Handwashing With Soap:
A Key Part of the COVID-19 Response

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Why is handwashing so important for COVID-19 control?

Handwashing with soap, together with other public health interventions, will be key to curbing the transmission of COVID-19. Handwashing with soap prevents transmission of SARS-CoV-2, the virus responsible for COVID-19, in two primary ways. First, handwashing with soap facilitates manual removal of pathogens from hands. Second, soap breaks down the outer protective layer of the virus rendering it inactive. This article from *The Guardian* provides a strong plain language summary of how soap removes and kills SARS-CoV-2.

Handwashing also defends against other pathogens. Handwashing with soap can reduce diarrheal disease by 30% and is associated with reductions in influenza and other respiratory diseases in many contexts. However, handwashing rates remain low globally. Research suggests that handwashing with soap occurs only a quarter of the times, or "key moments," when it should.

Key moments for handwashing with soap during the COVID-19 pandemic

Handwashing programs typically focus on handwashing to control diarrheal diseases in young children, promoting handwashing with soap at the following key times:

- Before food preparation
- Before eating or feeding a child
- After using the toilet
- After cleaning a child's bottom

Handwashing at these critical occasions is still important and highly recommended.

To interrupt COVID-19 transmission, handwashing with soap should also be encouraged at the following key occasions:

- After coughing or sneezing
- When entering or leaving the household or any other building
- After coming into physical contact with anyone outside your household
- After touching surfaces when outside the home (e.g., doorknobs, railing, money)
- After visiting a public space, including public transportation, markets, and places of worship
- Before, during, and after caring for a sick person

There may also be additional times that are relevant to other contexts. If it is not possible to wash hands immediately after any of the above scenarios, care should be taken to avoid touching the face and hands should be washed as soon as possible.

What do we know about handwashing behavior change?

Each context is different and, therefore, the determinants of handwashing behavior are also different in each context. That means that there is no one-size-fits-all approach to handwashing promotion. There are, however, some key points that are relevant to all settings:

Knowledge alone does not always lead to behavior change

Understanding health risks and the steps necessary to wash hands alone is not sufficient to change handwashing, even during this pandemic. Many people understand the health benefits of handwashing, especially during outbreaks when information about transmission and health consequences are shared daily through multiple media platforms. Unfortunately, health may not always be an effective motivator of behavior and may not be enough to get people to wash their hands with soap.

Integrate a range of handwashing determinants into promotion efforts

Handwashing promotion efforts need to do more than provide messaging about the transmission and health consequences of disease and steps on how hands should be washed. Unlike other key behaviors important for the COVID-19 response (such as physical distancing), handwashing behaviors and norms already exist in communities. Routine handwashing is influenced by a range of physical, social, and cognitive determinants. As part of a COVID-19 response, hygiene promotion programs need to consider this range of possible determinants in order to effectively overcome behavioral barriers. The image below highlights some of the determinants which influence handwashing behavior.
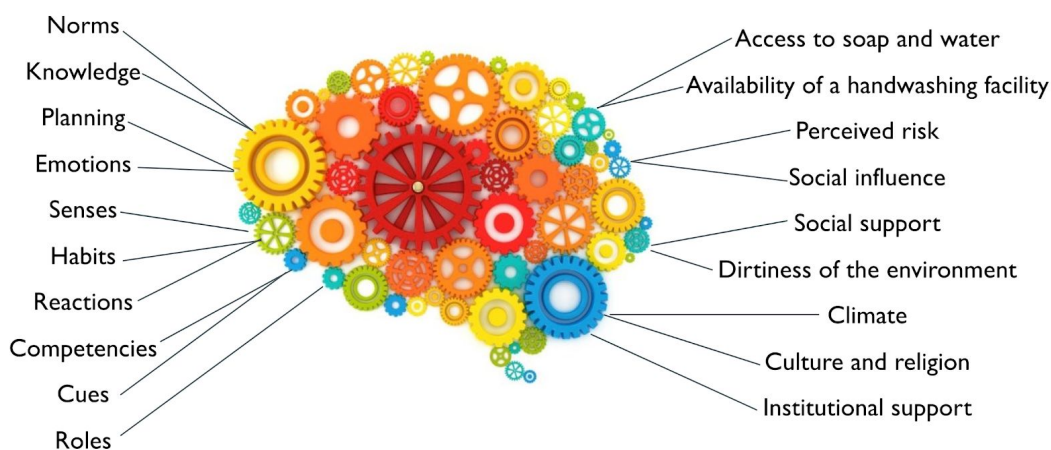
Source: LSHTM

