

“Study Designs and Analytic Strategies for Environmental and Policy Research on Obesity, Physical Activity, and Diet”

April 8, 2008, Washington, DC

Developing policy measures for obesity, diet, and physical activity

William Ascher, PhD. Donald C. McKenna Professor of Government & Economics,
Claremont McKenna College

The segment of Frank Chaloupka’s presentation on the resources for inventorying and assessing state and local policy initiatives is very helpful, because these assessments are important for identifying both ambitious, successful cases and the pitfalls of unsuccessful initiatives. Different jurisdictions actually do learn from one another; in some cases word for word adoption of state or municipal laws and regulations are borrowed.

As crucial as the broad inventorying may be, the subsequent step of more in-depth analysis of promising cases is crucial: first, to determine what is really a significant success; second, to examine the nuances of the policy process. One of the key challenges, then, is to determine the degrees of compliance and effectiveness of policies.

This cannot be determined to any degree of accuracy from the “first pass” of narrowing the set of cases for more intensive examination, but there are indicators of policies that are more likely to have “teeth,” such as the amount of time and effort that has gone into the policy (e.g., hours of hearings, number of industry group representatives and advocacy group representatives participating in lobbying, length of legislative debate, etc.), the resources devoted to enforcing the policy, and the extent of effort to have it repealed or otherwise modified.

The economists’ emphasis on benefit-cost analysis in determining whether a policy should be adopted cannot be ignored in efforts to promote healthy eating and active living. Benefit-cost analysis is increasing coming to be considered—for better or for worse—the gold standard of decisionmaking that will trump other considerations. This raises a challenge for health advocates, in that healthy eating and/or active living are often not enough in and of themselves to overcome the additional costs of improving the built environment, or the costs of increased regulation, etc., to promote healthier life styles. The response to this challenge should, in part, focus on how to a) link these amenities with others (more attractive neighborhoods, recreation for enjoyment beyond the exercise it entails, higher housing values, commercial attractiveness, etc.); and b) how to express the fact that these combinations of advantages are highly valued.

Benefit-cost analysis has three basic steps: 1) forecasting the outcomes and effects of policy options; 2) valuing these consequences; 3) applying the benefit-cost analysis *per se*, which entails monetizing these values, discounting future benefits and costs according to how far in the future they are predicted to occur (equivalent to “present value of discounted net benefit streams”), and addressing uncertainty through sensitivity analysis.

Therefore a crucial but very challenging step is to develop valuation approaches that focus not on valuing a higher physical activity level or healthier eating in isolation, but rather as components of the vehicles that provide multiple amenities *including* healthier lifestyles, but also whether these vehicles are building codes, investment decisions, subsidies to encourage supermarkets to offer fresh fruits and vegetables, decisions to build parks, school guidelines, or other policies.

In conducting valuations, epidemiologists tend to focus on demonstrable health effects, perhaps acknowledging this can be monetized through medical-treatment costs, days lost to illness, or even the “value of human life.” The economist’s view is potentially broader: they define value as what people value to the degree that they are “willing to pay” to gain the valued outcome, or “willing to accept” to agree to sacrifice a valued outcome already gained. While this idea of value as what people are willing to pay is uncomfortable for many people (e.g., because it is rooted in preferences rather than intrinsic merit). “economic valuation”—if done properly—has great virtues:

- It can bring the weight of other goals to reinforce the attractiveness of vehicles that also promote health improvements;

“Study Designs and Analytic Strategies for Environmental and Policy Research on Obesity, Physical Activity, and Diet”

April 8, 2008, Washington, DC

- It feeds the benefit-cost analysis in ways that are likely to be *perceived* as rigorous (despite the fact that every valuation approach, like any measurement, rests on assumptions that in many contexts will not be fully accurate).

