



Healthy People 2030 Oral Health Promotion Series:

Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

February 14, 2024



American Academy of Pediatrics

Office of Disease Prevention
DEDICATED TO THE HEALTH OF ALL CHILDREN®



The speaker(s) have no disclosures to report as related to this presentation. No commercial products are discussed, and all images are publicly available. In addition, where non-Healthy People graphics are used, appropriate references are included.



Upon completion of this webinar, participants should be able to:

1. Define and describe Healthy People 2030 Oral Health Objective NWS-10;
2. Describe the most recent data related to sugar consumption in the U.S.; and
3. Implement at least one activity in your community to specifically address Oral Health Objective NWS-10.

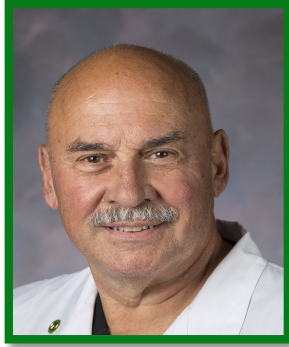


Presentation Overview:

- Overview of Healthy People Oral Health Objective NWS-10:
Dr. Tim Ricks
- Sugary Drinks: Impact and Mitigation Strategies
Dr. Bill Dietz
- Assessing Sugar Intake in U.S. Children
Dr. Paul Casamassimo
- American Academy of Pediatrics Resources to Help Meet
HP2030 Goals
Dr. Patty Braun
- Q&A: Moderated by Dr. Natalia Chalmers
- Summary & Announcing Next HP 2030 Webinar:
Dr. Tim Ricks



Presenters



Tim Ricks,
DMD, MPH, FICD, FACD, FPFA

Paul Casamassimo,
DDS, MS

Bill Dietz,
MD, PhD, FAAP

Patty Braun,
MD, MPH, FAAP

Natalia I. Chalmers
DDS, MHSc, PhD

IHS Representative
Healthy People 2030
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Chief Policy Officer
American Academy of
Pediatric Dentistry

Co-author
AAP Policy Statement on
Reducing Sugary Drink Consumption

American Academy of
Pediatrics Oral Health
Executive Committee

Chief Dental Officer
Centers for Medicare and
Medicaid Services





Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

Overview of Healthy People Objective NWS-10:
Tim Ricks, DMD, MPH, FICD, FACD, FPFA





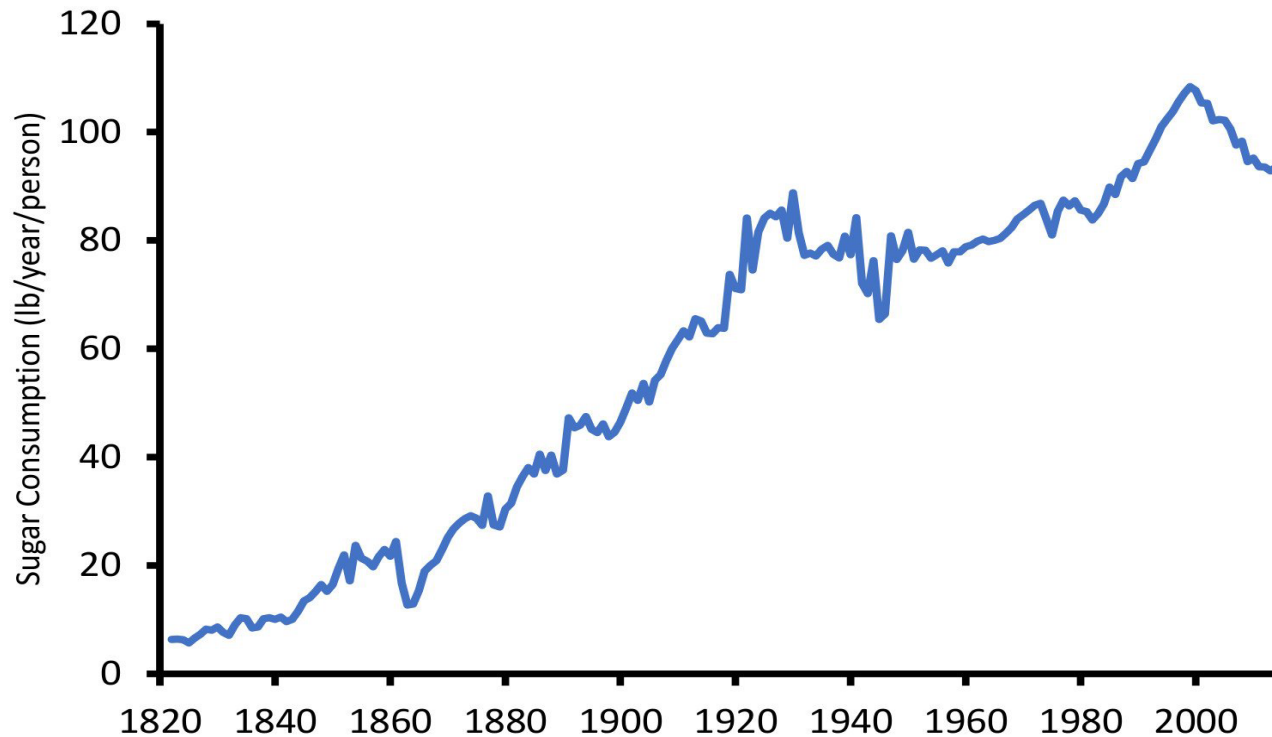
- **Reduce consumption of added sugars by people aged 2 years and over — NWS-10**
 - Baseline: 13.5%
 - Target: 11.5%



Sugar Consumption Per Capita, Historical



US Sugar Consumption, 1822-2016



Prepared by Stephan J. Guyenet, PhD Data: US Dept of Commerce & Labor; USDA Economic Research Service

<https://marginalrevolution.com/marginalrevolution/2021/11/sugar-consumption.html>



