REVIEW OF RISK COMMUNICATION AND COMMUNITY ENGAGEMENT INITIATIVE FOR COVID-19 PREVENTION BEHAVIOURS IN CAMBODIA

Risk communication and community engagement billboards in Cambodia ©UNICEF Cambodia/2020/Daravatey Seng

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UNICEF Cambodia, Evaluation Section

October 2020

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Table of Contents

Partnership support 2
Acknowledgments 2
Executive summary 3
Background 3
Study limitations 7
Analytical framework: Theory of planned behaviour 7
Survey findings 9
Demographics of surveyed population 10
Information channels 12
Knowledge and attitudes 13
Preventive behaviours 16
Summary of findings 22
Lessons learned 22
Key recommendations 24

Table of Figures

Figure 1: Number of confirmed cases of COVID-19 in Cambodia, September 2020 6
Figure 2: Pathway from RCCE to behaviour change 8
Figure 3: Gender of respondents 10
Figure 4: Age of respondents 10
Figure 5: Education level of respondents 11
Figure 6: Source of information vs. trust in sources (pairwise correlation coefficient) 12
Figure 7: Source of information on COVID-19 by highest level of education 13
Figure 8: Main messages learned from sources of information 13
Figure 9: Perceived effectiveness of preventive action 14
Figure 10: Risk and severity perception by age group 15
Figure 11: Average frequency 17
Figure 12: Reasons for no preventive behaviour for all actions only 'sometimes' performed 18
Table 1: Correlation between frequency of behaviours and other variables 21
Figure 13: Frequently practiced behaviours and reasons for preventive behaviours 23

Table of Acronyms

Communication for Development	**C4D**
Country Office	**CO**
Non-governmental Organization	**NGO**
Risk Communication and Community Engagement	**RCCE**
World Health Organization	**WHO**

Partnership support

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Executive summary

UNICEF Cambodia continues to support the Royal Government of Cambodia and the World Health Organization (WHO) in risk communication and community engagement (RCCE) at the national and sub-national level. These interventions aim to provide the general population, particularly the most marginalized women and children with timely and reliable information on Coronavirus risks and preventive actions so that people can better protect themselves and others. This report reviews data from an online and phone survey to measure the current progress of country-level RCCE initiatives in promoting risk-reducing behaviours that prevent the spread of Coronavirus. It draws on Fishbein and Ajzen's Theory of Planned Behaviour as a framework for assessing whether or not these public messages on COVID-19 have succeeded in encouraging people to use preventive behaviours along a predicted pathway of behaviour change.

Analysed survey data show that country-level public messages disseminated by government institutions and partner organizations appear to have played a role in encouraging actions against contracting Coronavirus, with 99 per cent of respondents reporting that they received messages on Coronavirus and 80 per cent noting that public messaging was their main reason for practicing precautionary behaviours. Facebook stood out as the number-one channel through which respondents received information about Coronavirus, even while it was one of the least trusted news sources. On the other hand, the survey data showed that a large number of people also received and trusted information from local leaders, particularly among older generations and those with lower levels of education.

Given the strong positive correlation between people's risk perceptions and their belief in the effectiveness of preventive behaviours, this report suggests that when people believed that precautions could reduce their risk of contracting the virus, they were also more likely to believe in the effectiveness of the actions. The positive correlation between the perceived effectiveness and frequency of performed behaviours suggests that when people believed that preventive actions were effective, they were also more likely to regularly practice precautions. Based on the key findings, the report proposes four recommendations for RCCE interventions in Cambodia: 1) messages can emphasize that recommended behaviours are effective and can reduce the risk of c ontracting Coronavirus; 2) RCCE can increase the general frequency of messages promoting all behaviours; 3) innovative techniques can be used for reaching older and low-literate groups; and 4) messages can highlight the social importance and feasibility of preventive actions.

Background

RCCE is one of the key interventions being used by UNICEF, governments, UN agencies and partners worldwide to respond to the spread of COVID-19. The main objective of RCCE is to provide the general population, particularly vulnerable groups with timely, accessible and accurate information so that people can protect themselves and others from COVID-19.

In Cambodia, the government, along with counterparts at national and sub-national levels, responded quickly to the COVID-19 pandemic with RCCE activities that spread messages on preventive behaviours and practices. These included messages on frequent handwashing, social distancing, cough etiquette, preparing food and wearing masks, as well as suggestions on

[1]For more information contact Juanita Vasquez-Escallon: jvasquezescallon@unicef.org

where to look for and find reliable information on COVID-19. UNICEF has coordinated closely with leading ministries and relevant organizations on COVID-19 (Ministry of Health, Ministry of Education, Youth and Sport, Ministry of Social Affairs, Veterans and Youth Rehabilitation, Ministry of Cults and Religion and Ministry of Interior, as well as the Centre for Disease Control Cambodia, the Cambodian Institute for Health Promotion, WHO Cambodia and relevant international and local non-government organizations (NGOs)) in planning and implementing strategic, comprehensive RCCE activities.

The UNICEF Cambodia country office has played a leading role in producing RCCE assets, under the guidance of the Ministry of Health and in close collaboration with the World Health Organization and other partners. RCCE assets include posters, television spots, radio spots, banners and billboards, as well as social media. As of April 2020, it was estimated that 10 million people out of a population of 16 million had been reached by RCCE materials. As reported in UNICEF Cambodia's April 2020 Situation Report, UNICEF has provided technical support to the Ministry of Interior to operationalize COVID-19 RCCE guidelines at the sub-national level. A variety of assets have been produced for mass consumption to support the Ministry of Health, WHO and other government partners. They include: 14 television spots, 15 radio spots, one influencer parenting video, two short videos on mental health and psychosocial support, one hand-washing song for TikTok, two nutrition television spots, one nutrition poster, four posters, two fliers and one booklet. These are also in sign language. Content in four indigenous languages is aired on two local radio stations in the north-eastern provinces. COVID-19 messages were integrated in the Cambodia PROTECT campaign and on the UNICEF-supported Adolescent and Youth Reference Group's social media platforms. These have reached at least 1.8 million people.

Facebook pages of government institutions, including the page of the prime minister (the most followed page in Cambodia), partners and celebrities have streamed UNICEF communication assets. Two video messages from the highest-ranking Buddhist monks have been streamed on radio and television stations. Loudspeakers across several villages are playing the radio spots. The Provincial Department of Rural Development launched talk shows on COVID-19 in five provinces. A video on distance learning featuring the Minister of Education, and three other COVID-19 education assets were produced and are being broadcast on Apsara TV and on the e-learning platform of the Ministry of Education, Youth and Sport. Influencers are featured in UNICEF videos and are supporting outreach actions. The European Chamber of Commerce has disseminated UNICEF's COVID-19 package of communication materials to 10,926 private sector businesses, for companies to display in their shops and further disseminate information about COVID-19 prevention to customers. Through a partnership with the Phnom Penh Governor's Office, 27 electronic billboards in Phnom Penh displayed UNICEF videos and posters on COVID-19, and an additional 37 print billboards were launched in April 2020. As of April 2020, when the RCCE survey was initially launched, UNICEF had printed 161,050 COVID-19 posters and 85,428 hand-washing posters, which were distributed across governmental entities and NGO partners.

In addition, RCCE messages have been disseminated at national and sub-national levels, reaching both urban and rural populations. To ensure the initiative reaches vulnerable groups, materials are also being produced in multiple languages, as well as in sign language. This massive country-led deployment of diverse and easily accessible RCCE materials is expected to not only inform the public about COVID-19 risks and symptoms, but also lead and reinforce the widespread public application of safe and protective behaviours.

[2]https://wcmsprod.unicef.org/cambodia/documents/unicef-cambodia-covid-19-situation-report

While commonly used monitoring tools in emergencies can be applied for measuring achievements related to the delivery of RCCE messages on COVID-19 to specific target populations, additional tools are needed for measuring the effects of RCCE messaging on people's knowledge, attitudes and practices. A timely outcome- and impact-level monitoring framework should explore whether RCCE initiatives are changing behaviours, and therefore strengthening the prevention and containment of COVID-19. The application of outcome-level monitoring tools will give government institutions, NGO counterparts and the UNICEF country office an understanding of whether expected results are being met, while also revealing areas that need to be strengthened or revised.

Given the risks of in-person monitoring during the outbreak of COVID-19, the UNICEF country office developed various forms of remote data collection, including online surveys and phone surveys. An online survey launched in April collected over 500 responses from people across the country, while a phone survey collected responses from 250 UNICEF beneficiaries of the Mine Risk Education Programme and Positive Parenting Programme. This provided insight into how people accessed information on COVID-19 prevention, how they understood the risks of COVID-19, and their reported actions in protecting themselves and others from the virus. Data from this survey presents an initial glimpse into the outcome-level achievements of RCCE programmes on COVID-19 messaging that will support the development of further results-level monitoring tools and analyses.

The RCCE survey, which is supported by an interactive dashboard that allows for real-time data analysis[3] has already generated several results that highlight the channels and processes through which UNICEF Cambodia's COVID-19 RCCE messages are shaping people's attitudes and practices. There is evidence that RCCE messages are reaching a substantial proportion of the intended population and that those who have been reached have increased their knowledge on behaviors for preventing the spread of COVID-19. The data also demonstrates an overall high frequency in reported preventive behaviors; however, it also shows that not all preventive actions are performed at the same frequency. Differences in the frequency of preventive actions reveal the areas in which RCCE messaging is contributing to change people's behavior as well as those that need improvement.

