



CHAPTER TWO



HEALTH

PROBLEMS

- Many people are currently overweight or obese
 - This chronic disease is the leading cause of death and disability.
 - Affects a person's ability to work, causing financial strain etc.
- What is the reason?
 - Societal factors and structures, genes, the environment
 - **+ Behavior choices**
- The health harms from smoking, obesity, and low rates of engagement in areas such as medication non-adherence can be ameliorated or reversed.

UNSUCCESSFUL ATTEMPTS

- Conventional wellness programs
 - rely heavily on education and financial incentives.
 - intuitively appealing but achieve less success than new, practical approaches derived from behavioral economics.
- Education alone doesn't work.
 - If we tell people that smoking is dangerous, they will stop.
 - If people are informed about the benefits of exercise, they will go for a run. Really?
 - Health education is critically important, but if we devote resources to educating people about what they already know but don't do, we may overlook more practical solutions.

UNSUCCESSFUL ATTEMPTS

- The use of financial incentives
 - Targets behavior rather than knowledge
 - It is more effective at changing behavior than education alone
 - It works to a certain extent, but typically not as much as expected.
 - To make medications free after a heart attack increased medication adherence from 39% to 44% - better, but disappointing.
 - Increasing the payments improves participation, but expensive.
 - Money has its limits as a carrot. **What about grades in class?**
 - The premise underlying these programs is that people make decisions rationally.
 - However, research reveal that many of our decisions do reflect rather irrational thinking that occurs in predictable ways.

IRRATIONALITIES

- Patients who are asked to make complex decisions in situations when they may feel overwhelmed, confused, or afraid, may have trouble making reasoned decisions about their care.
- They tend to be persuaded by what their friends or neighbors say instead of reviewing the available evidence and making choices that are best for them.
- Since patients can't fully understand medical information, they are influenced by the way in which questions are framed by their physicians.

IRRATIONALITIES

- People often have difficulty making wise choices in the context of their health.
- This irrationality stems from factors such as
 - Loss aversion;
 - Status quo bias;
 - The impact of framing;
 - Present bias;
 - Overweighting small probabilities.
- Decision-making is often 'predictably irrational'.

IRRATIONALITIES

Example: Present bias

- It's been so difficult to encourage healthy lifestyles.
- It leads people to pay more attention to immediate costs and benefits than the ones that are likely to occur in the future.
- There are immediate costs to eating less or exercising more
 - Junk food tastes good and exercise is hard
- However, there are long-term benefits
 - Better health and a little extra time at the end of life
- The perceived losses are often distant and intangible

BEHAVIORAL APPROACH

- Classic Approach
 - Undertaking healthy activities, such as buying healthy food and going to the gym, are rewarded through discounts on shopping, entertainment and travel purchases, etc.
- Behavioral Approach use some cleverly designed interventions
 - Providing smaller but more consistent rewards for people to engage in healthy behaviors, such as entering them into a daily lottery.
 - Making participants put their own money or reputation at stake in "deposit contracts" (contractual and commitment pledges).
 - Using default policies (opt in versus opt out)
 - Using altruism and the human desire for approval
- Such approaches may be more effective than reductions to premium contributions or gym memberships since they provide both immediate gratification as well as immediate costs.

BEHAVIORAL APPROACH

- Greatest health challenges of the 21st century and one of the most significant economic challenges
- The overall cost to the health care system associated with the three most common contributors – obesity, smoking and harmful drinking is trillions of dollars.
- Insights from behavioral economics are used to develop new interventions and solutions to change health behavior
- These insights have been applied to ‘nudge’ approaches
- They are often described as "**nudges**" because they seek to preserve people's freedom to choose among a range of options while being guided toward choices that are in their best interest.

HOW BAD IS THE PROBLEM?

- Three of every four Americans don't take their drugs as directed.
 - Forget to take them;
 - Don't fill their prescriptions and
 - Stop taking their pills before the drugs run out
 - This costs the U.S. \$290 billion per year!!!
- More waste comes from missed appointments.
 - No-show rates for doctor's visits run as high as 20% to 30%.
 - In 2006 the annual cost to the system is over \$150 billion.
- Opportunity to use behavioral economics
 - There is a relatively simple technology to create new tools that aid health organizations in managing consumers' behavior
 - To help patients improve their own actions.
 - Even small changes in behaviors have a dramatic impact on costs.