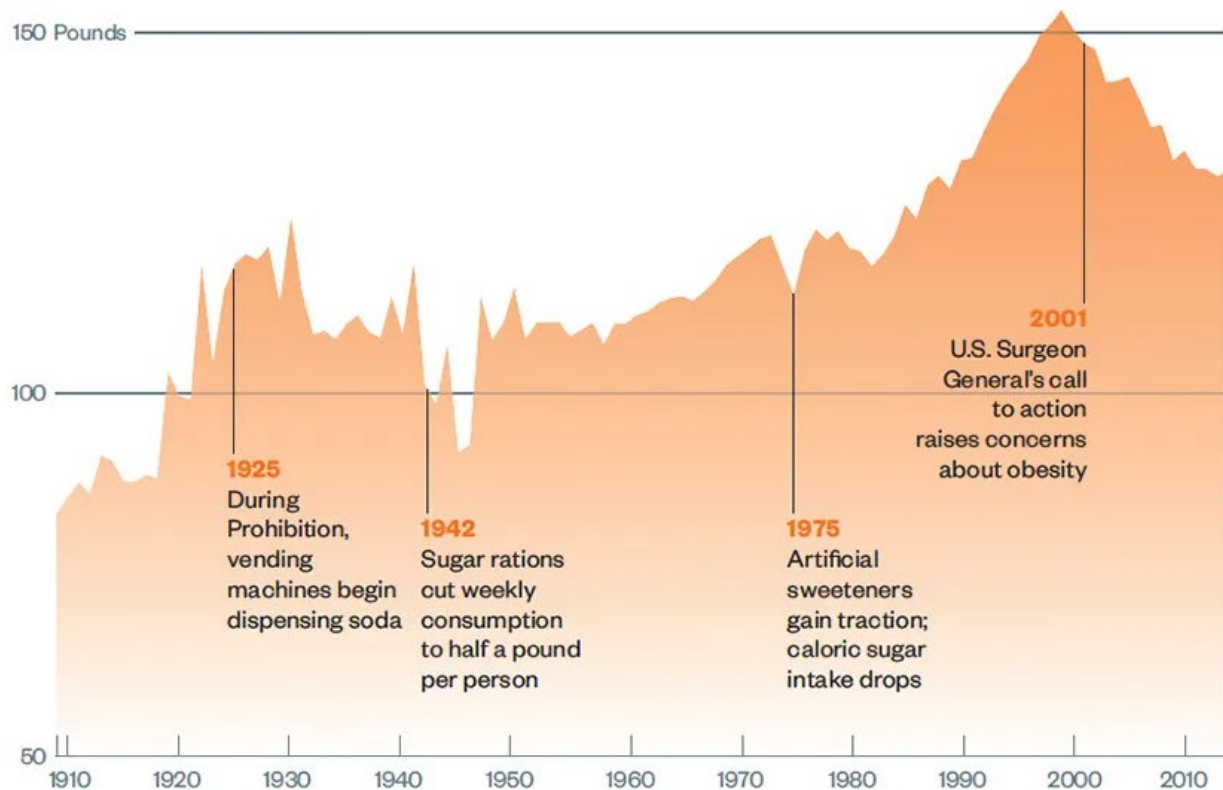
Sugar Consumption 1822-2016



- 1751**
Sugar cane first grown in territory that's now the U.S.
- 1830**
Louisiana has the largest sugar refinery in the world
- 1858**
Invention of the Mason jar drives demand for white sugar for canning purposes
- 1876**
Hawaiian Reciprocity Treaty helps make sugar more available to ordinary Americans
- 1897**
Americans consume 26 million pounds of milk chocolate as candy industry grows

HOME SWEET HOME

How the annual per capita amount of sugar available for consumption changed over the last century



<https://www.smithsonianmag.com/history/unsavory-history-sugar-american-craving-180962766/>





- About 60% of children consume more added sugars than recommended by U.S. Dietary Guidelines for Americans.
- Top two sources of added sugars for children are:
 - Sugar-Sweetened Beverages (SSBs)
 - Baked goods with added sugars

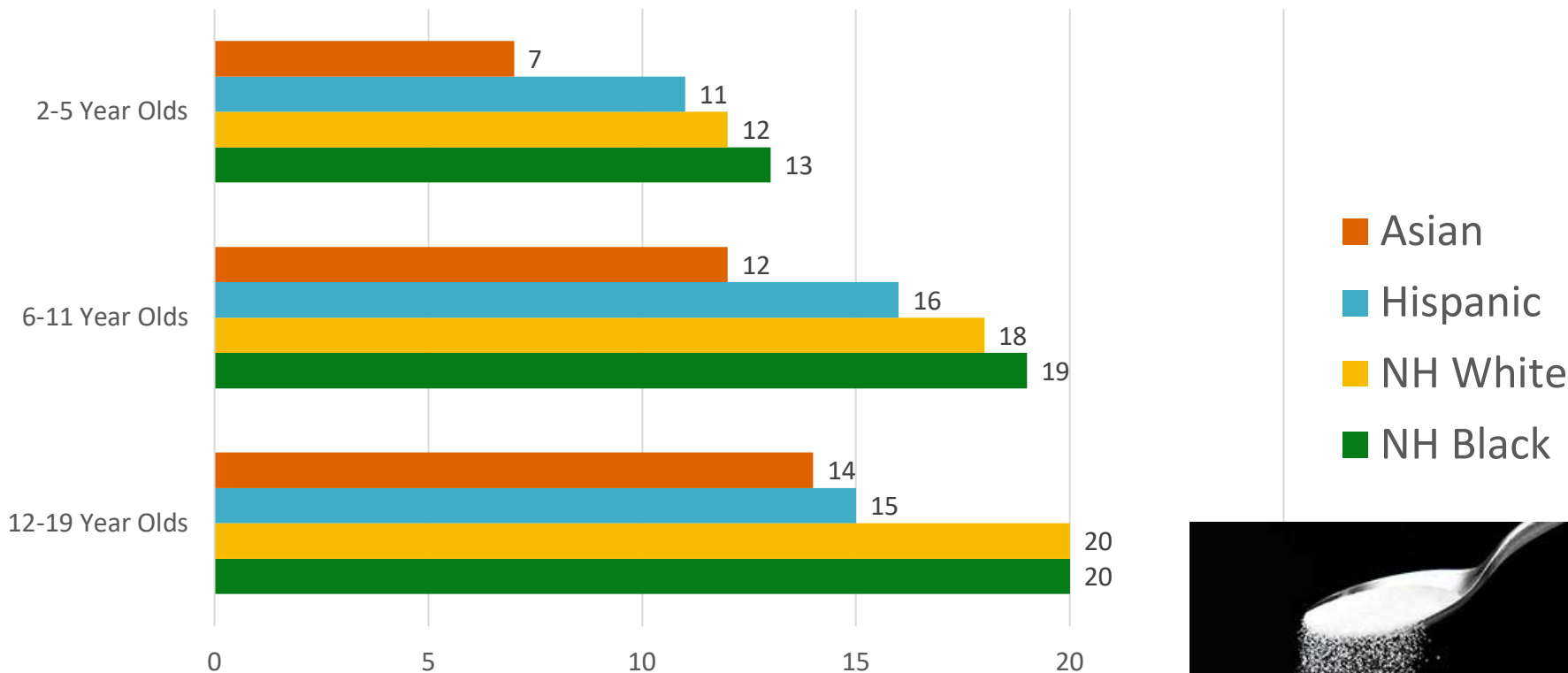
Oral Health in America, 2021 (2A-12-13)



