

REVIEW

Make the healthy choice the easy choice: using behavioral economics to advance a culture of health

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Summary

Despite great advances in the science and technology of health care, a large gap separates theoretically achievable advances in health from what individuals and populations actually achieve. Human behavior sits on the final common pathway to so many of our health and health care goals, including the prevention and management of illness and the fostering of well-being. Behavioral economics is a relatively new field offering approaches to supplement many of the conventional approaches to improving health behaviors that rely on education or standard economic theory. While those conventional approaches presume that an educated public will naturally make decisions that optimize personal welfare, approaches derived from behavioral economics harness existing and predictable patterns of behavior that often lead people to make choices against their best interests. By keeping these predictable patterns of behavior in mind when designing health insurance, health care programs or the health-related aspects of everyday life, behavioral economists aim to meet people half-way: no longer asking them to reshape their behavior to something more health promoting, but helping the behavioral patterns they already follow lead them to better health.

Tobacco use, physical inactivity, unhealthy diet, alcohol over-use and other individual behaviors are estimated to underlie 40% of premature mortality in the US.¹ Approximately 75% of the \$3 trillion currently spent on health care in the US is attributable to cancer, heart disease, Type 2 diabetes, and obesity and each of these conditions is strongly influenced by behavior. One year following myocardial infarction, about half of patients prescribed medications to lower their cholesterol have stopped taking them—even when those drugs are provided free.² Despite great advances in the science and technology of health care, a large gap separates theoretically achievable advances in health and health care from what individuals and populations actually achieve. Human behavior sits on the final common pathway to so many of our health and health care goals.

Some of this gap could be spanned by systematically incorporating insights from behavioral economics into the design of health plans and health care services, and into the choice architecture of the home, work, school and other social environments in which people live their lives. Behavioral economics is a relatively new field that aims to understand and influence human behavior. Models of human behavior supporting traditional economics presume that individuals are perfectly rational decision makers vigilantly seeking to maximize their success. Such models have difficulty explaining why so many people surviving a heart attack fail to take medications able to reduce the chances of having another heart attack. In contrast, behavioral economics reflects the observation that we often deviate from this perfect rationality—but because we often do so

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in highly systematic and predictable ways, we can develop strategies that anticipate and at times harness these very errors to get us back on track. In this essay, we describe some of these behavioral biases and illustrate how they can be used to modify health plan designs, incentive programs and choice environments to make the healthy choice the easier choice.

A brief description of behavioral economics

Behavioral economists have proposed an *asymmetric paternalism* approach to public policy.^{3,4} This approach is paternalistic in the sense of attempting to help individuals achieve their own goals, in effect protecting them from themselves, in contrast with conventional forms of regulation designed to prevent individuals from harming others. Asymmetric paternalism differs from 'heavy-handed' paternalism in attempting to protect people without limiting freedom of choice. It is asymmetric in the sense of helping individuals who are prone to making irrational decisions, while not restricting the freedom of choice of those making informed, deliberate decisions. For example, arranging the presentation of food in a cafeteria line so that the healthy foods appear first is likely to increase the amount of healthy food chosen, without depriving those who want the unhealthy foods of the opportunity to purchase them.⁴ People who believe that individuals behave optimally should not object to asymmetric paternalism, because it does not limit freedom, whereas those who accept the limits of human rationality should endorse such measures, because they reflect gentle redirection around those limits.

Whereas traditional economics justifies seemingly poor decisions as reflections of some implied but hidden rational choice, behavioral economics sees our seemingly poor decisions as errors. Many of us have trouble dieting, exercising and saving money and are prone to procrastination even when the cumulative consequences are severe. Many commercial enterprises exploit these decision errors.⁵⁻⁷ Credit card companies and automobile manufacturers lure new customers with '\$0 down' and fleeting but tempting teaser rates of '0% interest', playing on the common propensity to focus on the present rather than on the future. Banks earn revenue by charging high fees (generally not prominent in program descriptions) for minor mistakes such as account overdrafts or breaches of minimum balance rules. States market lottery tickets that return pennies on the dollar and promote these games in ways that ignore more realistic expectations using one-sided messages such as 'you can't win if you don't play' rather than, e.g. the equally accurate message, 'you can't lose if you don't play'.

