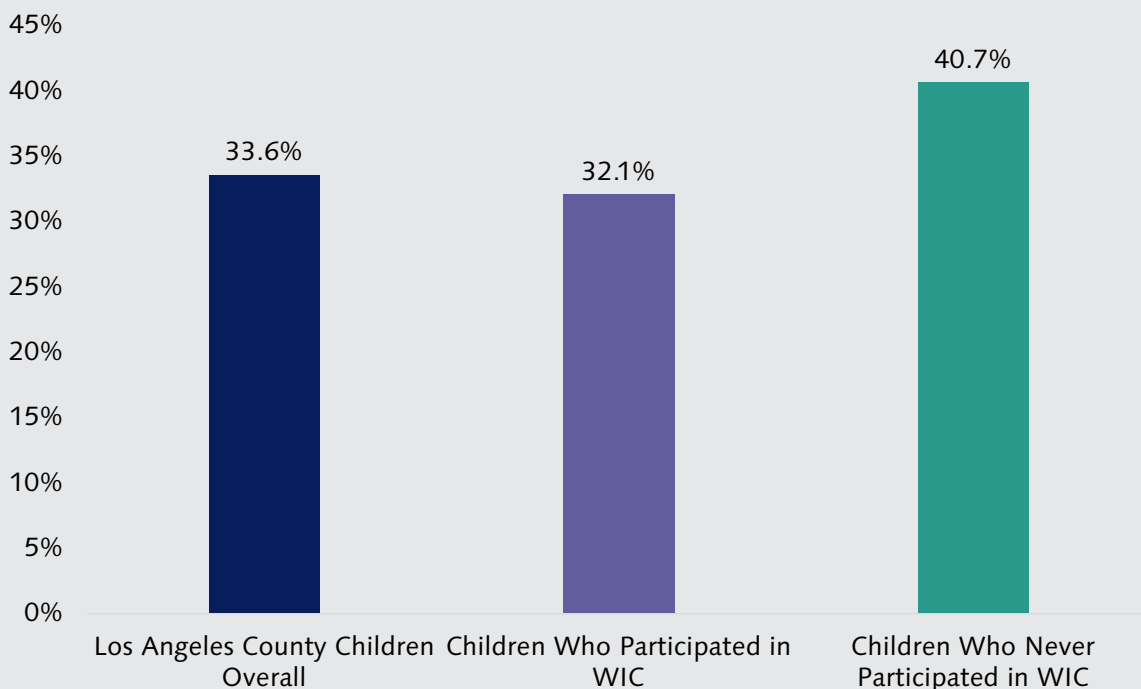
Source: 2018 Los Angeles County Health Survey; Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

‡The estimate is statistically unstable (relative standard error >30%) and therefore may not be appropriate to use for planning or policy purposes.

WIC Participation and SSB Consumption

The 2018 LACHS surveyed households with incomes <185% Federal Poverty Level (FPL) and found that 33.6% of children aged 0 to 5 within this income threshold drank one or more SSB per day (Figure 5). Among households with <185% FPL, 32.1% of children who participated in the WIC program consumed one or more SSB per day compared to 40.7% of non-WIC participants. WIC provides federal grants to states for supplemental foods, health care needs, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum persons, and to infants and children ages 0 to 5.

Figure 5: Percentage of Children (Ages 0-5 Years) in Households with Incomes <185% FPL Who Drink One or More SSB Per Day by WIC Participation Status, Los Angeles County, 2018



Source: 2018 Los Angeles County Health Survey; Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

Notes: Results limited to households who are at or below 185% of the federal poverty level. Based on U.S. Census 2016 Federal Poverty Level (FPL) thresholds which for a family of four (2 adults, 2 dependents) correspond to annual incomes of \$45,027 (185% FPL). These thresholds were the values at the time of survey interviewing.





CONCLUSION

Systemic Factors Affect SSB Consumption and Point Toward a Multi-Sector Approach to Reduce Disparities

Disparities in SSB consumption among racial, ethnic, geographic, and socioeconomic groups are reflected in the Los Angeles County data. Variations in consumption patterns are likely the result of systemic inequities that are outside of individuals' and families' control.¹¹ Geographical and racial inequities exist, in both the marketing of unhealthy foods and beverages, and in the lack of availability and affordability of drinking water.

