

Making Water First for Thirst in School

Maryland State School Health Council

February 25, 2020

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University of California

Nutrition Policy Institute



March 7, 2019

June 1, 2019 – Intent bill

HB 1253

Department of Legislative Services
Maryland General Assembly
2019 Session

FISCAL AND POLICY NOTE
Enrolled - Revised

House Bill 1253 (Delegate Solomon, et al.)
Environment and Transportation Education, Health, and Environmental Affairs

Drinking Water Outlets in School Buildings – Lead Testing and Reporting
Requirements and Grant Programs

Elevated lead levels at thousands of Md. schools prompts bill for better water quality

August 9, 2019
Elevated lead levels in some Harford school water sources not a cause for concern, assistant superintendent says



Baltimore County school board sets tighter standards for lead in drinking water
October 9, 2019

February 13, 2020

Lead found in tap water at MD schools. Here's how to see if your kid's school is affected

New data from Maryland's Department of Environment found 2,375 testing locations exceeded the acceptable levels of lead in drinking water.



Nutrition Policy Institute

Our Vision

The Nutrition Policy Institute (NPI) envisions a world where healthy food, beverages and opportunities for physical activity are convenient, accessible, affordable and sustainable.

DrinkingWaterAlliance.org

Resources

News



[RESEARCH](#) [POLICY](#) [SAFETY](#) [ACCESS](#) [EDUCATION](#) [ABOUT](#) [WHAT'S NEW](#)

We're a network of organizations and individuals across the country working to ensure that all children in the U.S. can drink safe water in the places where they live, learn and play.

Our website is the nationwide clearinghouse for essential drinking water research and resources



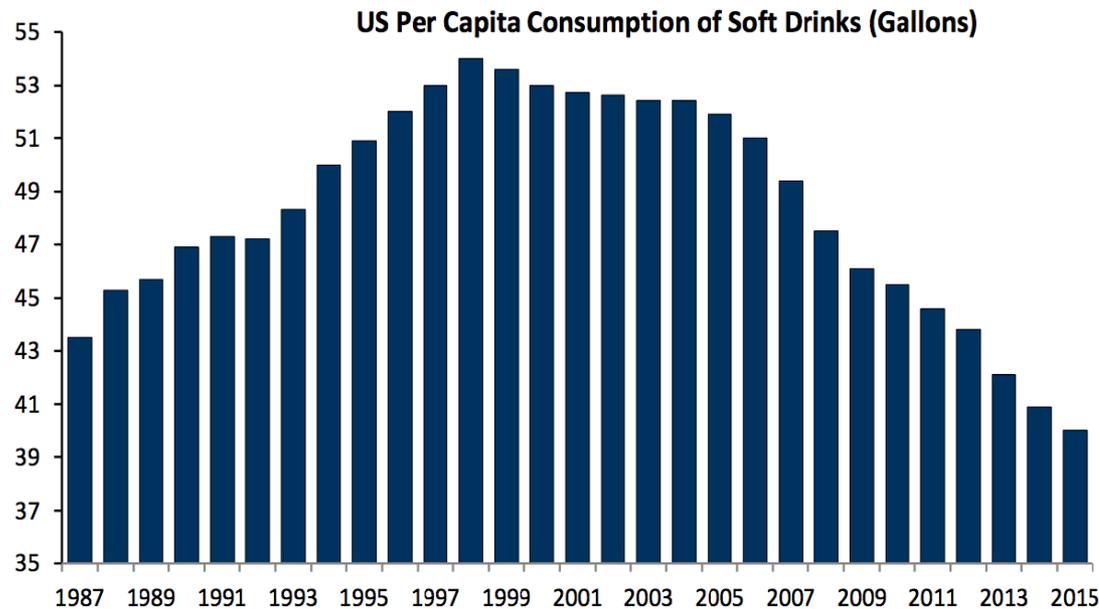
Presentation Overview



- How urgent are the issues?
 - Newest research findings
- What does it take to drink water instead?
 - S & E strategies for school settings
- Drinking water policy avenues
 - Federal, state and local policy avenues
 - Be an advocate!

Is sugary drink consumption down?

