

# Update for 2016: Evaluating Howard Co Unsweetened



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**RUDD CENTER**  
FOR FOOD POLICY & OBESITY

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**HORIZON FOUNDATION**

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# **Sales of Sugary Drinks in Howard County**

## RESULTS

# Howard County Unsweetened Campaign

- Theory-driven, multi-level intervention that applied the Social Ecological Model

- Policy
- Community
- Organizational
- Interpersonal
- Individual



# New Publication

Research

JAMA Internal Medicine | Original Investigation

## Association of a Community Campaign for Better Beverage Choices With Beverage Purchases From Supermarkets

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**IMPORTANCE** Data are needed to evaluate community interventions to reduce consumption of sugary drinks. Supermarket sales data can be used for this purpose.

**OBJECTIVE** To compare beverage sales in Howard County, Maryland (HC), with sales in comparison stores in a contiguous state before and during a 3-year campaign to reduce consumption of sugary beverages.

**DESIGN, SETTING, AND PARTICIPANTS** This observational experiment with a control group included 15 HC supermarkets and 17 comparison supermarkets. Weekly beverage sales data at baseline (January 1 to December 31, 2012) and from campaign years 1 to 3 (January 1, 2013, through December 31, 2015) were analyzed. A difference-in-differences (DID) regression compared the volume sales per product per week in the HC and comparison stores, controlling for mean product price, competitor's product price, product size, weekly local temperature, and manufacturer.

**EXPOSURES** The campaign message was to reduce consumption of all sugary drinks. Television advertising, digital marketing, direct mail, outdoor advertising, social media, and earned media during the 3-year period created 17 million impressions. Community partners successfully advocated for public policies to encourage healthy beverage consumption in schools, child care, health care, and government settings.

**MAIN OUTCOMES AND MEASURES** Sales were tracked of sugary drinks highlighted in the campaign, including regular soda, sports drinks, and fruit drinks. Sales of diet soda and 100% juice were also tracked. Sales data are expressed as mean fluid ounces sold per product, per store, per week.

**RESULTS** Regular soda sales in the 15 HC supermarkets decreased (−19.7%) from 2012 through 2015, whereas sales remained stable (0.8%) in the 17 comparison supermarkets (DID adjusted mean, −369 fl oz; 95% CI, −469 to −269 fl oz;  $P < .01$ ). Fruit drink sales decreased (−15.3%) in HC stores and remained stable (−0.6%) in comparison stores (DID adjusted mean, −342 fl oz; 95% CI, −466 to −220 fl oz;  $P < .001$ ). Sales of 100% juice decreased more in HC (−15.0%) than comparison (−2.1%) stores (DID mean, −576 fl oz; 95% CI, −776 to −375 fl oz;  $P < .001$ ). Sales of sports drinks (−86.3 fl oz; 95% CI, −343.6 to 170.9 fl oz) and diet soda (−17.8 in HC stores vs −11.3 in comparison stores; DID adjusted mean, −78.9 fl oz; 95% CI, −182.1 to 24.4 fl oz) decreased in both communities, but the decreases were not significantly different between groups.

**CONCLUSIONS AND RELEVANCE** A locally designed, multicomponent campaign to reduce consumption of sugary drinks was associated with an accelerated decrease in sales of regular soda, fruit drinks, and 100% juice. This policy-focused campaign provides a road map for other communities to reduce consumption of sugary drinks.

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Editor's Note

Supplemental content

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# Howard County (HC) Maryland in Relation to Southeastern PA