The promise of behavioral economics for population health is that many of the same messages, incentives and choice structures used so effectively to lure people into situations where they may be exploited can be redirected to attract them to healthier choices that improve their well-being. Decision errors affect policy makers as well, with broader ramifications for the types of policies that are developed and adopted.

A common misconception is that if you deploy financial incentives in order to promote behavior change, then you are doing behavioral economics. But that kind of activity is not behavioral economics; it is economics. Indeed, a large number of everyday transactions such as being paid to go to work or getting a fine for parking in the wrong place reflect traditional economic incentives to encourage or discourage certain behaviors. In distinction, a central lesson from the field of behavioral economics is that *how incentives are delivered can matter more than their objective magnitude*.^{8,9} There are ways of delivering large

incentives that make them ineffective in changing behavior but other ways that greatly magnify the effectiveness of small incentives. This observation is a source of optimism, implying that with careful design we can leverage relatively small investments to improve health.

For example, traditional economic thinking is silent on the power of the default option—the path that is 'selected' when no selection is made. And yet the choice of the default represents a powerful way to guide behavior without restricting choice.¹⁰⁻¹² Defaults have been blamed for a wide range of suboptimal outcomes, from the failure of employees to put aside retirement funds in companies whose default contribution rate is zero,¹³ to suboptimal allocation between investment alternatives,¹⁴ to excessive consumption of French fries and large sodas as part of 'supersized' meals at fast-food franchises.^{15,16} In western European countries that have 'opt-in' policies for organ donation—i.e. the default is nonparticipation (as in the USA), donation rates tend to be in the range of 10%. In contrast, in countries with 'opt-out' policies, in which citizens are automatically enrolled as organ donors unless they actively choose not to be, organ donation rates are often close to 99%.¹⁰ Defaults have been shown to increase the rate at which patients with terminal lung diseases choose comfort-oriented plans of care,¹⁷ and they could be used more widely to encourage the choice of beneficial health options.

A choice architect (the person who makes decisions on how choices are presented to the end user) can tactically utilize defaults such as changing scheduled automatic prescription refills from 30 to 90 days (or longer) for patients requiring chronic-disease therapy or changing the default option in fast-food restaurants in combination meals from getting French fries unless you ask for carrots to getting carrots unless you ask for French fries to help propel people toward self-beneficial behaviors.^{15,16} Such approaches cost nothing, since a default has to be set one way or another, preserve freedom of choice, and could change behavior substantially. No doubt we miss out on many opportunities to nudge people toward healthier lifestyles because we have not considered the default option as a tactical choice to be actively incorporated into an overall health promoting strategy.

Shifting plan designs to focus on value

A surprising and unfortunate feature of many health insurance plans is that they require patients to pay for, and hence discourage the use of, a number of high value elements of care, such as treatment of hypertension or screening for colorectal cancer, approaches that are widely seen as worth their cost and also not the kind of things that are likely to be overused. By requiring consumers to pay 'first dollar' for initial health expenditures, high deductible (also known as 'consumer-driven') insurance plans are intended to make consumers more cost-conscious—to make them better shoppers for health care services. However, as the RAND health insurance study famously showed,¹⁸ and more recent research reinforces,¹⁹ while high deductible health plans generally do lower spending by patients, they are as likely to discourage high value as low value services. Lacking expertise about what tests or services are of high or low value, as well as information about the relationship between price and quality, participants in such plans are discouraged from spending on all tests and services, including those of high value—in effect throwing the baby out with the bathwater.

Value-based insurance design (VBID), which involves discounting or making free to the patient services that are deemed to be high in value, is an attempt to sharpen the blunt

incentives that apply similar amounts of cost-sharing regardless of value. VBID was inspired by research showing that raising copays significantly reduced use of services, but also that such reductions in use ultimately raised costs when the activities that were reduced had long-term benefits.¹⁹ Reversing this thinking, it seemed natural that lowering the cost of high value activities, such as medications for chronic conditions, could increase adherence and lower long-term costs.