Disparities in Added Sugar Consumption



Average Sugar Consumption by Race/Ethnicity and Age in Children, in Teaspoons



<https://www.cdc.gov/nutrition/data-statistics/added-sugars.html>





Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

Part 1: Sugary Drinks – Impact and Mitigation Strategies

William H. Dietz, M.D., Ph.D., F.A.A.P.



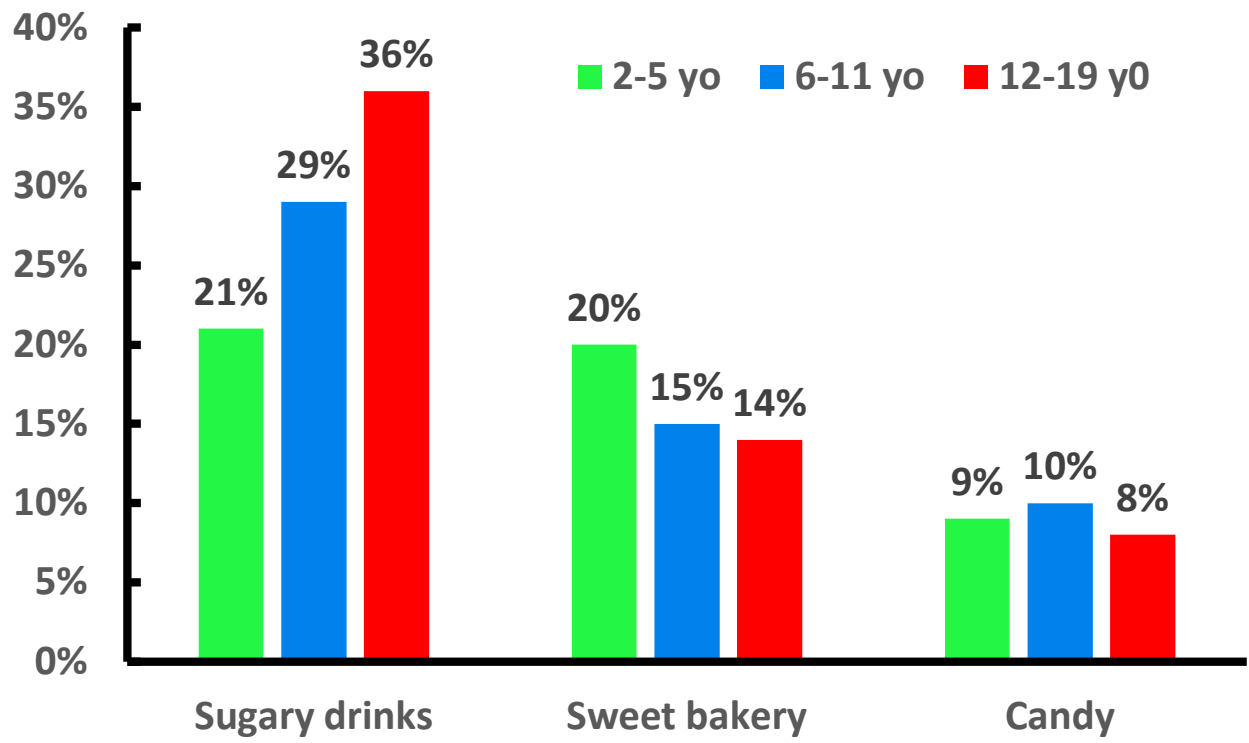
Outline



- Sources of added sugars in youth
- Contribution of sugary drinks to beverage intake
- Consequences of excess sugar consumption
- Meta-analyses of sugary drink intake
- AAP policies
- Strategies to reduce sugary drink intakes