Neighborhoods with a higher concentration of poverty and proportion of Black residents may have more outdoor sugary drink advertisements.¹² In addition, Latino children are exposed to more sugary drink marketing than any other group.¹¹ Low-income children are more likely to experience limited availability of nutritious food and beverage options due to cost, proximity, or lack of resources.¹¹ Persistent disparities also exist in the availability of safe and appealing drinking water in low-income communities.^{13,14}

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These inequities may also contribute to variations in tap water consumption, with some research indicating that the probability of not drinking tap water increased for Black and Latino children following recent water crises such as the U.S. Flint, Michigan water crisis; consequently, these groups are more likely to consume SSBs.^{15,16,17}

Participation in WIC seems to offer a protective factor against SSB consumption among low-income children, which serves approximately 40% of all Los Angeles County children under age 5.¹⁸ In addition to nutrition counseling that addresses reducing consumption of sugar-sweetened beverages, WIC benefits include beverages that do not contain any added sugar. Moreover, longer participation in WIC is associated with decreased SSB consumption among young children.¹⁹

Healthy People 2030 includes an objective to reduce consumption of added sugars by people aged 2 years and over.²⁰ Pricing strategies and education interventions in schools are recommended to help limit foods and drinks with added sugars.²⁰ Professional organizations including the American Academy of Pediatrics and American Heart Association recommend working with organizations to structure opportunities that can reduce SSB consumption by making drinking water more available.³ The National Clinical Care Commission report to Congress also recommends policies and programs to encourage water consumption over sugar-sweetened beverages.²¹ A multi-sector approach is recommended to reduce disparities in sugar-sweetened beverage consumption among youth in Los Angeles County.

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Recommendations to reduce disparities in SSB consumption among children in Los Angeles County



Limit SSB marketing in public buildings and spaces

Research has shown that marketing targeted towards children and adolescents can influence food preferences among children, including consumption of SSBs.^{22,23} Progress has been made to address SSB marketing in California through Senate Bill 965, which was passed in 2005. This legislation banned the sale of SSBs from elementary, middle, and high schools during school hours. The federal Healthy, Hunger-Free Kids Act of 2010 required nutrition standards to be established for all foods and beverages sold to students on school campuses participating in the National School Lunch Program through the United States Department of Agriculture (USDA) Smart Snacks standards.^{24,25} However, marketing of SSBs targeted toward children and consumption of SSBs by children in school settings can still occur during after school programs and during the school commute.^{26,27}

To further the impact of Senate Bill 965 and the USDA Smart Snacks standards, county-level approaches could be taken to limit SSB marketing in public buildings and spaces. Currently, advertisement of tobacco products and alcoholic beverages are prohibited within 1,000 feet of the premises of any school, park, playground, recreational facility, youth center, child-care center, entertainment park or church in Los Angeles County.²⁸ The current prohibition on marketing of tobacco products and alcoholic beverages in places where children learn and play could be expanded to include SSBs.¹¹ Additionally, schools could also work to limit brand marketing on campus and extend marketing restrictions to off-campus events and other school-related activities through their school wellness policies.¹¹

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Make drinking water safe, accessible, and free throughout communities and schools

Introducing children to drinking water rather than SSBs early in life helps children develop a taste for plain water and avoid dental issues associated with SSBs.²⁹ Since children spend most of their daytime in school, to increase water consumption among children, schools need to make water clean, free and easily accessible for children.^{30,31,32} For example, a cafeteria-based intervention showed that signage promoting water and having disposable cups installed near water sources was associated with an 0.58 ounce increase in water intake when compared with no intervention.³³

In California, federal and state regulations require schools that participate in the National School Lunch Program or School Breakfast Program to provide access to potable water at no charge to students during breakfast and lunch periods, but making free, potable water readily accessible for students can be a challenge for some schools due to poor perceptions of tap water, deteriorating infrastructure and the prevalence of competing beverages.^{34,35} Additionally, school cafeterias may be locked or off-limits outside of mealtimes. Children may also not have enough time to eat their meals and may not be allowed to get up to get water or bring reusable water bottles from home.

Increased investments are needed to provide safe water access for children through renovation of water fountains, provision of water bottle filling stations, and if necessary, adding filtration for potability or palatability, and updating school wellness policies to allow for effective access to water throughout the school day, including during class time rather than only during mealtimes.³⁴ For instance, in California, all licensed childcare centers are required to test drinking water for lead. The Drinking Water for Schools Grant Program also provides funding for schools for water access improvements.

In California, the Supplemental Nutrition Assistance Program-Education, locally known as CalFresh Healthy Living, also works with qualifying school districts and school-aged children from low-income households to improve the school environment by implementing youth engagement projects to increase water access and consumption. Such projects can be replicated throughout Los Angeles County.