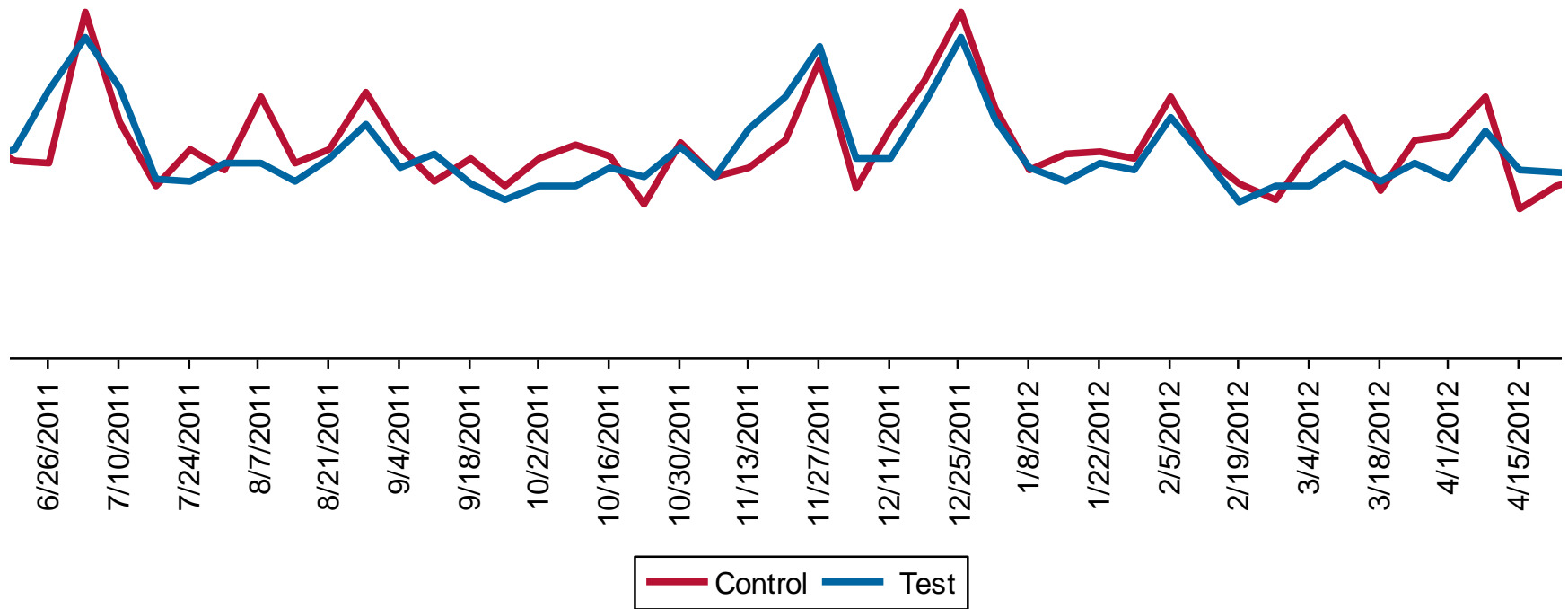
# Retail Sales Data

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- IRI (a commercial retail sales company used to assess marketing campaigns) matched 15 supermarkets in Howard County to 17 supermarkets in a neighboring state
- Targeted soda, diet soda, sports drinks, fruit drinks, juice
- Sales patterns were as close as possible

# Baseline matching for sales

Total Target Soft Drinks Volume per Million ACV



# Comparing the communities

	Howard County Stores	Comparison Stores
Number of counties	1	7
Population per county	299,430	350,637
Median Income	\$108,844	\$53,713
High School or more	95.1%	86.2%



