Food costs and healthful diets: the need for solution-oriented research and policies1–3

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The choices we make about what to eat are influenced by our social circumstances and the wider political, economic, social, and cultural environment (1, 2). Food purchasing is a major determinant of dietary intake, and a myriad of factors influence food purchasing and other upstream determinants of nutrition. However, consumer research shows that food cost is the single most important factor influencing household food purchasing decisions (3).

In this issue of the Journal, 2 articles explore the association between food costs and dietary quality. In the first, Drewnowski (4) updates analyses first conducted by Atwater in 1894, which examined the amount of energy and nutrients available in different foods for a given price (5). More than 100 y later, with the use of contemporary US food composition and price data, Drewnowski shows that foods consistent with dietary guidelines, such as fruit and vegetables, are more costly than grains, fats, and sugars. His findings are analogous to those of Atwater who reported that grains and sugars were cheaper than fresh produce. The comparison illustrates that healthful diets have been more costly than less healthful diets for well over a century.

The second article, by Bernstein et al (6), evaluates the association between spending on food and dietary quality (assessed by using the Alternative Healthy Eating Index). Their findings confirm that higher spending is associated with more healthful diets. However, differences in dietary quality were evident within each spending quintile, suggesting that improvements in diet might be achieved without increased spending. Bernstein et al recommend increased spending on nuts, soy, beans, and whole grains, at the expense of meat and dairy, but do not provide insights as to how such major dietary changes might be effected in individuals or across a population. Their assertion that there need not be any cost associated with dietary improvement belies the evidence that dietary education is costly to deliver (7).

Although different in their methodologic approaches, both studies support a substantial body of international research showing that healthful diets are more costly than less healthful diets (8–14). Far less work, however, has documented the effects of changing food pricing as a means to encourage healthful purchasing and consumption behaviors.

Strategies to improve nutrition may be considered as “agentic” (those that rely solely on individuals making or sustaining behavior change) or “structural” (those that work through changes in the wider environment) (15). Nutrition research and policies have traditionally been oriented toward individual approaches over public health strategies. However, there is growing evidence that dietary education targeted at individuals has limited benefit (7) and increases health inequalities (16, 17).

The widespread use by the food industry of pricing instruments to increase product sales (18) along with evidence of consumer price responsiveness (19) suggest that targeted food pricing (taxes and subsidies) holds considerable potential as a public health nutrition strategy. Tobacco tax regulation provides a parallel example of the effectiveness of price changes in producing changes in purchasing behaviour and, ultimately, public health.

Studies that have modeled the health and economic effects of a range of targeted food tax and subsidy instruments suggest that fiscal mechanisms could produce meaningful changes in population food and nutrient consumption and mortality (20–22). There is, however, some evidence that such regimens could be economically regressive and may not necessarily produce greater health gains in lower-income groups where the need for dietary improvement is higher (22). The recent Australian Assessing Cost Effectiveness (ACE)–Prevention study, which also used a modeling approach, recommends a tax on unhealthy foods as one of the most cost-effective strategies to reduce morbidity from obesity (7). The same study reported that most individually targeted dietary advice and weight-loss interventions have poor effectiveness, and many have high costs (7).

Experimental research also provides some evidence that lowering the price of healthful foods or increasing the price of less healthful foods shifts purchases toward healthful options (23–27), although many such studies have been undertaken in a laboratory or highly controlled settings with nonrepresentative populations. There are few examples of “real world” interventions to date, although a New Zealand trial involving >1000 supermarket customers found that a 12.5% price discount on healthful supermarket foods led to a 10% increase in combined fruit and vegetable purchases (28). A US trial also showed that subsidization of fruit

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and vegetables in 2 urban supermarkets led to increased purchasing and weight loss (29). Similar trials are underway in Australia and the Netherlands.

These real-world trials provide valuable evidence regarding the likely effect of pricing strategies on short-term dietary behavior (up to 12 mo) but do not provide indications of longer-term effects on population health and mortality. The excess burden of nutrition-related disease among less privileged groups (30, 31) also raises questions regarding whether pricing strategies are the most equitable strategies to improve population diets. The evidence base for targeted food pricing interventions and policies is therefore growing, but important questions remain.

The studies by Drewnowski (4) and Bernstein et al (6) prove that cost is a significant correlate of food purchasing. However, moving forward, more solution-oriented research is needed (32) with a focus on evaluating the effects of a range of pricing strategies on population food purchasing and consumption, health, and inequalities. Triangulation of experimental data, econometric modeling, and qualitative research offers a potential way forward. There is also a need for more robust evaluation of existing relevant fiscal policies and regulatory interventions. Such research will likely have greater direct influence on nutrition policy and practice.

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The author had no conflicts of interest to declare.

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