At the county level, policies can be applied throughout the community at different settings including parks and recreation centers. Additional efforts should focus on updating residential water systems in areas of the counties that disproportionately have worse water quality.³⁶ In addition, the lack of access to clean tap water and low tap water consumption limit access to the benefits of community water fluoridation which are important for oral and physical health among children. Drinking fluoridated water keeps teeth strong and reduces cavities by about 25% in children and adults.³⁷

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Local, city SSB excise taxes can use revenues to address health in low-income communities

Taxing sugar-sweetened beverages has emerged as an important policy strategy for addressing overconsumption of SSBs. Research shows that SSB taxes are associated with higher prices and lower sales of taxed beverages.³⁸ Several cities across the U.S. have implemented an excise tax on SSBs. SSB taxes can generally account for about 1 percent of general fund revenue in cities that have implemented a SSB tax.³⁹ Policymakers have used revenues generated by the tax to allocate resources for programs directed at communities disproportionately impacted by SSB marketing and consumption. Examples include improving water access or other programs that address the social determinants of health. Advisory boards that include members of the community can identify programs that most support communities disproportionately impacted by SSB consumption.⁴⁰ To improve public health by reducing SSB consumption, cities could also consider taxing a beverage's sugar content rather than a tax by SSB volume.⁴¹ Recent advocacy efforts are underway to address the California preemption law that precludes local jurisdictions from enacting SSB excise taxes. More research is also needed to understand the impact of SSB taxes and changes in SSB consumption particularly for population subgroups, including by socioeconomic status and by race/ethnicity, and the implications for disproportionate impact on these populations.



Implement behavioral economics strategies to promote healthier options including water and milk without added sugar

Environmental changes using behavioral economics at locations where children and adolescents are present can support increased consumption of healthier drink options such as water and milk. Several states and cities, including public facilities in Los Angeles County have implemented food service guidelines and the inclusion of more healthy beverage options.^{42,43,44} For public schools, the Smarter Lunchroom Movement focuses on making low or no-cost changes to the school cafeteria environment. Choice architecture techniques, including the accessibility and presentation of items, can increase the proportion of students who select certain meal components, including water and plain milk. At the community level, the County can work to enforce California's Healthy-by-Default Beverage law, Senate Bill 1192, which mandates restaurants that serve children's meals offer only unflavored milk or water as the default drinks.⁴⁵ Studies have found that although interventions such as the Healthy-by-Default Beverage law are effective in helping consumers choose healthier beverages, fast food restaurants continue to offer beverages in children's meals that are not consistent with the law.^{46,47} Another strategy that can be implemented is the use of front-of-package nutrient warning labels, as this intervention has been shown to be successful in discouraging consumption and purchases of SSBs.^{48,49}

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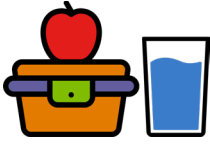
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National school meals programs should aim to ensure access to healthy beverages and discourage consumption of sugary drinks

Policy changes that impact school meals programs should be in line with current scientific evidence on sugar consumption and health. Seemingly small policy changes in federal nutrition programs can impact consumption of SSBs at the local level. For example, the Healthy, Hunger-Free Kids Act of 2010 required flavored milks to be fat-free only for the National School Lunch Program and the School Breakfast Program. Recent changes to the National School Lunch Program and the School Breakfast Program permitted low-fat flavored milks to be served again, which may contribute to an increase in consumption of added sugar for students.⁵⁰ Low-fat flavored milk can often have more added sugar and calories than fat-free flavored milk. This exemplifies that small policy changes can lead to increased daily SSB consumption and subsequently poor health among school aged children.



Federal nutrition assistance programs should expand evidence-based nutrition education on the negative health impacts of SSB consumption

Ensuring that communities receive appropriate education about the health impacts of SSBs are important for communities to make informed choices about the beverages they will consume. Federal programs like WIC and SNAP-Education are critical to relaying health messaging to populations and communities who are disproportionately impacted by SSB consumption. Federal nutrition education programs can continue to promote and expand community education regarding SSBs and alternative healthy beverage options through campaigns such as the Rethink Your Drink campaign.⁵¹ Educational and media campaigns can be a successful strategy to bring awareness to communities about the risks of SSBs while encouraging a reduction in the consumption of SSBs and increased consumption of water.

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ANNOUNCEMENT SSB REDUCTION GRANTS

The Los Angeles County Department of Public Health recently released a report presenting data and recommendations on sugar-sweetened beverage (SSB) consumption among children and adolescents in LA County.

As part of ongoing efforts to raise awareness around this important issue, the Los Angeles County Department of Public Health, along with a variety of partners, will be part of a series of events to highlight efforts to reduce SSB consumption locally, statewide, and globally. More details, including dates and registration info, will be announced soon.

No Kid Hungry has committed to supporting the implementation of these recommendations by releasing two \$4,500 grants toward the installation of a hydration station at school districts in LA county.

For questions, contact Andrea Cuellar at acuellar@strength.org.