# Comparing the communities

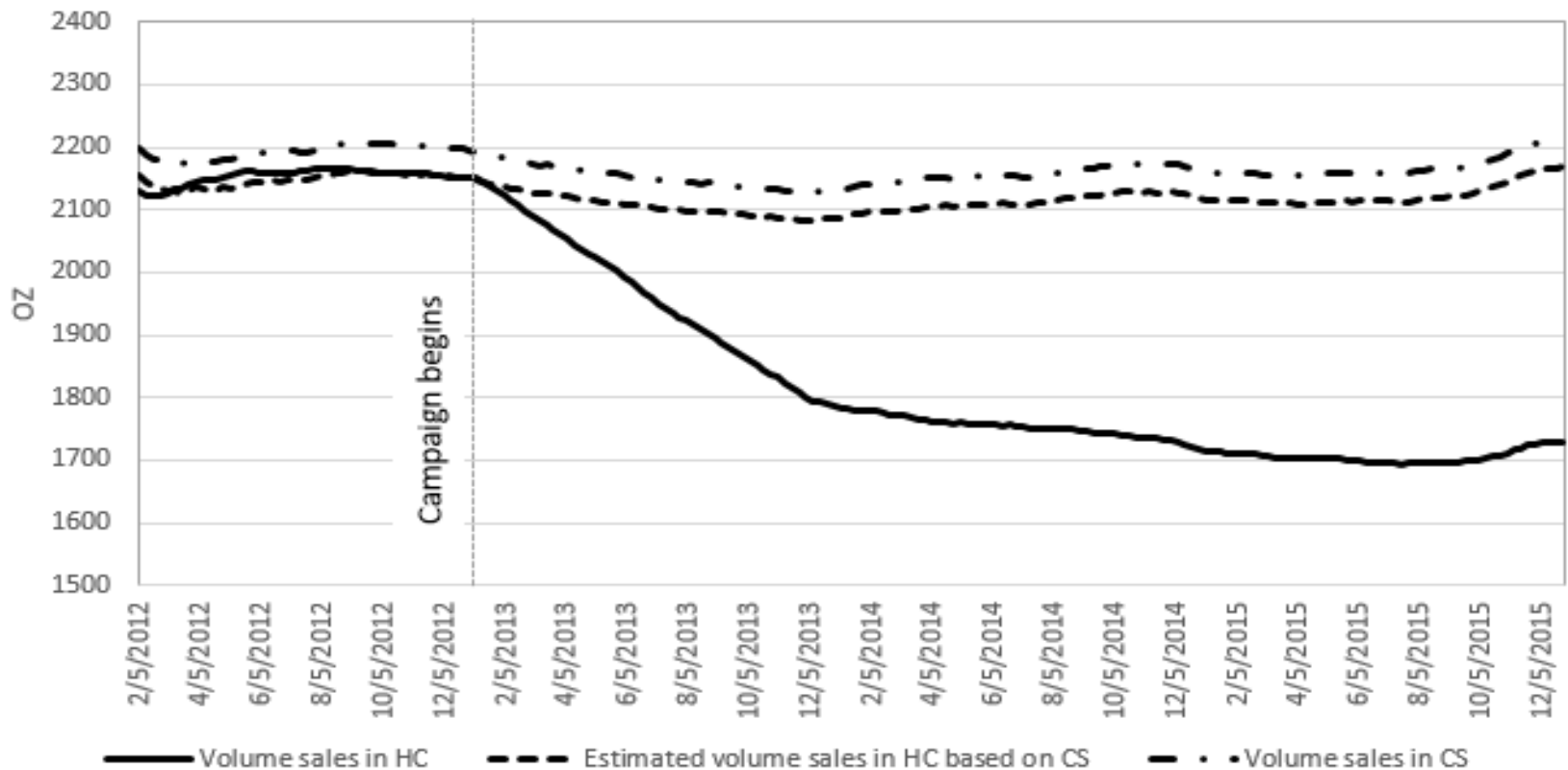
	Howard County Schools	Comparison Schools
American Indian	< 1%	0%
Asian	16%	5%
Black	28%	7%
Hispanic	12%	12%
White	38%	74%
Two or more	6%	2%
Free / Reduced Lunch	23%	27%

# Comparing 2012 to 2015

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- Difference-in-difference analysis (compares change in HC with change in control stores)
- Dependent variable: volume sales in ounces per product per week
- Average product price, competitor's product price, product size, weekly local temperature, and manufacturer were controlled in the model