Unfortunately, however, VBID has generally delivered only modest improvements in adherence. The economic impact of VBID from the perspective of the payer depends on whether it can improve the adherence of enough people who were previously non-adherent to economically justify the loss of the copayments from those who are already adherent. Although some experimental tests of VBID have found that copayment reductions increase adherence, those effects have been modest at best—e.g. increases of 3–6% points^{2,20,21}—perhaps because of what we have termed the ‘dog that didn’t bark’ problem.²² Those who are non-adherent do not notice that their copays have diminished because they aren’t utilizing (and thereby not paying for) the service.

Indeed, one of the valuable lessons from efforts to introduce VBID has been the reminder about the asymmetry of the forces that surround patient engagement. At first it might be reasonable to assume that lowering copayments will create effects equal and opposite to increasing copayments—an expectation we might derive from standard economic thinking. In contrast, the expectations we might derive from behavioral economic thinking are that framing matters and that losses loom larger than gains, leading to a prediction of what in fact we observe, which is that raising and lowering copayments do not have opposite effects that are similar in magnitude.

Beyond this insight from behavioral economics is the additional recognition that people who would be deterred by rising copayments are different from people who might become adherent with lowered copayments—because the first group consists of those who take their medications and the second group consists of those who do not. Those two groups may differ in many ways in addition to their tolerance of copayments.

Given these considerations, efforts to increase use of high value services are unlikely to be achieved by reduced copayments alone—because copayment reductions are unlikely to reach the populations who are currently not using services, because carrots are not as potent as sticks, and because some reasons for underuse of high value services may be unrelated to cost sharing. Nevertheless, these efforts may be worthwhile because modest effects are better than no effects at all, and they are consistent with health goals. After all, we want people with diabetes to take their insulin, and so why should we place any barriers between intentions and goals in such a case? We should simultaneously increase cost sharing for low value services in order to discourage their use, an approach more effective than the reverse. Increasing cost-sharing for low value services has the additional advantage that it frees up resources that could facilitate greater use of high value services, creating a better match between dollars spent and the production of health.

Conditioning insurance premiums on health behaviors

Patient costs can be conditioned on health behaviors not just through adjustment of copayments, but also through the

adjustment of premiums. Section 2705 of the ACA allows employers to put up to 30% of the total of employer plus employee premiums at risk for financial incentives tied to clinical outcomes like blood pressure, cholesterol, and body mass index. Up to 50% can be put at risk if the programs include smoking.

This authority potentially puts an enormous amount of financial leverage into the hands of employers to advance employee health outcomes. But whether Section 2705 turns out to be beneficial hinges critically on how easily people can change their behavior in response to money.²³ Will the promise of large premium reductions or the threat of large premium increases, in fact, lead smokers to quit and obese people to lose weight? To the extent these efforts succeed, then the act could benefit those with the unhealthy but changeable behaviors leading to those outcomes. Since many of these behaviors and outcomes tend to concentrate among those with lower social status, effective programs could ameliorate some health disparities and be seen as progressive. However, if success in changing behavior is modest, the legislation will have a largely opposite result: poorer and less healthy people will find themselves paying more for health insurance with little in health improvement to show for it. In that case, the regressive nature of these provisions is likely to dominate their overall impact.

For these reasons, the design of these programs will determine whether they are progressive or regressive because a key lesson from behavioral economics is that the design strongly determines whether incentives are effective in changing behavior.²³ For example, an employer could offer a reward to all employees who achieve a BMI of less than 25. Such an incentive is likely to motivate weight loss among those whose BMIs are close to 25. Those individuals see the goal as attainable. The same incentive is unlikely to help those with a starting BMI of 35 or 40. They likely see themselves as too far from the target and might see the incentive as demotivating—as if their quest is hopeless.