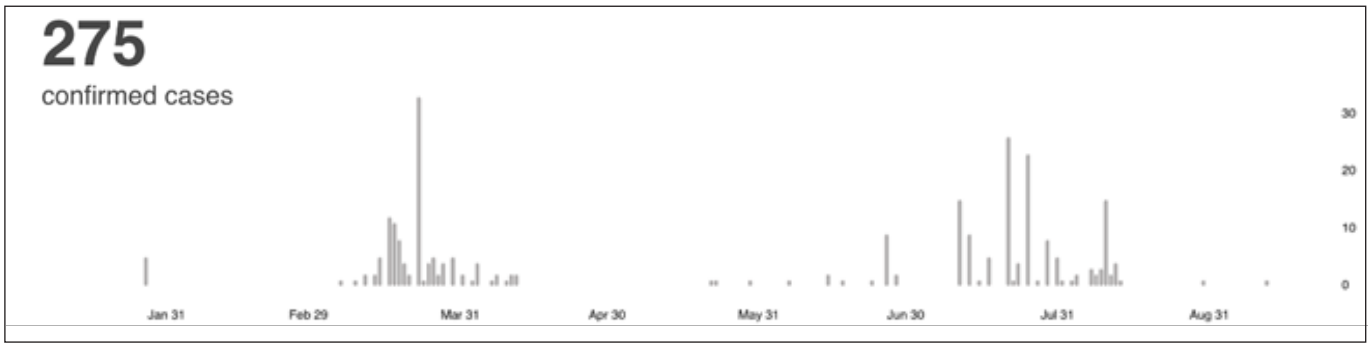
The COVID-19 situation in terms of cases is summarized in the figure below. As of 25 September, there had been 275 cases and 0 deaths[4]. Most of the cases have been imported and there have been two periods where case numbers increased, mainly between the end of February and the end of March, and in July 2020. However, no community transmission has been reported in Cambodia. The timing of the survey, which was launched in April, follows this first period of increase in cases, which also triggered the closure of schools and entertainment venues (such as Karaoke venues, sports centres, etc.) among other restrictions.

[3]Interactive dashboard can be accessed at: https://unicef-cambodia.discover.ona.io/superset/dashboard/11/

[4]For updated statistics about COVID-19 cases, please refer to https://covid19-map.cdcmoh.gov.kh/

RCCE messaging displayed on the back of a tuk tuk ©UNICEF/UNI331908/

Figure 1: Number of confirmed cases of COVID-19 in Cambodia, September 2020



Study limitations

This survey had several limitations. Data collected was biased towards more urban, educated and connected individuals (roughly equal in gender distribution[5] who follow social media. One way this bias was reduced was through a phone survey targeting UNICEF beneficiaries (250 respondents selected through purposive sampling) who might not have been be online, following social media, and who were part of more vulnerable sectors of society. These respondents were actively involved in UNICEF programming. Given the smaller sample size of 774 survey participants, and the fact that the respondents were not randomly selected, the responses did not reflect the situation of the whole population, particularly vulnerable groups. Disability was very weakly represented in the survey sample.

The survey could not ensure that country-level messages and RCCE alone attributed to behavioural change, where it was measured. In the context of the COVID-19 pandemic, many things are changing very rapidly and a combination of factors could be linked to this behavioural change. This study relied on a theoretical model to approximate potential correlations and explore whether expected channels towards behavioural change were visible, however there will not be 100 per cent certainty on the statistical significance of the pathways of change. Despite its limitations, results from this study will provide a sense of whether RCCE messages on Coronavirus have been received and understood and if behaviours aligned to the expected messages are being followed by the general population. Data from this online survey can be used in monitoring to better understand the various kinds of factors that may stand in the way of the RCCE expected pathway towards generating outcome-level behavioural change.

Analytical framework: Theory of planned behaviour

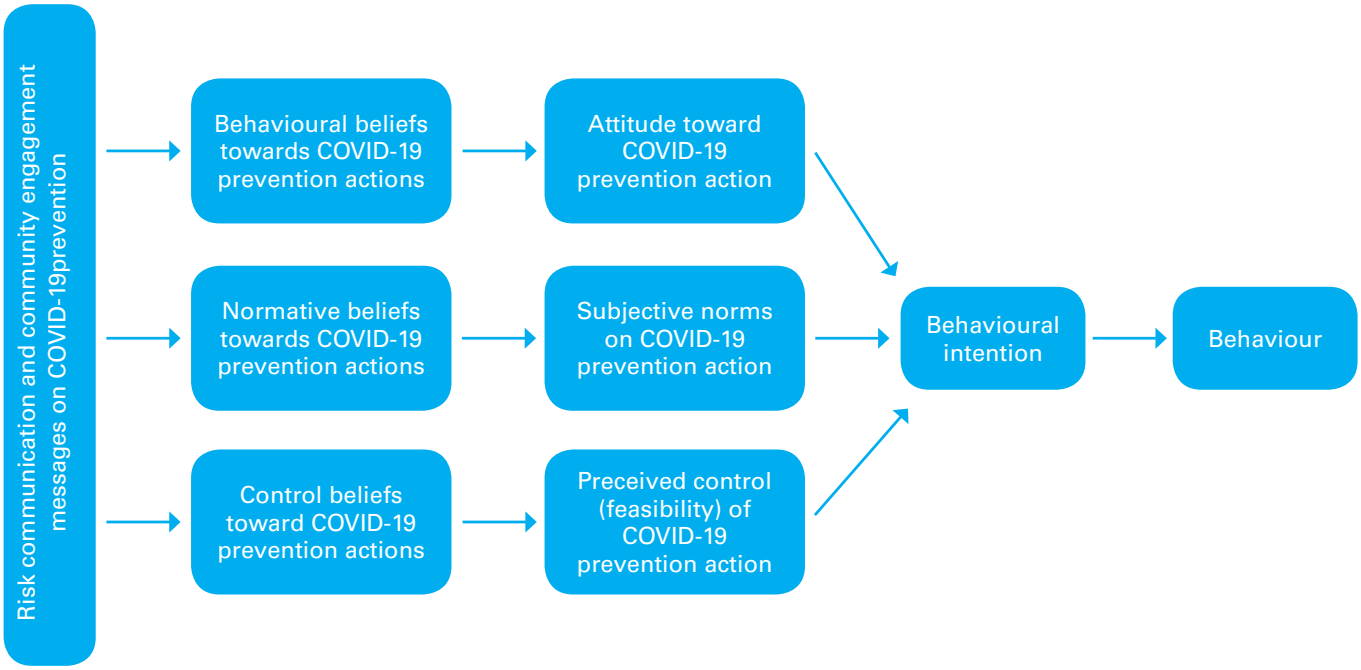
Fishbein and Ajzen's Theory of Planned Behaviour[6] provides a compelling and relevant framework for explaining the role of media interventions in motivating changes in health behaviours. Linking beliefs with behaviours, this theory predicts that a person's intention to perform a health-seeking behaviour depends on a combination of her/his personal attitudes and subjective norms towards the behaviour, as well as the individual's perceived ability to perform the action–a factor that Fishbein and Ajzen define as 'behavioural control'. This theoretical framework anticipates that a positive attitude, favourable social norms and high levels of behavioural control will together heighten an individual's intention to perform a behaviour, which in turn leads to execution of the behaviour. According to Fishbein and Ajzen's model, information, acquired through knowledge, media and interventions, stands out as one of the important background factors that can shape a person's beliefs and attitudes towards a behaviour. In other words, the theory shows that communication on public health crises, such as the RCCE interventions in Cambodia on COVID-19, may lead to behavioural change if the information positively influences people's attitudes, social norms and perceived control. At the same time, other individual and social factors, such as perceived risks, age, ethnicity

[5]41 per cent of survey respondents identified as female and 59 per cent identified as male.

[6]Fishbein, Martin and Icek Ajzen. 1975. Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, Mass: Addison-Wesley.

and education may intercept the predicted pathway towards behavioural change. Given that Fishbein and Ajzen's model emphasizes outcome-level changes in behaviours, the Theory of Planned Behaviour can serve as a proxy theory of change for monitoring the achievements of COVID-19 RCCE initiatives.

Figure 2: Pathway from RCCE to behaviour change



When COVID-19 RCCE initiatives are mapped onto the Theory of Planned Behaviour, the model predicts that information and knowledge from RCCE will influence people's beliefs in the importance, acceptability and feasibility of preventive behaviours (such as washing hands, social distancing, etc.), which will in turn lead to behavioural intentions to perform the actions. RCCE messages shape beliefs and attitudes through three key pathways:

1. Higher knowledge of COVID-19 leads to higher concerns and positive attitudes towards preventive action.

2. Higher saturation of public messaging on COVID-19 risk prevention leads to the social normalization of preventive actions and the acceptance of the action by the individual.

3. Increased messaging on feasible preventive actions leads to the individual's confidence in their ability to partake in the preventive action.

RCCE information on COVID-19 prevention leads to the expected result of behavioural change when beliefs and attitudes generate a strong intention to perform the behaviour. The Theory of Planned Behaviour as a theory of change for Cambodia's COVID-19 RCCE initiatives predicts the following chain of results:

1. IF RCCE messages enable people to understand that COVID-19 prevention behaviours are both effective and important to their health

2. AND communicate the behaviours as normative social actions (it is well accepted in the community and seen as a social responsibility)

3. AND demonstrate the feasibility of actions by individuals (that people have the tools to practice this)

4. THEN people will have strong intentions to practice preventive actions

5. AND they will practice the preventive behaviours.

Data from the RCCE knowledge, attitudes and practices survey can be measured against the Theory of Planned Behaviour to determine if COVID-19 RCCE initiatives in Cambodia have succeeded in generating preventive actions along the predicted pathway of behavioural change.