# Moving average of adjusted mean weekly volume sales of regular soda



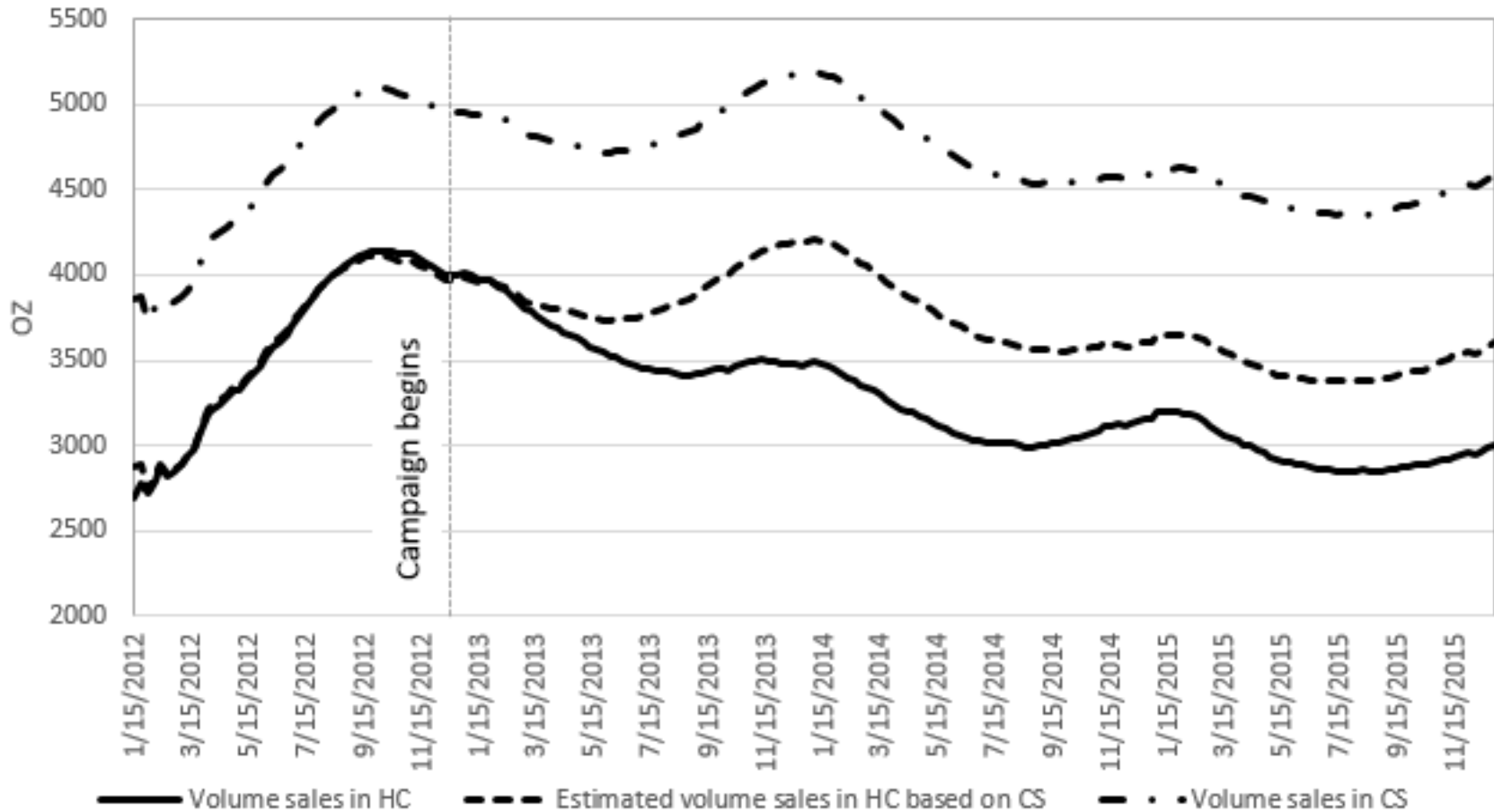
Sales of sugar-sweetened soda fell by almost 20 percent by volume in Howard County and remained stable in comparison stores

