

Editorial

Considering the when and the where of eating

A former food writer for the *New York Times* recently described his experience testing out (and being tested by) the US Department of Agriculture's 2005 dietary guidelines¹. The Dietary Guidelines² recommend a 'balanced eating pattern' emphasising adequate consumption of a variety of fruits and vegetables, whole-grain products and low-fat milk while limiting intake of fats and sugars and engaging in regular physical activity. After two days, the writer reported¹:

[t]he guidelines were beginning to feel like wartime rationing. [The guidelines] set themselves the worthy but futile goal of imposing a style of eating for which Americans have no model. It's all very well to announce that everyone should eat five servings of vegetables a day. But where does that fit in the culinary template that Americans instinctively consult when planning a meal?

Subsequent letters in response to the article disagreed, but the honest expression of exasperation revealed in this testimony cannot be denied or ignored. The problem with our dietary guidelines may well be that we lack an attractive dietary model to strive for, making the guidelines seem unattainable.

In this issue of *Public Health Nutrition*, innovative analyses by Burke, O'Dwyer and colleagues^{3–5} take a step towards moving dietary guidelines from unattainable to within reach. Using standard 7-day food diary data from the North/South Ireland Food Consumption Survey, the investigators take a non-standard approach of focusing on time and location of dietary intake. While previous investigators have examined both time^{6,7} and location⁸ of eating, Burke, O'Dwyer and colleagues examined intake at each hour of the day and considered different types of location for eating out. This level of detail in exploring when and where we eat provides a more thorough picture of our eating habits overall.

Their hour-by-hour analysis of cereal and dairy consumption³ very nicely shows temporal patterns of consumption, with peaks of consumption at expected mealtimes. Here, seeing the same, familiar mealtime pattern across subgroups of the survey population is itself informative. That individuals in the lowest and highest tertiles of fat consumption and the lowest and highest tertiles of fibre consumption follow the same patterns suggests that people eating what might be considered a healthier diet (low in fat or high in fibre) are not in fact following some bizarre meal plan. From these data, it would appear that they eat pretty normally.

A similar hour-by-hour analysis of percentage energy from fat (Fig. 1) again shows a familiar but still revealing pattern. (Figure 1 shows data for men, but the pattern is similar for women.) The fat content of our collective diets tends to be markedly lower between 6 am and 9 am but rises steadily through the morning. It is not until about noon or 1 pm that we are ready to eat in earnest, fat-wise – noon or 1 pm, that is, if we are eating at home. If dining out, then we are ready to achieve our high-fat diet potential earlier in the day.

Dining out similarly disrupts fat intake patterns on a day-to-day level. While the contribution of fat to food energy at home hovers around 35% from Monday to Friday and rises above this only during the weekend, the contribution of fat to food energy outside the home remains consistently high (>40%) throughout the week. In other words, no matter how they looked at it, by hour or by day, O'Dwyer *et al.*⁴ consistently found a higher contribution to food energy from fat from eating out. As eating out becomes less the special occasion and more the norm, no matter how obvious or common-sense such results may appear, these findings need to be stated explicitly and loudly.

Which specific eating-out locations are of concern? The two culprits appear to be 'deli' locations, including coffee shops, delis and sandwich bars, and 'takeaway' places⁵. Consistent with research in the US on fast-food consumption^{9,10}, 'takeaway' locations appear to be the more heinous, with a mean food energy contribution from fat of 45% compared with 36% at home. And while 41–44% of home consumers adhered to a recommendation of consuming $\leq 35\%$ of food energy from fat, among takeaway consumers it was only 7%.

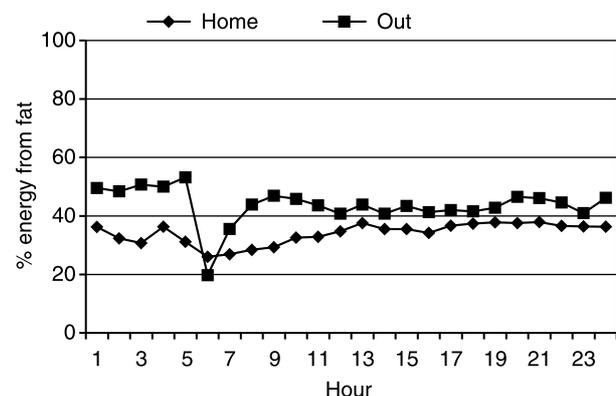


Fig. 1 Percentage contribution to energy from fat by hour of day for men (based on data in Table 2 from O'Dwyer *et al.*⁴)

Dietary habits, so familiar to us in our own lives, are notoriously elusive constructs in research. To see a dim star, we look instead at the space surrounding it. Visualising diets may call for a similar strategy. Burke, O'Dwyer and colleagues display creativity – and quite some courage, given the volume and detail of the analyses – in delving into the morass of standard 7-day record data to explore the space surrounding diets. Their analyses help us see what we eat by focusing not so much on what we eat, but in what context, when and where. Such non-standard perspectives and approaches might be a key to making food-based dietary guidelines more palatable and more attainable.

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