

WATER KNOWLEDGE NOTE

Water Supply, Sanitation, and Hygiene (WASH) and COVID-19

Critical WASH Interventions for Effective COVID-19 Pandemic Response

Safely managed water supply, sanitation, and hygiene (WASH) services are an essential part of preventing disease and protecting human health during infectious disease outbreaks, including the current COVID-19 pandemic. One of the most cost-effective strategies for increasing pandemic preparedness, especially in resource-constrained settings, consists of investing to strengthen core public health infrastructure, including water supply and sanitation systems. Good and consistently applied WASH and waste management practices serve as essential barriers to human-to-human transmission of the COVID-19 virus in communities, homes, health care facilities, schools, and other public spaces.

Provision of safely managed WASH services is also critical during the recovery phase of a disease outbreak to mitigate secondary impacts on community livelihoods and well-being. These secondary impacts, which could include disruptions to supply chains, inability to pay bills, or even panic buying, have negative impacts on the continuity and quality of water supply and sanitation services; the ability of affected households to access and pay for WASH services and products (e.g., soap, point-of-use water treatment, menstrual hygiene products); and the ability of schools, workplaces, and other public spaces to maintain effective hygiene protocols when they reopen. If not managed, secondary impacts can lead to the risk of increased spread of waterborne diseases, including a

potential for further disease outbreaks, such as cholera, where the disease is endemic.

According to a WHO/UNICEF technical brief on WASH and waste management for COVID-19:¹

- **Frequent and proper hand hygiene** is one of the most important measures to prevent infection with the COVID-19 virus. WASH practitioners should work to enable more frequent and regular hand hygiene by improving facilities and using proven behavior change techniques.
- **WHO guidance on the safe management of drinking water and sanitation services** applies to the COVID-19 outbreak. Measures that go above and beyond these recommendations are not needed.
- **Many co-benefits will be realized by safely managing water supply and sanitation services and applying good hygiene practices.** Such efforts will prevent many other infectious diseases, which cause millions of deaths each year.
- **There have been no reports of fecal-oral transmission of COVID-19 to date.** Therefore, the risk of catching COVID-19 from the feces of an infected person appears to be low. The two main routes of transmission of COVID-19 are respiratory and contact.

What is COVID-19?

COVID-19 is caused by a unique group of viruses transmitted from animal to human. While similar to the flu, there are distinct differences, most notably a dry cough and shortness of breath.

According to the World Health Organization (WHO), common signs of the infection include “respiratory symptoms, fever, cough, shortness of breath, and breathing difficulties. In more severe cases, it can cause pneumonia, severe acute respiratory syndrome (SARS), kidney failure, and even death.”

COVID-19 has a case fatality rate of about 3 percent to 4 percent. The highest risk of death is among those with underlying risk factors and the elderly (especially those above 80 years old).^{a,b}

Sources:

a. World Health Organization. (2020, March 9). Q&A on coronaviruses (COVID-19). Retrieved April 8, 2020, from <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>.

b. Wilson N, Kvalsvig A, Telfar Barnard L, Baker MG. Case-fatality estimates for COVID-19 calculated by using a lag time for fatality. 2020. *Emerg Infect Dis.* (published March 13, 2020). <https://doi.org/10.3201/eid2606.200320>.

- **While there is no evidence, to date, on the SARS-CoV-2 survival in water or sewage**, the virus is likely to become inactivated significantly faster than nonenveloped human enteric viruses with known waterborne transmission (e.g., adenovirus, norovirus, rotavirus, and hepatitis A). Heat, high or low pH, sunlight, and common disinfectants (e.g., chlorine) all facilitate die-off.

This brief provides a **menu of options** on critical WASH interventions for effective COVID-19 pandemic response and building resilience to future risks.

1. **Preparedness and emergency response.** Support affected, at-risk, and low-capacity countries to secure infection prevention and control in health facilities and communities.

- 1.1. **Safe WASH services and medical waste management in health care facilities** are essential to deliver quality health services; protect patients, health workers, and staff; and prevent further transmission. During an infectious disease outbreak, services should meet minimum quality standards and should be separated for infected and noninfected patients. Support is required to ensure services are not disrupted and products such as soap and alcohol-based hand rubs are available. Temporary health care facilities and quarantine sites also need to provide these services.