# Results

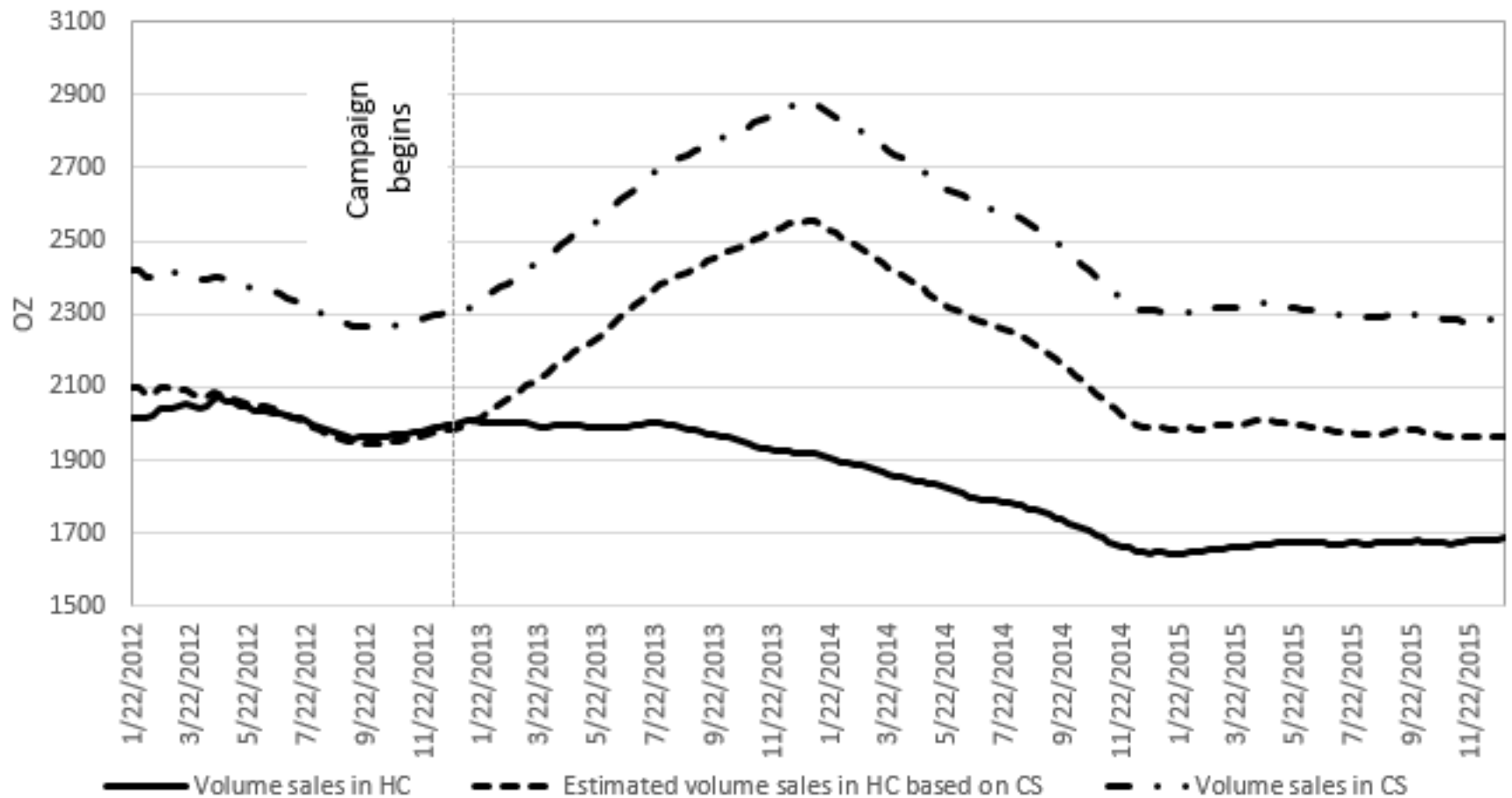
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- Sales of fruit-flavored beverages with added sugars fell about 15 percent; significantly more in HC than CS
- Sales of 100 percent juice fell 15 percent; significantly more in HC than CS
- Sports drinks did not differ between groups
- Diet soda – did not differ between groups but both groups decreased

