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Drinking Water and the Supplemental Nutrition Assistance Program: Current Policy and Opportunities for Improvement

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Water security means having stable access to available, acceptable, and safe drinking water and is key to supporting good nutrition and health.[1] Public water systems in the United States are among the world's safest. Water insecurity, however, can occur as the result of ongoing or intermittent problems with water quality or when there is an acute natural or manmade disaster such as a hurricane or chemical spill. This commentary focuses on water insecurity in communities like those discussed by Geiger et al., where residents live with persistent problems such as lead in the water system or unreliable water treatment.[2] Screening programs to identify contaminants, including lead in home drinking water like that evaluated by Geiger et al., highlight the need for mechanisms to ensure that families with lower incomes identified as lacking water security can affordably access safe drinking water.

One potential way to address water insecurity for families with limited incomes is through the United States Department of Agriculture Supplemental Nutrition Assistance Program (SNAP). As the nation's largest nutrition assistance program for those with low income, SNAP served an average 35.7 million individuals per month in the fiscal year 2019, and 43 percent of these participants were children.[3] SNAP enrollment increased significantly in 2020 due to the COVID-19 pandemic. This commentary highlights how federal SNAP policy might better account for the costs of safe drinking water where adequate home drinking water is not sufficiently accessible. We also describe how states could utilize SNAP's electronic benefit transfer (EBT) payment infrastructure and educational programs to address safe drinking water and support nutrition and health equity for water-insecure families.

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Conflicts of Interest: None to declare.

Access to Safe Drinking Water and Public Health

Comprehensive approaches to reduce the cost of procuring safe drinking water for families experiencing poverty are urgently needed. Research has found that poor water quality and failing water infrastructure disproportionately impact populations with low incomes, in rural settings and communities of color.[4,5] A study of water quality reports from 1982–2015 found that between 9–45 million people lived in a home served by a public water system with health-based drinking water violations.[4] Additionally, there are an estimated 6.1 million water service lines made of lead currently in use in the United States that have the potential to leach lead into household drinking water.[6] The families with limited incomes that receive their water from these unsafe or unreliable public water supplies must purchase bottled drinking water or water treatment devices on top of paying their home water bill. Households that get their drinking water from an unsafe or untested private well may be exposed to contaminants like lead from home plumbing systems and groundwater contaminants such as arsenic and nitrates that pose particular health risks for pregnant people and children.[2,7]

Households with lower incomes living with persistent poor water quality must use their limited budgets to purchase food and water treatment devices or bottled water for drinking, cooking, and when relevant, mixing with powdered infant formula. For example, it is estimated that on average a family living in a water-insecure area of California spends $1,200 annually on water for drinking and food preparation.[8] Safe drinking water is vital for infant health, whether babies are breastfed or formula-fed. People who are breastfeeding need access to safe and appealing drinking water to consume themselves, and safe drinking water free from contaminants like lead, nitrate, and arsenic is needed for mixing with powdered formula. Increased plain water intake also supports pediatric oral health and can prevent inadequate hydration which, in turn, affects cognition.[9] Ensuring access to low-cost, safe and appealing drinking water at home can support public health efforts to reduce consumption of sugary drinks, which can help children and youth maintain a healthy weight.[10]

Reducing the Cost of Safe Drinking Water Through SNAP

Adequacy of SNAP Benefits

The United States Department of Agriculture (USDA) calculates a household's SNAP allotment using a benefit formula called the "Thrifty Food Plan" that assumes all families have access to safe, low-cost tap water.[11] The formula is based on a food basket for households of varying age composition and income. The SNAP allotment has been found to be insufficient to purchase the Thrifty Food Plan food basket itself.[11] A 2021 adjustment to the benefit formula does not take into account the cost of buying bottled water or water filters in sufficient quantities to meet a water-insecure household's drinking water and food preparation needs.

Use of SNAP for Water-Related Purchases

The water-related purchases currently permitted using SNAP benefits are single-serve and gallon-sized bottled water, including state-mandated beverage container deposits, and bulk bottled water sold by retailers participating in SNAP.[12] Expanding eligible purchases to include container deposits required by private companies, such as the initial container deposit for a 5-gallon reusable water jug, may increase access to lower-cost water. Additionally, allowing purchases of water filtration devices like filter pitchers, point-of-use filtration devices, and replacement filter cartridges could provide greater access to drinking water that is less cumbersome to transport and typically less expensive on a per-gallon basis than bottled water.

