# Mobile Phone-Based Messaging and Critical Health Behaviors to Reduce Covid-19 Spread in India

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**Sample:** 3,964 people

**Target group:** Mothers and pregnant women Children under one

**Outcome of interest:** Take-up of program/social service/healthy behavior

**Intervention type:** Information Nudges and reminders Technology

**Partner organization(s):** Government of Bihar, Suvita

Researchers working in India conduct an adaptive randomized controlled trial to evaluate the impact of a SMS-based information campaign on the adoption of social distancing and handwashing in rural Bihar, India, six months into the COVID-19 pandemic. They test ten arms that vary in delivery timing and message framing, changing content to highlight gains or losses for either one's own family or community. Researchers identify the optimal treatment separately for each targeted behavior by adaptively allocating shares across arms over ten experimental rounds using exploration sampling.

## Policy issue

Public information campaigns may improve health behaviors critical to containing a pandemic, such as handwashing and social distancing. Previous research studied the use of mobile phone-based health information campaigns – using SMS – for routine health communication, such as immunization reminders, and the use of mobile phone-based strategies for tracking, but not information dissemination during crises. The researchers also build on previous research, predominantly from non-crisis situations, by studying the impact of the content, delivery, mode, and frequency of messages.

In this study, researchers seek the most effective way to conduct mobile phone-based information campaigns to encourage health behaviors to contain the Covid-19 pandemic. What types of SMS messages are most effective, and most cost-effective, in encouraging these critical health behaviors?

## Context of the evaluation

As of May, 2021, India has recorded more than twenty-seven million cases of Covid-19 and nearly 311,400 deaths. At the start of the pandemic, the government instituted a strict lockdown, which it eased in the face of serious economic repercussions for its lowest income residents. In Bihar, where this study was conducted, nearly 0.7 percent of the population has contracted the virus and nearly 4,800 people have died.

Preventive behaviors such as handwashing and social distancing are critical to containing the spread of infectious diseases like COVID-19, particularly in densely populated areas of developing countries with crowded living quarters and public spaces. Mobile phones may be an important tool for encouraging preventive behaviors by enabling the rapid spread of information. Mobile phone ownership is high in Bihar—in urban areas, 95 percent of households own a mobile phone, and, in rural areas, 89 percent of households own a mobile phone.

## Details of the intervention

Researchers partnered with the Government of Bihar and Suvita to evaluate the impact of different SMS messaging strategies encouraging handwashing and social distancing on take-up of these behaviors among households with current or recent pregnancies.

Between August and October 2020, the research team randomly allocated participants into program groups and a comparison group. The program group was randomly divided into two segments: one segment focused on messages to encourage handwashing and the other focused on messages to encourage social distancing. Adopting a method previously used in clinical trials, the research team used an adaptive "exploration sampling" approach to allocate participants to different intervention groups in both the handwashing and social distancing segments. Initially, their approach allocated participants to the interventions in equal shares. As the program progressed, they used initial results to allocate increasingly more participants into the interventions that were working best. The list directly below outlines the framing, and delivery timings that the researchers were testing.

1. Factor/Attribute 1: 5 Message frames targeting specific behavior mechanisms, supported by existing literature
    1. Neutral
    2. Public gain
    3. Public loss
    4. Private gain
    5. Private loss
2. Factor/Attribute 2: Time-of-day
    1. 2 messages per day for 2 days (twice in the morning)
    2. 2 messages per day for 2 days (morning and evening)

The research team used approximately 15-minute phone surveys to gather information on key outcomes, including self-reported take-up of handwashing and social distancing, and demographic and socioeconomic characteristics three days after the first message was sent. The research team surveyed 3,964 people. To measure whether take-up grows or shrinks over time, for example, due to forgetfulness or time required to adopt a change, the research team performed some surveys five days following the initial message, as opposed to three. The research team followed-up with 17 participants for in-depth qualitative surveys to better understand the specific experiences of program participants.

## Results and policy lessons

*Research ongoing; results forthcoming.*