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
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.
Learning Objectives

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
IHS Representative
Healthy People 2030
Oral Health Workgroup

Paul Casamassimo, DDS, MS
Chief Policy Officer
American Academy of Pediatric Dentistry

Bill Dietz, MD, PhD, FAAP
Co-author
AAP Policy Statement on Reducing Sugary Drink Consumption

Patty Braun, MD, MPH, FAAP
American Academy of Pediatrics Oral Health Executive Committee

Natalia I. Chalmers DDS, MHSc, PhD
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
Healthy People Objective NWS-10

• 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


Sugar Consumption 1822-2016

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

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

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

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

- Sugary drinks:
  - 2-5 yo: 21%
  - 6-11 yo: 29%
  - 12-19 yo: 36%

- Sweet bakery:
  - 2-5 yo: 20%
  - 6-11 yo: 15%
  - 12-19 yo: 14%

- Candy:
  - 2-5 yo: 9%
  - 6-11 yo: 10%
  - 12-19 yo: 8%

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

Non-Hispanic White
Hispanic
Non-Hispanic Black
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

<table>
<thead>
<tr>
<th>Group</th>
<th>Change</th>
<th>SD</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>Increase</td>
<td></td>
<td>+.06 - .05 BMI*</td>
</tr>
<tr>
<td>Adults</td>
<td>Increase</td>
<td></td>
<td>+.22 - .12 kg*</td>
</tr>
<tr>
<td>RCT Children</td>
<td>Decrease</td>
<td></td>
<td>-.17 - .12 BMI*</td>
</tr>
<tr>
<td>RCT Adults</td>
<td>Increase</td>
<td></td>
<td>+.85 kg</td>
</tr>
</tbody>
</table>

*Fixed and random effects models
• 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)

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

ARE YOU POURING ON THE POUNDS?

DON’T DRINK YOURSELF FAT.
Cut back on soda and other sugary beverages. Go with water, seltzer or low-fat milk instead.
Reducing the Consumption of Added Sugars by People Aged 2 Years and Over (NWS-10)


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.
• 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
Elements Of Relevant Sugar Behaviors

• 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...
Elements Of Relevant Sugar Behaviors

- Patient Health, Growth, and Systemic Status
- Family’s SES, Culture, Skill Sets, Structure
- Community Limits and Opportunities
- System Supports and Limitations
Community Influences on Diet and Sugar

- 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)

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food-secure households with children</td>
<td>78.7%</td>
</tr>
<tr>
<td>Food insecurity among adults only in households with children</td>
<td>10.7%</td>
</tr>
<tr>
<td>Low food security among children</td>
<td>9.4%</td>
</tr>
<tr>
<td>Very low food security among children</td>
<td>1.2%</td>
</tr>
<tr>
<td>Food-insecure households</td>
<td>21.3%</td>
</tr>
</tbody>
</table>

**SOURCES:**
Systems Help But Come With Limitations

• Patient Health, Growth, and Systemic Status
• Family’s SES, Culture, Skill Sets, Structure
• Community Limits and Opportunities
• System Supports and Limitations
## Question

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

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

#### Question

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

- Income levels
- Cultural norms
- Backgrounds
- Community services
- School systems
- Head Starts
- Colleagues
### Table 2: Summary Information of State Recognition and Reimbursement of Select Dental Services

<table>
<thead>
<tr>
<th>Service Description</th>
<th>Recognized and Reimbursed</th>
<th>Recognized but Not Reimbursed</th>
<th>Not Recognized</th>
<th>Highest Rate</th>
<th>Lowest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>D0145 (primary care eval &lt;3 yo)</td>
<td>39</td>
<td>3</td>
<td>9</td>
<td>$144.97</td>
<td>$20.00</td>
</tr>
<tr>
<td>D1354 (caries arrest)</td>
<td>38</td>
<td>3</td>
<td>10</td>
<td>$98.50</td>
<td>$3.58</td>
</tr>
<tr>
<td>D9920 (physician consultation)</td>
<td>23</td>
<td>8</td>
<td>20</td>
<td>$162.26</td>
<td>$9.50</td>
</tr>
<tr>
<td>D1320 (tobacco counseling)</td>
<td>15</td>
<td>8</td>
<td>28</td>
<td>$64.00</td>
<td>$6.37</td>
</tr>
<tr>
<td>D9995 (teledentistry, synchronous)</td>
<td>12</td>
<td>19</td>
<td>20</td>
<td>$62.50</td>
<td>$13.19</td>
</tr>
<tr>
<td>D1355 (caries prevention)</td>
<td>11</td>
<td>10</td>
<td>30</td>
<td>$61.50</td>
<td>$6.44</td>
</tr>
<tr>
<td>D9996 (teledentistry, asynchronous)</td>
<td>7</td>
<td>20</td>
<td>24</td>
<td>$29.00</td>
<td>$9.24</td>
</tr>
<tr>
<td>D0601-D0603 (caries risk assessment)</td>
<td>6</td>
<td>13</td>
<td>32</td>
<td>$22.54</td>
<td>$0.01</td>
</tr>
<tr>
<td><strong>D1310 (nutritional counseling)</strong></td>
<td><strong>6</strong></td>
<td><strong>9</strong></td>
<td><strong>36</strong></td>
<td><strong>$58.36</strong></td>
<td><strong>$10.87</strong></td>
</tr>
</tbody>
</table>

*Note: The table entries highlight the most significant services in terms of recognition and reimbursement rates.*
In Summary

- 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
Public Policies to Reduce Sugary Drink Consumption in Children and Adolescents

Natalie D. Muth, MD, MPH, RDN, FAAP, MD
William H. Dietz, MD, PhD, FAAP
Sheela N. Magge, MD, MSCE, FAAP
Rachel K. Johnson, PhD, MPH, RD, FAHA

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
DEDICATED TO THE HEALTH OF ALL CHILDREN™

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

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.

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.

- 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

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.
Next Webinar

- 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
- Leading Health Indicators: https://health.gov/healthypeople/objectives-and-data/leading-health-indicators