# How Can Economics Advance Prevention?

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The British economist Lionel Robbins once described economics as the study of "human behaviour as a relationship between ends and scarce means which have alternative uses."[1] Those "ends" include health and those "means"—woefully scarce—include the money and time of public health departments as well as of the populations they serve. Public health and prevention policymakers are endlessly engaged in choosing among the alternative uses to which these scarce resources must be put. Economists can help them make those choices, and economic insights can, thus, increase the level of population health generated with those scarce resources. Below, the authors discuss ways that economic analysis is used in public health and prevention policymaking, and ways that these analyses could be more effective in the policymaking process.

Economics can contribute to wise population health policymaking in several ways. Most obviously, economists can formally model the costs and benefits of alternative prevention policies at the societal level. Economic assessments of societal costs and benefits are likely to be most persuasive when they directly consider alternative choices for deploying resources. Resources of all sorts, including the time and attention of policymakers, are in short supply. Many preventive interventions meet standard cost–benefit criteria, but policymakers cannot pursue them all and must prioritize. Economic research may lead to change more effectively if it is explicit about the opportunity costs for society and different stakeholders of choosing one path over another. The U.S. Food and Drug Administration's decision to fortify cereal grains with folic acid rather than relying on education and supplementation was informed by an economic evaluation formally comparing these specific options.[2]

Health economists often conduct cost-effectiveness analyses, which are useful in assessing the relative merits of different health-related programs. Formal cost–benefit analysis, which requires monetizing both tangible and intangible benefits, can also be used to compare health and non-health programs. Economic methods for monetizing non-tangible benefits are widely used in other arenas. For example, economic analyses of environmental policies consider the intangible benefits people obtain from green space and parks, the costs of pollution on health, and the costs of rising temperatures on productivity[3–5] For example, the Washington State Institute for Public Policy has conducted cost–benefit analyses of many prevention programs, allowing policymakers to compare them directly to non-health programs (for example, www.wsipp.wa.gov/BenefitCost/Program/412).

Most economic research in public health and prevention has consisted of analyses of this type—assessing the societal cost effectiveness of alternate strategies. Economic theory, codified in the work of the Panel on Cost Effectiveness in Health and Medicine, clearly indicates that the societal perspective is indeed the right one to consider in comparing and assessing policies.[6] The societal perspective recognizes that most policies generate both benefits and costs, winners and losers. An intervention that is socially cost beneficial is one where the benefits exceed the costs, where the winners could (hypothetically) fully compensate the losers. But economic analyses in public health and prevention could be even more powerful by recalling other fundamental disciplinary insights. Economics recognizes that human behavior, in balancing ends and means, depends not (only) on the societal good but also on the incentives facing each specific actor. Economists can play a valuable role in decomposing the costs and benefits of alternative actions among actors. Decomposing societal gains among winners and losers yields insights into choices among priorities and among methods. A government agency may choose not to pursue a highly societally beneficial intervention if the costs will be incurred in its budget while the savings accrue to a different agency. A recent analysis of how free transit passes could increase school attendance and graduation rates illustrates how trade-offs between expenses borne by a transit agency could be offset by income from increased school attendance.[7]

The potential mismatch between societal benefits and individual incentives suggests three further steps. First, economists can help lay out the business case for a practice for each of the key players. For example, HealthPartners, a Minnesota-based health plan, built a business case for

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engagement in a broad range of community health activities including improving the social and physical environments.[8] Second, economic analysis can provide information about the size and direction of cross-agency or actor payments that might be needed to compensate losers.[7] These payments might take the form of budget adjustments across agencies, or of subsidies or taxes in the private sector. Third, this decomposition also reveals the incentives facing different actors in the system and may lead to changes in the design of these incentives.

Economic analysis of policy often focuses on the design of incentives. Economic research examines how changes in prices—for example, taxes on cigarettes—lead to changes in behavior by altering the incentives faced by purchasers. Most recently, a new branch of economic research, behavioral economics, has integrated insights from psychology into this focus on incentives. By taking into account the way people consider wins compared with losses, how they deal with active compared to passive decisions, and how they prioritize or procrastinate over time, behavioral economics has led to improvements in the design of incentives to lose weight and quit smoking. Incorporating a behavioral economics approach into prevention policymaking may allow policymakers to generate more benefit with the same cost.[9–11]

Finally, economics can also contribute to public health and prevention by pushing the empirical basis of decision making forward. Economic policy, like public health policy, addresses the behavior of populations and the complex interactions of programs, policies, and systems that affect health. Population-oriented policies, systems, and programs exist within complex social contexts, making them challenging to evaluate through the RCT methods that are the gold standard of medical research. Economics has refined an extensive toolkit of methods for evaluating them without RCTs. These methods include an array of quasi-experimental methods (often borrowed from epidemiology) that can be used to draw causal inferences about policies in situations where it would be difficult to design and implement ethical, generalizable, large-scale trials.[12] Economists working in public health and prevention have also contributed to the design of simulation models. Well-designed simulation models can be used to forecast the implications for costs and benefits of changes in policy, where the empirical evidence base is limited to surrogate endpoints. Prevention Impacts Simulation Model for Chronic Disease Policymaking, for example, is a practical tool for communities and decision makers to assess the health impacts and costs of clinical, behavioral, social, and environmental interventions to reduce cardiovascular disease.[13]

As public health returns to its historic roots and increasingly addresses the socioeconomic and environmental determinants of health and health disparities, economic tools can play a critical role in identifying and choosing effective and cost-effective strategies to tackle some of society's most fundamental problems. Even within the medical model of public health practice, the need to understand health and healthcare systems and how best to allocate scarce resources requires economists to apply the full range of their methods and skills to assure scarce resources are used wisely.

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