With support from communications specialists at UNICEF CO, the Cambodia government and partner organizations developed RCCE messages that implicitly drew on this theoretical knowledge about the factors and conditions behavioural change. The messages primarily focused on increasing public awareness of coronavirus as a means of shifting people's attitudes towards the preventive actions. Except for one handwashing video that describes the process through which the virus can spread between community members, the RCCE messages did not make explicit or implicit reference to the social importance or feasibility of preventive behaviours. Therefore, this study expects to find behaviour changes associated largely with increased knowledge and positive attitudes towards the recommended actions for preventing the spread and transmission of coronavirus.

A child learns about safety during COVID-19

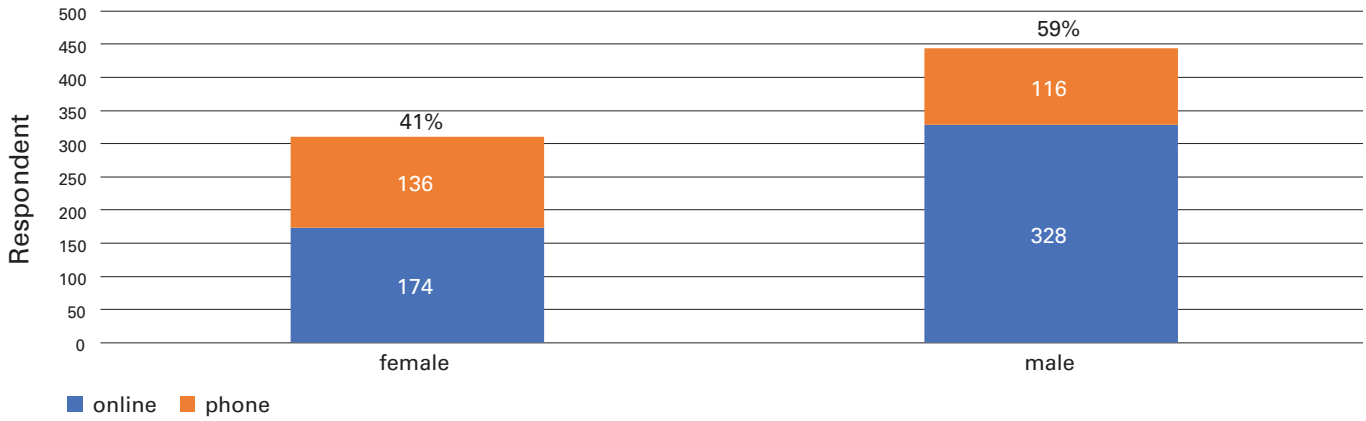
Survey findings

The following sections provide an overview of key findings that are linked to the pathways of action described previously. A comprehensive description on each variable of the RCCE survey and its disaggregation by gender, disability and education can be explored directly in the RCCE dashboard referenced in footnote 1.

Demographics of surveyed population

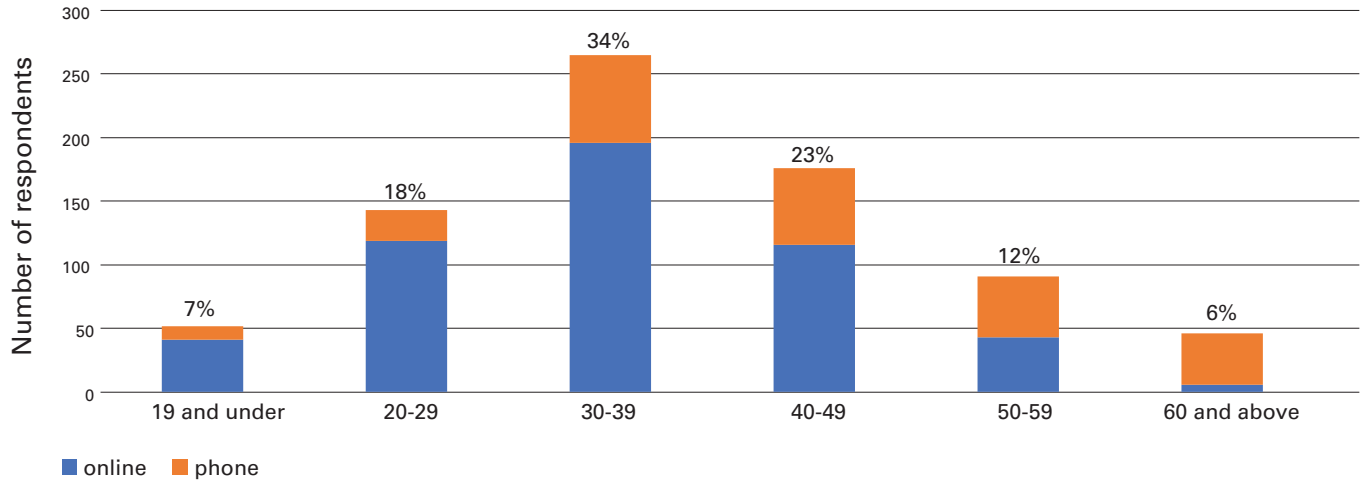
The online UNICEF Cambodia COVID-19 Awareness Survey, which was widely disseminated through social media by implementing partners and SMS texts from telecom companies (Smart), received 774 responses[7]. The survey respondents had the following demographic distribution:

Figure 3: Gender of respondents



Percentages express the proportion of total respondents.

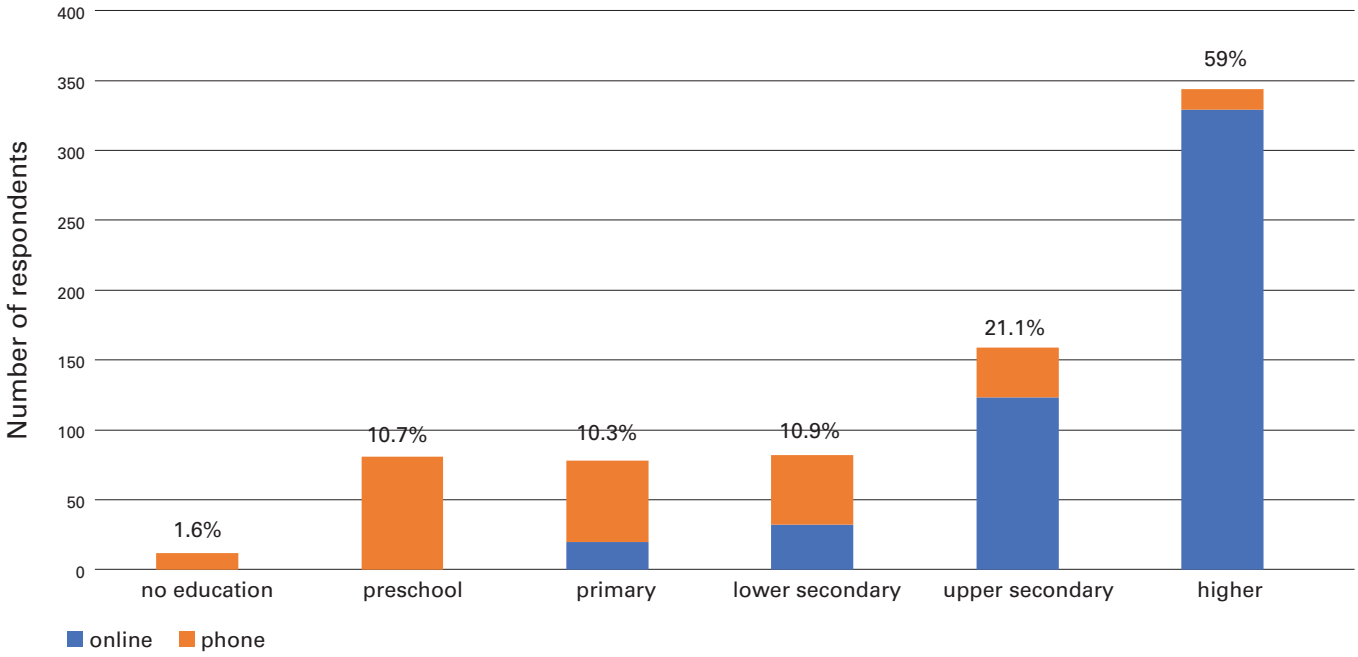
Figure 4: Age of respondents



Percentages express the proportion of total survey respondents

[7] People were free to choose which questions to respond. This means that the totals do not always add up in the same way.