Sources of Added Sugars by Age and Food Category



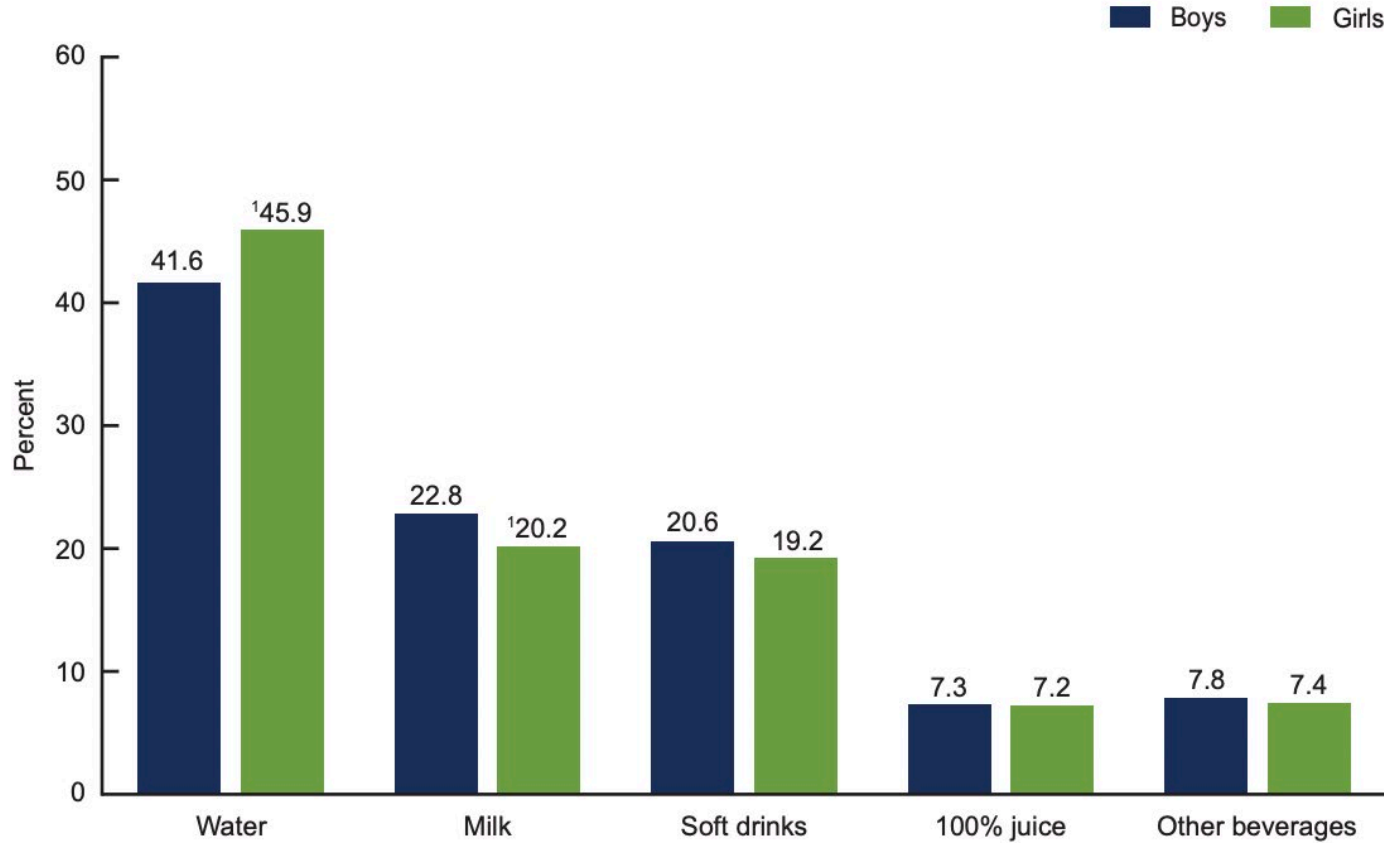
Bowman SA et al. Food Survey Research Group 2019 # 26



Sugary Drinks (SD)

- Regular soda
- Fruit drinks
- Sports and energy drinks
- Sweetened coffees and tea
- Energy drinks
- Flavored milk
- Other beverages to which sugar has been added
- 100% Fruit juice?

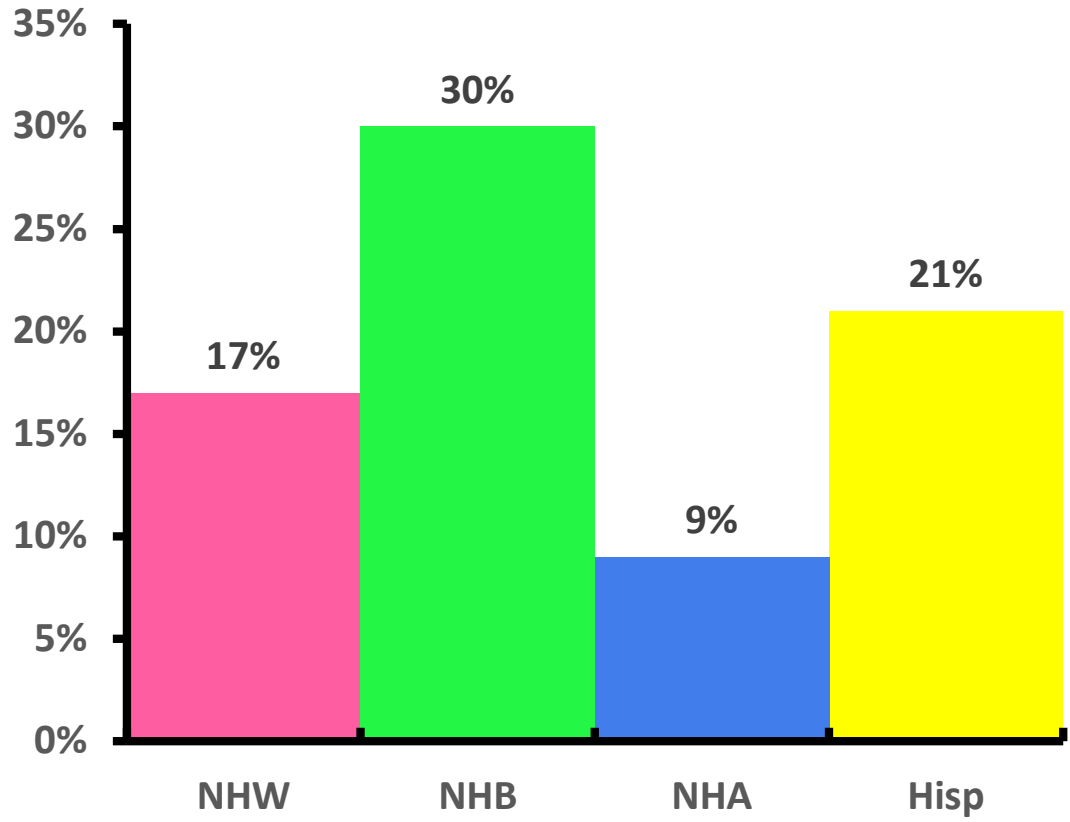
Contribution of Beverage Types to Total Beverage Intake – 2-19 yo



