The Impact of Peer Messaging to Combat the Spread of Covid-19 in Zambia

Sector(s): Health

Fieldwork: Innovations for Poverty Action (IPA)

Sample: 3,027 participants and 8,779 peers

Target group: Adults

Outcome of interest: Health outcomes

Intervention type: Digital and mobile Nudges and reminders Social networks

AEA RCT registration number: AEARCTR-0005940

Partner organization(s): Zambian Ministry of Health (MOH), Zambian National Institute for Public Health (ZNPHI), University of Zambia (UNZA), Kilts Center for Marketing at the University of Chicago Booth School of Business

The Covid-19 pandemic demonstrated how uncertainty, mistrust, and misinformation can slow the adoption of recommended health practices. People may trust information shared with them by their peers more than they would trust information shared by third parties, such as companies or government agencies. Researchers conducted a randomized evaluation in Zambia to test the impact of a peer-based information campaign, consisting of SMS messages and small cash incentives, on people's adherence to Covid-19 health protocols. Participants forwarded public health SMSs when they were encouraged to do so, yet financial incentives did not increase the number of messages sent. Participants and their peers did not change their precautionary health behaviors.

Policy issue

During health emergencies, the provision of accurate information to the public is critical to increase adherence with recommended behaviors. However, uncertainty, mistrust, and misinformation can slow the adoption of recommended practices, as seen during the Covid-19 pandemic. One way to encourage adherence with recommended practices could be through peer-to-peer messaging. Researchers have studied the effects of employing peer networks in several public health domains, including the detection of HIV infections and the uptake of vaccinations. Evidence suggests that people may trust information shared with them by their peers more than they would trust information shared by third parties, such as companies or government agencies. Yet, there is limited evidence on which strategies are the most effective at increasing adherence to Covid-19 guidelines.

Could leveraging peer networks encourage people to engage in recommended public health behaviors to combat the spread of Covid-19? Specifically, could asking and incentivizing people to share information via SMS messages about Covid-19 precautions encourage their peers to follow health recommendations?

Context of the evaluation

In Zambia, over 54,000 cases of Covid-19 and over 750 deaths were reported as of late January 2021.[1], Like many low-income countries, Zambia lacked access to new Covid-19 vaccines. Thus, the best way to prevent the disease was to wear a mask, wash hands frequently, and keep distance from others.[2], To promote these behaviors, the Zambian Ministry of Health Risk Communication and Community Engagement Working Group (MoH) developed community messaging strategies to combat the

spread of Covid-19. They adopted various dissemination campaigns to promote public health behaviors among the population using radio, television, Twitter, social media, and SMS messages. As almost 90 percent of Zambia's population had access to mobile phones in 2021, mobile phone campaigns served as a viable tool for disseminating key messages.[3]

In 2015, 51.5 percent of the Zambian population were women, and the average household size was 5.1 people. 20.2 percent of the population had secondary school education and 8.4 percent had post-secondary schooling. In comparison, the participants in the study had attained higher levels of education on average and reflected a higher proportion of men. Forty-five percent of the participants in the study were women and 45.9% and 39.6% of the sample had secondary and post-secondary education respectively. The average household size of the participants was similar to the overall population.



Girls receiving messages on their phones.

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Details of the intervention

Researchers conducted a randomized evaluation in Zambia to test the impact of a peer-based information campaign on people's adherence to Covid-19 health protocols, in partnership with the Zambian Ministry of Health (MoH), the Zambian National Institute for Public Health (ZNPHI), and the University of Zambia (UNZA). The information campaign consisted of small cash incentives and SMS texts, translated into five local languages, which provided concrete steps to reduce Covid-19 transmission. In particular, the messages promoted four main behaviors: wearing masks in public, washing hands, social distancing, and avoiding blaming others for becoming infected. Over thirteen days, researchers sent out the messages in three waves, and two additional messages on the effectiveness and safety of the vaccine were introduced in the second wave. Each participant received three SMSs over the course of the intervention, with the order of the messages randomized.

Researchers asked the 3,027 participants to provide contact information of up to five people to whom they would be willing to forward health related SMSs. The participants were then randomly assigned into one of four groups:

1. *Peer forwarding group* (Group 1, 729 individuals): These participants received an SMS from a health authority with recommended health behaviors and were asked to forward it to their five contacts, without receiving a financial incentive.
2. *Peer forwarding with incentive group* (Group 2, 787 individuals): These participants received an SMS from a health authority with recommended health behaviors and were asked to forward it to their five contacts. They were also offered a financial incentive of 23 Kwacha (US$ 1.07 in 2021) per SMS forwarded at the end of the study.
3. *Health authority to peer group* (Group 3, 751 individuals): Participants in this group received an SMS like in the first two groups. Their five contacts also received an SMS directly from a local health authority.
4. *Comparison group* (Group 4, 760 individuals): These participants received an SMS with recommended health behaviors, but they were not asked to forward it to their five contacts.

In addition to the four groups described above, the researchers randomly assigned each participant to either receive the SMS from the MoH or the ZNPHI, an independent, public agency that has less authority than the MoH but may be perceived as less political and more technical to each participant.

Researchers collaborated with the Innovations for Poverty Action (IPA) field team in Zambia to implement the evaluation in two separate waves during the periods of February 5 to March 11, 2021, and from May 19 to May 31, 2021. Researchers then surveyed the participants and their peers one to three days after the SMSs were sent to determine which information sharing strategy was most effective in promoting preventative health measures like masking, hand washing, not traveling outside the village, and avoiding gatherings.

Results and policy lessons

Participants forwarded public health SMSs when they were encouraged to do so, yet financial incentives did not increase the number of messages sent. Overall, the peer messaging campaign did not change participants' precautionary health behaviors.

Forwarding SMS Messages: Compared to Group 4, which was not asked to forward the messages to their contacts, peers of participants in Groups 2 and 1 were 10 and 13 percentage points more likely to have received a forwarded message from their friends, respectively. For comparison, 28 percent of the peers of participants in Group 4 reported having received a forwarded message. There were no differences between the groups who received messages from the MoH versus the ZNPHI.

Precautionary health behaviors: Neither asking participants to forward health messages, incentivizing them, or directly sending health messages to peers changed the precautionary health behaviors (masking, hand washing, not traveling outside the village, or avoiding gatherings) of peers. Researchers hypothesize that this could be because text messages are less compelling than personal outreach, or because information about Covid-19 was already being widely disseminated by radio, newspaper, and through social media throughout the country.

Taken together, results show that peers can be a valuable vehicle for spreading health-relevant information in communities. Researchers hypothesize that campaigns could be more effective if the messaging is delivered by a highly credible expert with local connections or offered through interactive personal conversation.

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1. 1. Johns Hopkins University (JHU) "COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE)".

2. World Health Organization (WHO). "Coronavirus disease (COVID-19) advice for the public". https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public.

3. DataRePortal. February 2021. https://datareportal.com/reports/digital-2021-zambia.