Figure 5: Education level of respondents



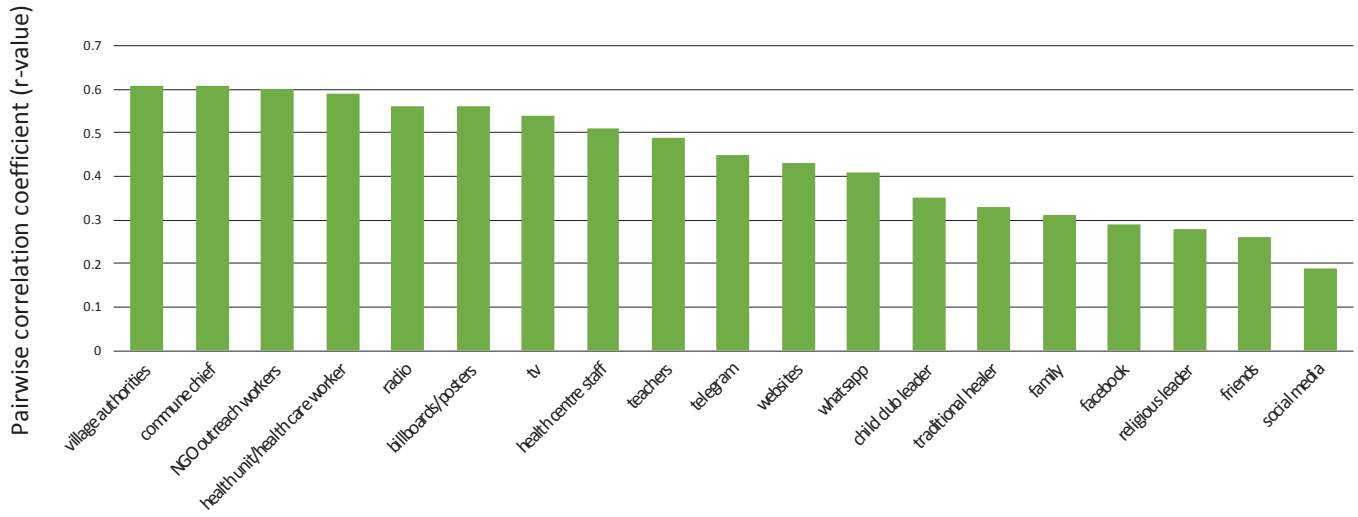
Percentages express the proportion of total survey respondents

The online survey had a much higher response rate from men than from women, but more women responded to the phone survey than men, providing a slightly more balanced sample. Phone respondents were in the older age categories (30 and above) and had a wider range of education levels than the online participants. Since the majority of phone survey respondents were beneficiaries of UNICEF Cambodia's Positive Parenting and Mine Risk Education programmes, the demographics of the phone survey respondents likely reflected the general makeup of these UNICEF-supported programmes, which include among the caregivers targeted both parents and grandparents of children. Online survey respondents were, on average, younger and more educated than the phone respondents, however this demographic is also more likely to have greater access to the online survey. Thus, the phone survey was key to increasing diversity in responses, providing access to the views of people in older age groups and those with lower levels of education not captured through the online approach. Still, given the larger sample size from the online survey, the overall RCCE survey results are skewed towards more educated individuals with an average age of 37 years. Of these people, 92 per cent identify as living with no disabilities. The majority of the respondents also come from the most urbanized and densely populated regions of the country, including Phnom Penh, Siem Reap, Battambang and Takeo. As mentioned, due to the demographic characteristics of the respondents and the limited sample size of the data from both the online and phone surveys, results from the RCCE survey are not reflective of the entire targeted population of the national and sub-national RCCE initiatives on COVID-19. However, despite these limitations, results from the survey can still provide a valuable insight into RCCE's pathway of behavioural change and show if any progress is being made towards the programme's expected outputs and outcomes.

Information channels

The top-five information channels and sources through which survey respondents received information about COVID-19 were Facebook, television, village authorities, billboards/posters and commune councils/chiefs. However, while 85 per cent of respondents received information on Facebook, only 32 per cent of respondents saw Facebook as a trustworthy source. When comparing the channels through which respondents received information about Coronavirus with their overall ranking of trusted channels, the RCCE survey data suggests that those receiving COVID-19 messages from village authorities, commune councils/chiefs, health workers, radio, billboards and television are also most likely to trust that information. There is a much weaker association between those receiving messages about Coronavirus on Facebook and their actual trust in the information given.

Figure 6: Source of information vs. trust in sources (pairwise correlation coefficient)

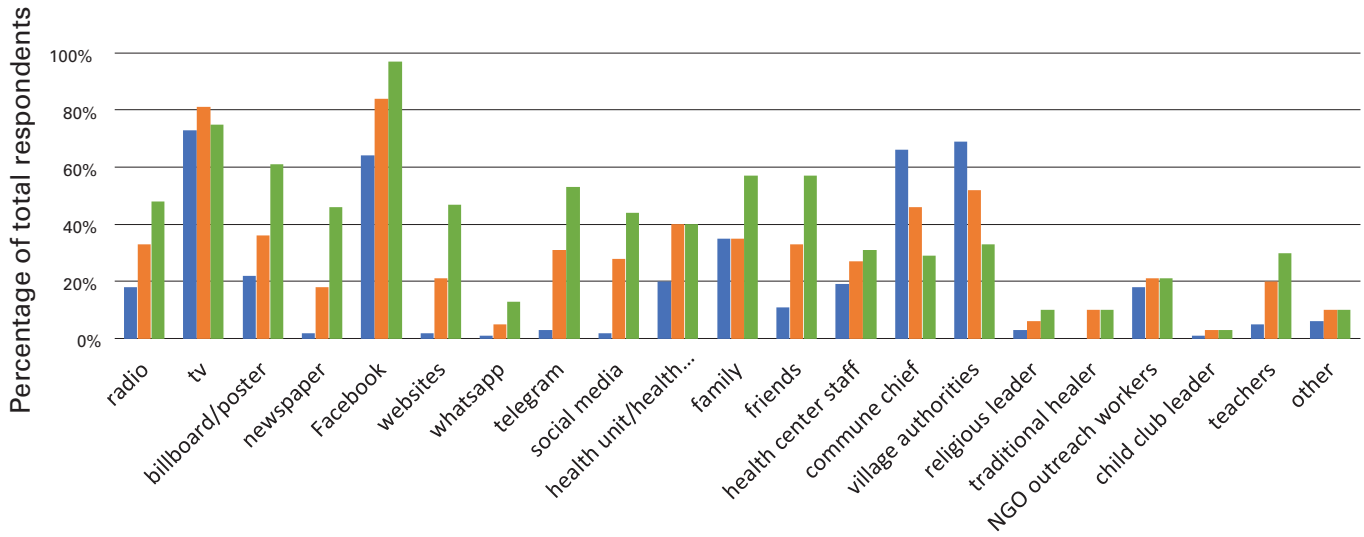


The reported trust of respondents in these channels of information may reflect their general trust in such media as sources of news information, rather than their trust in the channels' messages on COVID-19 specifically. Within such channels of information, there may be certain sources (e.g., Facebook pages/accounts or television channels) that people find trustworthy even while the channel of information as a whole may impart mostly unreliable messages. For example, information from highly reliable sources, such as the Ministry of Health and WHO may be disseminated through less reliable platforms by the means of official Ministry of Health or WHO Facebook pages, television interviews with health experts, and reposts of official health information on Facebook and other social media. Many UNICEF-supported communication materials about Coronavirus have already been featured on the Facebook pages of government institutions, including the official page of the prime minister (the most followed Facebook page in Cambodia). Since RCCE messages on COVID-19 channelled information through social media, billboards and television spots, the initiative likely succeeded in reaching people through the channels they use most. Even if such channels are considered unreliable, by referring to official health information the RCCE message may have worked to instil a level of reliability into the channel.

The RCCE survey data shows that for most information channels that require the user to read

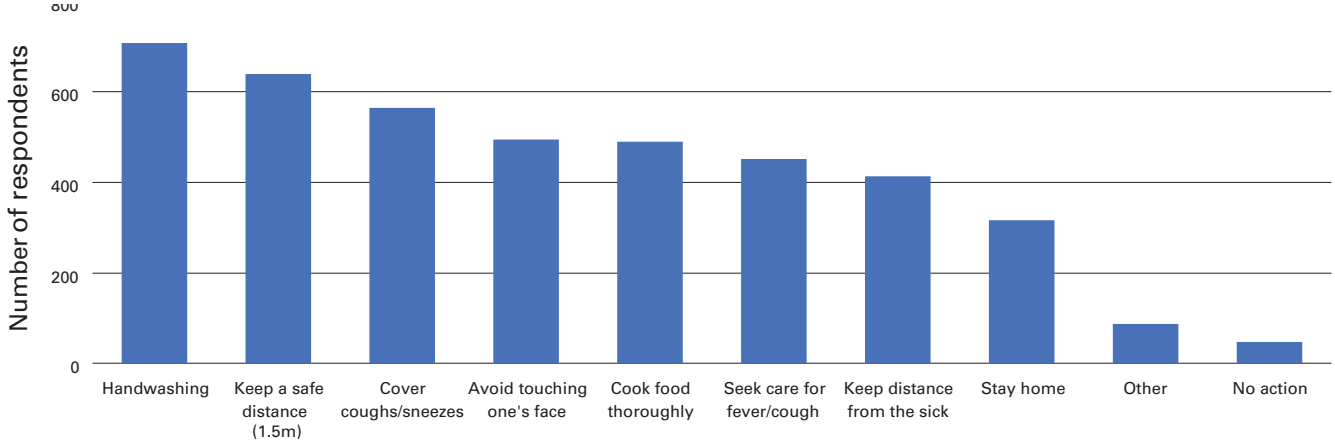
the messages, such as billboards, newspapers, Facebook and websites, the respondents who received information about COVID-19 through these channels tended to be more educated. This trend may result from the fact that those who are less educated may not have the capabilities, leisure time or access to materials and devices to read messages about Coronavirus. The survey respondents who received messages about COVID-19 through commune chiefs and village authorities tended to have lower levels of education and were also mostly older (50 years and above). As the relationship between the information source and trust in the source shows (Figure 6), these respondents are also likely to trust the commune chiefs and village authorities who give them information about Coronavirus. The education disparities for those who receive information on COVID-19 from radio, family, friends and teachers requires further analysis. It is possible that those with higher levels of education may receive information from teachers because they are also more likely to have the capacity to send their children to school, however this disparity may also result from other socio-economic and cultural factors that cannot be currently determined from the available data set.

