Policy brief
IND-20077 | January 2021

Alex Armand, Britta Augsburg, and Antonella Bancalari

International Growth Centre

COVID-19 and fake news

Counteracting misinformation in India's slums

In brief

- One of the most, if not the most, at-risk groups for contracting COVID-19 is the urban poor, living in overcrowded conditions with very limited access to public (health) infrastructure.
- Our study considered slums of two Indian cities in Uttar Pradesh – Lucknow and Kanpur. Slum dwellers lost their livelihoods, experienced reductions in income, and the majority were not able to comply with lockdown measures – with the poorest being hardest hit. Those with better knowledge about how to prevent COVID-19 were able to protect themselves better and were more willing to vaccinate when possible.
- Fake news about COVID-19 and how to prevent it is widespread in this population. To counteract misinformation, we conducted a field experiment. Slum dweller households were randomly assigned to either receive a message from a doctor debunking fake news sent via mobile or not. In addition, we cross-randomised a low or high financial incentive to pay attention to the message.
- Doctors' messages debunking fake news about COVID-19 prevention, coupled with high financial incentives to pay attention, counter misinformation and increase the probability of self-isolation within slums.
- Receiving the doctor's message and the low incentive to pay attention to the message leads to a reduction in seeking out and sharing information about COVID-19, or in providing advice to somebody. When the incentive to pay attention is high, this reduction is not observable.

This brief is based on research funded by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

Overview of the research

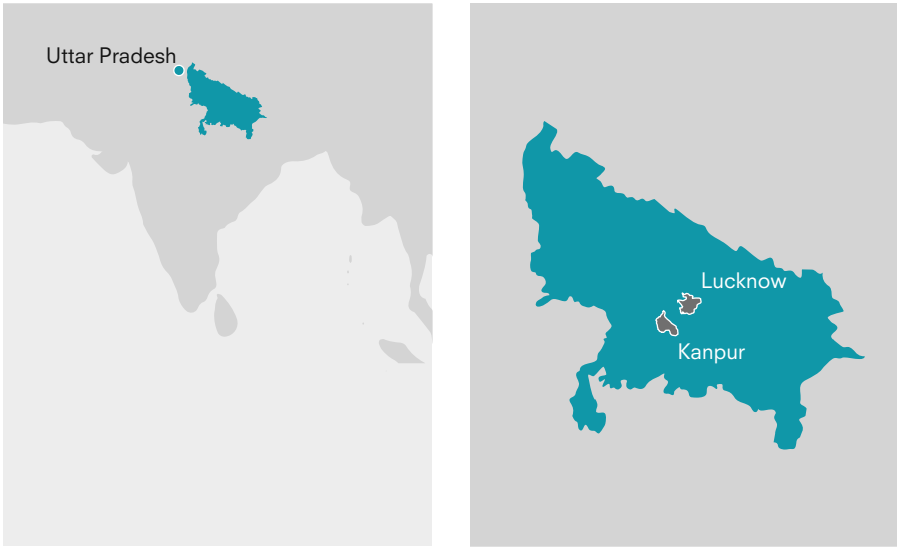
One of the most, if not *the* most, at-risk groups of COVID-19 is the urban poor, living in overcrowded conditions with very limited access to public (health) infrastructure. One billion people live in such settlements (*slums* hereafter), more than half of these in Asia and almost a fifth in India. Their ability to follow governments' and scientists' advice on mitigation strategies – such as handwashing and social distancing – has been significantly hampered by the hardships they face daily, which include lack of access to water and sanitation systems at home and overcrowded living conditions (Brown, Ravallion, and van de Walle 2020; Afridi, Dhillon, and Roy 2020). Social distancing is more an aspiration than an attainable reality for urban slum dwellers (Wasdani & Prasad 2020). Moreover, slum dwellers are in general daily wage earners, which makes them more vulnerable to losing their jobs when in lockdown conditions (Corburn, et al., 2020).

