Beliefs, Self-Interest, and Altruism in COVID-19 Vaccination

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Motivation and Overview

The health of older individuals depends crucially on their behavior and take-up of medical interventions. Effective medical treatments remain underutilized for a wide range of diseases, including treatments for hypertension, hypercholesterolemia, and diabetes.[1] Similarly, individuals continue to engage in unhealthy behaviors (e.g., smoking, opioid use) despite what would seem like clear evidence that such behaviors can have serious health consequences.[2] Recently, in the context of COVID-19 vaccination, questions of what drives health and health-care behaviors—and how we can most effectively influence these factors—have taken on new urgency. Highly efficacious vaccines against COVID-19 are now widely available in the US, but take-up remains low in many communities.[3] Low vaccine take-up has led to excess mortality and morbidity from the virus. Beliefs, particularly those related to political messaging, appear to play an important role in mediating potentially life-saving vaccine take-up.[4]

This project will study determinants of vaccine take-up among veterans in the US. Studies have demonstrated that veterans suffer a greater disease burden from COVID-19: They are 20% more likely to die from the virus than the general population.[5,6] Veterans have a complicated relationship with the government. While they have served in the armed forces for the government, many veterans distrust the government.[7] As a result, veterans are a key group to understand *vaccine hesitancy*. Using a combination of observational data, survey data, and informational treatments, we aim to disentangle the economic roots of vaccine hesitancy into self-interested concerns about the benefits and risks of vaccination, altruistic concerns about protecting others, and beliefs that social networks and politics may influence.

Aims During Pilot Period

Aim 1: Design and conduct a survey of veterans on COVID-19 beliefs and behaviors. Researchers at the Department of Veterans Affairs (VA) have conducted one other survey of 1,178 veterans on their vaccine attitudes and intentions in March of 2021.[8] The survey demonstrated variation in attitudes related to health status, contact with health care providers, and demographics. We will supplement this survey with an updated survey, about a year later in the pandemic, when vaccines are now widely available. In addition to the information collected in the earlier survey, we will elicit information on political beliefs, social networks, and responses to hypothetical benefits and risks of a vaccine.

Aim 2: Explore linkages with VA Corporate Data Warehouse (CDW). The earlier survey was not linked to the rich data available in the CDW on veterans' health care utilization, diagnoses, and health outcomes. We have confirmed the feasibility of a mechanism to identify veterans for surveying based on their CDW data and then

link survey results to the CDW data. This will enable us to use the survey to supplement a wealth of administrative data.

Aim 3: Explore spillovers of beliefs about COVID-19 vaccination onto beliefs and behavior related to flu vaccination. Recent evidence suggests fascinating spillovers onto intentions to receive the flu vaccine that appears related to the partisan divide: A 25-percentage-point gap between Republicans and Democrats has materialized during the COVID pandemic, whereas before the pandemic, there was no such gap in receipt of the flu vaccine.[9,10] Using VHA data, we are poised to study this gap further since we will have records of flu vaccinations and of potential health consequences of not receiving the flu vaccination.

Future Research Agenda

This pilot work connects to a larger future research agenda to understand the social costs of misinformed beliefs in health and more generally. In addition to the survey data that we intend to collect during the pilot period, the large geographic scope of veterans and the VHA data allow us to exploit a wide range of possible quasi-experiments. For example, we may design event studies based on COVID-19 and non-COVID health shocks to a veteran or to his family members. Some of these health shocks can plausibly impact beliefs, benefits and risks to the veteran, and benefits and risks to individuals that the veteran may care about. We can overlay these event studies with additional variation across geographic regions and time in the incidence of COVID.

The qualitative literature has also identified contact with the health care system as a potential mechanism that impacts beliefs, independent of political polarization. We could exploit health events before the COVID pandemic or veteran moves that might induce quasi-random variation in their experience with the VA and with health care more generally. Concerning exposure to political messaging, we can exploit variation across media markets in the placement of Fox News in the list of channels.[11,12] Overall, we see a wide range of empirical moments that we can use to understand general factors driving vaccine take-up. Some of these factors will fit well in a dynamic framework of take-up and may yield predictions of how take-up will change over time.

Budget

We expect to fund eight months of salary and benefits for a predoctoral research fellow with the pilot funds. The annual salary for a predoctoral research fellow at Stanford is $58,000. Annual benefits are approximately $17,000.

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