Figure 7: Source of information on COVID-19 by highest level of education



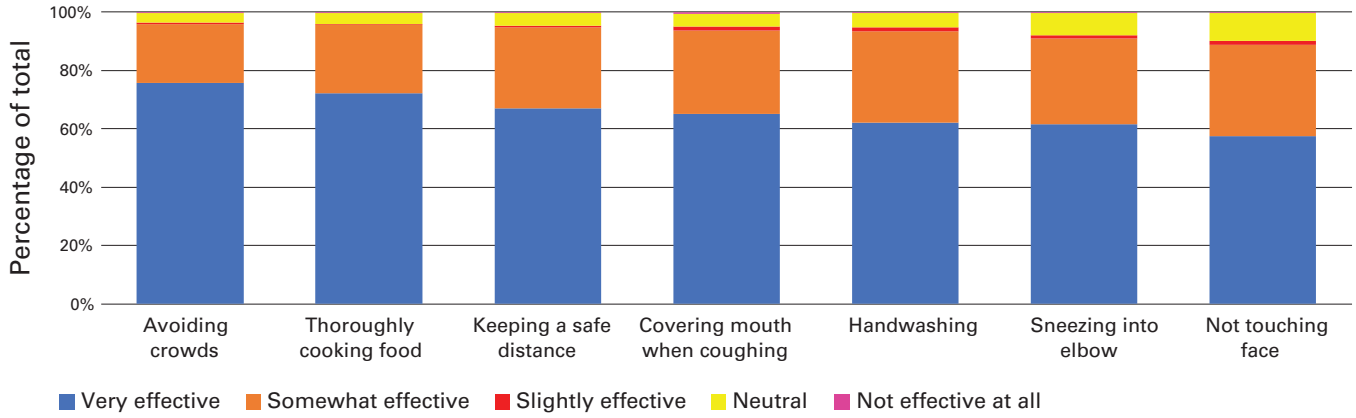
Knowledge and attitudes

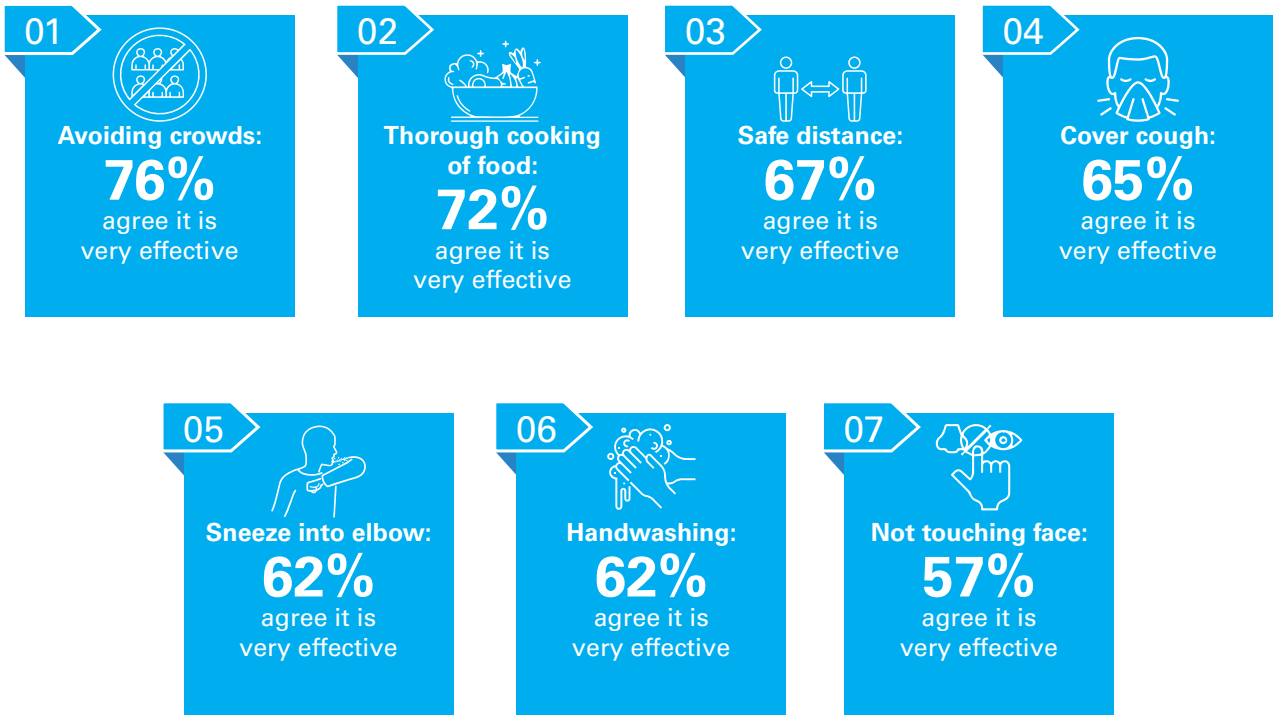
Figure 8: Main messages learned from sources of information



The online survey results show that RCCE key messages on COVID-19 are reaching those who participated in the survey online and by phone, with 99 per cent of respondents reporting seeing messages on disease prevention and 87 per cent of respondents indicating that the messages were easy to understand. Information on disease prevention and disease transmission are the two primary messages that respondents have gleaned from these channels. Survey respondents noted that the top-five actions the messages recommended were: wash their hands, keep a safe distance, cover coughs/sneezes, avoid touching one's face and cook food thoroughly. Given that the top-five recommended actions also correspond with the key preventive behaviours promoted in RCCE materials, and as the majority of respondents understood the information, the survey data suggests that RCCE messages are contributing to the increased knowledge of COVID-19 preventive actions among those who see the messages. These results remain true across the gender and disability status of survey participants.

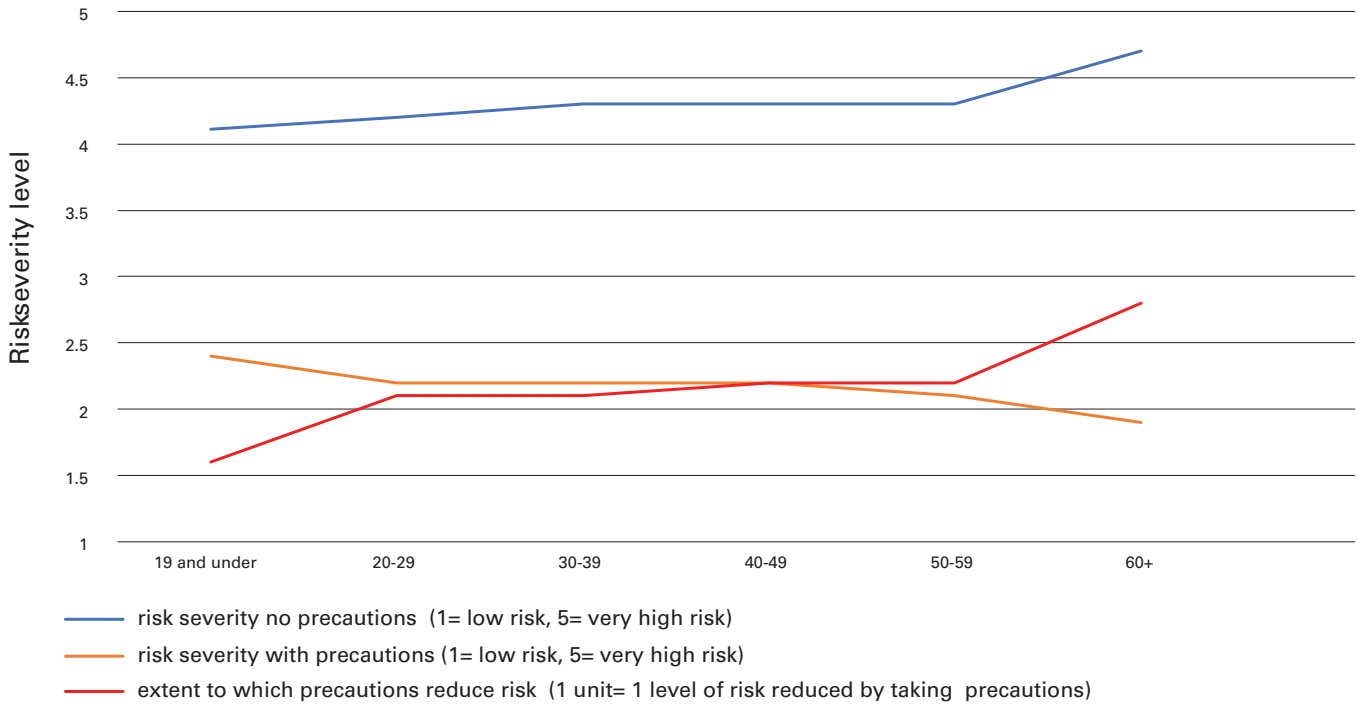
Figure 9: Perceived effectiveness of preventive action





The survey data demonstrates that for all the actions recommended for preventing the spread of COVID-19, at least 50 per cent of the respondents agree that the individual actions are very effective. The fact that 90 per cent of respondents see all these actions as at least somewhat effective or very effective may explain why 85 per cent of the respondents agreed that there is either a significant or very high risk of contracting COVID-19 without taking precautions. Survey data shows a statistically significant positive association between people's perceptions about the risk of contracting Coronavirus after taking precautions and their views towards the effectiveness of the recommended actions. While the strength of this association varies slightly between each individual action, it suggests that the more people view preventive actions as effective, the more they believe that overall precautions can lower the risk of infection. When comparing people's perceived risk of contracting the virus without precautions with their perceived risk after taking precautions, the survey data revealed that the respondents saw risk falling by two full categories, from 'very high risk' to 'medium risk' if precautions were taken. Nevertheless, only 69 per cent of respondents agreed that taking action would lead to overall low risk of contracting the virus. This shows that precautions are important, but they are not perceived to remove the risk of contracting the virus. On average, respondents across all categories of age, sex, education level and disability agreed that Coronavirus was a very severe health risk that could potentially require treatment in an intensive care unit.