Trends in carbonated soft drink consumption in gallons per person per year



Source: NPD Group. 2015 estimate

Graph courtesy of Kristine Madsen, MD,
University of California Berkeley

Berkeley Public Health



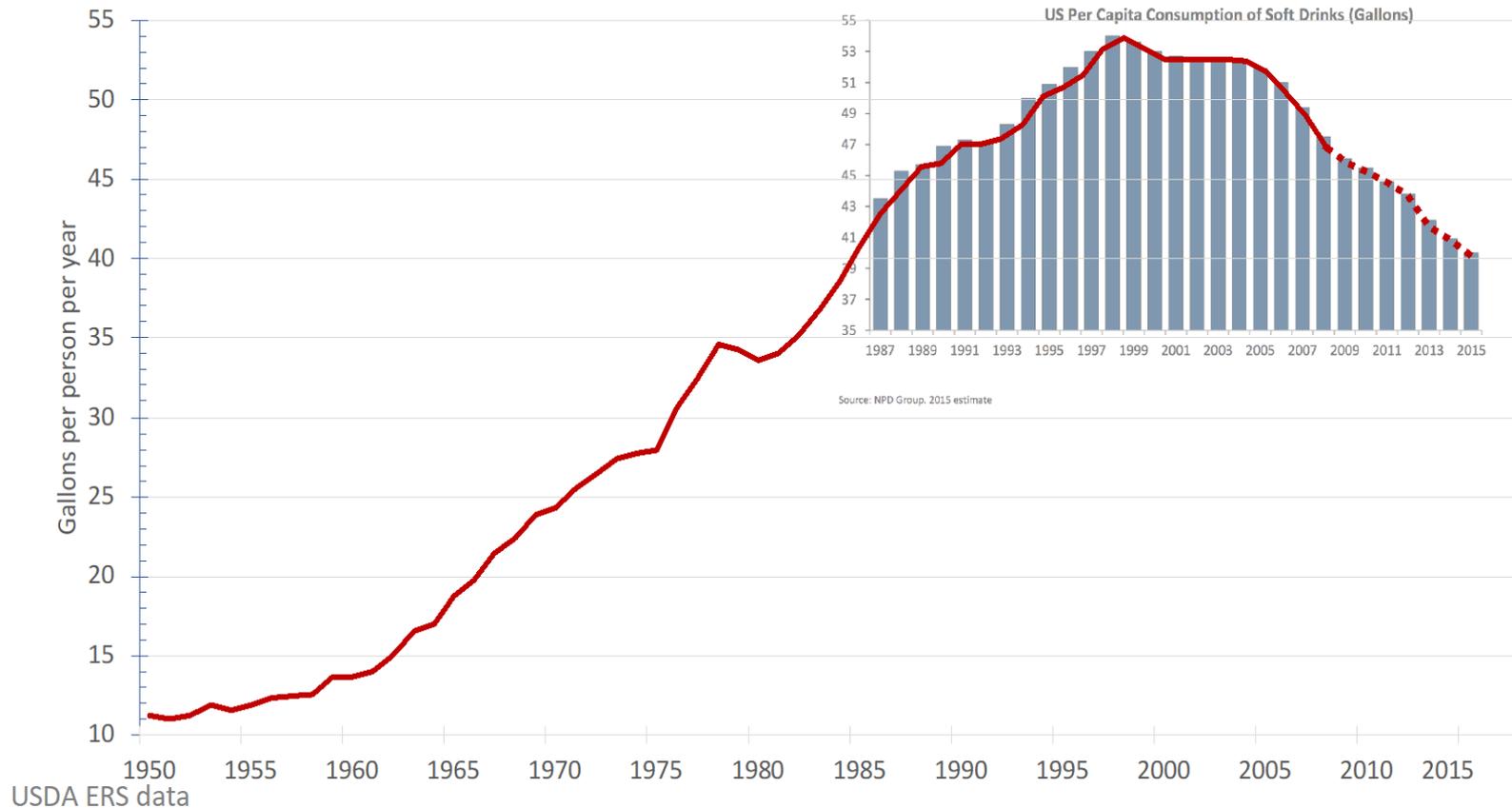
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Not really!

Trends in carbonated soft drink consumption in gallons per person per year



Graph courtesy of Kristine Madsen, MD,
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SSB & water intake: US children

On any given day, % of age group consuming:	2-5 years	6-11 years	12-19 years
SSBs	47%	63%	65%
Water	81%	82%	80%

54.5% of kids arrive at school underhydrated



I'm thirsty

Bleich et al., 2018; Kenney et al., 2015

SSBs are uniquely harmful

SSB consumption contributes to

- Obesity
- Dental caries
- Cardiovascular and coronary heart disease
- Type 2 diabetes, fatty liver disease
- Other metabolic disease
- Asthma
- Certain cancers
- Risk of mortality



New

Bleich et al., 2018; Chazelas et al., 2019; Chen et al., 2019; Chi & Scott, 2018; Collin et al., 2019; Huang et al., 2014; Imamura et al., 2015; Malik et al., 2010; Malik et al., 2020; Mullee et al., 2019; Narain, Kwok & Mamas, 2017; Seferidi, Millet & Laverty, 2018; Sohn, Burt & Sowers, 2006; Vos et al., 2017; Yang et al., 2014



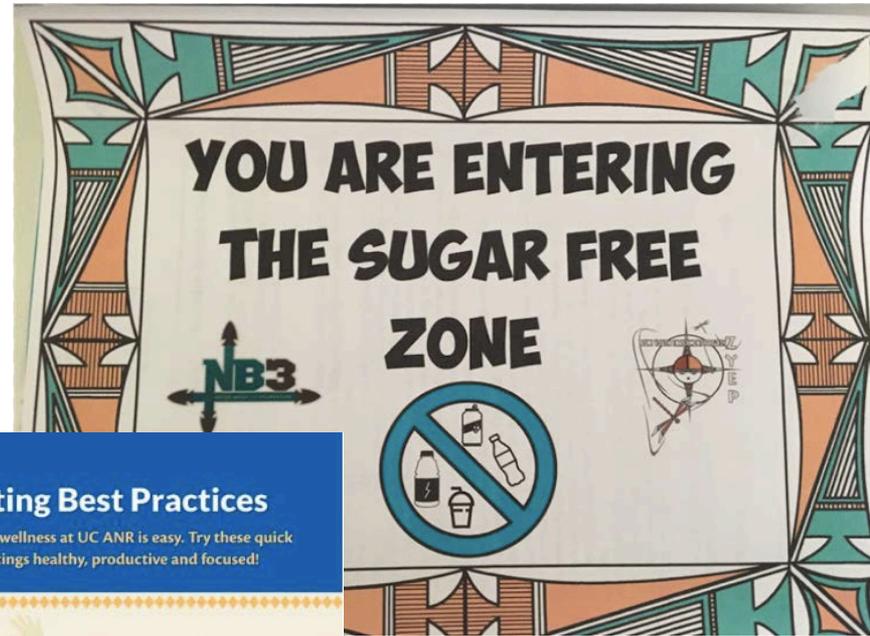
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Policy to decrease SSB access

- Healthy beverage policies – LSWP
- Marketing restrictions in school environs



Zuni, NM
Youth Enrichment Program

Healthy Meeting Best Practices
Creating a culture of health and wellness at UC ANR is easy. Try these quick tips and make all your meetings healthy, productive and focused!

