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PAYING FOR PERFORMANCE: THE POWER OF INCENTIVES OVER HABITS

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Abstract

New evidence suggests that individuals do not always make rational decisions, especially with regard to health habits. Smoking, misuse of alcohol, overeating and illicit drug use are leading causes of morbidity and mortality. Thus, influencing health habits is critical for improving overall health and well-being. This editorial argues that economists should take a more active role in shaping individuals' health habits.

Two recent innovations in economic theory pave the way. One change is that some economists now view rationality as bounded and willpower in short supply. Another, related to the first, is a more accepting perspective on paternalism, authorizing economists to help individuals make better choices when the neoclassical model breaks down. Findings from psychology offer incentive-based approaches; specifically, contingency management (CM). Economists could use this approach as a basis for developing public and private policies.

CARROT AND STICK

Traditionally, economists have thought that the government should only influence health habits by correcting externalities, providing information and protecting youths. In response, governments primarily tax, regulate and inform with regard to alcohol, smoking and illicit drugs. For example, taxes on alcohol have been justified by externalities associated with its misuse. Likewise, drunk driving is regulated because of its obvious external costs and illicit drugs are banned in part because of drug-related crime. Even the recent increase in smoking bans in public places is a result of new evidence on the negative externalities of second-hand smoke. Information on the harms of smoking has been widely disseminated. Although taxes, regulations and provision of information have all been found to be effective, many people still misuse alcohol, are addicted to drugs and smoke. Obesity is rapidly spreading around the world. New ways are needed to help individuals when they wish to change their health habits but lack willpower. For example, in the US at least, most adult smokers wish to quit but many cannot despite repeated efforts.

In contrast to the long-standing study of taxation, regulation and provision of information, economists have devoted far less attention to the use of positive incentives. There is a growing body of psychological research indicating that positive incentives are effective in reducing drug use and smoking. However, most of these studies are small, non-generalizable clinical trials. Economists can develop and expand the use of these incentive protocols into population-based policies for both private and public sectors. These positive incentive systems have much to offer: they are more flexible and less heavy handed than regulations and outright bans. They also preserve freedom of choice so that individuals who are happy with their current behaviors can remain unaffected. However, when turning these clinical trials into policy, economists will need to grapple with concerns about fairness, funding and durability of impact.

EFFECTIVENESS OF THE CARROT

Many addiction studies demonstrate that relatively small monetary incentives to abstain from drugs are effective motivators for changing drug habits (Lussier *et al.*, 2006). These CM studies often use an escalating reward structure to motivate sustained periods of abstinence. For instance, a clinical trial of CM might test users twice a week and upon each contiguous abstinence, increase the reward by $2. If the user fails the objective test, the payment is set back to zero. Such CM programs have been effectively applied to a variety of drugs from tobacco to heroin.

Economists should find these incentive-based systems of interest. CM can be used to examine how changes in behavior vary by reward system. Studies have analyzed the optimal payment size and schedule (e.g. escalating or flat), what type of payment works best (e.g. monetary or goods) and the use of lottery systems versus guaranteed rewards. For example, some studies varied the expected values of the reward based on both the probability of drawing a prize from an urn (versus drawing a 'good job try again') and the value of the prize (Sindelar *et al.*, 2007).

Concerns about CM include cost, cost-effectiveness, financing, fairness and durability of the treatment. Costs and cost-effectiveness are particularly relevant because most addiction treatment is publicly financed and these systems are already financially strapped (Sindelar *et al.*, 2007). Furthermore, the issue of fairness arises as the government would be paying some people to abstain from drugs, while others abstain but do not get paid. Also, although CM has been shown to produce outcomes that are significantly better than alternative treatments, they are far from a cure. In addition, there has been neither a full investigation of the durability of CM after the reinforcement stops nor concerted efforts to develop mechanisms for aftercare. These are relevant concerns that economists could analyze and address.

