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COVID-19 vaccine messaging on social media in Kenya

Submission date	**Recruitment status**	[X] Prospectively registered
16/05/2022	No longer recruiting	[ ] Protocol
Registration date	**Overall study status**	[ ] Statistical analysis plan
17/05/2022	Completed	[ ] Results
Last Edited	**Condition category**	[ ] Individual participant data
24/01/2023	Other	[ ] Record updated in last year

Plain English summary of protocol

Background and study aims
Although there are many information campaigns on social media to promote COVID vaccines, it is unclear what types of messaging and messengers are the most effective in increasing COVID vaccine confidence and uptake. The primary objective of the study is to evaluate the source credibility of international and local messengers and how varying messengers improve vaccine outcomes.

Who can participate?
This study recruits participants over the age of 18 years.

What does the study involve?
This is an online experiment with an in-survey experiment that tests the impact of (1) international COVID vaccine messaging content and (2) localized COVID vaccine messaging content on source credibility and vaccine outcomes in Kenya.

What are the possible benefits and risks of participating?
The possible benefits include a better understanding for how international campaigns can be effective in delivering public health messages. There are no foreseeable risks for participating in the research study.

Where is the study run from?
Busara Center for Behavioral Economics (Kenya)

When is the study starting and how long is it expected to run for?
October 2021 to June 2023

Who is funding the study?
Vaccine Confidence Fund (USA)

Who is the main contact?
Dr Kelly Zhang, kwzhang@mit.edu

Contact information

Type(s)
Principal investigator

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Additional identifiers

Protocol serial number
1034BUSA21

Study information

Scientific Title
Trusted messengers in improving vaccine outcomes in Kenya

Study objectives
Current study hypothesis as of 23/01/2023:
H1: Messaging from international health organizations increases the source credibility of a message.
H2: Messaging from local healthcare workers increases the source credibility of a message.
H3: Local healthcare workers are more effective than international health organizations in increasing the source credibility of a message for those who distrust international health organizations.
H4: Messaging from international health organizations improves vaccine outcomes.
H5: Messaging from local healthcare workers improves vaccine outcomes.
H6: Local crowdsourced content improves vaccine outcomes.
H7: Local healthcare workers are more effective than international health organizations in improving vaccine outcomes for those who distrust international health organizations.
H8: Local crowdsourced content is more effective than international health organizations in improving vaccine outcomes for those who distrust international health organizations.

Previous study hypothesis:
H1: Country crowdsourced content increases vaccine confidence and uptake.
H2: Country healthcare worker version of general international content increases vaccine

confidence and uptake.
H3: Country crowdsourced original content is more effective than general international content in increasing vaccine confidence and uptake.
H4: Country healthcare worker version of general international content is more effective than general international content in increasing vaccine confidence and uptake.
H5: Country crowdsourced version of general international content is more effective than general international content in increasing vaccine confidence and uptake.

Ethics approval required
Old ethics approval format

Ethics approval(s)
1. Approved 16/11/2021, Massachusetts Institute of Technology under Committee on the Use of Humans as Experimental Subjects (E25-143b, 77 Mass Ave, Cambridge, MA 02139, USA; +1 617-253-6787; couhes@mit.edu), ref: #2201000541 and #2110000475
2. Approved 16/11/2021, Health Media Lab IRB (Health Media Lab, Inc., 1101 Connecticut Avenue, NW Suite 450, Washington, DC 20036 USA; +1 202.246.8504; info@hmlirb.com), ref: #1034BUSA21

Primary study design
Interventional

Study design
Single-center interventional randomized controlled trial

Study type(s)
Prevention

Health condition(s) or problem(s) studied
Source credibility and vaccine outcomes

Interventions
Current interventions as of 23/01/2023:
The in-survey experiment has four treatment arms, one control group, and one placebo group. Each treatment arm consists of one video with content length around 20-30 seconds. Randomization is done using Qualtrics.

The treatment arms are as follows:
Treatment 1: International healthcare organization (WHO) message
Treatment 2: Local healthcare worker version of WHO message (T1)
Treatment 3: Local crowdsourced version of WHO message (T1)
Treatment 4: Local crowdsourced message (original content)
The control group only receives the message text with no messenger, while the placebo group receives nature videos from one message source (National Geographic). If there are no significant differences between the placebo and control groups, they will pooled into one group for analysis.

Previous interventions:
The in-survey experiment has 5 treatment arms and 1 control group. Each treatment arm

consists of 1 video with content length around 30-40 seconds. The control group does not receive any videos. The randomization will be done using R, Qualtrics, or Facebook's randomization tool for A/B testing.

The treatment groups are as follows: T0 is a placebo international nature video that has no public health content, T1 is the status quo of general international content, T2 is country crowdsourced original content, T3 is country healthcare worker version of general international content, and T4 is country crowdsourced version of general international content.

The most effective treatment for each country is then tested in a competitive information environment through a news feed experiment, where we boost the visibility of one of the treatment arms relative to no content being shown. The boosted treatment arm will be the treatment with the largest average treatment effect from that country's in-survey experiment, or T1 content if there are null effects.