- Plan mini-breaks every hour into your agenda**
 - Include formal or informal stretch/dance/movement breaks.
 - Invite attendees to stretch or stand at any time.
 - Be mindful- open or close your meeting with a five-minute breathing or meditation exercise.
- Make water first for thirst**
 - Always offer water, preferably from the tap using reusable pitchers.
 - Mix it up: Try cold, infused fruit or herb water instead of sugary beverages or sodas.
- Up brain power with fruits, veggies and whole grains**
 - Try fresh fruit, cut veggies and hummus, unsalted nuts and whole grains for snacks.
 - Remember - smaller plates allow for better snack-size portions.
- Go green - reduce, reuse and recycle**
 - Encourage attendees to bring their own cups, plates, utensils and refillable water bottles.
 - Use locally sourced refreshments.
 - Instead of printing agendas or handouts, email copies before the meeting!
 - Opt for reusable, compostable and recyclable goods.

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UC ANR Staff Assembly Wellness Committee
<http://ucanr.edu/wellness>



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Research: Workplace policy

New!

JAMA Internal Medicine | [Original Investigation](#)

Association of a Workplace Sales Ban on Sugar-Sweetened Beverages With Employee Consumption of Sugar-Sweetened Beverages and Health

Elissa S. Epel, PhD; Alison Hartman, BA; Laurie M. Jacobs, PhD; Cindy Leung, ScD, MPH; Michael A. Cohn, PhD; Leeane Jensen, MPH; Laura Ishkarian, MPH; Janet Wojcicki, PhD, MPH; Ashley E. Mason, PhD; Robert H. Lustig, MD, MSL; Kimber L. Stanhope, PhD, MS, RD; Laura A. Schmidt, PhD, MSW, MPH

- 48.6% decline in SSB consumption
- 69% saw a decrease in waist circumference (average decrease of 2.1 cm)
- Small beneficial change in HOMA-IR – especially in high-BMI group



Water = Healthy hydration

- Improves cognition & attention
- Reduces dental decay
 - pain and absenteeism
- Zero calorie
 - avoid weight gain
- Zero added sugars
 - prevent chronic diseases
- Healthy habits



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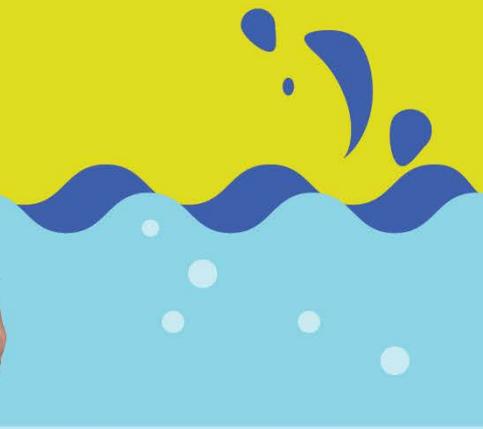
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What does
it take to
enable kids
to drink
water at
school?



Drink Water

No added colors.
No added sugars.
It's just **water**,
and it's what kids need.



ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

playeveryday.alaska.gov



Water: First for Thirst

Safety

- Lead
- Other contaminants

Access

- Location
- Condition
- Vessels

Promotion

- Education
- Messaging

Policy



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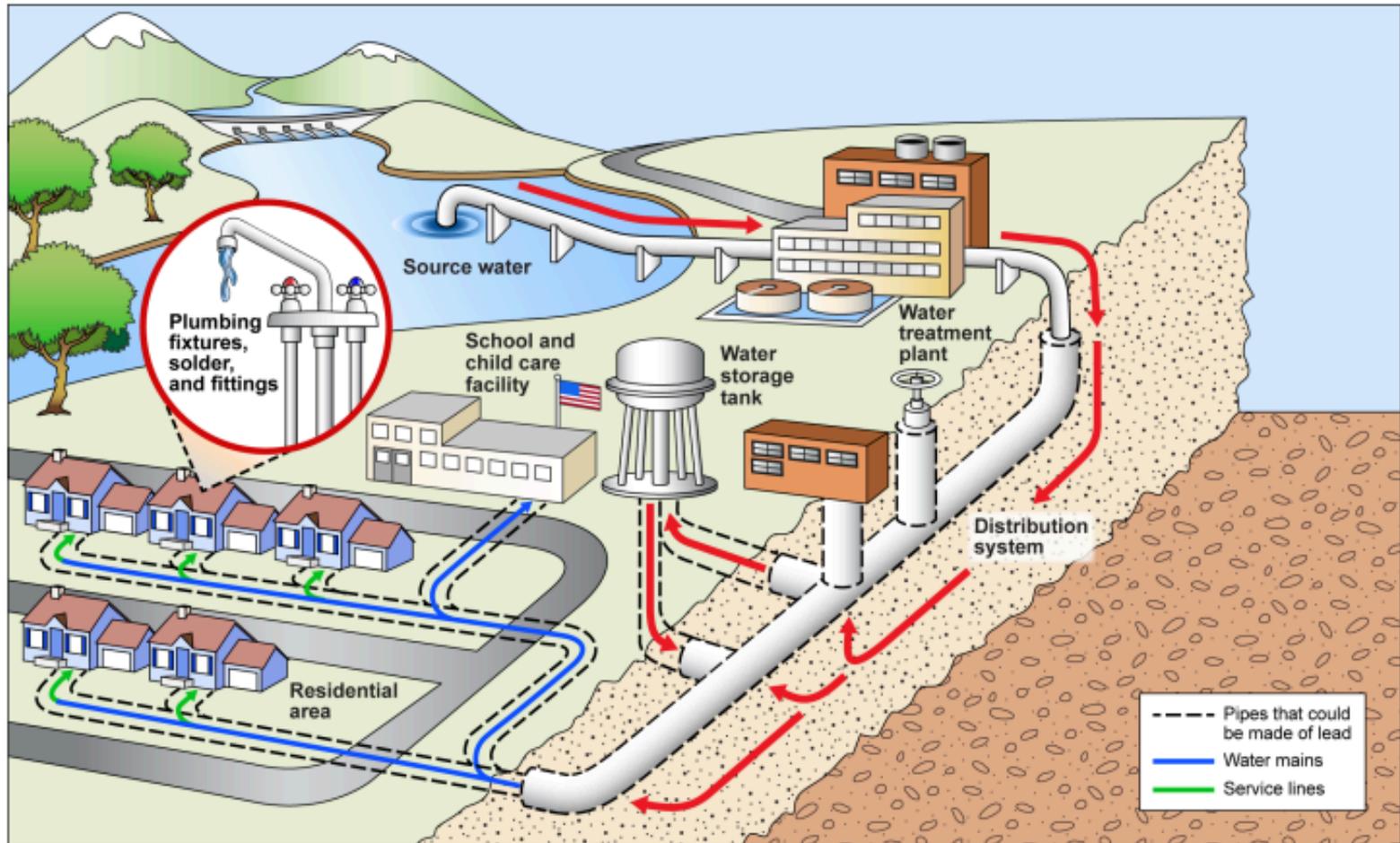
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Water 101