Even though detailed formative research for hygiene programs may not be possible in an emergency context, it is still possible to take time to gain quick and simple insights into what is driving hygiene behavior. Not doing so may compromise the effectiveness of your programs. See how this is done in other emergencies here. Researchers have identified a catalog of intervention components matched with key determinants of handwashing behavior that may be useful for your own country response.

Create handwashing infrastructure that enables behavior

To enable consistent handwashing with soap, improvements to handwashing infrastructure and provision of necessary products are crucial.

- If households have access to a handwashing facility they are up to 60% more likely to wash their hands with soap. For more information, see Study 1, Study 2, Study 3, Study 4.
- If soap and water are always available at a handwashing facility, people are 2–3 times more likely to wash their hands with soap than if not. For more information, see Study 1, Study 2, Study 3.

- When handwashing facilities are conveniently located near the kitchen or toilet and are desirable and attractive (e.g., have bright colors, a soap container, a mirror), handwashing rates increase even further. For more information, see Study 1, Study 2, Study 3, Study 4.

If handwashing facilities and products are lacking, then hygiene messages alone are likely to be ineffective. Behavior change requires both infrastructure and creatively designed hygiene promotion activities to bring about real change. There is also a risk that focusing on hygiene education or promotion alone may offend or disengage local populations because the behavior being promoted is not feasible to practice. If you want more practical guidance on developing handwashing facilities that change behavior, read this guide.

Use cues, reminders, and rewards to trigger handwashing behaviors

Handwashing programs should incorporate changes to physical environments to cue and reward handwashing behavior.

- **Painting footprints** on the path between the toilet and the handwashing or placing stylized eyes above handwashing facilities have been associated with increased handwashing with soap when materials are present.
- **Putting toys in soap** made handwashing more fun for children in a displacement camp and made them 4 times more likely to wash their hands with soap. (See this study.)
- **Adding mirrors** above handwashing facilities may encourage people to spend longer washing their hands and make it more desirable.
- **Adding images of germs on door handles** acts as a cue to make people feel disgusted by certain surfaces.

Left image: Dreibelbis et al. Right image: Nudging kids.

Share stories to motivate handwashing

The COVID-19 pandemic itself may prove a powerful motivating force for improving hand hygiene behaviors. In outbreaks, handwashing behavior often increases because of increased perceived risk and the formation of new social norms.

Research has shown that handwashing behavior can be improved by associating handwashing with being a good parent, being respectful, being polite, or fitting in with a social group. This video shows the SuperAmma campaign, which aimed to promote handwashing in India. In this program, the creators tried to link handwashing with being a good parent and increase the disgust around not washing hands. This approach resulted in a 27% increase in handwashing. Similar motivations may be useful in crises too.
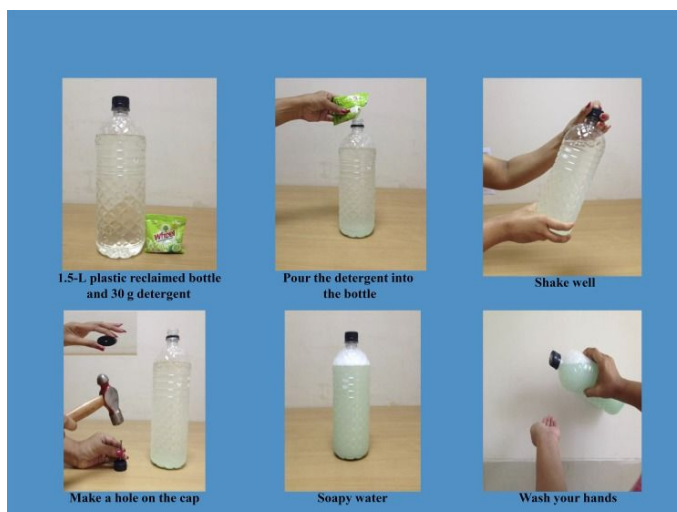
Addressing common barriers to handwashing with soap

Are some types of soap more effective than others?