Incentive-based payments have been recently developed to influence other behaviors as well. Based on the effectiveness of PROGRESA in Mexico, countries in Latin America and elsewhere have adopted conditional cash transfer programs to lift people out of poverty. In these programs, cash is given conditional on achieving desired behavior, for example, attending school. In New York city, Mayor Bloomberg established a charity-funded conditional cash transfer pilot program also aimed at reducing poverty.

CHALLENGE TO TRADITIONAL ECONOMIC THEORY

Small payments conditional on drug abstinence are surprisingly powerful motivators of change, sometimes even overcoming long-standing addictions. Interestingly, even at high discount rates, these rewards pale in comparison with the potential gains to cessation including increased productivity, better family functioning and reduced risk of disease (e.g. STDs, hepatitis C and HIV/AIDS) and death from overdose. The present discounted value of money saved from not spending on drugs alone would be of greater value than the incentive payments; these would persist in perpetuity. Illicit drugs are expensive. Cigarettes are much cheaper, but at $5 a pack, a two pack a day smoker could save $70 per week by quitting. It may be the saliency, immediacy and certainty of the payments contingent on the change in the behavior that give power to the small incentives. It could be the increasing price of using or the message framing of the protocol that also affect outcomes. These factors are not considered in neoclassical economic models of decision-making and their impact pose a challenge to economic theory of behavior.

Behavioral economists are addressing some of these challenges to traditional utility maximization, emphasizing that some individuals have limited cognitive abilities, poor decision-making skills or low self-control. Further, individuals may not discount according

to classic economic theory but may instead be present biased. That is, they may pursue immediate gratification instead of choosing behaviors that *they* would favor using their own long-run preferences. One overarching conclusion that comes from this literature is that not all people make decisions in their own best interest all the time. Economists have long thought that individuals may not be properly informed. However, beyond information gaps, individuals may not be good processors of information or may not have the willpower to stick to decisions. For example, many smokers wish to quit, have tried but failed and support higher cigarette taxes as a motivation to quit (Gruber and Mullainathan, 2005).

In light of the increasing evidence from behavioral economics, several recent articles argue in support of a more expansive role for economics in helping individuals' make good decisions. 'Libertarian paternalism', 'optimal paternalism' and 'cautious paternalism' have been promulgated by prominent economists (Thaler and Sunstein, 2003; O'Donoghue and Rabin, 2003; Camerer *et al.*, 2003). However, in most situations, individuals can make decisions for themselves better than others could. Therefore, economists must expand their role judiciously and rely on flexible, non-coercive approaches. A central challenge to economists is to determine their comfort zone for influencing behavior somewhere between overly paternalistic approaches and recognizing that many people would like to make better decisions and would appreciate, and even be willing to pay for help.

ECONOMISTS' EXPANDED ROLE

Economists have the analytical methods to develop new and better incentive-based policies. Economists need first to determine which situations merit intervention based on evidence of poor decision-making and low willpower. Health habits are likely candidates. Financing could be an obstacle to implementation both due to concern about fairness and scarcity of public funds. However, economists frequently develop solutions to such issues. For instance, if it is considered unfair for the government to compensate only those who make poor decisions, programs could be privately funded. Employers could invest in these programs, as they could reap the benefits of lower health-care costs and greater worker productivity. As a funding and precommitment device, individuals could post a bond and earn back their own money. As witnessed in the weight loss business, individuals are willing to pay for help. On the other hand, the negative externalities of greater Medicaid and Medicare expenses due to poor health habits could warrant the government paying for covered individuals.

Positive incentive schedules have been shown to influence behaviors in clinical trials but have not been developed into population-based policies for governments, employers, individuals and families. To be effective and cost-effective, they must be structured optimally, funded appropriately and aimed at preserving flexibility of choice. The rigorous analytical methods of economics can be applied to understand these issues better and to develop effective programs and policies. Economists could cautiously take a more active role in shaping individuals' health habits.

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