Todd J.E., Mancino L., Lin B-H. *The Impact of Food Away from Home on Adult Diet Quality*. ERR-90, U.S. Department of Agriculture, Econ. Res. Serv., February 2010

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Background

What and how much we eat collectively determine not only the direction in which our nation's caloric balance tips but also ultimately micronutrient status and risk for both acute and chronic disease. Recent shifts in eating patterns favoring eating out compared to eating at home have garnered considerable attention as public health experts pursue potential targets for policies and programs designed to curb the nation's growing obesity trends. With an estimated 42% of food budgets being allocated to pay for eating out, understanding better whether these food dollars result in more or less healthful eating habits has both fiscal and health implications for the U.S. public.

Indeed, numerous studies have investigated differences in health parameters and nutrient intakes when people eat at home compared to when they eat away from home. And as expected, most have reported a relationship between eating out and higher consumption of energy, fat, saturated fat, and sodium. However, previous studies were unable to control for the many discernable and indiscernible confounding factors that influence the types of foods a particular person chooses to consume regardless of where they eat. Further, demographic variables such as obesity status and whether a person is currently on a weight-control diet might influence what he or she orders when eating out. In response to these research gaps and to examine the effect of eating out on the intake of foods known to be somewhat deficient in the American diet (i.e. fruits, vegetables, dairy, whole grains), the USDA's Economic Research Service recently published its report entitled *The Impact of Food Away from Home on Adult Diet Quality.*

Data sources and methods

Data used in this study were drawn from the 1994–1996 Continuing Survey of Food Intakes by Individuals and the 2003–2004 NHANES. Both of these federally-funded surveys collected 2 d of dietary recall data from adults representative of the U.S. population. Dietary quality was assessed using the Healthy Eating Index-2005 (HEI-2005) score, which is based on recommendations put forth in the 2005 Dietary Guidelines for Americans and accompanying MyPyramid food guidance system. For example, to meet fruit and vegetable intake recommendations and receive perfect HEI-2005 scores in this regard, adults must consume $\geq$0.8 cup (or equivalent) of fruit and $\geq$1.1 cups (or equivalent) of vegetables for every 1000 kcal in the diet. Importantly, unobservable factors influencing general food choices and diet quality were controlled for by means of a first difference estimator using data collected from each person on the 2 different intake days. The statistical effects of eating out on food intake patterns during the 2 periods of interest were then evaluated.

Findings

In general (and as previously documented), data confirm that American diets are far from those advocated, with intakes of whole grains and dark green vegetables especially low and consumption of sodium nearly 140% too high. In terms of how eating at home stacked up against eating out, the authors of the study distilled their findings down to 6 main points.

- **Eating out is related to increased calories and lower total HEI-2005 scores.** After controlling for endogeneity, eating out was associated with a 134-kcal increase in total daily energy intake and a 2-point lower HEI-2005 score. Importantly, these values are substantially lower than previous estimates that did not control appropriately for important unobservable covariates. However, not all meals had similar effects on total caloric intake; lunches, dinners, and breakfasts eaten outside the home were related to 158, 144, and 74 additional kilocalories, respectively. Snacking was found to be especially problematic in this regard. However, the researchers estimated that eating one additional "average" meal away from home each week would, at the most, translate roughly to an annual weight gain of 2 extra pounds of weight.
- **Impact of eating out is greatest for fruit, whole grain, dairy, and vegetable intake.** Eating away from home was related to relatively large negative effects on diet quality. For instance, when people ate lunch out, the "densities" of whole-fruit and whole-grain food consumed over the day decreased by 31.5 and 26.8%, respectively. Interestingly, snacking outside the home had fewer negative effects in this regard.
- **Negative effects of eating out may be waning.** When data from the 2 time periods were compared, there were several indications that some of the negative impacts of eating out on dietary quality have diminished over time. For instance, the effect of eating breakfast out on whole-grain consumption is less now than it

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used to be, likely in part because of increased availability of whole-grain breakfast choices. The exception to this was an interaction between time and eating venue on sodium intake; whereas eating out used to be related to lower sodium consumption, this relationship no longer exists.

- **Men and women are similarly affected.** Consuming lunch or dinner away from home decreases fruit and vegetable consumption in both men and women, but the effect is somewhat more pronounced in women. In contrast, whereas eating out is related to lower whole grain consumption, this effect is greater in men.
- **Weight status has little impact.** There were very few differences between healthy-weight and overweight individuals in terms of the impact of eating out on diet quality.
- **Even dieters encounter challenges when dining out.** Somewhat surprisingly, the adverse relationship between eating outside the home was greater for individuals attempting to lose weight by dieting. The authors of the report hypothesize "These differences may indicate that dieters have more trouble choosing healthy food when eating away from home or that they are more likely to splurge in a more tempting environment. Alternatively, dieters may choose the same foods as nondieters when eating out, but their food consumption at home is much healthier than that of nondieters."

Summary

This brief report provides contemporary evidence that, for the average adult, eating away from home is associated with increased caloric intake and reduced diet quality. The effects vary depending on which meals are consumed away from home. For instance, eating breakfast out was associated with decreased whole grains and dairy products and increased calories from saturated fat and added sugars. Although the effects seem to be similar between men and women and do not depend on weight status, eating out appears to be somewhat more detrimental for dieters than for nondieters. On a positive note, some unhealthy trends related to eating outside the home seem to be decreasing, perhaps in response to healthier food options and more careful food choices.

For more information

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