- 1.2. **Communication and preparedness related to handwashing behavior change and**

promotion, food hygiene, and safe water practices. Materials for handwashing and hygiene may include provision of fixed and portable handwashing facilities, purchase of soap and alcohol-based hand rubs, provision of water supplies for handwashing, and point-of-use water treatment. Schools, workplaces, markets, transport stations, and other areas where people gather all require easy access to water and soap for handwashing. Proven behavior change techniques can help increase the frequency and improve the practice of critical hygiene behaviors. Resources such as the Global Handwashing Partnership can be tapped to mobilize private, public, and civil society actors to support the development of messaging and materials to respond to COVID-19 outbreaks.

- 1.3. **Provide rapid, low-cost water service** for communities, health care facilities, and schools that currently lack access to reliable and safe water supply is critical to enable handwashing, hygiene, and disinfection. Local government or other actors must provide quick, just-in-time water access points or water kiosks (potentially including provision of soap) in unserved urban and rural areas, and for unserved health care facilities and schools. These would include (i) provision and operation of compact water treatment plants; (ii) construction and operation of water points to deliver water in strategic urban or rural points; and (iii) provision and operation

of trucks for water delivery (bottled, sachets) and water tankers, including adequate water storage to service operators.

1.4. Safely manage shared and institutional sanitation facilities to ensure that *users* of shared sanitation facilities and *sanitation workers* (toilet attendants, sanitation staff) are not exposed to the COVID-19 virus spread. Critical steps to help protect the 700 million people globally who are estimated to use shared sanitation as their primary form of sanitation include (i) maintaining and cleaning shared sanitation facilities frequently, (ii) providing soap and water for handwashing, and (iii) following guidance on social distancing and related behavioral changes. In addition, providing sanitation workers with personal protective equipment, strengthening support for them to seek health care services, and providing trainings and guidance on related COVID-19 risks can further minimize COVID-19-related exposure.

1.5. Emergency support to water supply and sanitation utilities and providers to ensure continuity of water supplies, enhanced monitoring, staffing levels, equipment and spare parts, and worker safety. Governments should support additional emergency measures to ensure that water supply and sanitation utility staff and service providers have protective equipment, priority for testing, and salary supplements to compensate for the additional workload and risk.

1.6. Emergency response to fragility, conflict, and violence situations. The main principle of an emergency WASH response is to ensure consideration of WASH at the site selection and planning stages while coordinating the response closely with physical planning, public health, and the environment. Governments and associated agencies should follow the multisectoral needs assessment for refugee emergencies, followed by a more detailed initial WASH rapid assessment of local WASH-related resources in relation to the needs and demand.² This includes assessment of water resources (quantity and quality) for water sources and distribution options.

care facilities and to avoid disruption of community livelihoods and well-being.

2.1. Provide financial support to water supply and sanitation utilities to monitor and support cash reserves, availability of water supply and wastewater treatment chemicals, availability of electricity fuel for pumping and treating water, appropriate staffing levels, and routine or capital maintenance.

2.2. Provide technical assistance to governments to strengthen country systems, including (i) agile service delivery mechanisms that may turn to local private sector to delivery safe water through turnkey solutions under design-build-operate contracts; (ii) enhanced water quality assurance and monitoring; (iii) preparation of utility emergency plans (absenteeism may be a serious risk); (iv) safely managing wastewater and fecal sludge; (v) emptying latrines and safe disposal of excreta; (vi) monitoring of secondary impacts.

2.3. Provide financial support to beneficiaries to ensure continuity of WASH services, such as financing for fee waivers to mitigate service disruption for households and institutions (e.g., schools, health care centers, government agencies). Ensure funding for WASH services and related products (e.g., soap) is included in social protection operations targeting poorer households. For fragile countries that lack social safety nets and whose fiduciary arrangements do not allow for development policy operations (DPOs), in-kind distribution is necessary to vulnerable, most at-risk populations (e.g., distribution hygiene and cleaning kits, water distribution).