Source: GAO. | GAO-12-424



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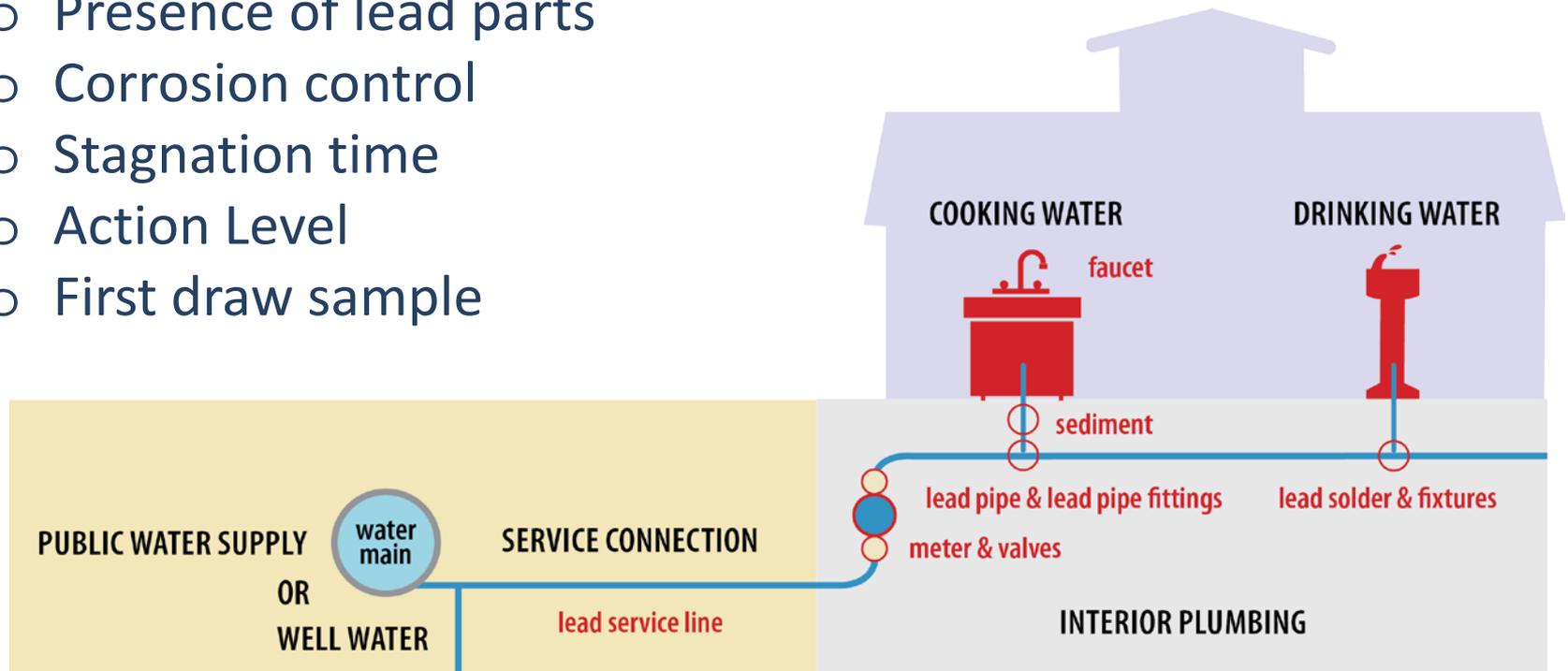
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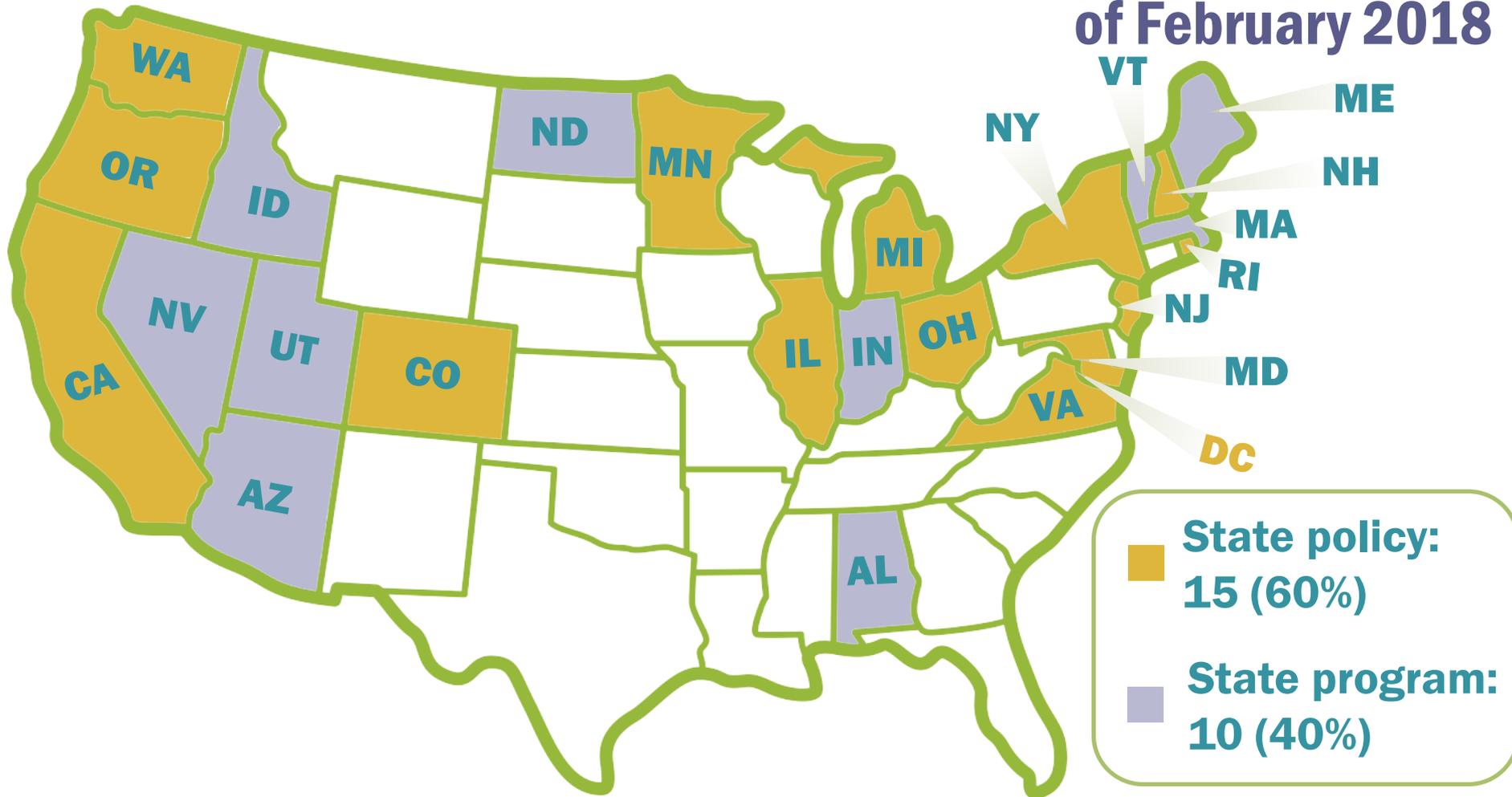
How lead can enter water