Herrick KA et al. NCHS Data Brief 218: # 320



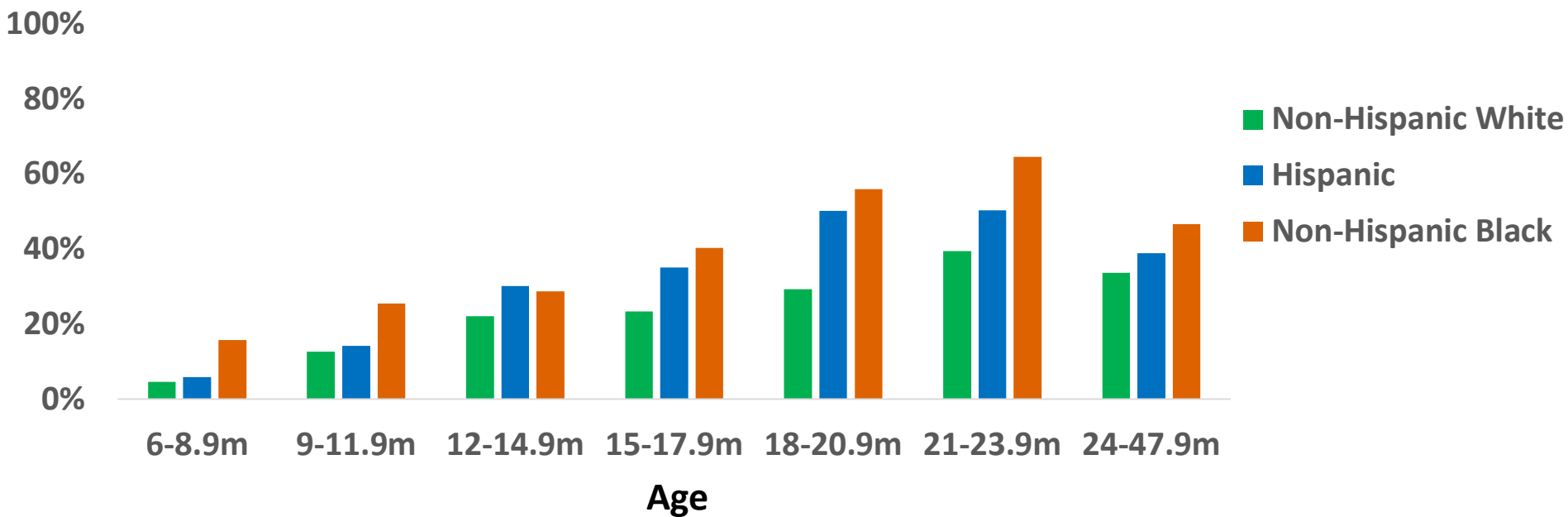
Contribution of Sugary Drinks as a % of Total Beverages by Race: 2-19 yo



Herrick KA et al. NCHS Data Brief 218: # 320



% of Children Consuming More Than 4 oz of Juice on the Day of the Recall



Feeding Infants and Toddlers Study 2016



Consequences of Excess Sugar Consumption



- Dental decay
- Obesity
- Cardiovascular disease
- Hypertension
- Dyslipidemia
- Fatty liver disease
- Glucose intolerance and Type 2 diabetes
- Persistence into adulthood



Meta-analyses of Sugar Drink Consumption and Body Weight in Children and Adults



- Children – 15 cohort studies and 5 RCTs
- Adults – 7 cohort studies and 5 RCTs
- Group Change SD Impact
- Children Increase +.06 - .05 BMI*
- Adults Increase +.22 - .12 kg*
- RCT Children Decrease -.17 - .12 BMI*
- RCT Adults Increase +.85 kg

***Fixed and random effects models**
Malik VS et al. Am J Clin Nutr 2013;98:1024



AAP Policies to Reduce SD Consumption in Children and Adolescents



- Excise taxes to raise prices of SDs combined with an education campaign, and allocation of revenue to reduce health disparities
- Federal food assistance programs should ensure access to healthful food and beverages and discourage SD consumption
- Make healthful beverages the default choice
- Hospitals should model policies that limit or disincentivize SD purchases

Muth ND et al. Pediatrics 143(4) April 2019: e20190282



Strategies to Reduce Sugar Drink Consumption



- Excise taxes
- Hospital initiatives
- Choice architecture
- Food labels
- Pediatric initiatives
- Public health campaigns



Changes in Price and Purchases after SD Beverage Taxes



SD taxes implemented in Boulder, Philadelphia, Oakland, San Francisco, and Seattle resulted in:

- 33% increase in prices (92% passed through to consumers)
- 33% reduction in purchase volume
- In Philadelphia, 58% increase in price and 47% decrease in sales volume

Kaplan S et al. JAMA Health Forum 2024; 5(1);e234737



Cost Benefit of 4 Policy Childhood Obesity Interventions - Cost Effectiveness (CHOICES)



Intervention	Reach (x10 ⁶)	Total Cost Million US\$	BMI Unit Decrease	Cost/unit BMI Decrease (2 - 19yo)
SD Excise Tax	287	\$147	0.19	\$6.44
Active PE in School (5-11 yo)	16.6	\$54.7	0.02	\$191.00
TV Advertising Change (2-19 yo)	74	\$0.8	0.13	\$0.08
Early Care and Education Policy	3.2	\$6.4	0.42	\$6.07



Boston Hospitals Healthy Beverage Initiative - 2012



10 Boston hospitals were convened by Boston Public Health Commission and Healthcare Without Harm to reduce SDs:

- 1 hospital stopped selling SDs
- 8 hospitals used color coding (red, yellow, green)
- 5 hospitals changed retail mix to decrease SDs
- 4 hospitals made SDs more expensive
- 1 hospital used choice architecture to decrease visibility of SDs



Maine AAP: Office-based Display Showing the Amounts of Sugar in SDs



Maine Center for Public Health and Let's Go!



New York City's Public Health Campaign to Decrease SDs



DON'T DRINK YOURSELF FAT.
Cut back on soda and other sugary beverages.
Go with water, seltzer or low-fat milk instead.

