



TEXTS DON'T NUDGE: AN ADAPTIVE TRIAL TO PREVENT THE SPREAD OF COVID-19 IN INDIA

SUMMARY

Although information about preventive health behaviours is widely available during a pandemic, compliance is low. Researchers test whether nudges using text messages can improve knowledge and take-up of handwashing and social distancing during the Covid-19 pandemic in India. They find that nudges delivered via text messages might not be effective after the initial phase of the pandemic.

CONTEXT

Encouraging preventive health behaviours in a timely and effective way is crucial to containing the spread of a pandemic (Van Bavel et al., 2020). It is even more critical for densely populated countries with medical infrastructure that cannot handle a high case load. Although information about preventive health behaviours is often well-publicised via television, radio and newspapers, compliance is low.

Researchers Girija Bahety (Tufts university), Sebastian Bauhoff (Harvard School of Public Health), Dev Patel (Harvard University), and James Potter (Harvard School of Public Health) used a randomised evaluation to test whether text messages (SMS) were effective in nudging individuals to comply with preventive health behaviours during the Covid-19 pandemic in India. Additionally, they examined the effectiveness of text messages by varying their framing and the timings at which they were sent.

DETAILS OF THE EVALUATION

The study was conducted in the Saran district of Bihar from August 17, 2020 to October 20, 2020 immediately following the peak of the first wave of Covid-19. As of August 17, 2020, there were 2.7 million confirmed cases of Covid-19 in India (Roser et al. 2020). Bihar imposed a full lockdown in mid-July and maintained a partial lockdown until the end of August.

The study was conducted in collaboration with the Government of Bihar and Suvita, an NGO working on routine immunisation in Bihar. Households who entered phone numbers into birth registries at health centres in 15 blocks of Saran between August 2019 and February 2020 formed the study sample. Researchers sent out SMSes in Hindi to roughly 12,799 phone numbers, encouraging social distancing and handwashing.

Five different framings were used to compose the messages: neutral, public gain or loss and private gain or loss. These framings appealed to different emotions, either to fear by making the threat of the pandemic salient, or to their prosocial motivation by highlighting the social benefits of following Covid-appropriate behavior (see Table 1).

The timing at which nudges are delivered can also impact the efficacy of the nudges (Kasy and Sautmann, 2021). Therefore, the time at which the text messages were sent out was also varied. Treatment group participants either received messages twice in the morning (7-8 am and 10-11 am) or once in the morning and once in the evening (7-8 am and 6-7 pm).

Table 1: Content of the SMS

FRAMING	HANDWASHING	SOCIAL DISTANCING
Neutral	Coronavirus is here. Before touching any food or touching your face, wash your hands with water and soap.	Coronavirus is here. Outside the house, keep a distance of at least two arms from others.
Public Loss	Coronavirus kills. Your action can put our community at risk of infection. Before touching any food or touching your face, wash your hands with water and soap.	Coronavirus kills. Your action can put our community at risk of infection. Outside the house, keep a distance of at least two arms from others.
Private Loss	Coronavirus kills. Your action can put your family at risk of infection. Before touching any food or touching your face, wash your hands with water and soap.	Coronavirus kills. Your action can put your family at risk of infection. Outside the house, keep a distance of at least two arms from others.
Public Gain	Save lives. Your action can protect our community from coronavirus. Before touching any food or touching your face, wash your hands with water and soap.	Save lives. Your action can protect our community from coronavirus. Outside the house, keep a distance of at least two arms from others.
Private Gain	Save lives. Your action can protect your family from coronavirus. Before touching any food or touching your face, wash your hands with water and soap.	Save lives. Your action can protect your family from coronavirus. Outside the house, keep a distance of at least two arms from others.

A total of four messages were sent out over two days to randomly chosen participants in the treatment group while control group participants did not receive any messages. Three to five days after the messages were sent, participants were surveyed over the phone to measure the uptake of social distancing and handwashing. The trial followed an adaptive design. The proportion of the treatment group that received each message frame, and the timing at which they received the message, were determined based on which timing and framing proved most effective in the previous round of messages. This method was designed for rapidly learning which treatment arm was optimal (Kasy and Sautmann, 2021).

RESULTS

No significant impact on adoption of handwashing or social distancing.

The study finds no meaningful impact of the text messages on handwashing or social distancing knowledge or behaviours. Moreover, it finds no meaningful impacts even for those participants who reported receiving and recalling the SMS. However, based on the study design and sample sizes, the study cannot rule out treatment effects that are smaller than 5.5 percentage points for the adoption of handwashing and greater than 5.6 percentage points for the adoption of social distancing.

No significant impact of framing or timing of the SMS.

While the adaptive trial was designed to converge to the optimal framing and timing for

a nudging SMS, there is no systematic evidence that any framing or timing had a more meaningful impact than others.

No evidence of effects on alternative ways to measure outcomes.

The key outcome of the study was the uptake of handwashing and social distancing which can often be hard to measure since participants are more likely to say they engage in preventive behaviours if they believe these behaviours are considered more socially acceptable. Therefore this outcome was measured using an open-ended question, 'What are you doing to protect against the virus?'

Additionally, a list of preventive behaviours were read out and participants were asked if they practised each of the listed behaviors. The order in which the open-ended and listed questions were read out was randomised for each survey respondent to test whether the uptake estimate differed depending on the measurement technique. However, the study does not find any difference in impact when outcomes are measured using the open-ended question as opposed to the direct elicitation.

No heterogeneity by study period, literacy, recall period.

There were no heterogeneous effects by study period or recall period. There was also no meaningful difference in effectiveness by SMS literacy i.e., for respondents that could read SMSes in Hindi.

No spillover effects on mask-wearing or respiratory hygiene.

Texts about social distancing and handwashing did not have any meaningful spillover effect on other Covid-appropriate behaviors, such as mask-wearing and respiratory hygiene.

POLICY INSIGHTS



SMS-based nudges might not be effective after the initial phase of the pandemic

This study took place six months into the pandemic and almost a month after a severe lockdown was imposed by the state of Bihar. A major public messaging campaign had already been in place for at least two months. Several months into a pandemic, individuals, although well-informed, may be fatigued and face high economic costs of social distancing. Households may also be less anxious or have lower risk perceptions compared to the start of the pandemic and may therefore be less receptive to nudges. At least several months into a pandemic, a basic SMS may not be sufficient to generate large behavioural responses.



SMS might not be an engaging enough medium to deliver information

Text messages are a potentially low cost, scalable medium to deliver information, and

are capable of reaching a larger number of individuals since they can be received on the most elementary phones. However, they are not a very engaging medium to deliver information (Favero and Pedersen, 2020). In fact, 38 percent of study participants said they never read SMS and less than a third read SMS daily in the week prior to the interview. Other mediums of communicating preventive behaviours such as phone calls, videos of doctors or famous people (Siddique et al. 2020; Banerjee et al. 2020) might be more engaging. While other mediums might be more challenging to implement—watching videos of celebrities or doctors requires a smartphone, interactive phone calls are more costly—they ultimately might be more impactful and hence cost-effective.



The optimal choice of medium for nudges depends on literacy, smartphone penetration.

Policymakers should take into consideration the local context—such as availability of basic phones versus smartphones and literacy rates while choosing between mediums to deliver information about preventive health behaviors. Low literacy rates limit the reading of SMS messages: about 86 percent of respondents indicated that they could read SMS in Hindi, but literacy rates in the study area were low. Other modes of communication such as phone calls may be more appropriate and effective for such a population (Siddique et al., 2020).

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