Along these hardships, misinformation about ways to prevent COVID-19 is widespread. In this study, we explore the impact of the pandemic on slum dwellers' economic activities and their ability to cope and follow advice on mitigation strategies – such as handwashing and social distancing – given the hardships they face daily. We further study how to debunk fake news about COVID-19 in slums making use of mobile technology.

This study takes place in the context of slums in the cities of Lucknow and Kanpur, Uttar Pradesh. We rely on a census of more than 30,000 households located in 142 slums, collected in 2018. In this study, we interviewed almost 4,000 randomly selected households from this population pre- and post-intervention. For a sub-set of the households, we considered a few additional survey rounds from a previous study.

"We explore the impact of the pandemic on slum dwellers' economic activities and their ability to cope and follow advice on mitigation strategies – such as handwashing and social distancing – given the hardships they face daily."

Study area



Source: Basemap, Esri.

To understand how effective doctors' messages are at countering misinformation about COVID-19 prevention, we conducted an experiment in which we randomly allocated households to receive a message from a doctor working in a locally well-known hospital, debunking fake news about COVID-19 or not. Messages were sent to study participants via mobile phones and centred around the theme of "eating vegetarian does not fully protect from COVID-19".

Because uptake of messages via mobile phones can be extremely low, the effectiveness of these tools can be limited. For instance, Banerjee et al. (2020) achieved a viewing rate of only 1.14%, consistent with low rates of other click-through studies (Richardson, Dominowska, and Ragno 2007; Kanich et al. 2009). To understand whether financial rewards lead to higher uptake of messages, we cross-randomized a financial incentive to listen to and reply to the message through information technologies. Under this design, households were allocated to participate in a 'high incentive' lottery, where they could win Rs. 5,000, or a 'low incentive' lottery, where the winning amount was Rs. 2,500.

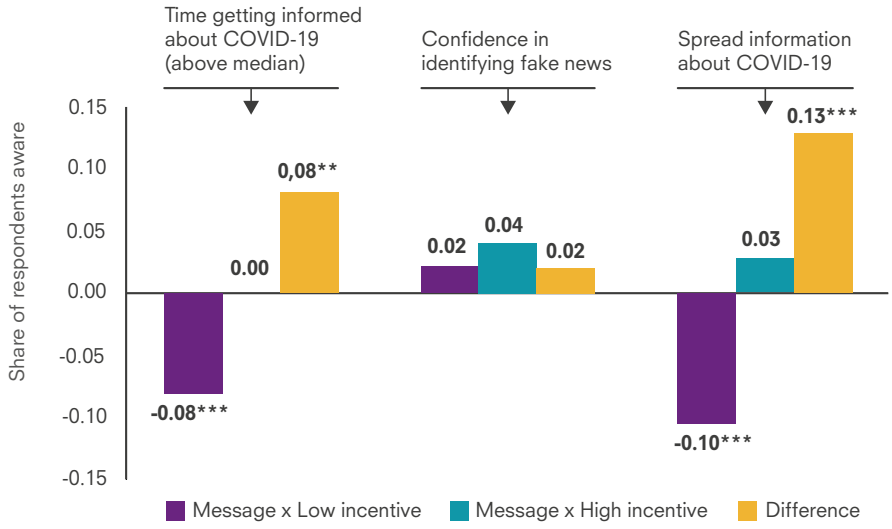
The experiment reveals that doctors' messages debunking fake news about ways to prevent COVID-19 can counter misinformation. Receiving a doctor's message increases the probability of disagreeing with fake news about COVID-19 – albeit only when incentivised with the high lottery amount. Interestingly, the impact on fake news is found not to be directly addressed by the doctor's message. While the doctor discussed that "eating vegetarian does not fully protect from COVID-19", we find that the intervention leads highly incentivised individuals to disagree more strongly with the statement that "Indians have a stronger immune system against the virus".

"The experiment reveals that doctors' messages debunking fake news about ways to prevent COVID-19 can counter misinformation."