Chances are that our goals are the other way around: we are likely better off getting those with a BMI down from 35 than others down from a BMI of 26. A different design might offer incentives for losing 5% of body weight for any BMI over, say, a threshold of 25. A target like that might actually be easier for those at higher weights.

Separate from how the target is set, employers have latitude in how they pay the incentives, and that format might also make a difference. It is operationally convenient for employers to bundle incentives or penalties into paychecks and insurance premiums and our experience is that almost every employer does it that way. It makes sense—after all, the paycheck is the main way that money moves from employer to employee and benefit costs are already taken from gross payments. But these approaches unfortunately make these incentives less salient and visible, reducing their emotional potency. Even an incentive as high as \$500 a year works out to about \$20 each biweekly pay period, and there it’s typically directly deposited, never reviewed and, even if reviewed it is cast against much larger amounts like tax withholding or other payroll deductions. An incentive that is fractionated into pay periods and hidden from view is weakened. It is plausible that half the incentive, delivered all at once in 5 crisp \$50 bills, might be more potent a motivator. Employers have these choices within reach as well, if they think beyond the mere economic value of the incentive and toward the way it is felt.

Modifying choice environments

In many contexts, the default is not the healthy choice. In cafeterias or grocery stores, where a food item is placed influences

the likelihood of its being chosen. In a grocery store, this is typically at eye level, in a cafeteria in the middle of the room and near the cashier's desk. There is no escaping that someone (the 'choice architect' or in this case the manager of the grocery store or cafeteria) has to decide which food to place where. They can place the healthy food in the prime position, the most profitable food in the prime position or do it at random. A profit-motivated enterprise, like a grocery store, ought to feature the high profit items in the prime position, regardless of their contribution toward or against health. But in countless school and employee cafeterias, this approach could be used to feature healthier alternatives and improve healthy consumption. Even schools or offices unwilling to completely remove the less healthy items from the menu might be willing to relocate them to less prime locations where our existing habits help us bypass them.

Alternatively less healthy food can be taxed to a greater degree as is now being done with sugar sweetened beverages in Berkeley, Philadelphia and the Navajo reservation, and healthy food could be subsidized using revenues from the 'junk food taxes' to lower prices. And while portion sizes have climbed over the past few decades, now more health conscious consumers are paying extra to buy lower calorie per unit price items. As the supply for these items increases, presumably the price should also decline.

Moving beyond education

An important characteristic of all of these interventions is that they are not based on education. For example, they do not rely on communicating the connection between calorie consumption and weight gain. That approach makes sense if people typically act in their own best interests and do not already know that high calorie consumption supports obesity—two conditions unlikely to be true. Calorie labeling makes more sense, because people might genuinely not know that a blueberry muffin could have 600 calories. But even calorie labeling has not consistently led to reductions in calorie consumptions by consumers,²⁴ although it has potentially led to the shift in a supply response oriented towards producing less calorically dense food.

Many public health initiatives rely on helping people understand the health consequences of their decisions with the hope they will thereby make better ones. While there is value in promoting a health-informed public, so many of our decisions are made 'without thinking'. And so, rather than rely on education to change thinking, behavioral economic approaches hitch a ride on the ways people already make decisions, effectively bypassing the cognitive gymnastics of traditional models of behavior change.

There is broad recognition that health is substantially determined by the natural environment, the built environment and the social environment. Once you recognize the choice environment running through all three of these, new opportunities to advance a culture of health present themselves. When stairs are hard to find but elevators easy to find, the path of least resistance drives us away from physical activity. Thirty day prescriptions for chronic medications present three times the opportunity for failure to fill as 90 day prescriptions.

Conclusion

So many of our conventional approaches to changing the culture of health involve, on some level, trying to convince people

that the healthy life is their decision, and one they should choose. But personal change is hard. The offer of behavioral economics is to meet people half way. Rather than just aiming to reshape people's behavior to something more health promoting, behavioral economics aims to reshape their context so their existing patterns of behavior are more health promoting. Changing the culture of health may not be easy, but we can advance the goal by modifying health plan designs and choice environments in systematic ways to make the healthy choice the easy choice.

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