Potential for lead in drinking water:

- Presence of lead parts
- Corrosion control
- Stagnation time
- Action Level
- First draw sample



States with school drinking water lead testing programs as of February 2018



Program: an effort initiated by a state agency or department pursuant to an existing directive or grant of authority

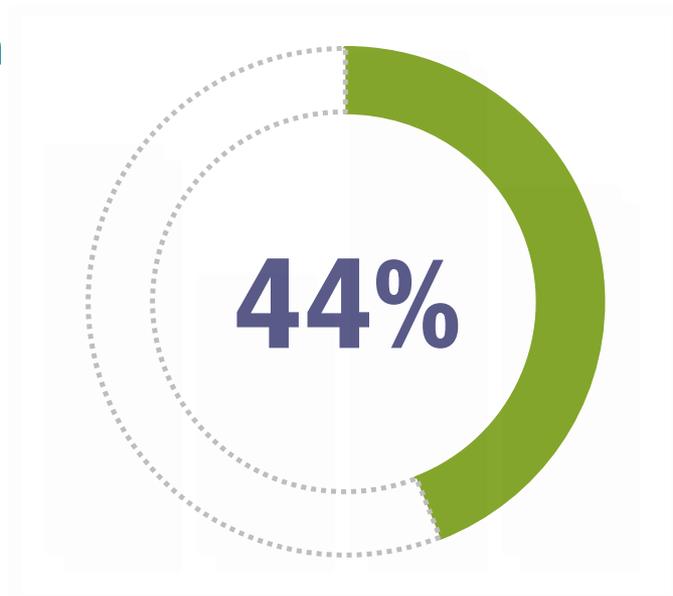
Policy: a mechanism to establish a program via state statute, executive order, or funding appropriation

Key findings from twelve state school drinking water testing programs

Testing was completed in



**10,888
schools¹**



of schools tested had one or more water samples with a lead concentration at or above the state's action level