TAKING THE MEDICINE

- After a stroke doctors usually prescribe a blood thinner.
 - It helps to reduce the chance of recurrence from 24% to 4%.
 - Significantly reduces the chance of additional brain damage.
 - Many patients don't take their medicine!!!
- Even making medication free may not drive adherence.
- K. Volpp, G. Loewenstein et al, conducted an experiment to see if they could combine three incentive ideas drawn from behavioral economics to change this affairs.
 - (1) small, frequent rewards,
 - (2) a small chance at a big reward, and
 - (3) the regret of missing a payoff.

TAKING THE MEDICINE

Lottery

- In one group, 20 patients were entered into two daily lotteries.
 - All participants had a one in five chance of winning a \$10 prize, and a one in 100 chance of winning a \$100 prize.
- Patients had an electronic pillbox in their homes that recorded whether or not they took their medicine.
 - If they had not taken their pills, they were disqualified from lotteries.
 - Winners who had not taken their medication were informed that they would receive nothing.
- Noncompliance dropped from 22% to under 2% for the entire three months of the study.
 - A well-designed \$3 payoff was a more powerful motivation than a 20% decrease in the likelihood of an additional stroke!

TAKING THE MEDICINE

Watching Over Patients

- **New technologies** can be used to track behavior of patients.
- Participants are given a "smart" pill bottle that tracks and wirelessly transmits data about medication use.
- Each day, patients who have taken their medication are eligible to win cash prizes in a daily sweepstakes system.
 - The next day, they are contacted by e-mail or text telling them whether they won a prize.
- These small but frequent sweepstakes take advantage of people's tendency to prefer **immediate rewards**, and also play on their desire to avoid regret.
- Family members receive messages if people miss more than two medication doses—providing **social pressure** to succeed.
- Clinical **social workers** are deployed if people miss four consecutive doses.

DOCTORS

- Behavioral economists have also demonstrated that people don't always make decisions systematically, but instead use heuristics, or rules of thumb, to help them.
- They are also likely to be subject to "decision fatigue," whereby they may become mentally exhausted when presented with too many decisions and make ill-considered or inconsistent choices, or fall back on the status quo.
 - This is why candy is located at the cash register—many shoppers have decision fatigue at that point.
- Standardized **care protocols** and default care practices should be used to alleviate that decision burden.
- It's probable that when clinicians are making decisions over and over again it becomes harder to go against prevailing norms

DOCTORS

- In addition to decision fatigue, factors such as **loss aversion** may help explain why providers are slow to adopt new practices, even in the face of overwhelming evidence of their comparatively greater effectiveness.
- Physicians may be reluctant to try something new if they think it will slow them down or put their past success at risk—which may help explain why pay-for-performance programs have had limited effects to date.

POSSIBLE SOLUTIONS

- Employing behavioral economics, through incentives and 'nudges',
 - Improve clinical outcomes,
 - Reduce healthcare costs,
 - Lower hospital admissions,
 - Increase productivity at work,
 - Improve mortality rates

ADVICE

- How can we encourage the adoption of behavioral economics approaches?
 - A key lesson from behavioral economics is that the **size** of an incentive matters far less than how it is **framed** and messaged, how it travels along existing pathways of social networks, and how it connects to individuals **emotionally**.
- Instead of giving a reward (such as a cash payment for not smoking) only to people after they meet a goal, give it to everyone in an account that they can see (like an online bank statement or even a physical gift card that isn't yet activated). And take it away only if success is not achieved.
 - This approach makes the reward tangible and within reach.
 - It also takes advantage of our natural aversion to loss (people work harder to retain something than to earn it).

ADVICE

- Use separate checks or gift cards to deliver benefits that would normally be buried in a paystub. In short, make the smaller incentives easier to see and, therefore, more influential.
- Construct teams so that individual efforts become group achievements. By enlisting social norms, you capitalize on the most powerful of human motivators.
- Turn repetitive activities, like taking medication, into a daily game in which people are eligible to participate only if they took their medication the previous day.
- These have been used in situations ranging from mentoring for diabetes control in the US to condom distribution in Zambia.