Social distance in slums is challenging and our analysis reveals so. Slum dwellers live in overcrowded communities and share facilities, making it impossible to stay at home. We evaluated the extent to which they self-isolate inside the slum. 65% left the slums (mostly to work or find a job) and 28% received visitors at the beginning of the lockdown, which increased by 89% and 71%, respectively, after the lockdown was eased. When households receive the doctor's message and the higher financial incentives to pay attention, they are less likely to leave their slum (8 percentage point lower than the control group).

Receiving the doctor's message, conditional on a low incentive to pay attention, reduced their likelihood of getting informed about how to prevent the virus, as well as the probability of sharing information or advice to somebody about COVID-19. These negative effects are countered by providing high incentives to pay attention to the doctors' messages.

Impact on information dissemination



Excluded group is Control Group. *Message* indicates the treatment group in which the household received the message from the dcotor. *Low (High) incentive* indicate the treatment group in which the financial incentive is low (high). *Difference* is the estimated difference between Message x Low incentive and Message x High incentive. *** (**) denotes statistical significance at the 1 (5) percent level.

Policy motivation for research

"Our findings of how and in particular the low extent to which slum dwellers are able to comply with governments' advice and strict measures sends warning signs to policymakers, indicating that measures implemented in response to the pandemic are largely unfeasible and economically harmful for this population."

Misinformation about ways to prevent COVID-19 is widespread. While fake news about COVID-19 is a global concern, it is a particular pervasive problem in India. Examples include allegations that eating vegetarian food can protect against the virus, that warm weather can kill it, and that Indians are immune to it. Such misinformation is particularly prevalent on social media.

Misinformation imposes private and social costs by making it more difficult to infer the true state of the pandemic. In the presence of widespread misinformation, slum residents are at risk of falling into a false sense of protection and conduct risky behaviours. Furthermore, the pandemic has forced decision-making to take place under conditions of great uncertainty, and evidence suggests that individuals are systematically less risk-averse under conditions of increased uncertainty (Callen et al. 2014). In the US, for instance, misinformation transmitted through TV shows generated harmful effects by delaying the adoption of preventive behaviour. This holds even when the number of viewers is low (Bursztyn et al. 2020).

The government of India, as with most other governments in the world, is looking to identify effective means through which to communicate information relating to COVID-19 and the measures to prevent its spread.

Studies exploring the best tools for sharing information around public health (Alatas et al. 2019), including specific to COVID-19 (Banerjee, Alsan, et al. 2020), find that communication technologies and social media can be effective and low-cost tools. However, evidence about the effectiveness of government tools to address misinformation during a pandemic remains limited.

Describing the situation of slum dwellers during the COVID-19 pandemic and how it evolves provides useful and hard to come by data for policymakers and practitioners. Our findings of how and in particular the low extent to which slum dwellers are able to comply with governments' advice and strict measures sends warning signs to policymakers, indicating that measures implemented in response to the pandemic are largely unfeasible and economically harmful for this population. One way of improving the current approach would be to consider slums, and not households, as the relevant unit for certain aspects of lockdown and social/physical distancing, given issues such as out-of-home shared water facilities.

We further provide evidence of a low-cost tool that policy-makers can use to debunk fake news in these uncertain times. Low-cost voice and video messages plus a lottery offering a financial incentive can be effective ways of communicating doctors' and other scientists' advice on how to prevent the spread of the virus.

Policy recommendations

- **Describing the situation of slum dwellers during the COVID-19 pandemic and how it evolves provides useful and hard to come by data for policymakers and practitioners.** Our data shows that most of the urban poor rely on casual jobs that force them to leave the slum frequently. Cash transfers have the potential to off-set economic hardship while promoting self-isolation. Yet, they have proven to be insufficient given that a large share of slum dwellers experienced a drop in income below subsistence levels. Recent evidence also suggests that cash transfers in the form of universal basic income during the pandemic have achieved positive but only modest size effects on well-being (Banerjee et al. 2020). We propose targeting cash transfers to households in slums where the heads of household are lower educated, as these are the ones hardest hit economically.