485,152

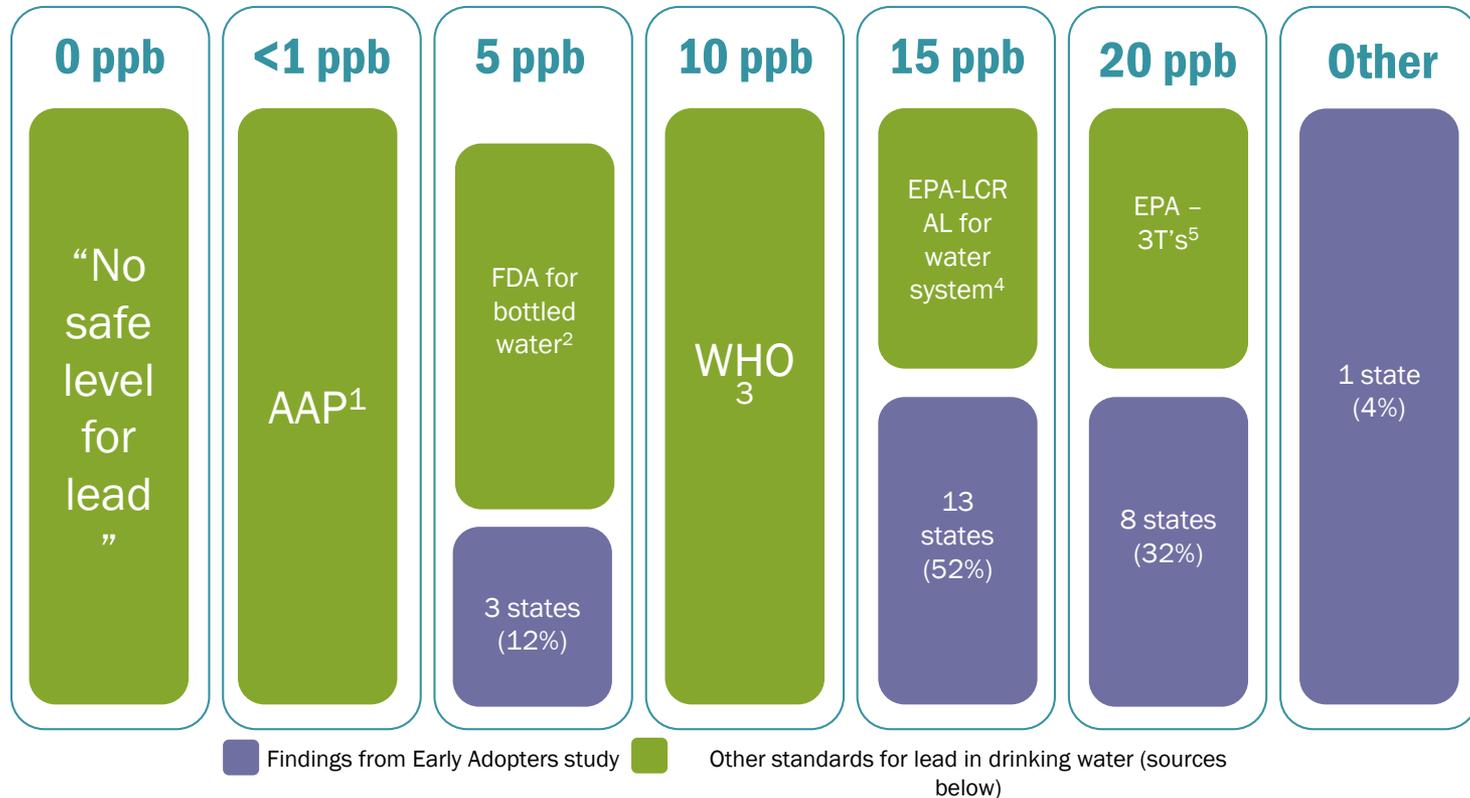
first draw tests were completed

**57,152
(12%)**

of all tests were above the state specified action level

1. In 12 states; these 12 were those with available data on the lead content found in drinking water in schools

Variation in allowable or recommended maximum concentration levels of lead in drinking water



¹American Academy of Pediatrics (AAP) COUNCIL ON ENVIRONMENTAL HEALTH. Prevention of Childhood Lead Toxicity. *Pediatrics*. 2016;138(1):e20161493. AAP available at <http://pediatrics.aappublications.org/content/pediatrics/138/1/e20161493.full.pdf>

²Food and Drug Administration (FDA) 21 CFR § 165.110. Subpart B- Requirements for Specific Standardized Beverages (CFR 2016) Title 21- volume2-section 165.110 available at <https://www.govinfo.gov/content/pkg/CFR-2016-title21-vol2/pdf/CFR-2016-title21-vol2-sec165-110.pdf> [accessed September 19, 2018].

³Guidelines for drinking-water quality: fourth edition incorporating the first addendum. Geneva: World Health Organization; 2017. Licence: CC BY-NC-SA 3.0 IGO. Available at <http://apps.who.int/iris/bitstream/handle/10665/254637/9789241549950-eng.pdf;jsessionid=3881FE535AD164B693E889262390B0A1?sequence=1%20Guidelines%20for%20-%20apps.who.int>. [Accessed September 19, 2018]

⁴EPA (Environmental Protection Agency). Title 40 Chapter I Subchapter D § 141.80 General requirements. United States Environmental Protection Agency; 2018. Available at https://www.ecfr.gov/cgi-bin/text-idx?SID=531617f923c3de2cbf5d12ae4663f56d&mc=true&node=sp40.23.141.i&rgn=div6#se40.25.141_180. [Access date September 19, 2018].

⁵EPA (Environmental Protection Agency). 3Ts for Reducing Lead in Drinking Water in Schools: Revised Technical Guidance. United States Environmental Protection Agency; 2006.

Basic Water Safety Tips

- Only use water from the cold tap for drinking and cooking
- For taps with aerators, clean the aerators using best practices
- Fresher water is safer water
 - Flush all drinking and cooking water taps briefly (5-30 seconds) when they have not been used for 6 hours – overnight



Remediation

- First, determine water quality
- Then, fix, filter or flush
- Reasons to **fix**
 - A real solution
- Reasons to **flush**
 - Effective & less expensive
- Reasons to **filter**
 - Potability (safety: lead, other contaminants)
 - NSF 53: “Health Effects”
 - Palatability (odor, taste, color)
 - NSF 42: “Aesthetic Effects”
 - Simple appeal – makes water more popular?



Water station with added filter box,
Boston Latin School, MA



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Communicate





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Water: First for Thirst

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Access

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- Vessels

Promotion

- Education
- Messaging



Components of Effective Access: Schools

EFFECTIVE ACCESS to Water in Schools



Dollars & Sense - Access



\$15-\$150

\$250-\$700

\$600-\$4,000

<http://waterinschools.org/>



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Factors Associated with Effective Drinking Water Access

In press



New!

Photo-Evidence Tool (PET)



The problem is...

Both of these water sources *technically* offer access to water, but the water source on the right is much more appealing. PET lets you assess all the components of effective access to water.

A better way to assess water access: PET

Systematically documents water access in schools or community settings

Can be used by students, staff, or community members

Ready-to-use package includes:

- Intro and overview documents.
- Training webinar and slides
- Step by step photo-taking protocol
- Scoring instructions to generate quantitative findings.



What You Can Do

- Assess drinking water access
- Promote the concept of effective access
- Build out effective access to drinking water
- Be a drinking water champion!



HEALTHY HYDRATION

Ensuring access to safe water in schools

Help children hydrate the healthy way by making drinking water at schools a priority. These recommendations assure safety, build effective access and promote water to children of all ages.

