



Study Summary

Identifying effective strategies to reduce sugary beverage consumption using computer models

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Who sponsored this study?

The Environmental influences on Child Health Outcomes (ECHO) Program, Office of The Director, National Institutes of Health supported this research.

Why was this study needed?

Health experts agree that sugar-sweetened drink consumption by children in the U.S. should be reduced but finding effective strategies has been a challenge. Large-scale interventions are costly and have shown limited effects. Computer modeling to explore what drives consumption in specific populations could lead to tailored strategies that yield better results.

What were the study results?

Through a computer simulation based on data collected over several years from thousands of real children, researchers found that limiting access to sugary drinks in the home could reduce childhood consumption by as much as 87%. Reducing sugar-sweetened drink availability at school and childcare facilities was also helpful. The amount of the reductions also varied between the groups of children simulated.

Footnote: Results reported here are for a single study. Other or future studies may provide new information or different results. You should always consult with a qualified healthcare provider for diagnosis and for answers to your personal questions.

What was the study's impact?

This study highlights the importance of tailoring interventions to reduce sugar-sweetened drink consumption for different populations. Using computer models, researchers may gain more information about populations that can help to identify effective targeted interventions.

Who was involved?

This study examined data from children ages 2 to 7 years old in three ECHO research sites across the U.S. These children spent time in different environments as they grew—home, childcare, and school—where they had varying access to sugary beverages.

What happened during the study?

Researchers entered data based on children from three ECHO research sites into a computer model to recreate their sugar-sweetened beverage consumption. Based on the computer model, researchers simulated potential interventions and measured their impact on reducing consumption in different populations. Computer models can be affected by certain factors, including socioeconomic status, BMI, time spent in a specific setting, accessible beverages in the home, and access to a pediatrician.

What happens next?

In future studies, researchers plan to include older children and adjust computer models to explore the consumption of other foods and beverages with health implications.

Where can I learn more?

Access the full journal article, titled “Childhood Sugar-sweetened Beverage Consumption: An Agent-based Model of Context-specific Reduction Efforts,” in the [American Journal of Preventive Medicine](#).

A summary of a previous study that applied computational modeling to a single ECHO research site can be found [here](#).

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