UIC PUBLIC HEALTH
Policy, Practice and Prevention Research Center

P3RC RESEARCH BRIEF
NO. 133
APRIL 2024

No Impact on Potential Kids' Meal Substitutes in Fast-Food Restaurants One Year Following an Illinois Healthy Beverage Default Policy

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Key Findings

- **The percentage of fast-food restaurants offering smaller-sized mini meals increased from baseline (late 2021) to follow-up (late 2022) in both Illinois and Wisconsin, from about one-quarter (23-24%) to about one-half (46-50%). The percentage of restaurants offering larger family meals stayed about the same, at 17-18%.**
- **While no restaurants included in this study's sample displayed ads for mini meals featuring regular or diet soda at baseline, 25% of restaurants did so featuring regular soda and 4-9% did so featuring diet soda at follow-up.**
- **There was no evidence of changes in mini or family meal offerings in Illinois relative to Wisconsin following the effective date of an Illinois act that requires healthy beverage defaults with kids' meals.**

Introduction

Over one-third (36.3%) of children (aged 2-19 years) consume fast food on a given day,[1] and their fast-food consumption is associated with worse overall diet quality, including greater intake of sugar-sweetened beverages (SSBs),[2] which represent about 80% of restaurant kids' meal beverages.[3] This is of particular concern because the majority of children exceed dietary guidelines for intake of added sugars, and SSBs represent the largest source of added sugars in their diet.[4]

In response, many state and local jurisdictions across the U.S. have enacted requirements that only healthy beverage defaults (HBD) be provided with kids' meals.[5,6] Previous studies with data both pre- and post-policy enactment and a comparison site have found no impact of HBD requirements on restaurant offerings.[7,8,9] One study based on pre-post data without a comparison site found increases in menu compliance in one jurisdiction, from 10% to 66%, with no change in the other jurisdiction examined.[10] Two other studies that have examined restaurant compliance using post-policy enactment data only have found limited compliance with HBD requirements.[11,12]

One way in which restaurants could circumvent an HBD policy is by offering substitutes to kids' meals that would not be subject to the policy restrictions. Smaller mini meals might be considered suitable for children given reduced portion sizes or decreased numbers of offerings, but would not be subject to an HBD policy since they are not explicitly marketed as being for children. Larger family meals that are marketed as serving multiple people could potentially provide a meal for both children and adults while similarly not being subject to HBD policy restrictions.

Illinois is one state with an HBD act that took effect January 1, 2022, requiring default beverages with kids' meals be either water, milk, or 100% juice, with nutritional restrictions for milk and 100% juice.[13] This study examined whether mini or family meal offerings or ads for mini or family meal offerings featuring specific beverage types increased in fast-food restaurants in Illinois relative to the neighboring state of Wisconsin, which does not have an HBD policy, following the Illinois HBD Act taking effect.

Methods

This study employed a difference-in-differences design comparing changes in Illinois (intervention) to changes in Wisconsin (comparison) from before to one year after the effective date of the Illinois HBD Act. Restaurants from 11 fast-food chains with locations in both states were sampled across both urban and rural areas, as described in more detail in previous work.[8,9] Restaurant audits were conducted in October-November 2021, prior to the effective date of the Illinois HBD Act, and one year later, October-November 2022.

The initial sample for the evaluation included 176 restaurants. Restaurants were excluded if the interior could not be audited at baseline because the restaurant interior was temporarily closed (e.g., only drive-thru open due to staffing shortages; 20 restaurants) or data collectors were asked to leave before they could complete the audit (one restaurant), or the interior could not be audited at follow-up because the restaurant closed permanently between baseline and follow-up data collection (two restaurants), the restaurant interior was temporarily closed (three restaurants), or data collectors were not allowed to take photos (one restaurant). This left a final analytical sample of 149 restaurants, including 75 in Illinois and 74 in Wisconsin.

During audits, data collectors took photos of the interior menu board and of any ads for mini meals or family meals. Photos were coded to determine whether each restaurant offered mini or family meals, whether mini or family meal ads were displayed, and if so, whether and what types of beverages were shown with the ads.