NYC Department of Health & Mental Hygiene
Natalie R. Bowling, MD, MPH, Commissioner





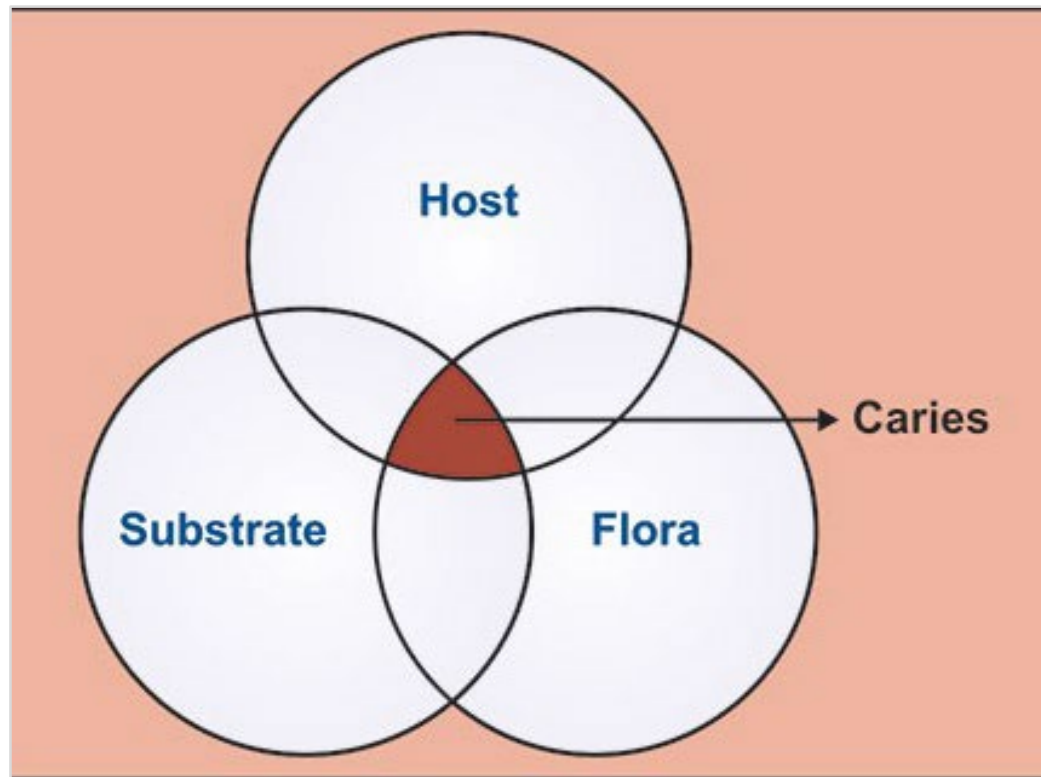
Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

Part 2: Assessing Sugar Intake in US Children in the 21st Century

A Broader Paradigm for Dental Professionals
Paul Casamassimo, DDS, MS



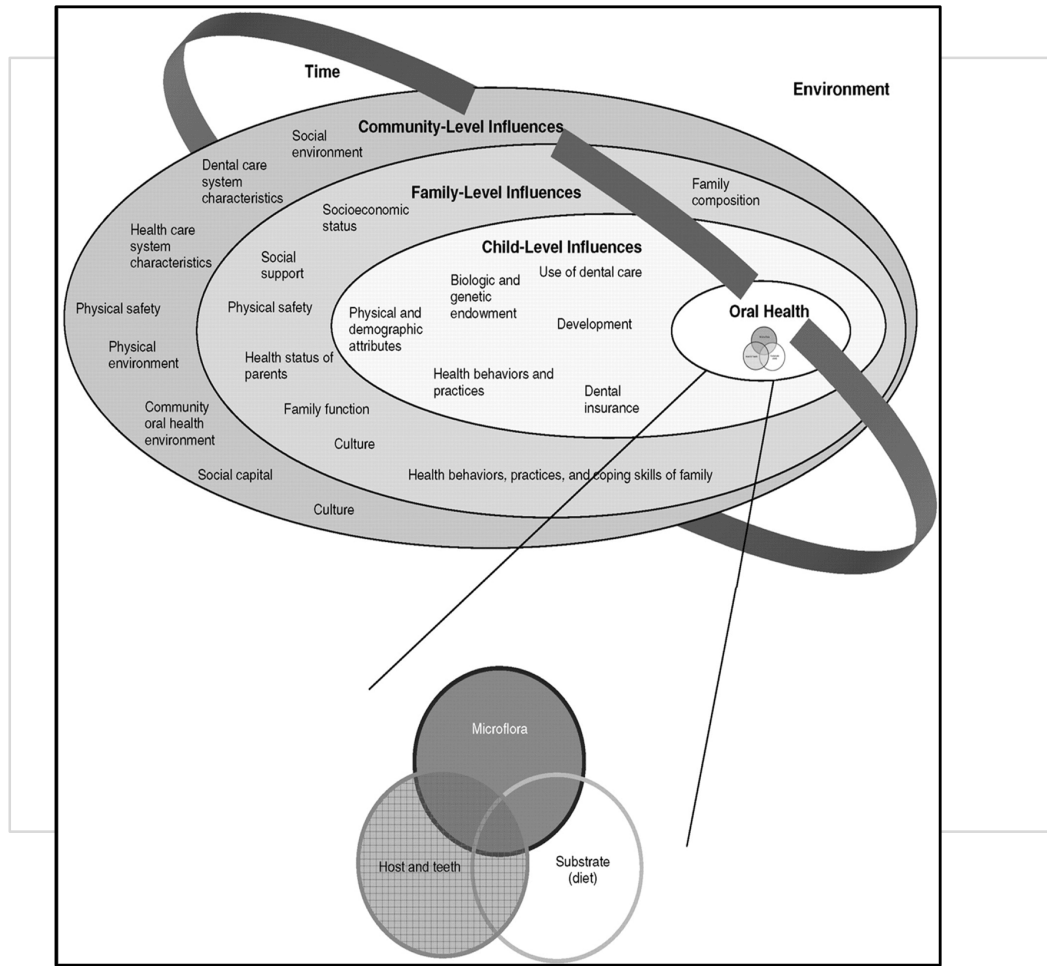
- The Keyes Infectious Disease Triad remains dominant in dental practice and dental dietary counseling
- By design, it posits that without removal, sugar continues to play a role, so counseling is simpler but less effective in real world settings



Moving Past a 20th Century Caries Model to One Anchored in Social and Biological Reality



- The Fisher-Owens et al model of caries initiation takes caries out of the mouth and adds real-life dimensions
- Dietary counseling about sugar consumption becomes more difficult but far more relevant





- Patient Health, Growth, and Systemic Status
- Family's SES, Culture, Skill Sets, Structure
- Community Limits and Opportunities
- System Supports and Limitations



As Many Sugar Stories as Children...