All types of soap will effectively remove and/or kill coronaviruses, including expensive or cheap soap, bar soap, or liquid soap. Using laundry powder or dishwashing liquid will also clean hands. The more soap used the better. Data suggest that antibacterial soap is not more effective in community-settings or under normal use conditions.

When soap is scarce

It is rare that people have no soap at all, rather the soap that they do have is prioritized for other tasks such as bathing, laundry, or dishwashing. If this is the case, messages should focus on the power of soap for disease prevention and remind people that any type of soap can be used for handwashing, including cheaper soap that is often used for laundry.

1.5-L plastic reclaimed bottle and 30 g detergent
Pour the detergent into the bottle
Shake well
Make a hole on the cap
Soapy water
Wash your hands

Soapy water has been shown to effectively remove pathogens from hands and be an acceptable and affordable alternative to bar or liquid soap. Soapy water is created by diluting powdered laundry soap or liquid soap in a plastic bottle that is stored at locations where handwashing occurs. Soapy water can be used in households where soap is limited and can be a particularly practical solution for promoting soap use at shared or public handwashing facilities.

Source: icddr,b

Alcohol-based hand rubs

Alcohol-based hand rubs (ABHR) are as effective against the virus but are less widely available and are often more expensive. ABHR must contain at least 60% alcohol (check the back of the bottle for information) in order to be used for hand cleaning. WHO guidelines recommend higher concentrations in health care settings or for disinfection. WHO guidelines for local production of ABHR, including key safety and quality assurance guidelines are available. For more about perceived risks associated with hand sanitizers read this article from the WHO.

Promoting handwashing with ash

There is currently no data on the effectiveness of ash for removal and deactivation of SARS-CoV-2.

While ash can remove germs from hands—primarily through friction—and can be used effectively for cleaning the hands of other pathogens, only soap and water in combination are known to be effective for deactivating ("killing") and removing SARS-CoV-2. Where there are no other options, handwashing with ash should be encouraged as it is more effective than handwashing with water alone. If recommending ash to households, make sure they are using the white ash from the center of a fire, once cooled, as this is more likely to be sterile.

Handwashing with ash can feel unpleasant and does not provide many of the same pleasant sensory cues handwashing with soap provides. As such, promoting ash could actually discourage people from practicing handwashing. Again, in these situations, remind people that soap of any type can be used for handwashing.

Rapid interventions to promoting handwashing as part of COVID-19 response

Below we summarize practical tips to encourage community-level handwashing behavior with the aim of controlling and preventing the spread of COVID-19. Activities described below have been selected for use in the early stage of COVID-19 response because they are low-cost, low-risk, and easy to do and because they can work across multiple contexts.

1. **Make handwashing easier by increasing the availability of handwashing facilities, soap, and water.** The presence of a handwashing facility can make people much more likely to wash their hands. Current WHO guidelines recommend one or more handwashing stations be established at the entrance to every building and at all major bus and train stations, airports, and seaports. We recommend that handwashing facilities are also stationed at all markets, food vending locations, water points, and public or shared sanitation facilities. Locally available, durable, and inexpensive materials are the easiest to use to assemble a handwashing facility in a short time. Identify appropriate channels and mechanisms to maintain facilities—including replenishing the water and the soap—are necessary. Read our guide on how to design handwashing infrastructure that will actually change behavior.

2. **Make handwashing messages surprising.** Placing messages (e.g., on posters or billboards) in key locations can act as a cue to remind people to wash their hands with soap at critical times. However, if the messages stay the same, they will begin to go unnoticed and may no longer trigger handwashing behavior. Changing the content/placement of handwashing messages frequently will help to capture people's attention time and time again. While COVID-19 is a serious disease, handwashing messaging can still be aspirational and fun. Find out more about this activity here as well as examples of hygiene messages that can be used on rotation.

