

# An Observational Study of Consumers' Accessing of Nutrition Information in Chain Restaurants

Christina A. Roberto, MS, Henry Agnew, and Kelly D. Brownell, PhD

In this observational study, we determined how frequently consumers accessed on-premises nutrition information provided at chain restaurants. The number of patrons entering and accessing nutrition information was recorded at 8 locations that were part of 4 major restaurant chains (McDonald's, Burger King, Starbucks, and Au Bon Pain). Only 6 (0.1%) of 4311 patrons accessed on-premises nutrition information before purchasing food. This very small percentage suggests that such information should be more prominently displayed, such as on restaurant menu boards, to help customers make informed decisions. (*Am J Public Health*. 2009;99:820–821. doi:10.2105/AJPH.2008.136457)

In an effort to address the obesity epidemic,<sup>1</sup> New York City has required chain restaurants to post calorie information on menu boards and other cities and states are considering similar policies.<sup>2</sup> The primary rationale for this mandate is that Americans eat a large proportion of meals away from home,<sup>3</sup> consume excess calories in the process because of large portions,<sup>4–6</sup> and are generally unaware of the caloric content of foods.<sup>7,8</sup>

The restaurant industry strongly opposes menu labeling legislation, arguing that because restaurants already make nutrition information accessible to customers online and on premises, the cost of changing and cluttering menus is not justified. However, only about half of the largest chain restaurants make nutrition information available in some form,<sup>9</sup> and it is unclear how often customers use this information. We aimed to assess

how many restaurant patrons access on-premises nutrition information in chain restaurants. We hypothesized that a negligible percentage of consumers would access this information.

## METHODS

We chose McDonald's, Burger King, Au Bon Pain, and Starbucks to be part of this observational study. The total number of adults and children who entered each restaurant during the observation period and the number who accessed on-premises nutrition information were recorded. Children who appeared too young to understand nutrition information (e.g., babies and children in strollers) were not counted.

In an effort to sample restaurants from both urban and suburban areas, we conducted observations at 2 separate locations for each restaurant chain. Observations occurred at a McDonald's on Manhattan's Upper West Side (prior to passage of New York City's menu label law); a Burger King, Starbucks, and Au Bon Pain in New Haven, CT; a McDonald's and a Burger King in a suburb of New Haven; and a Starbucks and Au Bon Pain located inside shopping malls in 2 different Connecticut suburbs.

Nutrition information in McDonald's and Burger King was displayed on a wall poster, and the McDonald's in Manhattan, as well as both Starbucks outlets, provided nutrition pamphlets. Nutrition information at Au Bon Pain was provided via an on-premises computer. At McDonald's and Burger King, customers were categorized as accessing the nutrition information if they (1) approached the poster on the wall and turned their head toward it (because one did not have to face the poster to purchase food) or (2) picked up a nutrition pamphlet (in the McDonald's restaurant only). At Au Bon Pain, an individual had to touch the computer screen, thus turning it on. At Starbucks, a nutrition pamphlet had to be picked up.

During the observations, research personnel sat in the restaurant in a place that allowed them to count the number of people entering the restaurant and to observe who accessed nutrition information. To remain inconspicuous, observers purchased food and brought

books. All observations were performed for 1.5-hour intervals (with the exception of 2-hour intervals at Au Bon Pain in New Haven) during the following periods on a weekday and a weekend day: 8 AM to 10 AM, 11 AM to 1 PM, and 5 PM to 7 PM.

Forty-five observational intervals were completed—6 at each restaurant except for the Manhattan McDonald's (where 5 were performed) and the Au Bon Pain located in a shopping mall (where only 4 were completed because the mall did not open until late morning). All observations were conducted by research assistants blind to the study hypothesis, with the exception of the Manhattan McDonald's and the Au Bon Pain observations, which were conducted by C.A.B. and H.A. Twelve (27%) of the 45 observational intervals had 2 independent observers. Percentage agreement for total number of customers entering the store ranged from 95.08% to 100% for all of the intervals and was 100% for number of customers accessing information. When disagreement existed, a rounded average for total customers was used.

