Commitment Contracts for Smoking Cessation in the United States

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Fieldwork: Innovations for Poverty Action (IPA)

Location: Connecticut, United States of America

Sample: 1,500 smokers

Outcome of interest: Alcohol, tobacco, and drug use

Intervention type: Commitment devices Digital and mobile Incentives Preventive health Monetary incentives

AEA RCT registration number: AEARCTR-0000960

Data: Dataverse

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Close to 450,000 people in the U.S. die prematurely each year from smoking-related causes and annual losses in productivity due to smoking-related morbidity top US$96 billion. While there are a lot of programs to help people quit smoking, many have only been effective in the short term. This study will examine whether a combination of positive and negative commitment devices can induce long-term smoking cessation in smokers from a low-to-moderate income background in Connecticut.

Policy issue

The adverse health effects of smoking are well-documented: it increases the risk for heart disease, cancer, and diabetes. As the incidence and treatment costs of these diseases rise, the United States faces an increasingly large public health crisis. Close to 450,000 people in the U.S. died prematurely each year from smoking-related causes during 2000-2004 and annual losses in productivity due to smoking-related morbidity topped $96 billion in those years.[1], These costs fall disproportionately on low-income people and those who have less education, who are more likely to smoke.[2]

In Connecticut, over half of adult smokers who attempt to quit smoking are unsuccessful. Behavioral economics may help explain this phenomenon by showing that present-bias, our tendency to value instant gratification more than future benefits, can create self-control problems that lead us to make choices (smoking) that we later regret (disease). Some evidence suggests that commitment devices—or choices a person makes in the present to restrict their choices in the future—can be effective at countering present-bias and helping people quit smoking in the short-term. However, important questions remain on the optimal

design of incentives to help people abstain from smoking in the long-term and how to deliver these interventions at scale.

Context of the evaluation

The main partner in this study is a private, non-profit, health center serving patients across Connecticut in over 200 locations. In partnership with Innovations for Poverty Action, they developed a new program to encourage people to quit smoking. Existing patients of the clinic that satisfy the following criteria are eligible to enroll in the program: 1) daily smoker, with smoking status verified by self-reports in clinic medical records; 2) age 18 or over; 19 or over if pregnant; 3) has regular access to the internet on a computer or smartphone; (4) not assigned to an intervention group in a previous smoking cessation study conducted by the clinic.



A no smoking sign appears in a clinic.

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Details of the intervention

Innovations for Poverty Action is working with researchers to evaluate whether a combination of positive and negative commitment devices is effective at inducing long-term smoking cessation in smokers from a low-to-moderate income background. Researchers will randomly assign 1,500 patients of the partner clinic to receive one or both of two commitment contracts or to a comparison group that will receive none. Participants will be randomly assigned to one of four groups:

1. *Rewards contract only*: In this two-month contract, participants will be offered financial incentives of up to US$100 and US$200, respectively, for (a) engaging in clinic and web-based activities that support smoking cessation and (b) quitting smoking, as measured after the two-month period. (500 patients)
2. *Rewards contract, then commitment to deposit contract*: Participants will be offered the rewards contract. Then after the two-month period, they will also be offered a deposit contract, where they will be invited to choose a percent of their funds from the rewards contract which they will forfeit unless they abstain from smoking for four additional months after the rewards contract ends. (250 patients)
3. *Rewards contract with pre-commitment to deposit contract*: This group is the same as group 2, but these participants will be given the option to pre-commit to the deposit contract at the start of the rewards contract. (250 patients)
4. *Comparison group*: This group will receive neither the reward nor deposit contract. (500 patients)

The reward payout and deposit recovery will be conditional on biochemical verification of self-reported smoking abstinence at two and six months respectively. After one year, researchers will conduct follow-up biochemical verification to observe whether abstinence persists after all incentives are removed.

Results and policy lessons

Participant enrollment began in November 2015. Due to implementation challenges, the research team terminated the study in October 2017.

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1. Centers for Disease Control and Prevention (CDC), “Smoking-Attributable Mortality, Years of Potential Life Lost, and Productivity Losses--United States, 2000-2004,”MMWR. Morbidity and Mortality Weekly Report 57, no. 45 (November 14, 2008): 1226–28.

2. Centers for Disease Control and Prevention (CDC), “Current Cigarette Smoking among Adults - United States, 2011,”MMWR. Morbidity and Mortality Weekly Report 61, no. 44 (November 9, 2012): 889–94.