UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources | Nutrition Policy Institute

## 2022 White House Conference on Hunger, Nutrition and Health

## Issue: Healthy beverages for WIC participants

**Problem:** Americans' sugary drink consumption is too high – it is the largest source of added sugars in the American diet. Sugary drinks are loaded with calories and added sugars that deliver few or no nutritional benefits but increase the risk of myriad diet-related chronic diseases. Consumers' beverage behaviors are impaired by lack of knowledge about healthy choices and tap water may be unsafe or perceived as unsafe. A full array of interventions is needed to reduce this unnecessary risk to Americans' health and to enable them to drink plain water instead.

**Pillars:** *Integrate nutrition and health; Empower all consumers to make and have access to healthy choices*

**Recommendations:**

1. USDA, in collaboration with other appropriate stakeholders, should develop and disseminate a nutrition education component on drinking water safety and on healthy hydration habits **for** the Special Supplemental Nutrition Program for Women, Infants and Children (WIC).
2. Develop partnerships to work with local public water utilities to provide no-cost tap water lead testing for WIC households.
    - Model (unevaluated): The San Francisco Lead in Home Tap Water Testing Program, a San Francisco Public Utilities Commission program, provides free tap water lead testing for WIC clients with filter provision when needed.[1]

**Why does it matter?** It is important to lay the foundation for healthy eating habits early in life.[2,3,4] Over 40% of U.S. infants are in WIC-participating families.[5]

Although the WIC food package excludes sugary beverages and includes only 100% fruit juice, a study of 12–23-month-olds in WIC found that 25% drink no water and 31% consume sugary beverages (71% drink 100% fruit juice).[6] Further, even in these early years, there are disparities in sugary drink and juice intakes related to income level and race/ethnicity.[7]

The American Heart Association (AHA) recommends that children consume no more than 25 grams (100 calories or about 6 teaspoons) of added sugars per day and that children under 2 years of age should avoid added sugars altogether. AHA states, "Although added sugars most likely can be safely consumed in low amounts as part of a healthy diet, few children achieve such levels, making this an important public health target."[8]

Sugary drinks remain the largest single source of added sugars in the diets of American children aged 2-8 years; they are also among the top source of calories for US kids.[9,10,11] Not only are these typically "empty" calories, but they also often displace more nutritious items.[12]

Extensive science shows that excess consumption of added sugars is a risk factor for many diet-related chronic diseases, and further, that independent of calories, added sugars have detrimental metabolic effects that are not due to weight gain and occur even in the absence of weight gain.[13,14] Detrimental effects include but are not limited to:

- Obesity[15,16]

    - The 2015 Dietary Guidelines Advisory Committee stated, "Strong and consistent evidence shows that intake of added sugars from food and/or sugar-sweetened beverages are associated with excess body weight in children and adults. The reduction of added sugars and sugar-sweetened beverages in the diet reduces body mass index (BMI) in both children and adults."[17]
    - The rate of child obesity surged during the COVID-19 pandemic[18,19]
    - Pre-pandemic modelling showed that if then-current trends continued, the prevalence of obesity in the U.S. adult population will rise to 48.9% by 2030, while 24.2% of US adults will have severe obesity.[20]
- Metabolic diseases including type 2 diabetes and fatty liver disease[21]
    - Non-alcoholic fatty liver disease is rising among children.[22]
- Cardiovascular diseases[23]
    - Even children can develop dyslipidemia and hypertension.[24]
- Dental decay[25,26]
    - Tooth decay is one of the most common chronic diseases of children and adolescents[27]

These diet-related chronic conditions are also rife with disparities[28,29, 30,31,32] and exacerbate economic inequities in the U.S.[33] For example, 44.3% of California children in families under 100% of federal poverty level (FPL) are overweight or obese while 21.2% of California children in families over 400% of FPL are overweight or obese.[34]

Reducing drinking water lead exposure is also important for WIC families. Lead is a proven toxin, particularly for infants and young children. Infants are more vulnerable to adverse outcomes of lead exposure owing to high volume of water intake per body weight, increased lead absorption and rapid neuro-cognitive development.[35] Even low exposure to lead can reduce child IQ and is associated with attention deficit and problem behaviors;[36,37] modelling shows that even low-level lead exposure reduces population IQ.[38,39] Infants and children in WIC have been observed to be three times more likely to have elevated blood lead levels.[40]

Homes in low-income communities are more apt to have lead exposures including lead service lines and lead in antiquated plumbing parts. There is limited data on lead in tap water in residential settings because public utilities are required regularly to test only a fraction of taps to monitor for lead in drinking water.[41] A 2018 study of tap water in high-risk homes in New Orleans, found that though only 1% of all home water samples were above 15 ppb of lead, 12% were above 5 ppb (the FDA limit for bottled water) and 60% were above the American Academy of Pediatrics recommended level of 1 ppb.[42] Nonetheless, it is estimated that 6.5-10 million American homes have lead service lines.[43]

Lead ingested through tap water is a particular risk for infants fed powdered formula reconstituted with tap water. Sixty percent (60%) of U.S. infants 0-11 months are formula fed[44] and through formula they consume about 4 cups of water per day which means that 40-100% of their exposure to lead is through water used to mix formula.[45] Infants in WIC may be more likely to consume formula than non-WIC participants.[46]

Risks of lead exposure during pregnancy and lactation can include elevated lead in the fetal brain and adverse outcomes of pregnancy; while lead can be detected in breastmilk, breastfed infants are generally at lower risk of lead exposure than are infants fed formula.[47] Lead exposure in US women of childbearing age is generally low yet identifying high-risk women (increased maternal age, race/ethnicity, poverty, immigrant) remains a public health need.[48]

WIC education provides a vehicle on which to capitalize for teaching about healthy hydration for both children and parents, as well as a small number of basic water safety practices (see for example,[49] or[50]) can make a difference before lead is mitigated through infrastructure improvements.

This recommendation is endorsed in the recent National Clinical Care Commission (NCCC) Report to Congress, "Leveraging Federal Programs to Prevent and Control Diabetes and Its Complications,"[51]

> NCCC Recommendation 4.4: The National Clinical Care Commission recommends that all relevant federal agencies promote the consumption of water and reduce the consumption of sugar-sweetened beverages in the U.S. population, and that they employ all the necessary tools to achieve these goals, including education, communication, accessibility, water infrastructure, and sugar-sweetened beverage taxation.
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> - 4.4b. Child nutrition programs should be a conduit for education to promote consumption of water and reduce consumption of sugar-sweetened beverages. **USDA should encourage hydrating with water instead of sugar-sweetened beverages and provide safe water education in WIC nutrition education and in childcare settings.** Congress should harness the Child Nutrition Reauthorization Act to strengthen existing water provisions for school nutrition programs.

**Who can act?** Congress, EPA, USDA, DHSS; state and local health and social service departments; state departments overseeing tap water lead testing programs and childhood lead testing and lead poisoning prevention programs; federal, state and public-private partnerships, e.g., with public water utilities, university research teams, advocacy groups.

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