Difference-in-differences logistic regression models were computed with robust standard errors clustered on restaurant. Models were weighted to give each chain the same weight across each site and time point. Analyses were conducted in Stata/MP 18.0.

TABLE 1 **Prevalence of mini and family meal offerings and meal advertisements featuring soda in fast-food restaurants in Illinois and Wisconsin, before and after an Illinois act requiring healthy beverage defaults with kids' meals**

	Illinois		Wisconsin		Difference-in-Differences
	PRE	POST	PRE	POST	OR (95% CI)
Mini meal offering	24%	46%	23%	50%	0.80 (0.30-2.09)
Mini meal ad featuring regular soda	0%	25%	0%	25%	NC
Mini meal ad featuring diet soda	0%	9%	0%	4%	NC
Family meal offering	17%	18%	17%	17%	1.13 (0.89-1.43)
Family meal ad featuring regular soda	8%	9%	8%	7%	1.26 (0.80-1.97)
Family meal ad featuring diet soda	0%	6%	0%	7%	NC

CI: confidence interval; **NC:** could not be computed (difference-in-differences model could not be estimated because of 0% prevalence at pre); **OR:** odds ratio. N=75 restaurants in Illinois and 74 restaurants in Wisconsin. Difference-in-differences results are shown from logistic regression models that were computed with robust standard errors clustered on restaurant and weighted so that each restaurant chain received the same weight in each site and time point.

Results

As shown in Table 1, the percentage of restaurants offering mini meals increased in both Illinois and Wisconsin, from about one-quarter (23-24%) at baseline to about half (46-50%) one year after the Illinois HBD Act took effect, with no statistically significant difference between the changes in the two states. Correspondingly, while no restaurants displayed ads for mini meals featuring regular or diet soda at baseline, one-quarter (25%) did so for regular soda and 4-9% did so for diet soda at follow-up. There were no ads for mini meals featuring other types of beverages at either time point.

The increase in mini meal offerings was driven almost entirely by three fast-food chains that introduced mini meals in both states at follow-up. There were no or very limited changes in mini meal offerings at other chains. The increase in mini meal ads featuring regular or diet soda was driven by these same three chains as well as increases among restaurants that already offered mini meals at baseline.

Approximately one-sixth (17-18%) of restaurants offered family meals in both states at both time periods, with no statistically significant pre-post differences across the two states. While the percentage of restaurants displaying family meal ads featuring regular soda stayed nearly the same at 7-9% in both states, the percentage displaying family meal ads featuring diet soda increased slightly from 0% at baseline to 6-7% at follow-up in both states. No family meal ads featured other types of beverages at either time point.

No restaurants at either time point offered any beverages specifically labeled as child-size on their general (non-kids' meal) menu boards (not shown in tables).

Conclusion

This study found no evidence of increases in menu offerings for mini or family meals in response to the Illinois HBD Act. While mini meal offerings increased over time, this occurred to the same degree in both Illinois and neighboring Wisconsin, which did not enact an HBD policy. Given the previous studies examining changes in restaurant practices in response to the Illinois HBD Act found no change in compliance,[8,9] these results were not unexpected.

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ACKNOWLEDGMENTS

The research presented in this brief was supported by a grant (2020-85774) from Bloomberg Philanthropies' Food Policy Program (www.bloomberg.org). The contents of this publication do not necessarily reflect the views or policies of Bloomberg Philanthropies. Access to the REDCap data system was provided by the University of Illinois Chicago Center for Clinical and Translational Science (grant #UL1TR002003).

SUGGESTED CITATION

Leider J, Li M, Pipito AA, Powell LM. No Impact on Potential Kids' Meal Substitutes in Fast-Food Restaurants One Year Following an Illinois Healthy Beverage Default Policy. Research Brief No. 133. Policy, Practice and Prevention Research Center, University of Illinois Chicago. Chicago, IL. April 2024. doi: 10.25417/uic.25563591 https://p3rc.uic.edu/research-evaluation/evaluation-of-food-policies/restaurant-food-and-beverages/

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