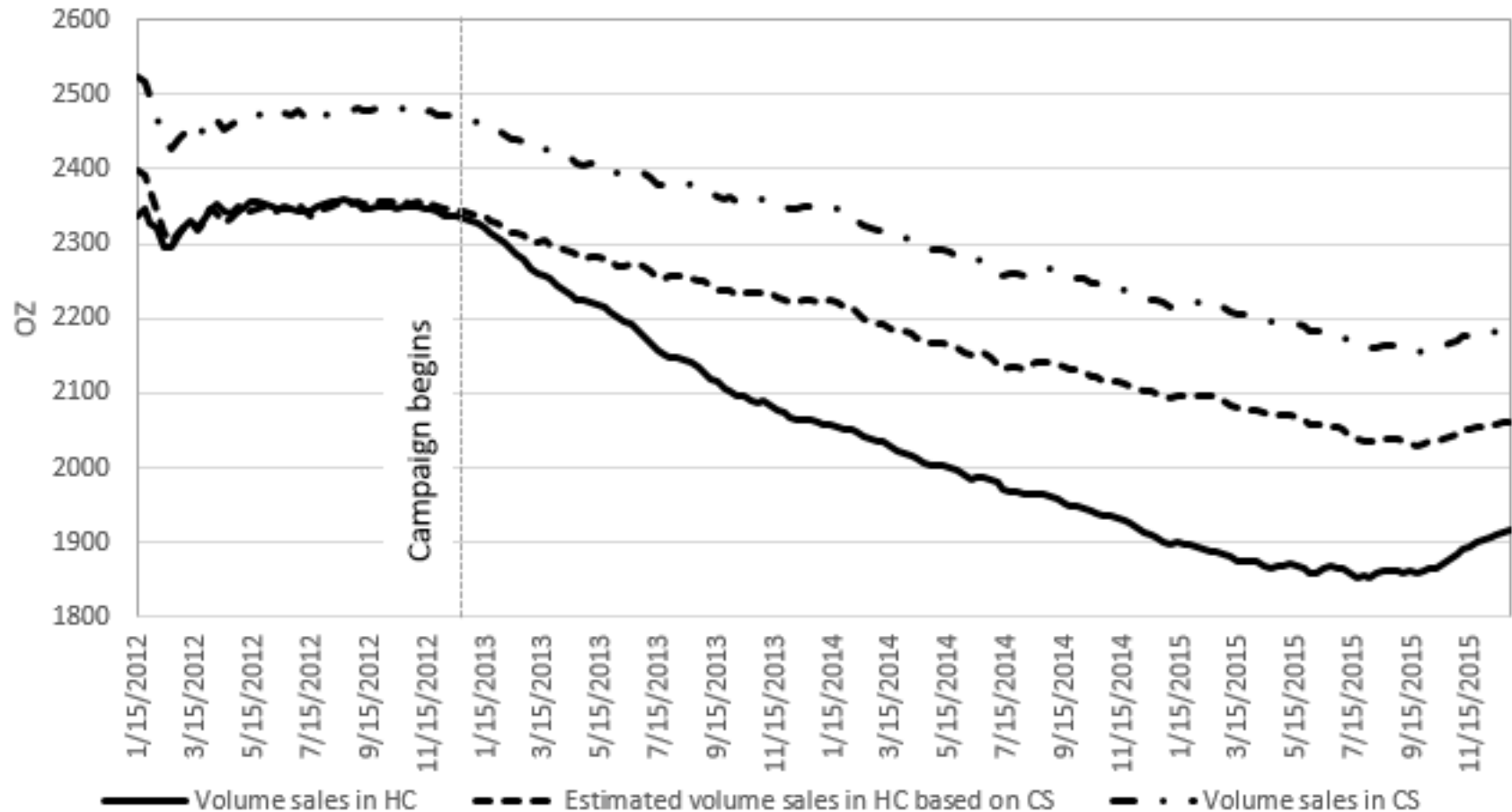
# Moving average of adjusted mean weekly volume sales of sports drinks