- **Our findings of how and in particular the low extent to which slum dwellers are able to comply with governments' advice and strict measures sends warning signs to policymakers**, indicating that measures implemented in response to the pandemic are largely unfeasible and economically harmful for this population. One way of improving the current approach would be to consider groupings based on shared resources, rather than individual households, as the relevant unit for certain aspects of lockdown and social/physical distancing.

- **Policy efforts need to be concentrated on incentivising slum dwellers to stay in slums (or potentially lower-level groupings based on shared resources) as much as possible.** Our study suggests that doctors' messages debunking fake news about ways to prevent COVID-19, accompanied by high incentives to pay attention, can be a useful tool to achieve this goal. It is essential to find the optimal level of financial reward that triggers a positive behavioural response in different contexts, as a less than optimal level can crowd-out private investments in getting informed about prevention and disseminating information.

- **Improved hygienic behaviour is associated with having more hygiene products at home.** This relationship may seem obvious, but a lack of inputs does not always ensure a behavioural response. Considering our findings, we propose distributing hygiene items that can prevent COVID-19 from spreading. An effective behavioural response can be achieved if the distribution of hygiene items is accompanied by low-cost messages through mobile technologies countering misinformation about ways to prevent COVID-19.

- **Spreading accurate information about how to prevent COVID-19 is key for vaccine compliance.** Misperceptions of ways to prevent COVID-19 can generate a false feeling of safety and reduce the willingness to get vaccinated. Doctors and health experts play an important role in distributing accurate information about any potential vaccine.

References

Afridi, F., Dhillon, A. & Roy, S., 2020. *How has COVID-19 crisis affected the urban poor? Findings from a phone survey* - I. [Online] Available at: https://www.ideasforindia.in/topics/poverty-inequality/how-has-covid-19-crisis-affected-the-urban-poor-findings-from-a-phone-survey.html

Banerjee, A. et al., 2020. Effects of a Universal Basic Income during the Pandemic.

Brown, C., Ravallion, M. & van de Walle, D., 2020. Can the World's Poor Protect Themselves from the New Coronavirus?. *National Bureau of Economic Research*.

Bursztyn, L. et al., 2020. Misinformation During A Pandemic. *NBER Working Paper*.

Callen, M., Isaqzadeh, M., Long, J. D. & Sprenger, C., 2014. Violence and Risk Preference: Experimental Evidence from Afghanistan. *The American Economic Review*, 104(1), pp. 123-148.

Corburn, J. et al., 2020. Slum Health: Arresting COVID-19 and Improving Well-Being in Urban Informal Settlements. *Journal of Urban Health*, Volume 97, pp. 348-357.

Dupas, P. et al., 2014. Short-Run Subsidies and Long-Run Adoption of New Health Products: Evidence from a Field Experiment. *Econometrica*, 82(1), pp. 197-228.

Kanich, C. et al., 2009. Spamalytics. *Communications of the ACM*, 52(9), pp. 99-107.

Kirsch, P., Kube, H. & Zohlnhöfer, R., 2020. *ANTI-CORONA-MASSNAHMEN: GROSSE MEHRHEIT HÄLT SICH AN DIE VORGABEN*. [Online] Available at: https://www.uni-heidelberg.de/de/newsroom/anti-corona-massnahmen-grosse-mehrheit-haelt-sich-an-die-vorgaben

Lazarus, J. V. et al., 2020. A global survey of potential acceptance of a COVID-19 vaccine. *Nature Medicine*.

Ministry of Home Affairs India, 2011. *Slum Census*. [Online] Available at: https://www.censusindia.gov.in/2011census/hlo/Slum_table/hl-slum/SHH2808-crc.pdf

Richardson, M., Dominowska, E. & Ragno, R., 2007. *Predicting Clicks: Estimating the Click-Through Rate for New Ads*. [Online] Available at: https://www.microsoft.com/en-us/research/publication/predicting-clicks-estimating-the-click-through-rate-for-new-ads/

Wasdani, K. P. & Prasad, A., 2020. The impossibility of social distancing among the urban poor: the case of an Indian slum in the times of COVID-19. *Local Environment*, 25(5), pp. 414-418.