

Individual and small-chain restaurant meals exceed recommended daily calorie needs, study shows

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As the restaurant industry prepares to implement new rules requiring chains with 20 or more locations to post calorie content information, the results of a new study suggest that it would be beneficial to public health for all restaurants to provide consumers with the nutritional content of their products. Researchers at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University analyzed meals from independent and small-chain restaurants, which account for approximately 50% of the nation's restaurant locations but will be exempt from the new federal rules. They found that the average single meal contained two to three times the estimated calorie needs of an individual adult at a single meal and 66% of typical daily calorie requirements. The findings were published today in *JAMA Internal Medicine*.

Using the bomb calorimetry method, researchers analyzed 157 full meals, including side dishes, from 33 randomly selected individual or small-chain [restaurants](#) within 15 miles of downtown Boston, Massachusetts; all restaurants had an online menu but did not provide nutritional information. Researchers collected samples from the most popular [food choices](#) in the nine most common restaurant types: Mexican, American, Chinese, Italian, Japanese, Thai, Indian, Greek and Vietnamese. The study was conducted between June and August 2011. Specific meal items selected for the study were identified based on customer rankings and from [internet searches](#) for popular foods.

"On average, the meals studied contained 1,327 calories, which significantly exceeds the estimated energy needs of an individual adult at a single meal," said senior and corresponding author Susan B. Roberts, Ph.D., director of the Energy Metabolism Laboratory at the HNRCA. "Meals from all restaurant types provided substantially more energy than is needed for weight maintenance."

Nearly three-quarters (73%) of the meals analyzed contained more than half of the FDA's daily energy recommendation of 2,000 calories, and 12 meals contained more than the entire recommended daily energy intake. Among the meal categories studied, the Italian (1,755 calories), American (1,494 calories) and Chinese (1,474 calories) meals had the highest average calorie levels. Vietnamese meals had the lowest calorie levels as measured by gross energy, with an average of 922 calories. The Japanese meals had the second lowest calories, with an average of 1,027 calories.

Researchers also examined a subset of the independent or small-chain restaurant meals and found that their average calorie content was 6% higher than the stated energy contents of equivalent meals in the largest national chain restaurants; this difference was not statistically significant. On average, the [meals](#) served at independent or small-chain restaurants had 1,437 calories, compared to an average of 1,359 calories as self-reported by larger national chain restaurants. "These comparative findings suggest that both non-chain and chain restaurants contribute to the obesity epidemic, which is making people unhealthy and has a huge impact on health care costs," said Dr. Roberts, who is also a professor at the Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy at Tufts University and an adjunct professor of psychiatry at the Tufts University School of Medicine.

"National recommendations for the prevention and treatment of obesity stress individual self-monitoring of food consumption, but there is little

available information on the energy content of foods offered by restaurants that are not required to post nutrition information," said first author Lorien Urban, Ph.D., postdoctoral scholar in the [Energy Metabolism](#) Laboratory at the USDA HNRCA. "Given that an imbalance between energy intake and energy expenditure of only 100 [calories](#) per day can lead to a weight gain of between six and fifteen pounds per year, our findings suggest that routine reporting of meal calorie content by all restaurants, not just large chains, would encourage individuals to make informed choices about their diet and would discourage restaurants from offering unhealthy portions."

More information: Lorien E. Urban, PhD; Alice H. Lichtenstein, DSc; Christine E. Gary, MS; Jamie L. Fierstein, MS; Ashley Equi, BS; Carolyn Kussmaul, BS; Gerard E. Dallal, PhD; Susan B. Roberts, PhD. "The Energy Content of Restaurant Foods Without Stated Calorie Information." *JAMA Intern Med.* Published online May 13, 2013. [doi:10.1001/jamainternmed.2013.6163](https://doi.org/10.1001/jamainternmed.2013.6163)

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