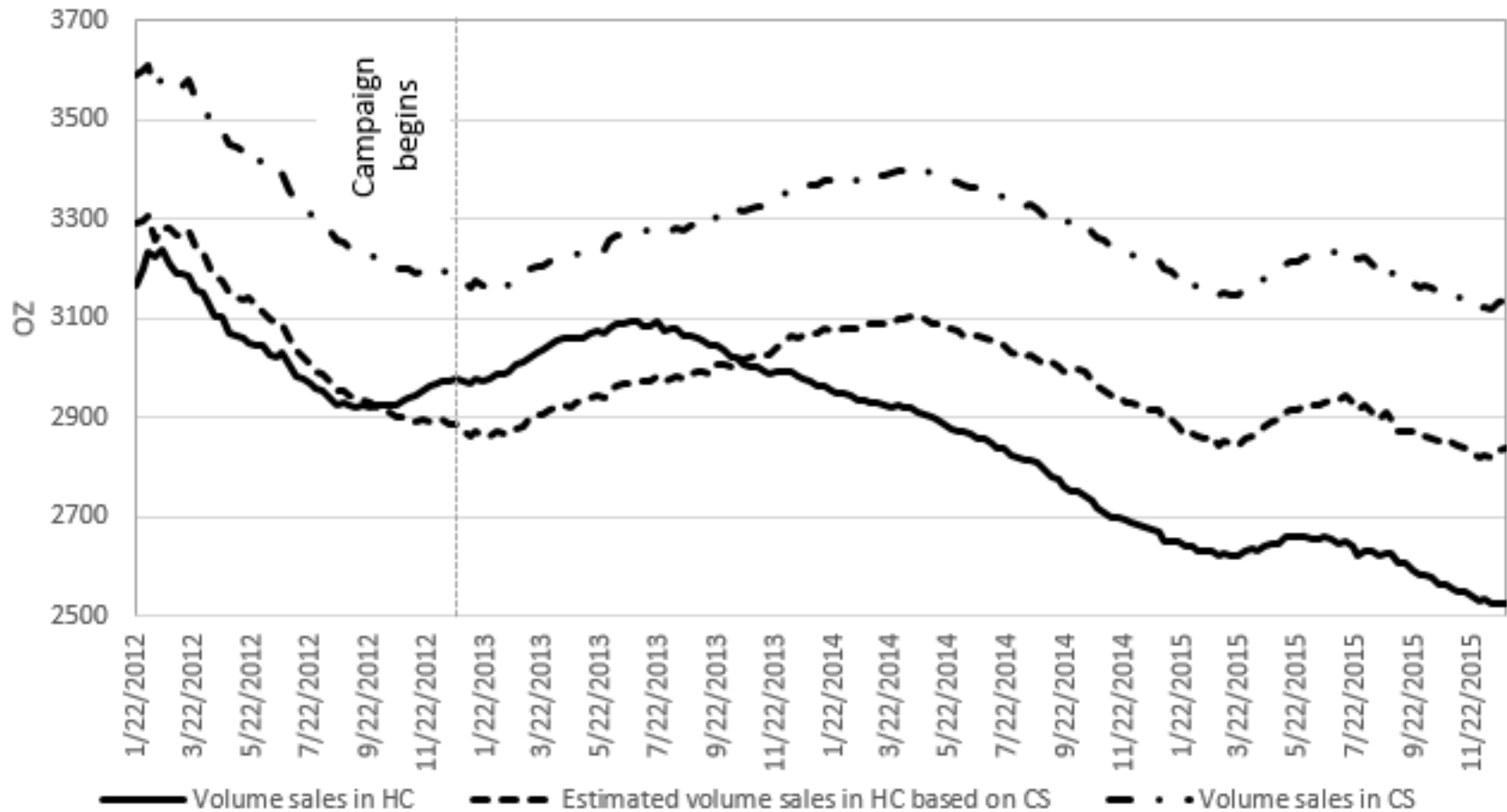
# Moving average of adjusted mean weekly volume sales of fruit drinks



# Moving average of adjusted mean weekly volume sales of diet soda



# Moving average of adjusted mean weekly volume sales of fruit juice





# Infographic

How Maryland's **Howard County Unsweetened** campaign encouraged residents to purchase fewer sugary drinks

Formula for success



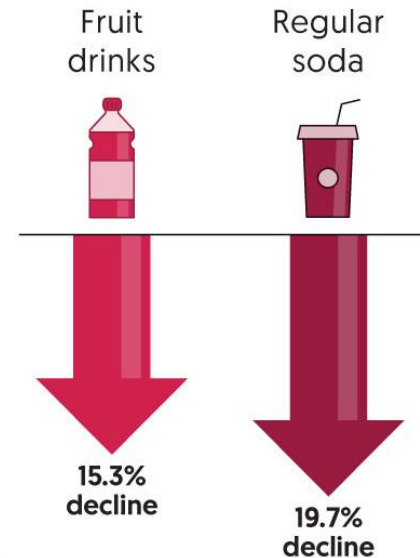
Policy changes



Outreach at community events



Media promotion



Learn more at: [UConnRuddCenter.org](http://UConnRuddCenter.org)



