

# Current Taxes on Sugary Drinks No Deterrent

BY DOUG BRUNK

EXPERT ANALYSIS FROM THE ANNUAL MEETING OF THE OBESITY SOCIETY

SAN DIEGO – To date, there are very small associations between state-level taxes on sugar-sweetened beverages and consumption or weight outcomes.

However, if the existing soda tax rates were to jump by 400%-500%, “you’d have a substantially larger potential impact on consumption and weight outcomes,” Lisa Powell, Ph.D., said at the meeting.

Dr. Powell, a senior research scientist at the Institute for Health Research and Policy at the University of Illinois at Chicago, presented empirical findings on the association between state-level soda taxes with consumption and weight outcomes, based on national data including A.C. Nielsen Homescan Data, Early Childhood Longitudinal Study-Kindergarten Cohort, Monitoring the Future, and the National Longitudinal Survey of Youth 1997. The work was conducted as part of the Robert Wood

Johnson Foundation–supported Bridging the Gap program ([www.bridgingthegapresearch.org](http://www.bridgingthegapresearch.org)).

consumption per household by only 9 ounces relative to the sample mean of 566 ounces over the quarter,” she said. “That’s extremely small, less than one can of soda.”

When they applied simulation of an 18% sales tax, soda purchase would fall by about 25%. “If you consider a 1 cent per liquid ounce tax rate, which corresponds roughly to a 25% sales tax, then you’d see a 35% reduction in purchases,” she added.

The Early Childhood Longitudinal Study Kindergarten Cohort was used to examine the association between soda taxes, consumption, and weight of children. The final sample included 7,414 children who reported their food consumption and 7,300 for which height and weight information existed. Outcome variables were soda consumption in the last week, soda purchases at school, and weight change from third to fifth grade.

Analysis of the entire study population revealed a statistically significant but small effect on soda consumption at school and on the change in weight between third and fifth grade. “However, we found larger effects for children who are at risk for being overweight and for those who are at risk of obesity in general, including those from low-income families, minorities, and those who watch more than 9 hours of television per day,”

**If the existing tax rate on soda were higher by one point, there would be statistically significant but ‘extremely small’ reduction of less than one can of soda per household.**

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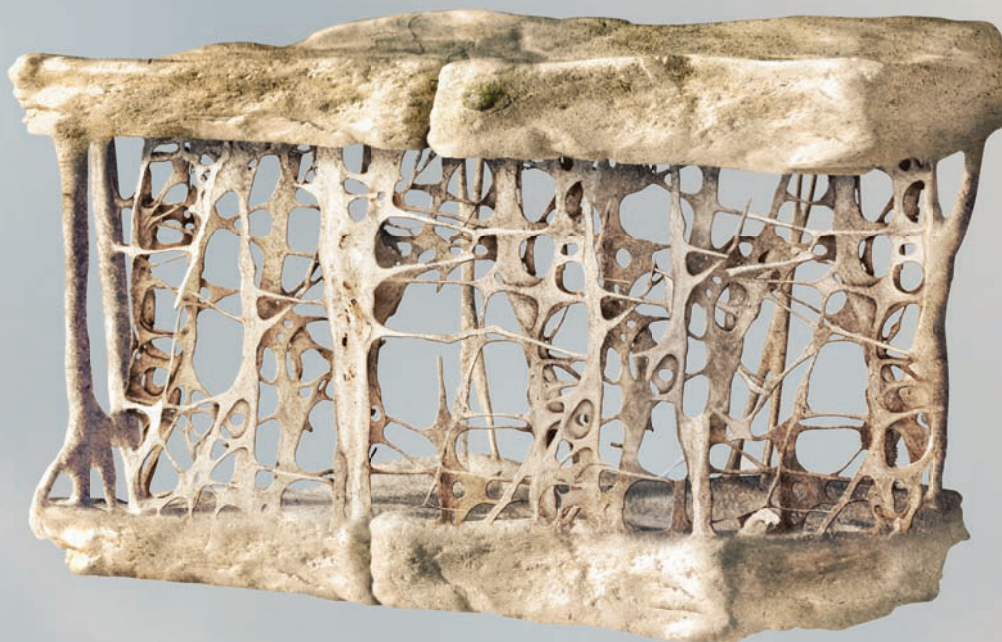
Currently, Dr. Powell said, 34 states have soda sales taxes mostly in the 5%-7% range (mean 5.2%). Additionally, three states (West Virginia, Washington, and Rhode Island) have excise taxes on sugar-sweetened beverages; four states (Virginia, Tennessee, Arkansas, and Alabama) have other license/privilege fees/taxes; and eight states (New York, Rhode Island, North Carolina, Mississippi, Kansas, New Mexico, California, and Hawaii) have sugar-sweetened beverage legislative proposals pending review.

“Typically, the tax rates that exist right now for soda are for general revenue,” she explained. “Going forward, there is going to be more of a potential concern about reverse causality when you try to model this, because you may have a state which has a particularly high obesity rate, and policy makers may implement a high soda tax as a potential solution to try to deal with obesity in that state.”

The A.C. Nielsen Homescan Data used in the analysis was a cross-section of household purchase information based on scanner data from a variety of stores during the second quarter of 2007. The final sample included 66,211 non-military households. Dr. Powell and her associates calculated the consumption of soda in ounces over the quarter. Preliminary results show that if the existing tax rate on soda were higher by one point for all households, “you’d have a statistically significant lower amount of

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Dr. Powell said. "This gets at the fact that different populations may respond differently to some of these tax policies."

Assuming a linear extrapolation, she continued, an 18% soda tax would correspond to a -0.23 body mass index units in the change in BMI between third and fifth grade, or a 20% reduction in the excess BMI gain.

Monitoring the Future was a cross-sectional study of behaviors, attitudes, and values of 8th, 10th, and 12th-grade students for 1997-2006; the estimation sample includes 153,673 observations. Dr. Powell and her associates set out to ex-

amine the association between soda taxes and the BMI of respondents, and the overall effects they observed were small. "The significant effect was for those who were at risk of overweight," she said. "In other studies where we've looked at how adolescents respond to pricing of fast food, we found that individuals who are at the upper tail of BMI distribution were much more price sensitive than those at the mean, suggesting that taxes would have a larger effect for more-overweight persons. From a policy standpoint, this is exactly the group whose behavior you want to change."

National Longitudinal Survey of Youth 1997 is a nationally representative longitudinal data on youth aged 12-17 years in 1997. Four waves are being studied, including 1997, 1998, 1999, and 2000. The estimation sample includes 11,900 person-year observations living at home. Preliminary results show larger associations for adolescents from low-income households.

Dr. Powell said that in the future, jurisdictions that adopt higher taxes on sugar-sweetened beverages "will provide natural experiments for researchers to examine the effectiveness of these efforts

in promoting healthier dietary intake and curbing the obesity epidemic."

Two areas of future research that she called for include issues of applicability to food stamp programs as well as considering the notion of an excise tax instead of a sales tax. "The excise tax would apply prior to purchase and be listed as part of the shelf price," she said. "If the intended goal is a public health goal, where you're trying to change behavior, that's really the only way to do it. It has to be built into the shelf price."

Dr. Powell said that she had no relevant financial conflicts to disclose. ■

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