Figure 10: Risk and severity perception by age group



Risk perception follows certain age patterns. In general, most respondents agreed that the virus could lead to serious personal health implications. However, older populations tended to believe that risks were higher without precautions and that their risk would be lower if precautions were taken. On average, respondents in the 60+ age category agreed that by taking precautions they potentially reduced their level of risk of contracting the virus by almost three degrees of severity. This suggests that older people may be more willing than younger people to take precautions because they believe that preventive actions can significantly reduce their risk of contracting the virus. Taking people's perceived effectiveness of protective actions and risk perception as two measures of their attitudes towards COVID-19 prevention, this survey shows that knowledge has increased people's positive attitudes towards preventive behaviours. In other words, the survey respondents believe that preventive actions are generally effective, that inaction will lead to severe risks, and precautions will help reduce risks. However, with respect to each of the individual actions, respondents believe that some of the recommended preventive measures are more effective than others in preventing the spread of COVID-19 and are thus more likely to reduce their risk of contracting the virus when practiced.

Preventive behaviours

Differences in people's beliefs about the individual effectiveness of each preventive action may explain why only 69 per cent of people agreed that taking precautions would lead to low risk of contracting Coronavirus, even though 85 per cent of respondents agreed about the risk of inaction. These differences in attitudes towards effectiveness may therefore account for the differing frequency at which people practice the individual actions. In general, at least 50 per cent of the respondents reported practicing all the actions frequently, with the exception of avoiding touching one's face, which only 20 per cent practiced frequently.

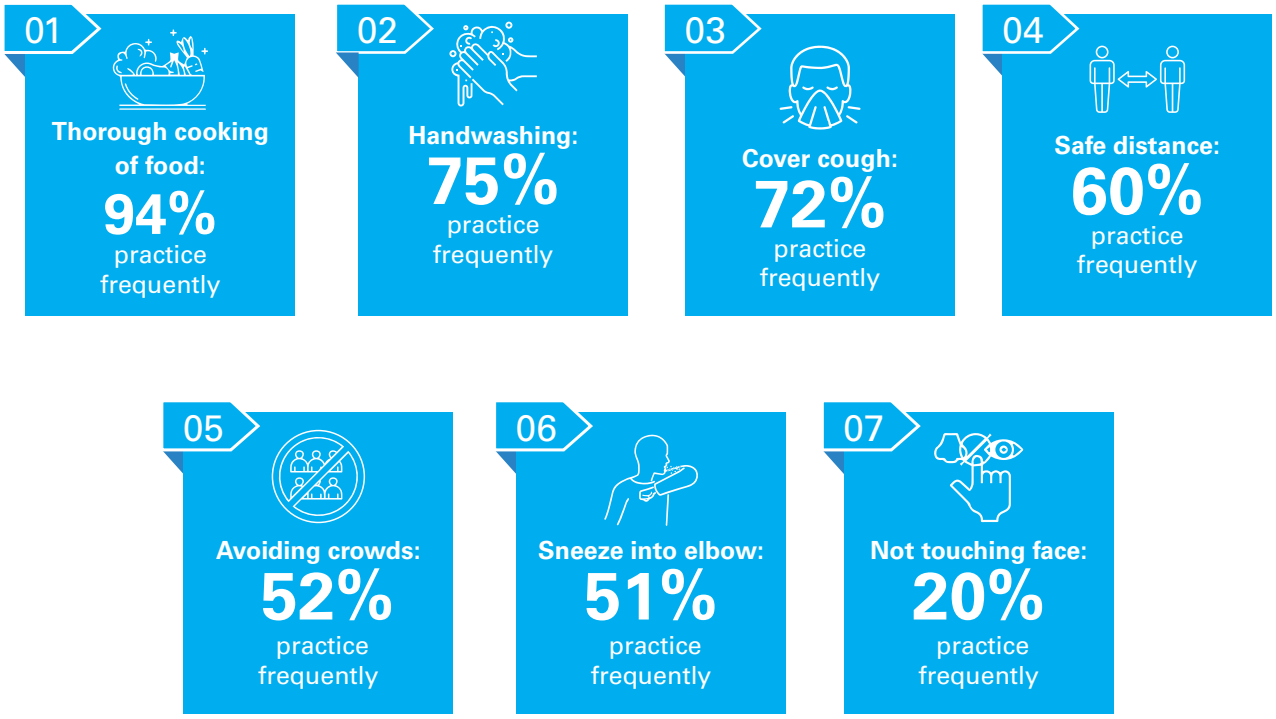
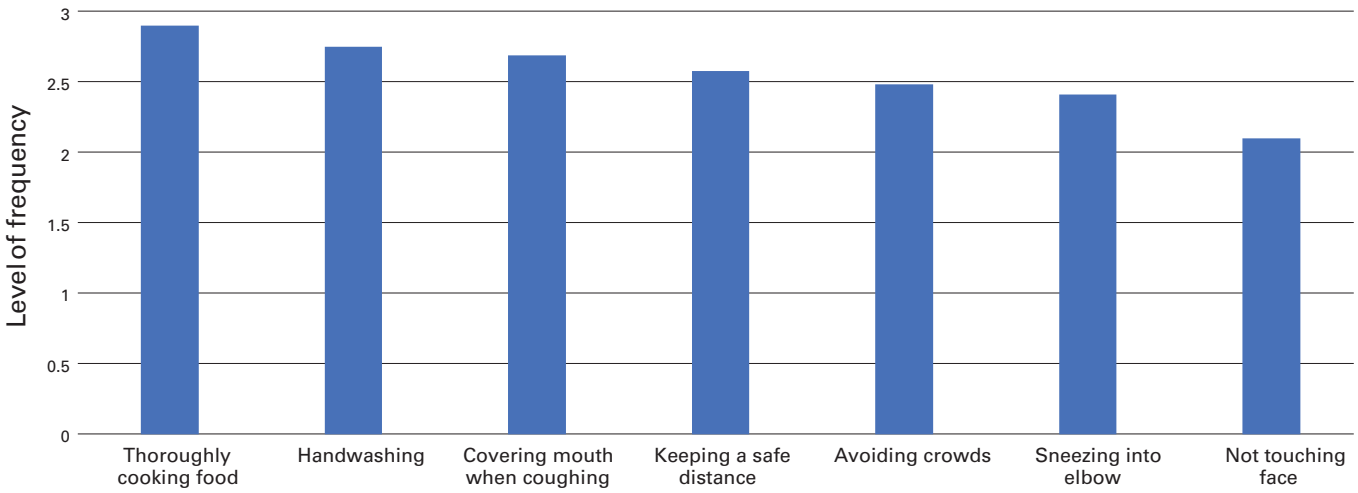


Figure 11: Average frequency



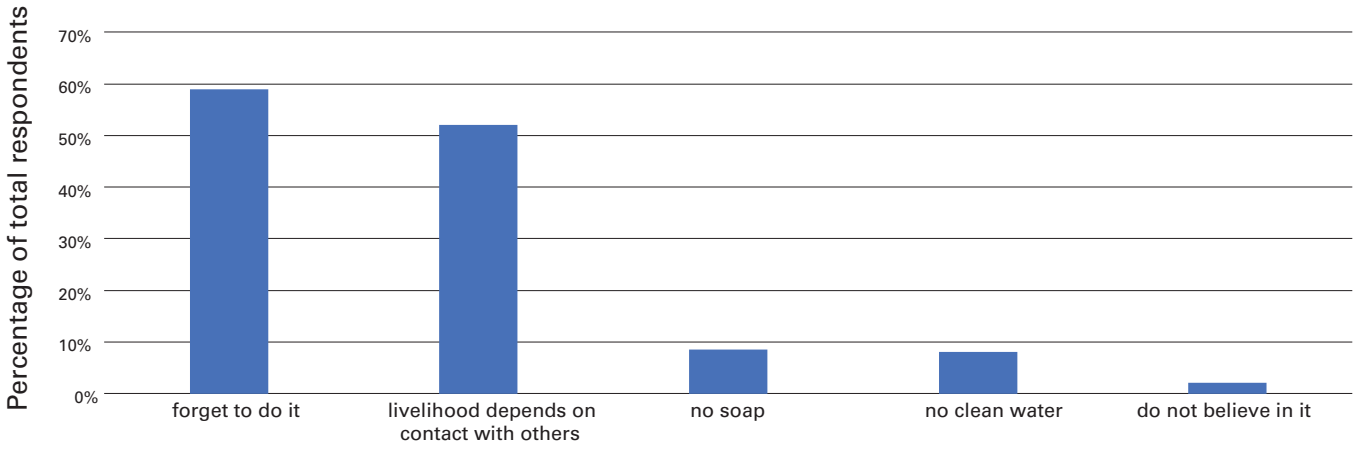
School students see COVID-19 safety messages at their hand-washing station