# Limitations

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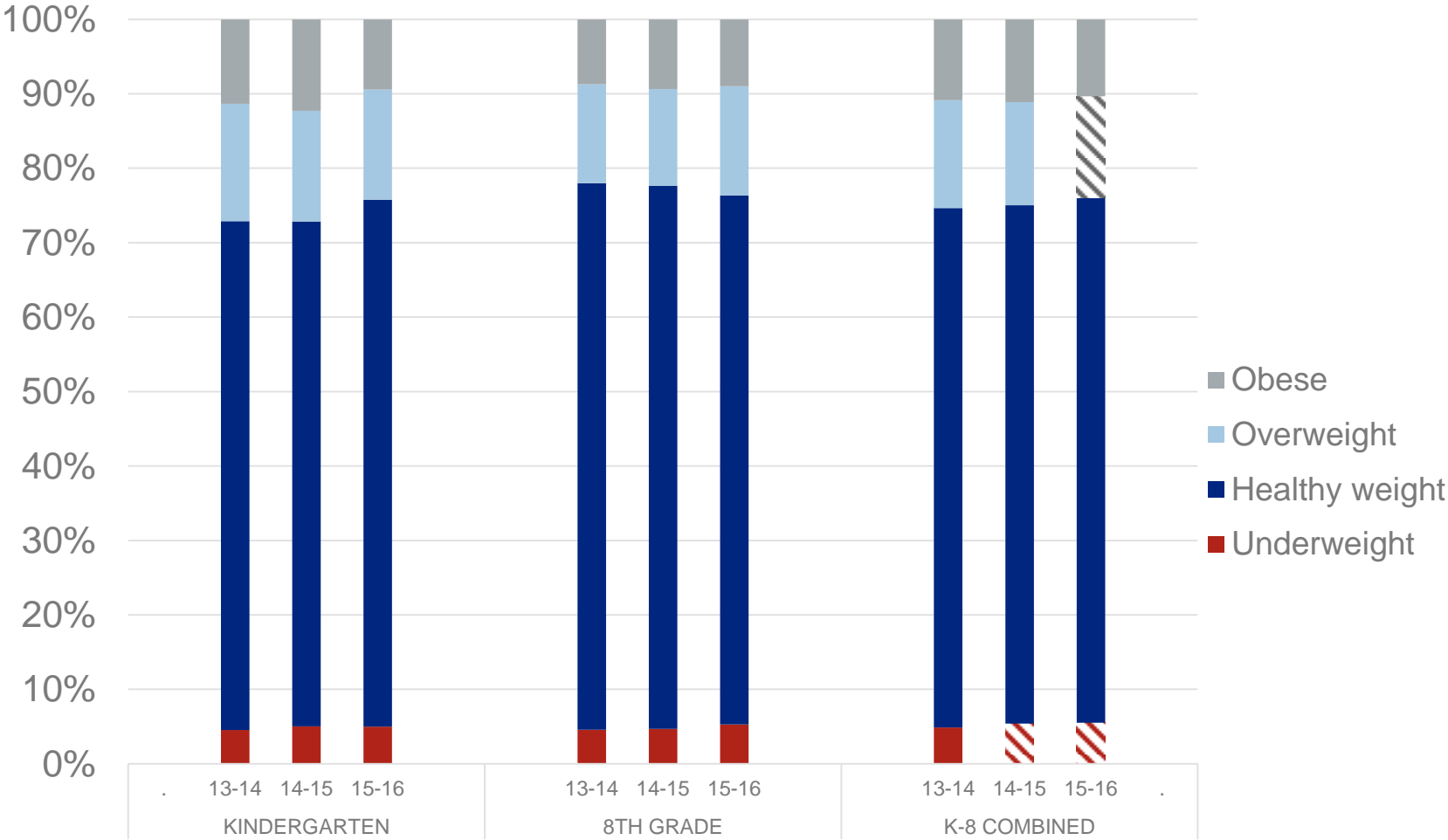
- Supermarkets provide approximately 50% of sugary drinks; we did not evaluate restaurants, small stores, vending machines
- We purchased data for the top brands in each category
- Sales of newer products were not captured

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# Healthy Weight Status for Kindergarteners & 8th graders

## RESULTS

# Weight status for K, 8, and K-8 Combined



Shading indicates statistically significant difference in % compared to School Year 2013-2014

# % of students at healthy weight by free-reduced meals status for 2016