## RESULTS

Of the 1501 people who entered the McDonald's outlets, 1 woman and 1 man (0.1%) were observed accessing nutrition information prior to purchasing food, and 1 woman and 1 man accessed the information after making their purchases. Of the 482 people who entered the Burger Kings, only 2 men and 1 woman (0.6%) looked at the nutrition poster. Of the 1671 customers who entered the Au Bon Pains, 1 woman (0.06%) was observed accessing nutrition information. Finally, none of the 657 people who entered Starbucks accessed information.

## DISCUSSION

Overall, only 6 (0.1%) of 4311 restaurant patrons accessed nutrition information before making their purchases at 8 locations of 4 major restaurant chains. This finding is worrisome because people tend to underestimate the caloric content of fast-food meals,<sup>7,8</sup> which are typically higher in calories than are meals made at home.<sup>5</sup> People's inability to accurately estimate calories suggests that customers are unlikely to have looked up nutrition

information online before entering the restaurant, and some large chains fail to provide nutrition information on their Web sites. Our results indicate that if on-premises nutrition information is to affect customers' purchasing behaviors,<sup>10</sup> it must be displayed in a highly visible place such as on a menu board. ■

### About the Authors

Christina A. Roberto, Henry Agnew, and Kelly D. Brownell are with the Department of Psychology, Yale University, New Haven, CT.

Request for reprints should be sent to Christina A. Roberto, MS, Department of Psychology, Yale University, Box 208205, New Haven, CT 06520 (e-mail: christina.roberto@yale.edu).

This brief was accepted September 22, 2008.

### Contributors

C.A. Roberto originated the study, collected data, and led the writing. H. Agnew collected data and contributed to the writing. K.D. Brownell provided guidance and critical feedback on drafts of the brief.

### Acknowledgments

We thank Peter Larsen, Robin McCombe, and Kristy Brownell for help with data collection and 3 anonymous reviewers for their comments on earlier versions of the brief.

### Human Participant Protection

This study was approved by the Human Subjects Committee of Yale University.

### References

1. *Obesity: Preventing and Managing the Global Epidemic*. Geneva, Switzerland: World Health Organization; 1998.
2. New York City Department of Health and Mental Hygiene. Board of health votes to require calorie labeling in some New York City restaurants [press release]. Available at : <http://home2.nyc.gov/html/doh/html/pr2006/pr113-06.shtml>. Accessed October 27, 2007.
3. Lin B, Guthrie J, Frazao E. *Away From Home Foods Increasingly Important to Quality of American Diet*. Washington, DC: Economic Research Service, US Dept of Agriculture; 1999. Publication AIB-749.
4. Eilo-Martin J, Ledikwe J, Rolls B. The influence of food portion size and energy density on energy intake: implications for weight management. *Am J Clin Nutr*. 2005;82:236S–241S.
5. Nestle M. Increasing portion sizes in American diets: more calories, more obesity. *J Am Diet Assoc*. 2003; 103(1):39–40.
6. Rolls B, Morris E, Roe L. Portion size of food affects energy intake in normal-weight and overweight men and women. *Am J Clin Nutr*. 2002;76:1207–1213.
7. Burton S, Creyer E. What consumers don't know can hurt them: consumer evaluation and disease risk perceptions of restaurant menu items. *J Consum Aff*. 2004;38(1):121–145.
8. Backstrand J, Wootan MG, Young LR, Hurley J. *Fat Chance*. Washington, DC: Center for Science in the Public Interest; 1997.
9. Wootan MG, Osborn M. Availability of nutrition information from chain restaurants in the US. *Am J Prev Med*. 2006;30:266–268.
10. Bassett MT, Dumanovsky T, Huang C, et al. Purchasing behavior and calorie information at fast-food chains in New York City, 2007. *Am J Public Health*. 2008;98:1457–1459.