There is emerging evidence on the sustainability of the behaviours over time, especially as the COVID-19 situation changes. The RCCE survey was done between April and June 2020, when restrictions came into place due to an increase in the number of imported COVID-19 cases. However, the COVID-19 situation in Cambodia has remained stable, with few new imported cases reported and no community transmission. More recent data collection efforts show a possible reduction in practiced behaviours. The first wave of the socio-economic impact study done in August, and representative of the whole of Cambodia, shows that slightly more than 50 per cent of the population was frequently washing their hands, almost 20 per cent was avoiding gatherings or maintaining social distancing, and around one third of the population was wearing a face mask. RCCE survey respondents reported frequently washing their hands (75 per cent), avoiding crowds (52 per cent) and keeping a safe distance (60 per cent). Although the survey design is different, preventing direct comparison, there might be an indication of a reduction in protective behaviours as the perceived risk decreases in the face of fewer active or new COVID-19 cases in Cambodia.

The online survey data shows that several frequently practiced behaviours are also behaviours that people consider to be very effective. Additionally, the significant positive correlation between perceived effectiveness and frequency of behaviours suggests that, the more that a person believes an action to be effective, the more likely s/he is to practice that behaviour. When measured against the Theory of Planned Behaviour, these data points show that for certain actions, a person's perceived effectiveness of the behaviour (her/his attitude) may be a key factor leading to her/his actual and frequent practice of that action.

However, perceived effectiveness in itself does not seem to generate action; there are a number of other factors that may explain why certain practices are performed more frequently than others.

Figure 12: Reasons for no preventive behaviour for all actions only 'sometimes' performed



When asked about their reasons for not taking precautions in everyday life, 56 per cent of respondents noted that they simply forgot, and 48 per cent of respondents agreed that they could not pursue precautionary behaviours because their livelihoods depended on contact with others. In Cambodia, there are many types of individuals who are unable to perform all the actions at a high frequency. However, certain workers may have more capability than others in taking actions to prevent their risk of contracting Coronavirus. Taking education level as a proxy for both socio-economic status and type of work contract, the survey data shows that only 17 per cent of respondents who have primary school education (or less) state that they stayed home when sick. Meanwhile, 40 per

cent of those with secondary levels of education and 60 per cent of those with higher levels of education noted that they stayed home when they felt sick. This suggests that while those with formal work contracts may be able to call in sick on any given day, daily wage earners who have less formal work contracts may have less job stability and less flexibility to miss a day of income. As such, daily wage earners in Cambodia are not only at a higher risk of contracting the virus through work, but they also have fewer opportunities to practice the preventive behaviours. This shows that livelihood and socioeconomic status are two intractable obstacles that stand in the way of behavioural change, regardless of how effective the behaviours may be.

Table 1 presents results of an ordered logistic regression that seeks to explore the factors that are correlated with uptake of protective behaviours. The key variables of interest are: 1) views on effectiveness of action, 2) perceptions of risk without precautions, 3) views on severity of Coronavirus, and 4) seeing a public message on the action. Two versions of the regression were run, one without demographic controls and only these four variables, and one including demographic controls to ensure that correlations were strong enough even after controlling for key demographics. The following paragraphs analyse the prevalence of practiced behaviours, also drawing on results from the multi-variate ordered logit regressions. The coefficients presented in Table 1 have been transformed to odds ratios. These are interpreted as: for a one unit increase in, for example, views on effectiveness of handwashing, the odds of washing hands are 1.5 times greater, while keeping the rest of the variables of the model constant.

Avoiding crowds, which 76 per cent of respondents believe is very effective, is only practiced by 52 per cent. Respondents with secondary or higher levels of education avoid crowds at a higher rate than respondents who have completed only primary education or less. This relationship between education level and frequency of practiced behaviour is also the same for the action of keeping a safe distance. Preliminary results from a socio-economic impact study carried in August also showed a relationship between poverty and the frequency at which people reported to avoiding crowds and practicing social distance. This data shows that respondents who are classified as poor are also less likely to avoid gatherings and keep a safe distance; a similar pattern is observed among urban residents, and those living in the regions outside of Phnom Penh. This recent data collection also shows that respondents with lower levels of education are less likely to avoid crowds and keep a social distance than those who have completed secondary or higher levels of schooling. This may be because those who have lower levels of education, as well as poorer urban residents, are more likely to depend on close contact with others for their livelihoods. At the same time, this correlation may be related to other factors in their living conditions. What is not captured by the survey is the fact that avoiding crowds may be difficult to do depending on the context in which the person lives: it may be difficult for someone to avoid crowds when others in the environment are not doing the same, and avoiding crowds may be impossible within a dense city or rural village. Those with lower levels of education may not have the ability to avoid public transportation by driving cars or their own motorcycle, they may only be able to afford accommodation in overcrowded neighbourhoods, and they may shop in crowded street markets rather than supermarkets where crowds are regulated but the products are more expensive. The same factors may apply to people's frequency of practicing safe distance. While public messaging may not have played a role in shaping safe distancing practices, the statistically significant positive association between the respondents' frequency of keeping a safe distance and their views towards the severity of risks without precautions shows that people may try

harder to keep a safe distance when they believe that inaction will increase their chances of contracting the virus.

Washing hands and thoroughly cooking food are practiced by most respondents, regardless of their age, sex or education levels, even though fewer people believe in the effectiveness of the behaviours. Of all the recommended actions, handwashing is the only behaviour with which frequency is positively associated with the respondents' perceptions of the severity of the virus. This relationship suggests that, when people believe that Coronavirus is severe, they are also more likely to wash their hands as an immediate response. People may also wash their hands and thoroughly cook their food more frequently because the actions are easy to do and the effectiveness of the behaviours for the individual does not depend on compliance from others, or the individual's living context (if they also have clean water and soap). Actions such as sneezing into elbows or covering coughs may be more frequently performed because a person's individual ability to do these actions does not depend on others, even though the effectiveness of the behaviours requires others to also comply. Even while more than half of the respondents find that not touching one's face is effective, the majority of the respondents do not always avoid touching their faces. Of those who only sometimes avoid touching their faces, 57 per cent noted that 'forgetting' was a key barrier to frequently practicing this precaution in their everyday life. It is interesting to note that gender seems to play an important role in the practice of protective behaviours. Except for cooking food thoroughly and touching one's face, women were much more likely to wash their hands, avoid crowds, keep a safe distance and sneeze into their elbows.

For a number of actions, RCCE messaging was strongly associated with the frequency with which respondents practiced the various recommended behaviours. As such, the respondents were more likely to practice these precautionary actions frequently when they had also seen public messages recommending such behaviours (both from UNICEF-supported RCCE initiatives and other sources). The data suggests that actions that are frequently performed also have three key features: they are actions that are easy to perform individually; they do not depend on the characteristics of a person's living context; and they do not require social compliance in order to be effective for the individual. Overall, the respondents' perceptions of the effectiveness of such actions corresponds with the high frequency at which they performed certain actions. The survey data therefore suggests that RCCE messages may have played a role in shaping certain preventive actions by giving people greater confidence in the overall effectiveness of the actions. However, given that effectiveness alone does not guarantee action, RCCE messaging may still be adapted to harness the other factors that influence people's attitudes towards the behaviours, which will in turn motivate action. Risk perception stands out as one important message to use in the RCCE initiatives, in addition to messages about the social importance and feasibility of preventive actions.

		Values without control variables		Values with control variables (variables tested include: age, sex, education level, disability)	
Recommended behaviour	Correlating variable	Odds ratio	Standard error	Odds ratio	Standard error
Handwashing	Seen public messaging on handwashing	0.57	0.46	0.39	0.33
	Perceived level of risk without precautions	1.22*	0.13	1.18	0.14
	Perceived level of effectiveness of handwashing	1.50**	0.20	1.49**	0.20
	Perceived level of severity of Coronavirus on personal health	1.29**	0.15	1.31**	0.16
Thoroughly cooking food	Seen public messaging on thoroughly cooking food	2.06**	0.70	2.14**	0.81
	Perceived level of risk without precautions	1.48**	0.29	1.55**	0.31
	Perceived level of effectiveness of thoroughly cooking food	1.80**	0.41	1.87**	0.45
	Perceived level of severity of Coronavirus on personal health	0.87	0.20	0.79	0.19
Covering mouth when coughing	Seen public messaging on covering mouth when coughing	1.99**	0.40	1.36	0.31
	Perceived level of risk without precautions	0.94	0.10	1.00	0.12
	Perceived level of effectiveness of covering mouth when coughing	1.49**	0.18	1.53**	0.20
	Perceived level of severity of Coronavirus on personal health	0.98	0.12	1.06	0.14
Not touching one's face	Seen public messaging on not touching face	0.48**	0.09	0.51**	0.11
	Perceived level of risk without precautions	0.96	0.10	0.98	0.11
	Perceived level of effectiveness of not touching face	0.75**	0.09	0.75**	0.09
	Perceived level of severity of Coronavirus on personal health	0.95	0.11	0.92	0.11
Avoiding crowds	Seen public messaging on avoiding crowds	2.21**	0.55	1.73**	0.46
	Perceived level of risk without precautions	1.07	0.10	1.14	0.12
Keeping a safe distance	Seen public messaging on keeping a safe distance	1.28	0.21	1.08	0.21
	Perceived level of risk without precautions	1.32**	0.13	1.43**	0.15
	Perceived level of effectiveness of keeping a safe distance	1.39**	0.18	1.44**	0.20
	Perceived level of severity of Coronavirus on personal health	0.96	0.11	0.96	0.11