2.4. Ensure viability of critical supply chains, such as for hygiene product availability in markets (e.g., soap, disinfectant, point-of-use water treatment supplies) as well as import and export restrictions on critical equipment needed by utilities or households.

3. Build resilience against future diseases. Safely managed WASH services are needed to support affected, at-risk, and low-capacity countries to build resilience against future pandemics, as well as against diseases that afflict poor populations in low-income countries on a more routine basis, such as diarrhea. In 2016, the WHO estimated that poor WASH was

responsible for 829,000 deaths from diarrheal disease, equivalent to 1.9 percent of the global burden of disease. Cholera, an acute diarrheal disease linked to contaminated water, which can kill within hours if untreated, infects up to 4 million people each year, killing an estimated 21,000 to 143,000 people. Other diseases, such as typhoid and measles, increase precipitously in low-income countries when domestic water supply outages occur. In some individuals these diseases are fatal, and in many others their burden reduces labor productivity and wages. If the burden is high, repeated illnesses for family members can trap households in a poverty cycle.

3.1. Provide safely managed WASH.

3.2. Basic WASH services and medical waste management in health care facilities are essential for safe and quality care.

3.3. Basic WASH services in schools are essential for safe and quality care.

3.4. Strengthen multisector, national institutions and platforms for policy development and coordination of prevention and preparedness, including for antimicrobial resistance.

- The Water GP is seeking to leverage existing systems through (i) activating contingent emergency response components; (ii) providing additional financing to existing WASH programs; or (iii) developing new emergency response programs, including DPOs and investment project financing.
- The Water GP practice managers are reaching out to their respective country management units for coordinating efforts.
- The Water GP country-focused staff members are reaching out to their respective counterparts for coordinating efforts.
- The Water GP management is working with UNICEF, the WHO, other UN agencies, and the US Centers for Disease Control to provide coordinated support to our client countries.
- The Water GP Task Force is preparing material for informing the practice’s responses.

NOTES

1. WHO/UNICEF. 2020. “Water, Sanitation, Hygiene and Waste Management for the COVID-19 Virus.” Technical Brief, March 19, WHO/UNICEF, Geneva, Switzerland.
2. See the UNHCR website, <https://emergency.unhcr.org/entry/38439/wash-needs-assessment>.
3. Angola, Bangladesh, Burkina Faso, Côte d’Ivoire, Djibouti, Eswatini, Ethiopia, Haiti, the Lao People’s Democratic Republic, Mauritania, Nigeria, Senegal, Tajikistan, Tanzania, Vietnam, and Yemen.
4. Burkina Faso, Côte d’Ivoire, Eswatini, Ethiopia, Ghana, Guinea, Haiti, India, Indonesia, Kenya, the Kyrgyz Republic, the Lao People’s Democratic Republic, Liberia, Mauritania, Mozambique, Nicaragua, Niger, Nigeria, Solomon Islands, Tajikistan, Tanzania, Timor-Leste, Uganda, and Vietnam.

What is the Water GP’s current response?

- The Water GP assembled a Task Force with thematic and regional focal points for identifying and responding to requests for WBG support.
- The Water GP assessed the portfolio with ongoing WASH activities in Health and Education sectors: (i) 22 World Bank projects across 16 countries³ have activities that contribute to WASH in health care facilities; and (ii) 32 World Bank projects across 24 countries⁴ have activities that contribute to WASH in schools.

CONNECT WITH THE WATER GLOBAL PRACTICE

-  www.worldbank.org/water
 worldbankwater@worldbank.org
 [@worldbankwater](https://twitter.com/worldbankwater)
 blogs.worldbank.org/water

© 2020 International Bank for Reconstruction and Development / The World Bank. Some rights reserved. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent. The World Bank does not guarantee the accuracy of the data included in this work. This work is subject to a CC BY 3.0 IGO license (<https://creativecommons.org/licenses/by/3.0/igo>). The World Bank does not necessarily own each component of the content. It is your responsibility to determine whether permission is needed for reuse and to obtain permission from the copyright owner. If you have questions, email pubrights@worldbank.org.