Adjusting the Thrifty Food Plan for Water Insecure Communities

The Thrifty Food Plan does permit adjustment for some regional food cost differences and purchasing needs. The USDA may provide a larger benefit allotment in Hawaii, Alaska, and Guam, where food costs are higher.[11(subsection u)] SNAP policy also permits Alaskans with low access to food stores to use their benefits to purchase hunting or fishing equipment.[11(subsection k)] Similar policy approaches could be used to provide additional SNAP benefits to households experiencing water insecurity and to allow existing SNAP benefits to be used to purchase a wider range of water-related products like water filters in water-insecure communities.

Providing Targeted Water Assistance Through the SNAP EBT Platform

The SNAP EBT platform provides a pathway for the government to direct relief to SNAP households experiencing water insecurity. For example, in 2017, California appropriated $5 million for a pilot program to provide an additional water benefit for water-insecure communities using SNAP's EBT system. The goal of the pilot program is to offset water expenditures that would otherwise be spent on food. Beginning March 1, 2022, the pilot program will provide $50 per month in an additional benefit to SNAP participants in six water-insecure zip codes of Kern County, CA.[8] The benefit amount of $50 per month is estimated to be approximately 50 percent of the total monthly cost to households that must purchase bottled water for drinking and cooking. The six zip codes were selected because they are situated in under-resourced communities where residents receive drinking water from a public water system that does not meet primary drinking water standards under the California Safe Drinking Water Act.

Promoting Water Quality Awareness Through Education

The Supplemental Nutrition Assistance Program Education, or SNAP-Ed, annually provides about $450 million for states to educate SNAP participants about nutrition, food budgeting, and physical activity.[13] State water education funded by SNAP-Ed has focused on plain water intake to reduce consumption of sugary drinks and to support overall good nutrition.[14] Under the existing SNAP-Ed policy, states also can provide information about water quality and educate SNAP participants about community-specific water quality issues such as the importance of testing private well water. For example, the University of South Carolina used SNAP-Ed funding for policy, systems, and environmental change strategies (PSE) to develop

a toolkit about nutrition supports for health clinics.[15] The toolkit provides information about how to address the drinking water needs of low-income patient populations, including conducting a needs assessment and developing a water access plan that can be implemented and reassessed for progress.[15]

Discussion

Water security and safe water are integral to good nutrition and safe preparation of food and infant formula. Absent long-term improvements to source water quality and water delivery infrastructure, households with limited incomes must spend their limited food budgets on bottled water, bulk water, and water filters to avoid unsafe home drinking water. Effective water quality monitoring approaches like that proposed by Geiger, et al., highlight the need for policies that ensure that families can affordably access safe drinking water. Disparate home access to safe and appealing tap water is a crucial health equity issue that could be addressed via several avenues within SNAP. Table 1 summarizes the strategies to reduce the cost of safe water to families experiencing poverty and raise awareness about water quality discussed in this commentary. Federal SNAP policy could account for the cost of water in the Thrifty Food Plan and leverage the SNAP EBT platform to deliver targeted aid to SNAP households residing in areas with persistent poor water quality. States also could explore providing SNAP households with a supplemental benefit through the EBT system to account for the extra water-related purchasing costs households have in areas lacking access to safe drinking water.

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Table 1:

Policy Strategies to Leverage SNAP for Safe Home Drinking Water Access

Strategies Implemented Under Existing Federal SNAP Policy	
Strategy	**Description**
SNAP-Ed Water Quality Education	Provide information about water quality and educate SNAP participants about the importance of testing private wells.
Supplemental State Water Benefit Using the EBT System	Provide supplemental state funding via the EBT system to SNAP participants in communities that lack access to safe drinking water.
Strategies Requiring Federal Statutory or Regulatory Changes	
Adjust the Thrifty Food Plan Formula to Improve SNAP Benefit Adequacy	Adjust the Thrifty Food Plan formula to account for areas with low access to safe drinking water.
Permit the Use of SNAP Benefits for Water Filter Purchases and Container Deposits for Bulk Bottled Water	Permit SNAP benefit use for water filters and private container deposits on refillable, 5-gallon jugs used for bulk bottled water. In order to address concerns about improper use of benefits, eligible expenses could be limited to container deposits that are non-refundable for a certain period of time (3–6 months).