Intervention Type
Behavioural

Primary outcome(s)
Current primary outcome measures as of 23/01/2023:
Measured post-treatment within the survey:
1. Source Credibility:
1.1. Trustworthiness, scaled from 0-5. Please rate the trustworthiness of this content is on a scale of 1-5, where 1 is the worst content and 5 is the best content in your opinion [5 star option]
1.2. Expertise, scaled from 0-5. Please rate the expertise of this content is on a scale of 1-5, where 1 is the worst content and 5 is the best content in your opinion [5 star option]
2. COVID Vaccine Outcomes:
2.1. COVID vaccine knowledge, binary indicator for correct answer: correct answer of "Herd immunity protects those who can't be vaccinated, because the disease is less likely to reach them."
2.2. COVID vaccination acceptance, binary indicator for yes. If a COVID-19 vaccine was available to you, would you take it?
2.3. COVID vaccine uptake, binary indicator for participation. Participating in a COVID vaccine pledge campaign where 1 = Yes, 0 = No.
3. General Vaccine Outcomes:
3.1. Influenza vaccination acceptance, binary indicator for yes: If the influenza vaccine was available to you, would you take it?
3.2. Cholera vaccination acceptance, binary indicator for yes: If the cholera vaccine was available to you, would you take it?
3.3. Pneumonia vaccination acceptance, binary indicator for yes: If the pneumonia vaccine was available to you, would you take it?
3.4. Seeks vaccine information, binary indicator for yes: Would you like to sign up to receive more information about how to access the influenza, cholera, or pneumonia vaccines? Please enter your email address if you would like to receive more information, otherwise please leave it blank.

Previous primary outcome measures:
Measured at baseline and the endline (2 weeks):
1. COVID vaccine confidence is measured as the mean across the following items: (1) COVID vaccine acceptance, where 1 = Yes, 0 = No, 0.5 = Maybe; (2) If a COVID-19 vaccine was available to you, would you take it?; (3) I will take a vaccine to protect myself from having COVID-19 in the

future, where 1 = Strongly agree/Agree, 0 = Disagree/Strongly disagree/Not sure or don't know.
2. COVID vaccine uptake is measured as the mean of the following two binary indicators: (1) Participating in a COVID vaccine pledge campaign where 1 = Yes, 0 = No; (2) Providing proof of COVID vaccination where 1 = Provides proof, 0 = No proof.

Key secondary outcome(s)
Current secondary outcome measures as of 23/01/2023:
Measured post-treatment within the survey:
1. Backlash:
1.1. Haha reaction, with a binary indicator: Selects haha reaction emoji
1.2. Angry reaction, with a binary indicator: Selects haha reaction emoji
2. Local Healthcare Outcomes:
2.1. Binary indicator for trust in the local healthcare workers: Personally, how much trust do you have in Kenyan healthcare workers? (1 = Trust them a great deal/Tend to trust them, 0 =Tend to distrust them/Distrust them greatly/Not sure or don't know)
2.2. Support for local healthcare workers: amount donated out of 100 Ksh to local healthcare workers
3. Misinformation:
3.1. Believes in COVID conspiracy theory, binary indicator for yes: Do you believe in any conspiracy theories around COVID? If yes, please describe here.
3.2. Believes that vaccines protect against serious diseases, binary indicator for yes: Do you believe that vaccines can protect you from serious diseases?

Previous secondary outcome measures:
Measured at baseline and the endline (2 weeks):
1. Prosocial vaccination index is the mean of: (1) I will take a vaccine to protect my family /members of my household against having COVID-19 in the future, where 1 = Strongly agree /Agree 0 = Disagree/Strongly disagree; (2) I will take a vaccine to protect my community against having COVID-19 in the future, where 1 = Strongly agree/Agree 0 = Disagree/Strongly disagree.
2. Vaccine norms index is the mean of: To what extent do you agree with the following statement: Most people in [Kenya/Nepal/the Philippines] should go to get vaccinated against COVID-19, where 1 = Strongly agree/Agree 0 = Disagree/Strongly disagree; (2) If you had a family member or friend who was unsure whether to accept the COVID-19 vaccine, how likely would you be to encourage them to get the vaccine, where 0 = Extremely unlikely to 100 = Extremely likely, re-scaled to be from 0 to 1 for the index.

Completion date
01/06/2023

Eligibility

Key inclusion criteria
Over the age of 18 years

Participant type(s)
Healthy volunteer

Healthy volunteers allowed
No

Age group

Adult

Lower age limit
18 Years

Sex
All

Key exclusion criteria
If an individual has already participated in a related survey for the study.

Date of first enrolment
20/05/2022

Date of final enrolment
01/03/2023

Locations

Countries of recruitment
Kenya

Study participating centre
Not applicable, online surveys
N/A
N/A
Kenya
N/A

Sponsor information

Organisation
Busara Center for Behavioral Economics

ROR
https://ror.org/032f13a22

Funder(s)

Funder type
Charity

Funder Name
Vaccine Confidence Fund

Results and Publications

Individual participant data (IPD) sharing plan
The anonymized raw data will be shared on Open Science Framework.

IPD sharing plan summary
Stored in publicly available repository