- Patient Health, Growth, and Systemic Status
- Family's SES, Culture, Skill Sets, Structure
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Culture and Dental Caries

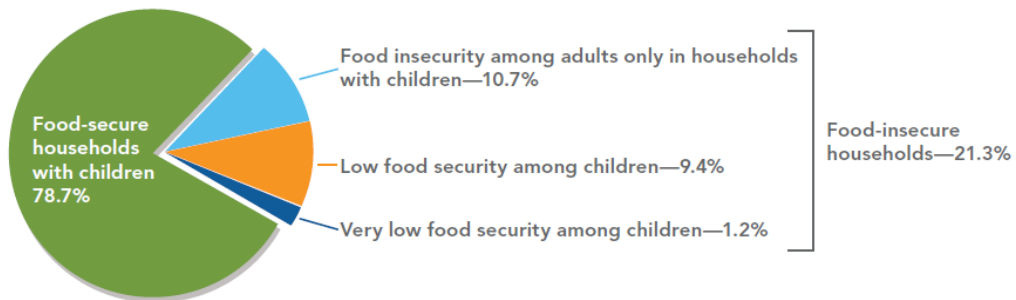


Patti Sapone / The Star-Ledger



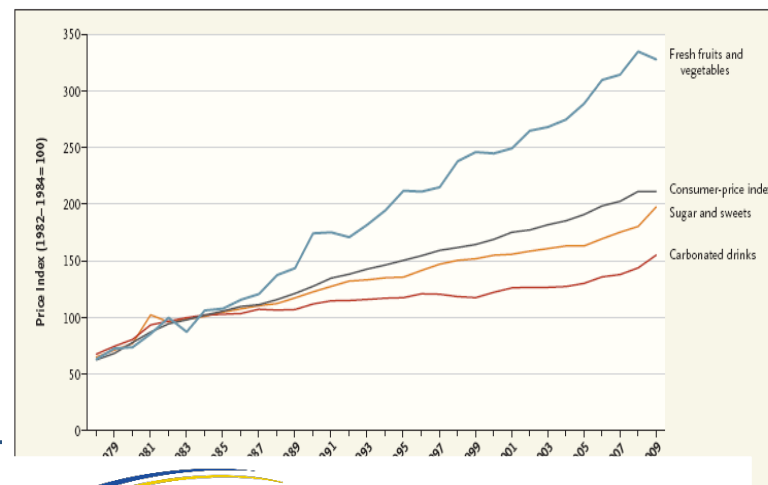
- Patient Health, Growth, and Systemic Status
- Family's SES, Culture, Skill Sets, Structure
- **Community Limits and Opportunities**
- System Supports and Limitations

FIGURE 3.1 Households with Children by Food Security Status (2009)



SOURCES:

1. Calculated by the Economic Research Service using data from USDA's December 2009 Current Population Survey Food Security Supplement.
2. U.S. Households with children by food security status of adults and children, 2009.





- Patient Health, Growth, and Systemic Status
- Family's SES, Culture, Skill Sets, Structure
- Community Limits and Opportunities
- **System Supports and Limitations**





Question

Guidance

Does child have health issues?	This can lead to many directions
Is water fluoridated	Mesh beverage with F adequacy
Does your child sleep with bottle	Provide alternatives
Does your child snack	Sugar assessment and reduction plan
Does your child have access to sugared drinks during the day	Address walking bottle, sippy cups, resealables, and parental modeling
How is overall diet re: fresh foods, processed foods, meals, bedtime	Do a diet history if needed and address both dental and systemic
Is child out of the home for care	Analyze exposures and mitigation
Access to food	Control access for frequency/safety



Question

Guidance

What is family constellation	Assess stability and resources
Are there cultural issues directing diet	Get a diet analysis
What is health coverage	Adequate to allow recalls
Does family cook and have mealtime	Assess stability of recommendations
Is there food preservative capacity	Assess dependency on refined foods
Who controls diet during the day	May need to counsel other caretakers
Is obesity an issue	Work with PCP
Does family depend on food assistance and have food insecurity	WIC, Food banks, Food stamps

Community/System Diagnostic and Therapy Checklist



Question

Guidance

Does family live in food desert	Assist in locating sources
Are nutrition resources available	Assist in locating resources
Is community water fluoridated	Address F adequacy
Is there communal support for good nutrition and oral health	Discuss access to good nutrition, food, and resources
What is school nutrition status	Determine meal component
Is child under care of PCP	Encourage primary medical care
What is daily environment	A/C or not; hot vs moderate and fluids



Know Your Patients and Communities



- **Income levels**
- **Cultural norms**
- **Backgrounds**
- **Community services**
- **School systems**
- **Head Starts**
- **Colleagues**



An Example of Practice Challenge



Table 2: Summary Information of State Recognition and Reimbursement of Select Dental Services

	Recognized and Reim-bursed	Recognized but Not Re-imbursed	Not Recognized	Highest Rate	Lowest Rate
D0145 (primary care eval <3 yo)	39	3	9	\$ 144.97	\$ 20.00
D1354 (caries arrest)	38	3	10	\$ 98.50	\$ 3.58
D9920 (physician consultation)	23	8	20	\$ 162.26	\$ 9.50
D1320 (tobacco counseling)	15	8	28	\$ 64.00	\$ 6.37
D9995 (teledentistry, synchronous)	12	19	20	\$ 62.50	\$ 13.19
D1355 (caries prevention)	11	10	30	\$ 61.50	\$ 6.44
D9996 (teledentistry, asynchronous)	7	20	24	\$ 29.00	\$ 9.24
D0601-D0603 (caries risk assessment)	6	13	32	\$ 22.54	\$ 0.01
D1310 (nutritional counseling)	6	9	36	\$ 58.36	\$ 10.87



- Precision approaches seem to be the best
- While lasting therapeutic interventions rest largely outside the dental office, small steps are possible and can work to reduce sugar
- It remains to be seen if broader coverage of case management and counseling services will move the needle forward on dental point-of-service success in reducing sugar



Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

Part 3: American Academy of Pediatrics
Resources to Reach Healthy People 2030 Goals