Note: *p<0.1 **p<0.05

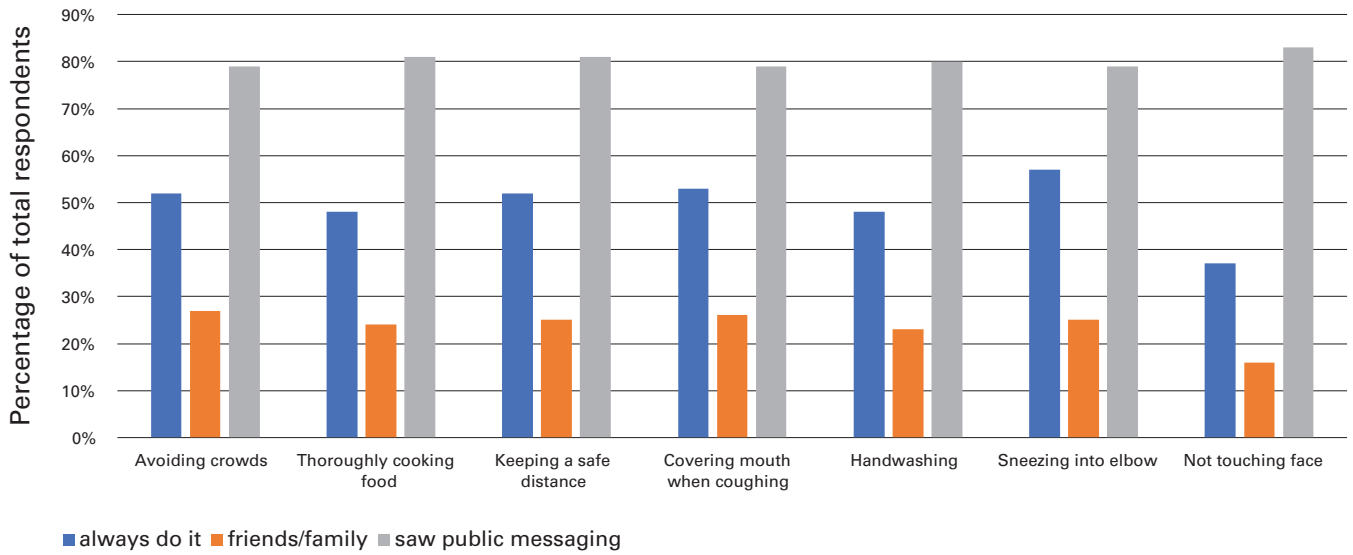
Summary of findings

Given the small sample size of survey participants, the responses from the online and phone survey do not reflect the situation of the whole population in Cambodia. However, the results provide some important insights for RCCE on the pathways from knowledge about COVID-19 prevention to behavioural change. This study has three key findings on knowledge, attitudes and behaviours which have important implications for public messaging about Coronavirus prevention and risk reduction. First, the survey shows that while public messages on COVID-19 risk prevention are reaching 99 per cent of the survey respondents, the top channel through which they are receiving news about the virus (Facebook) is also one of the least trusted sources of information. Meanwhile, village authorities and commune councils/chiefs, which are two of the most trustworthy sources, are being used by mostly older people and those with lower levels of education. Second, the online survey data shows an important relationship between perceptions of risk and perceived effectiveness of preventive behaviours: in general, the more that people believed that overall precautions can lower their risk of contracting the virus, the more that they also view preventive actions as effective. Third, the data demonstrates that people's perceived effectiveness is strongly correlated with the high frequency at which they performed certain preventive behaviours. The data also suggests that frequently performed behaviours shared three key features: they are actions that individuals can easily perform on their own; they do not depend on the characteristics of a person's living context; and they do not require the compliance of others to be effective for the individual.

Lessons learned

Data from the online survey show that Cambodia's RCCE interventions may have contributed to increasing people's knowledge and positive attitudes towards preventive behaviours. As 80 per cent of respondents noted that they practiced the behaviours as a result of public messaging, the survey data show that RCCE messages had a strong influence on people's behaviours. When survey respondents reported practicing each of the behaviours frequently, a large proportion of the same respondents also noted that public messaging was their main reason for practicing precautionary behaviours (see Figure 13). Of the survey participants who responded to the question about motivations for their preventative actions, 77 per cent of women and 83 per cent of men agreed that public messaging was a reason for practicing the recommended behaviours. These numbers were also similar across disability status, age categories and levels of education. However, since not all of the actions were practiced with the same frequency, Cambodia's RCCE initiatives can still have a stronger impact on behaviours if the messages better account for the web of factors that shape people's ability and inclination to perform the individual behaviours.

Figure 13: Frequently practiced behaviours and reasons for preventive behaviours



The online survey showed an important but underutilized relationship between risk perceptions, perceived effectiveness of preventive actions, and frequency of practiced behaviours. As mentioned, when respondents believed that overall precautions reduced their risk of contracting Coronavirus, they were also more likely to believe in the effectiveness of all preventive actions. As people's actual use of precautions becomes more frequent when they also believed in the effectiveness of the recommended behaviours, RCCE initiatives could increase action by emphasizing that the individual actions were effective and could reduce risks of contracting Coronavirus when practiced frequently and correctly. RCCE messaging can effectively harness people's concerns about the risks of contracting the virus by highlighting both the dangers of inaction and the reduced risks of action. RCCE messaging may be able to increase the use of preventive behaviours simply through an increase in the frequency of messaging, which will remind forgetful people to take precautions, particularly for reflex behaviours that are more difficult to remember, such as not touching one's face, sneezing into the elbow, and covering a cough. These combined strategies may heighten the general public's level of concern over the risks of inaction and increase people's positive attitudes towards the recommended actions, which will in turn motivate behavioural change.

When measured against the Theory of Planned Behaviour, the survey results show that so far, RCCE has primarily contributed to health-seeking behaviours by targeting attitudes. However, this theoretical model points to several other important strategies for improving the impact of RCCE messaging, which communication specialists can use to design more robust and effective assets. According to the theory, in addition to positive attitudes, favourable social norms and perceived behavioural control are equally important behavioural influences, yet the information that is currently disseminated through RCCE does not convey the social importance or feasibility of the actions. In order to increase positive social norms towards the behaviours, RCCE may communicate the preventive behaviours as social responsibilities, such as through television spots on the importance of social distancing. RCCE messages may also provide further context-specific guidance on how behaviours might be possible in various kinds of circumstances, such as in cities versus rural village environments.

In order to reach older populations as well as those with lower capacities to read, RCCE initiatives may strategize on disseminating non-literary messages through the support of local leaders, as well as through other innovative visual or audio information channels. The Ministry of Health already delivers messages on wearing masks and washing hands through education videos and music. These forms of messaging can be expanded to include more of the recommended preventive actions which can be disseminated through Facebook and television spots. RCCE initiatives may focus on drawing on channels that people find most reliable and work on integrating more trustworthy resources into popular channels of information in order to prevent the spread of misinformation.

It is important to note that there are still a number of factors that hinder people's ability and inclination to practice the actions, which RCCE programmes may not be able to solve through improved messaging. For the 48 per cent of survey respondents who are unable to carry out the recommended actions because their livelihoods depend on contact with others, and the 12 per cent who are unable to access both soap and clean water, public messaging alone will not increase the frequency of the preventive actions even if the risks are severe and the actions are effective. The more recent data collection that was completed in August shows that among poorer populations—as well as those living in rural areas—lack of clean water, soap, hand sanitizer, and facemasks were more likely to be the main reasons for not practicing protective measures frequently than other factors. In fact, a lack of hand sanitizer was consistently listed as a reason for not engaging in preventive actions across all socio-economic categories. These results show that broad-scale behavioural change not only requires better access to timely, quality and reliable information, but it also requires additional development interventions. Preliminary findings from the August socio-economic study also shows that those who are classified as poor based on income level have also received a significant increase in cash transfers from national and local government agencies since March. Additional data collection in the upcoming months may reveal how such cash transfers contribute to preventive behaviours among poorer populations.

Key recommendations

Based on the key findings and lessons learned, this study provides the following recommendations for RCCE programming in Cambodia that may help government institutions and NGO counterparts improve the reach and impact of public messaging on people's use of preventive behaviours:

- Increase frequency of messaging (particularly for reflex behaviours such as avoiding touching one's face and sneezing into the elbow)
- Strategize on messages that emphasize the effectiveness of recommended behaviours as well as the reduced risks of contracting Coronavirus through these actions
- Promote preventative behaviours by highlighting the social importance and feasibility of the actions
- Expand the use of non-literary messages through the support of local leaders and the use of audio and visual messaging to reach more people and encourage the use of all preventative actions.

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