3. **Remind people of the power of soap!** Soap has been around since 2800 BC so it is easy to forget what a miracle product it is. People often just wash their hands with water—but only thorough handwashing with soap will result in truly clean hands. Below are several fun activities to show the power of soap. All you need are simple materials like pepper, glitter, spices, paint, Vaseline, and water. These activities can be done in-person during house-to-house visits (make sure to assess the risk before doing any in-person activities in the areas where you work), in public by the established handwashing facilities, or through videos that can be shared via social media. These videos are also available in a range of other languages. You can find these here.

   - Get away from germs.
   - Glittery hands
   - Spicy hands

4. **Normalize and celebrate handwashing.** Controlling this pandemic requires the whole community to work together and practice handwashing with soap regularly. Rewarding people when they do the right thing is more likely to encourage them to do it again and can lead to long-lasting habit formation. If you are working in a setting where social media is common, then share photos of people washing their hands with soap and praise them for doing the right thing. This was the concept behind the WHO #SafeHands Challenge. If you are working in a setting where social media are less common, consider creating a champions wall where you feature similar photos on a wall in a public place (e.g., at a local market). Find out more about how to do these activities by following the links.

   - Social media recognition
   - Recognition wall

5. **Share real experiences to build a more accurate understanding of COVID-19.** When a new disease emerges it can create a lot of fear. It is normal to be worried about an outbreak like COVID-19 but fear can cause people to act in unpredictable and harmful ways. We suggest that you partner with health authorities to interview people who have been exposed to the virus and who have recovered. Sharing the lived experiences of these individuals (with their permission) with other community members will help them build a more accurate understanding of COVID-19. Getting these individuals to speak out about the importance of handwashing with soap is likely to be much more believable and have a much more persuasive effect on the behavior of others. For your own safety, we suggest that interviews are done over the phone or online and shared publicly. Find out more about how to do this activity here.

These practical tips come from the Wash'Em project, which supports handwashing program design in outbreaks and emergencies. The Wash'Em team have developed a range of COVID-19 resources at this link, including:

- The Wash'Em COVID-19 Guide in Arabic, French, Spanish, and Portuguese.
- Webinars in French, Spanish, and Arabic describing these practical activities and others.
- Videos of some of the activities in English, French, and Spanish.

Online resources

- COVID-19 Hygiene Hub: Search the resources on this site for more information about the points above and other behaviors that can interrupt transmission. Use the "chat with an expert" function for further contextualized guidance.
- COVID-19 Wash'Em resources: Here you will find webinars, practical guides, answers to other common questions on handwashing, and video blogs. All of these materials are available in a range of languages.
- COVID-19 resources on the Global Handwashing Partnership: List of resources, practical infographics, guidance on forming national-level handwashing partnerships, and a forum for discussing handwashing in relation to COVID-19.
- WASH technical Brief: Created by WHO and UNICEF, this document summarizes current evidence around all aspects of WASH and is being regularly updated.
- More practical ideas: This article in Forbes contains 16 ideas for handwashing promotion.
- Literature review on behavioral determinants: This summarizes the evidence we have about what influences community-level handwashing behavior and highlights that some determinants are overlooked in outbreak situations.
- Behavioral science applied to outbreaks: A summary of the literature on behavior changes during outbreaks and the opportunities and challenges that creates for COVID-19 responses.
- For more information about the complex determinants behind hygiene behaviors, we suggest the following behavior and behavior change frameworks that were developed primarily focused on hygiene behaviors: IBM-WASH, RANAS, and Behaviour Centred Design.

This brief was developed by the **COVID-19 Hygiene Hub**, which is housed at the London School of Hygiene and Tropical Medicine and draws on scientific, operational, and creative expertise from a network of organisations. The Hub is a free service to help actors in low- and middle-income countries rapidly **share**, **design**, and **adapt** evidence-based hygiene interventions to combat the coronavirus. It was written by Sian White and Robert Dreibelbis. Contributions provided by Robert Aunger, Bethany Caruso, Max Friedrich, Katie Greenland, and Elli Leontsini.

For more information, visit www.hygienehub.info/covid-19.