- 1 ASSURE SAFETY**
 - Read Consumer Confidence Report
 - Test for lead
 - Remediate if needed
 - Communicate
- 2 BUILD EFFECTIVE ACCESS**
 - Type of outlet
 - Maintenance
 - Water flow
 - Drinking vessels
- 3 PROMOTE WATER**
 - Promotion activities
 - Healthy hydration education

POLICIES THAT SUPPORT DRINKING WATER

FEDERAL	STATE	LOCAL
<ul style="list-style-type: none">• Healthy, Hunger Free Kids Act (HHFKA)• Safe Drinking Water Act (SDWA)• Lead & Copper Rule (LCR)	<ul style="list-style-type: none">• Plumbing code• Lead testing policies• Child care licensing regulations	<ul style="list-style-type: none">• Local School Wellness Policy• Organizational policies

www.DrinkingWaterAlliance.org



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Policy

Access + Education = ↑ Consumption



Muckelbauer

- Fountains, reusable bottles, teacher-led water education at German elementary schools
- Daily intake increased 220mL
- Reduction in risk of overweight (31%) in intervention vs. control schools



Kenney

- Water was promoted and cups were provided during school lunch
- More students drank water
- Students drank more water
- Fewer students were observed having sugary drinks

Muckelbauer et al., 2009;
Kenney et al., 2015



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Drinking Water Education & Promotion



Boston Public Schools



California high schoolers



Patel et al., 2016

WaterUp.org

Drinking Water Education & Promotion



Poster: Avance Center,
George Washington University

Alaska DHSS

Tips for Parents

- Decide not to buy sugary drinks or have them at home. 
- Make water fun by serving it in a favorite cup or with a silly straw. 
- Send your kids to child care or school with a refillable water bottle. 
- Make water tasty with sliced lemon or lime, berries or mint. 
- Keep pitchers of water or bottles of unsweetened bubbly water in the fridge.

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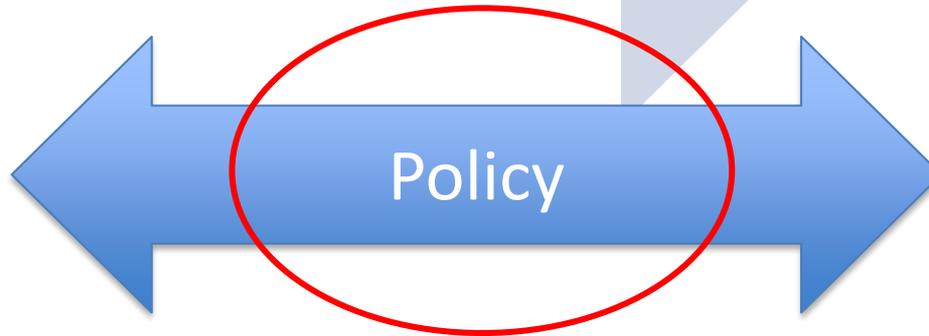
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Policy



Policies to Improve Tap Water Safety

Federal

- Clean Water Act
- Safe Drinking Water Act
- Water Resource and Development Act, 2016, 2018
- EPA –
 - School lead testing
 - Proposed new Lead and Copper Rule

State

- Lead testing initiatives, 2016-present



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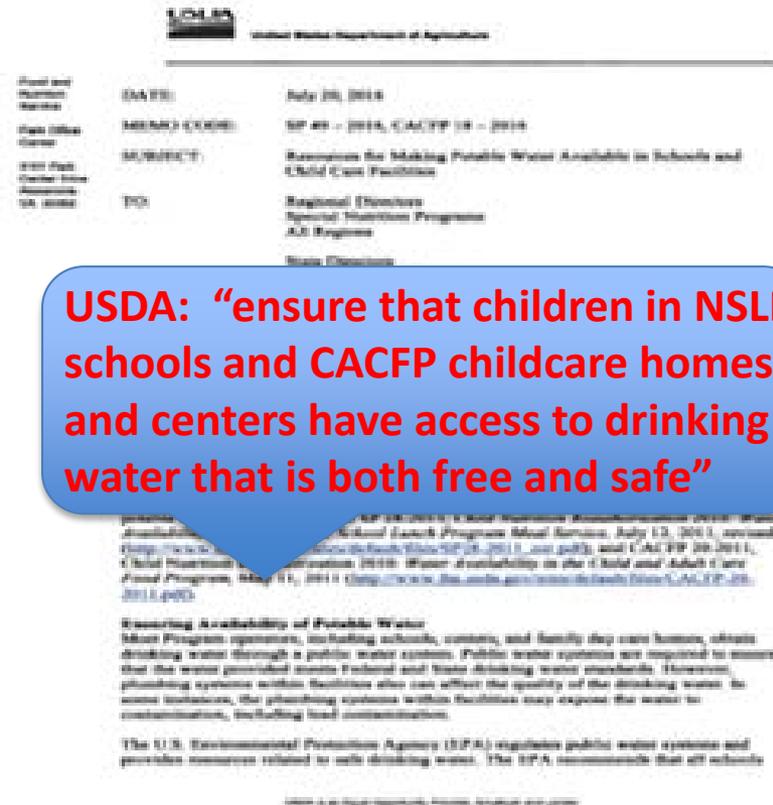
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Healthy Hunger Free Kids Act of 2010

National School Lunch Program

Require[s] that schools make potable water available and accessible without restriction to children at no charge in the place where lunches are served during the meal service.



USDA: “ensure that children in NSLP schools and CACFP childcare homes and centers have access to drinking water that is both free and safe”

Food and Nutrition Service
DATE: July 26, 2010
MEMO CODE: SF 49 – 2010, CACFP 18 – 2010
SUBJECT: Revisions for Making Potable Water Available in Schools and Child Care Facilities
TO: Regional Directors
Special Nutrition Programs
All Programs
State Directors

Ensuring Availability of Potable Water
Most Program operations, including schools, centers, and family day care homes, obtain drinking water through a public water system. Public water systems are required to ensure that the water provided meets Federal and State drinking water standards. However, plumbing systems within facilities also can affect the quality of the drinking water. In some instances, the plumbing systems within facilities may expose the water to contamination, including lead contamination.

