

'Traffic light' food labels reduce calories purchased in hospital cafeteria

July 10 2019



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A new study by Massachusetts General Hospital (MGH) investigators released today in *JAMA Network Open*, a publication of the *Journal of the American Medical Association*, showed that labeling food choices in a

hospital cafeteria with simple "traffic-light" symbols indicating their relative health value was associated with a reduction in calories purchased by employees, and that the dietary changes were sustained over two years.

In the program, green labels indicated the healthiest foods, yellow labels indicated less healthy foods, and red the least healthy based on positive and negative criteria, including whether the main ingredient was fruit, vegetable, whole grain, and so forth, and the amount of saturated fat.

Researchers used [employee](#) ID numbers to track the purchases of 5,695 employees buying food at MGH cafeterias. After establishing a three-month baseline period, the researchers tracked purchases made after the labels were added and again after product-placement changes made healthier choices more accessible. The interventions remained in place at MGH cafeterias, and the study analyzed data over two years after the traffic-light labels were first introduced.

The researchers found that the proportion of green-labeled foods purchased increased while the proportion of the least healthy foods purchased decreased.

The current study, a retrospective analysis using newly available item-level calorie data, associated the labeling with a reduction in calories over the two-year period studied and found that the biggest calorie decreases were seen in red-labeled food purchases. "So that indicates that not only were employees' consuming fewer calories at work," said lead author Anne N. Thorndike, MD, MPH, "but also that they were improving the quality of the calories they were purchasing."

For employees who visited the cafeterias most frequently, the estimated reduction in calories equated to a [weight loss](#) of up to 2 kg (4.4 pounds) over time. However, Thorndike stressed, "this is not a [weight loss](#)

[program](#)." Data show that people gain an average of one to two pounds per year. "If a program like this could help guarantee that every adult maintained a steady weight rather than continuing to gain," she said, "we could start to reverse the [obesity epidemic](#)."

Prior research evaluating the impact of food labeling interventions on calories purchased has been either lab-based or cross-sectional, assessing a single food or meal choice. "The difference with our study is that it looked at real-world purchases by employees over several months," said Thorndike.

A third of the nearly 150 million Americans who are employed are obese, and the prevalence of obesity is increasing across all industries, including healthcare. Obesity and diet-related diseases such as diabetes and cardiovascular disease reportedly contribute to higher absenteeism and lower productivity as well as to approximately \$200 billion in healthcare costs nationwide. Employees frequently acquire meals at work, and a recent nationally representative household survey found that workplace [food](#) was high in calories from saturated fat and sugars, often consisting of items such as pizza, regular soft drinks, cookies, and brownies. Effective strategies for reducing nonnutritive energy intake during the workday could help address the rising prevalence of obesity in the United States and worldwide.

"More workplaces should be doing these kind of interventions," Thorndike said. "Wellness programs typically end after a certain period, but programs like this, that people are exposed to every day when they go to work, become part of the workplace culture. That's how you get people to make long-term changes."

Thorndike believes the labels helped employees to make the healthier choices they wanted to make. "A red [label](#) is a reminder that something is not healthy at the time you're about to make the purchase," she said.

"The labels are for people who are trying to make a healthy choice but don't have time to look at the nutrition-facts panel. They want something quick and easy so they can make the choice and get back to work."

More information: Anne N. Thorndike et al, Calories Purchased by Hospital Employees After Implementation of a Cafeteria Traffic Light–Labeling and Choice Architecture Program, *JAMA Network Open* (2019). [DOI: 10.1001/jamanetworkopen.2019.6789](https://doi.org/10.1001/jamanetworkopen.2019.6789)

Provided by Massachusetts General Hospital

Citation: 'Traffic light' food labels reduce calories purchased in hospital cafeteria (2019, July 10) retrieved 28 July 2024 from <https://medicalxpress.com/news/2019-07-traffic-food-calories-hospital-cafeteria.html>

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