Patricia Braun MD, MPH, FAAP



POLICY STATEMENT Organizational Principles to Guide and Define the Child Health
Care System and/or Improve the Health of all Children

American Academy
of Pediatrics



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Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents

Natalie D. Muth, MD, MPH, RDN, FAAP,^{a,b} William H. Dietz, MD, PhD, FAAP,^c Sheela N. Magge, MD, MSCE, FAAP,^d
Rachel K. Johnson, PhD, MPH, RD, FAHA,^e AMERICAN ACADEMY OF PEDIATRICS, SECTION ON OBESITY, COMMITTEE ON
NUTRITION, AMERICAN HEART ASSOCIATION

<https://publications.aap.org/pediatrics/article/143/4/e20190282/37217/Public-Policies-to-Reduce-Sugary-Drink-Consumption>



POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy
of Pediatrics



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Snacks, Sweetened Beverages, Added Sugars, and Schools

COUNCIL ON SCHOOL HEALTH, COMMITTEE ON NUTRITION

Under Review

This policy automatically expired and is under review by the authorship team.

PEDIATRICS Volume 135, number 3, March 2015



USDA's Dietary Guidelines for American 2020-2025

https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf

Build a Healthy Eating Routine for Your Baby (Birth to Age 2)

The first 2 years of your child's life are a very important time for their growth and development. By giving your baby the nutrition they need, you'll help them grow and thrive.

Follow these tips to build a healthy eating routine for your baby.



- Wait until age 12 months to give cow's milk, soy milk or fruit juice.
- Choose 100% fruit juice and limit to 4 oz or less a day.
- A child doesn't need fruit juice to be healthy, better to give whole fruit.
- No soda, sports or energy drinks, fruit drinks, flavored milks.

https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf

Help Your Child Build a Healthy Eating Routine

Eating habits start early – so help your child build a healthy eating routine to last a lifetime.

Follow these tips to help kids and teens get the nutrition they need.



- Offer water first.
- Choose plain low-fat milk or fat-free milk instead of flavored milk with added sugars.
- Keep sparkling water in the fridge instead of soda—add fruit or herbs for added flavor.
- Choose 100% fruit juice.
 - 1-3 years: 4 oz or less a day
 - 4-6 years: 4-6 oz or less a day
 - > 6 years: 8 oz or less
- No energy drinks.

https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf

Nutrition Facts	
Serving Size: 1 bottle (20 oz)	
Serving Per Container: 1	
Amount Per Serving	
Calories	275
	% Daily Value*
Total Fat 0 g	0%
Sodium 175 mg	7%
Total Carbohydrate 78 g	26%
Sugars 65 g	
Protein 0 g	
INGREDIENTS: WATER, SUCROSE, GLUCOSE, HIGH FRUCTOSE CORN SYRUP, NATURAL FLAVORS, ARTIFICIAL COLORS, ASCORBIC ACID.	

- Avoid serving foods and drinks with added sugars to children < 2 years of age.
- Aim for less than 25 grams of added sugar per day for children 2 years of age and older.

<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/How-to-Reduce-Added-Sugar-in-Your-Childs-Diet.aspx>

FOR EVERY 10 PERCENT INCREASE IN PRICE, SUGARY DRINK CONSUMPTION GOES DOWN 7%.

Sugary drinks pose a grave threat to children's health.
We need community-wide solutions so children and teens grow up healthy.

THE AMERICAN ACADEMY OF PEDIATRICS & THE AMERICAN HEART ASSOCIATION AGREE:

- We need community-wide solutions to lower children's consumption to sugary drinks.
- We should make healthy beverages easier and less costly to obtain.
- We can lower rates of diabetes, heart disease, obesity and tooth decay.

<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/How-to-Reduce-Added-Sugar-in-Your-Childs-Diet.aspx>

Where We Stand: Fruit Juice for Children

The American Academy of Pediatrics **recommends** fruit juice not be given to infants under 12 months of age.

Why fruit juice is not good for babies under a year old

Fruit juice offers no nutritional benefit to infants in this age group. At the same time, it can increase risk of **tooth decay** and cause a **preference** for sweeter flavors instead of plain **water**.



<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Where-We-Stand-Fruit-Juice.aspx>

WHY should kids #ChooseWater?

Water is a great drink choice for kids!



It's super healthy:
0 calories &
no added sugar



It's good for the body:
helps keep joints healthy, good
for teeth, helps blood circulate



It's good for the mind:
Staying hydrated helps
concentration and focus



healthychildren.org
Powered by pediatricians. Trusted by parents.
from the American Academy of Pediatrics

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN®



<https://www.healthychildren.org/English/healthy-living/nutrition/Pages/Choose-Water-for-Healthy-Hydration.aspx>

Oral Health Prevention Primer

How do I...

Learn more about oral health?



Assess risk, apply fluoride, and refer?



Get paid for oral health services?



Teach other providers about oral health?



Integrate dental services into my practice?



Collaborate with others in my area?



Advocate for patients and policies?



Innovate with emerging models?



Implement a quality improvement project?



Educate families?



<https://ilikemyteeth.org/oral-health-prevention-primer/>



Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)

Q & A

Natalia Chalmers, DDS, MHSc, PhD





- **Reduce consumption of added sugars by people aged 2 years and over — NWS-10**
 1. Promote policies and legislation that support reduction in consumption of SSBs.
 2. Replace SSBs with water and healthy beverages.
 3. Remove vending machines containing SSBs from schools.
 4. Encourage parents to replace sugary snacks with healthy alternatives including fruits and vegetables.



- March 13, 2024, 12:00 – 1:00 p.m. Central Time
- Increase the proportion of adults with sleep apnea symptoms who get evaluated by a health care provider — SH-02
- Partners: American Association of Orthodontists, Academy of Oral Surgery, Indian Health Service, National Institute of Dental and Craniofacial Research
- Registration Link: will be shared in early March





For More Information:

- Healthy People 2030, Building a healthier future for all:
<https://health.gov/healthypeople>
- Oral Conditions:
<https://health.gov/healthypeople/objectives-and-data/browse-objectives/oral-conditions>
- Leading Health Indicators:
<https://health.gov/healthypeople/objectives-and-data/leading-health-indicators>
- Tools for Action:
<https://health.gov/healthypeople/tools-action>