The U.S. Environmental Protection Agency (EPA) regulates public water systems and provides resources related to safe drinking water. The EPA recommends that all schools

Child Nutrition Act: more for water?

National School Lunch Program (99% of schools)

- Good regulations: how can we assure they are implemented, and that water is safe?
- Expand water access beyond the cafeteria/mealtimes; focus on “effective” access
- Comment period on USDA’s proposed rule change for meal standards; change would allow flavored waters



Improving School Water Access with State & Local Policies

Schools

- Access throughout the campus
- Bottle filling stations
- Local School Wellness Policy
- Plumbing & building codes

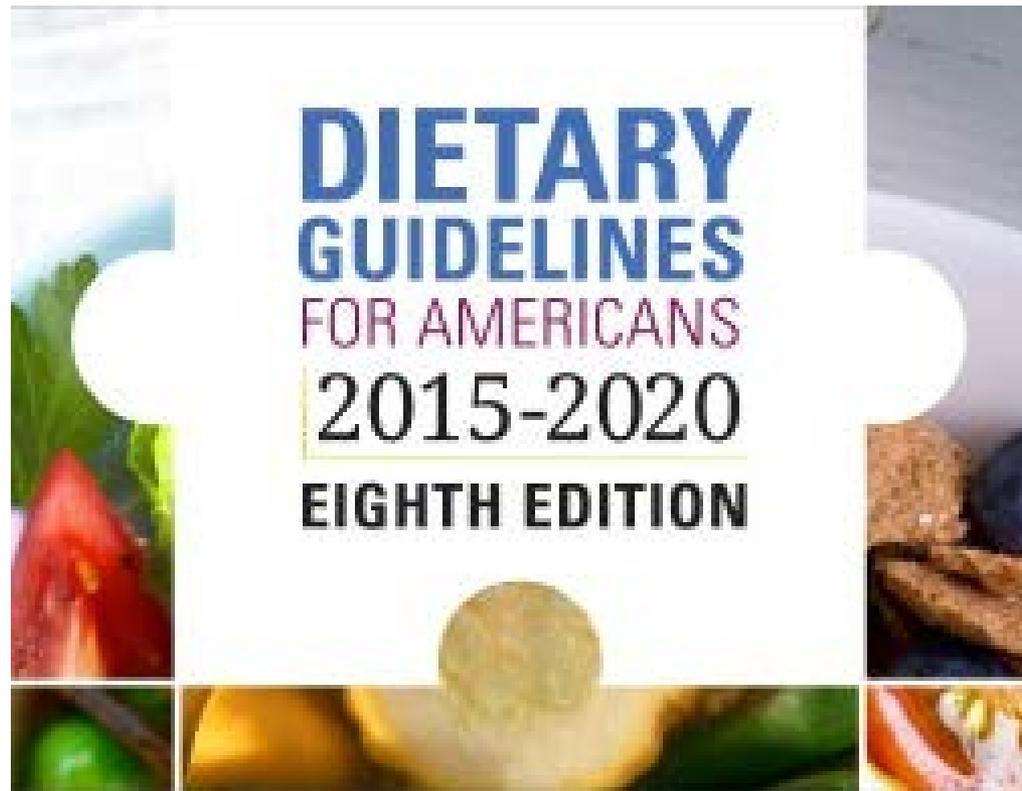


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Education: Water in the Dietary Guidelines for Americans



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Put Water on MyPlate

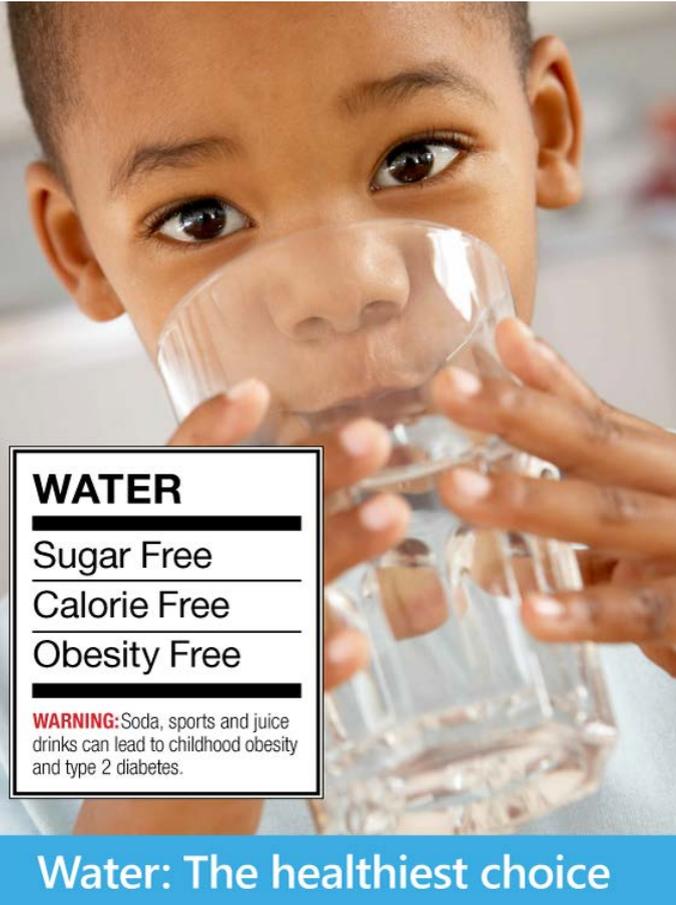
Water
should be on
MyPlate



Take Action:
[https://www.drinkingwateralliance.org/
submit-a-comment](https://www.drinkingwateralliance.org/submit-a-comment)



Acknowledgements



- Angie Cradock, ScD, MPE, Harvard TH Chan School of Public Health
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Thank you

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