# Behaviourial Economics 871

## Covid Vaccine Field experiment

**Research question: could a vaccine lottery improve vaccination rates in South Africa?**

Many South Africans are hesitant to get the COVID vaccine. As STATSA shows, amount of people have received the vaccine so far. Critical to reach herd immunity is improving vaccination rates.

In order to improve the take-up of vaccinations, a field experiment designed around a vaccination lottery is proposed. While some governments have considered and experimented with lump-sum payments, behavioural economics could provide a more cost-effective solution. Individuals have a tendency to overweight small probabilities and this overestimate their chances of winning a lottery. In South Africa,

**Lit Review**

**Theory: overweight small probabilities, gambling, social preferences, regret avoidance**

**Empirical: vaccine field designs, lottery incentives, regret lottery incentives**

Several authors have experimented with lotteries as an incentive for vaccinations, although there have been no studies as of yet on the South African population.

Probles with vaccine studies: too few participants. A larger study could fill this gap in the literature.

**Experimental Design**

Have 1 control group: no messages, no lotto

Have 4 treatment groups:

* Send messages
* 1 lottery where you are entered if you got at least 1 vaccination
* 1 lottery where a friend has to refer you
* 1 regret lottery: everyone is entered into the lotto (receive sms) and can only win if vaccinated

Can randomize across municipalities or provinces

**Treatment and Data**

**Partner Institutions and Funding**

**Pre-analysis plan**

Students must submit an essay in which they design a field experiment that could answer an interesting behavioural economic question. The essay must contain the following:

• a clear statement of the research question and motivation for why this is interesting and important;

• a brief review of the relevant literature (both theoretical and empirical) which highlights the research gap your experiment will address;

• a clear description of the experimental design and the theory of change;

• an explanation of how the treatments will be administered and data gathered (including proposed partner institutions);

• a pre-analysis plan of the empirical analysis that will be performed on the data.

**Overview**

In this field experiment, a person who refers his/her friend to receive a vaccine would be entered into a lucky draw, with a monetary prize, created by the government. The purpose behind this nudge is to encourage people who would otherwise not have got a Covid vaccine, to do so. The hypothesis is that there should be an increase in the total number of people receiving a Covid vaccine after the nudge is implemented. Increasing the number of vaccinations is important as medical research shows that vaccines decrease the probability of contracting Covid-19 and are also effective at reducing the severity of the symptoms of the virus for those who do contract it.

**The Nudge**

The nudge addresses behaviour by creating an environment where there is social pressure to get a vaccine (if I wanted to enter the lucky draw, I would pressure my friend into getting the vaccine). It is also likely that if a person asks her friend to get the vaccine so she can enter the lucky draw, she will reciprocate and get the vaccine as well so that her friend may enter the draw, which will also increase the number of people getting vaccinated.

For the vaccines that require two doses (e.g. Pfizer), a person’s name could be withdrawn, if the second shot is not given within a certain amount of time. This makes use of loss aversion, where people who already have their names in the draw feel the pain of having their names withdrawn more intensely than the pleasure of having their names added a second time to the draw for getting their second shot.

**Target Group**

The lucky draw is anticipated to attract people who are risk-on (they enjoy gambling, and are less worried about getting vaccinated), and poorer individuals for whom winning money is more attractive. These target groups are desirable as they are less likely to get the vaccine, and the government would like to maximise the number of vaccinated people. Additionally, if there are individuals who want to be vaccinated but procrastinate getting the vaccine (e.g. naïve hyperbolic discounters), setting a deadline for the lucky draw could increase the utility of getting the vaccine earlier enough to overcome the procrastination problem. There is no downside or extra cost for having people enter the lucky draw who would otherwise still have got the vaccine.

**Proposed Partner Institutions**

This field experiment would be in collaboration with the South African government and facilities that conduct vaccinations (e.g. Clicks). The government would be where the data is centralized and the administers of vaccines would all be data collection nodes. After a person has received a vaccine, the administer would ask if the person received a referral for the shot, and then note the ID number of the friend in addition to the individual’s details.

**Data Collection**

There is a data collection system already set up at the vaccination sites so this extra data point would not be difficult to collect within the current tracking system. Depending on costs, the referral friend could be sent an sms thanking her for caring about others and getting them vaccinated, and letting her know that she has been entered into the draw. This is a positive reinforcement technique and shows people that the government is following up on their promise. This acknowledgement and transparency is expected to encourage more referrals. Once the lucky draw has been concluded, the data can be analysed, the purpose of which is to uncover whether the nudge increased vaccinations.

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* a brief review of the relevant literature (both theoretical and empirical) which highlights the research gap your experiment will address;
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The essay has a 3000-word limit. You will be penalised for exceeding this word limited (from the first word) and for not indicating the number of words at the end of the essay.

The administration of the essay will take place through SUNLearn:

Each student is required to submit a proposal, which must contain the essay topic and a brief outline of the essay outline by 3 September 2021.

The deadline for the essay is 12:00 on 15 October 2021

Each student must complete an online plagiarism declaration before the essay will be graded.

You will be able to review your Turnitin similarity report, revise your essay and resubmit until the deadline. After the deadline, all submissions are final and no revisions will be accepted.

References and citations must be complete and in the Harvard style. The internet should be treated as any other source with full acknowledgement.