Different valuation approaches have different strengths and weakness:

- *Revealed preference* approaches (such as hedonic pricing and the travel-cost method) rely on actual purchases to determine how much people value particular amenities that are bundled with other things. For example, an application of hedonic pricing would be an analysis of house prices, to determine to what degree a home near a park would fetch a higher price than those further away from the park. Yet because each house would also command a higher price if it is larger, in a safer neighborhood, etc.), regression analysis is used to tease out the additional value (willingness to pay) that each amenity accounts for. Thus the park—for its aesthetics, picnic facilities, as well as its physical activity opportunities—will be valued, and this can be used to lobby for adding more parks. The travel-cost method examines how much people are willing to pay to travel to and enter parks, trails, recreational facilities, etc., and then compare the costs of alternative destinations to tease out the willingness to pay for particular attributes.

Revealed preference approaches are typically considered to be the gold standard in valuation, because they base their estimates on “real” behavior. However, the regression results are only as good as the analyst’s model (e.g., should it be linear, logarithmic, curvilinear) and the completeness and accuracy of the variables and data that do into it. Furthermore, because they rely on private consumption decisions, they do not capture “public-regardedness”, i.e., the willingness to pay to provide the opportunity for others to enjoy the amenities. E.g., you may not be interested in traveling to a park, or living near it, but you may still be willing to pay a higher tax so that your community could enjoy it.

- *Stated preference* approaches rely on survey responses to determine how much people are willing to pay or accept. The questions can be framed as if an actual referendum were being held. Stated preference approaches capture the full range of what people actually consider (including public-regardedness) insofar as people give honest answers. In addition, if the stated preference approach asks people why they are willing to pay or accept a given amount, the responses can be enlightening in terms of which aspects of the proposed initiative are most important.

The main limitation of stated preference approaches is that they rely on responses to hypothetical questions, and therefore there may be a tendency of respondents to exaggerate their willingness to pay either to appear to be more in favor of a “good” initiative”. Several techniques, such as conjoint analysis (i.e., giving respondents paired choices from which to select) can reduce this potential bias, but the issue of the hypothetical nature of the approach has deterred many from using it. Another criticism is that stated preferences can vary according to how questions are framed and how much information is provided. Yet there are approaches to providing sufficient information to make respondents adequately aware of the implications of the initiative.

- *Referenda or citizen-initiated ballot measures* can reveal how much the voters in a particular community have actually committed to pay. That is, a successful referendum for creating a park, or banning unhealthy foods in a school at some greater expense to purchase healthier foods, can reveal the community’s formal preference *as a community*. It may not say much about the aggregate valuations held by the population as a whole, especially since typically the voter turn-out is low, but these outcomes have their own standing as the community’s decision. One criticism of using referendum or initiative outcomes as indications of public preferences is the fact that they do not reflect everyone’s preference. On the other hand, the choice of not voting can be regarded as disinterest and a decision not to express a value. The second criticism is that the campaigns for or against the proposals may distort information in order to make their cases. Yet this criticism presumes that there is an intrinsic value that people hold, despite the fact that we are always in a stream of communications intended to persuade us to prioritize particular values. If there is no intrinsic or primitive valuation of amenities, the outcome of a referendum or initiative is as valid as any other expression of preference, and has formal standing as well.

**“Study Designs and Analytic Strategies for Environmental and Policy Research on Obesity,
Physical Activity, and Diet”**

April 8, 2008, Washington, DC

The main take-away point is that promoting healthy lifestyles through policy requires posing the relevant measures not only in terms of health, but also in terms of the bundles of amenities that such measures as building parks, changing zoning to permit activity-friendly cities, subsidizing healthier foods, etc., provide. Putting the public's value of these vehicles in the broadest terms will boost—in an entirely genuine way—the policymakers' appreciation of adopting these measures. Through a variety of valuation techniques, these benefits can be monetized so that they can be incorporated into more compelling benefit-cost analyses.

Ascher, William and Toddi Steelman,. 2006. “Valuation in the Environmental Policy Process” *Policy Sciences*, 39(1)(March).

Freeman, A. Myrick 2003. *The Measurement of Environmental and Resource Values, 2nd Edition*. Washington, DC: Resources for the Future.

Shabman, Leonard and Kurt Stephenson. 1996. “Searching for the Correct Benefit Estimate: Empirical evidence for an Alternative Perspective,” *Land Economics* 72: 433–449.