

## Knowledge to **Action** Briefs

**Ask #6:** Functional, safe and clean toilet and handwashing facilities and quality potable drinking water for health-care centres, schools and centres for refugees and internally displaced persons

These seven knowledge-to-action briefs support partners to carry forward the PMNCH [Call to Action on COVID-19](#), which aims to increase investment and policy support to mitigate the devastating effects of the COVID-19 pandemic on the health of women, children and adolescents, and the societies and economies that support them. The knowledge-to-action briefs synthesize relevant evidence to the COVID-19 Call to Action, focusing on: 1) key impacts of COVID-19; 2) policies and mitigation strategies; and 3) strategic gaps in knowledge and action, including in humanitarian and fragile settings.



### Background

Epidemics and public health emergencies result from, and are exacerbated by, scarcity of clean, potable water and safe sanitation facilities. The absence of clean water for handwashing and drinking, as well as poor coverage of toilets and sewer systems, are one of the primary means by which infection spreads in both health facilities and communities. Containment of the 2014 Ebola outbreak in Guinea, Liberia and Sierra Leone was hampered by lack of clean water for washing, drinking and mixing with oral rehydration solution, as well as lack of improved sanitation. During the SARS, MERS and H1N1 epidemics, poor handwashing and disinfection protocols exacerbated infection in health-care settings, while the most well-known outbreak of SARS in Hong Kong Special Administrative Region was due to a faulty sewage system that infected 322 people.<sup>1</sup> Good sanitation and hygiene practices may be the most significant means of reducing COVID-19 and other infections. For example, handwashing with water and soap can decrease the risk of respiratory infections by 25% and reduce the number of microorganisms on hands to almost zero.<sup>2,3</sup>

### Key impacts

#### Water insecurity

COVID-19 public health messages have emphasized handwashing and physical distancing as the key measures individuals can take to prevent falling ill. However, at least a quarter of households in Africa, Asia and Latin America are not able to practise regular handwashing, with figures rising to 80% in

some of the most water-scarce communities and equity of access within communities also varying widely.<sup>4</sup> Safe, potable drinking water is even more scarce, with only 71% of the world's population having access to a safely managed source of drinking water.<sup>5</sup> Even when water is available, there may be gaps in information and education with respect to proper handwashing practices.

## Urban settlements

Water insecurity is exacerbated in urban areas, where residents of overcrowded, informal settlements not only lack safe water sources, but also frequently have to pay and queue for access to vended water sites and toilets, making both physical distancing and proper hygiene practice impossible. One study of 45 urban public transport stations in Accra, Ghana at the beginning of the COVID-19 lockdown found that 80% of stations had inadequate flowing water and soap available, 93% did not have alcohol-based hand sanitizers, and only 18% were communicating handwashing messages.<sup>6</sup>

## Health facilities

Water insecurity extends to clinics and hospitals. In 2019, the World Health Organization and the United Nations Children's Fund found that, globally, one in four health-care facilities lack basic water services, one in five have no sanitation services and 42% have no hand-hygiene facilities.<sup>7</sup> Another key challenge to proper hygiene during COVID-19 is the lack of available and affordable soap and hand sanitizer, and of soap to regularly launder non-disposable masks, other personal protective equipment and bedding.

## Waste water contamination

Even more troubling is the fact that the COVID-19 virus – SARS-CoV-2 – has been detected in human waste water in high-income countries (e.g. Australia, France, Italy, the Netherlands and the United States of America) leading to concerns that in low- or middle-income countries, where waste water exposure is common due to poor sewage infrastructure and disinfection policies, contaminated water supplies may become a source of infection.

## Equity

Access to water and sanitation is fundamentally an equity issue. According to the World Bank's Water

Supply, Sanitation, and Hygiene Poverty Diagnostic Initiative, people in the highest wealth quintiles, living in high-income countries or urban areas, tend to have improved water and sanitation, while those in the bottom quintiles, living in low-income countries or rural areas, do not.<sup>8</sup> Even in high-income countries, impoverished communities often experience extreme water insecurity and many of these settings are now experiencing surging COVID-19 cases, disproportionate to neighbouring communities. For example, in the United States, by late-May 2020, urban Flint, Michigan, had the highest number of COVID-19 cases in Genesee County,<sup>9</sup> while by mid-June the rural Navajo Reservation the country's largest had highest per capita COVID-19 infection rate in the country, surpassing that of urban populations.<sup>10</sup>

## Humanitarian settings

Humanitarian crises exacerbate inequalities, because conflict and instability often lead to a collapse in water and sanitation services, and extending services to refugees and internally displaced populations is challenging. The causal connections between lack of clean water and inadequate sanitation, on one hand, and disease outbreaks and acute malnutrition on the other are well documented in humanitarian settings. In Cox's Bazar, Bangladesh, the population density in Rohingya camps is 40 times higher than the average for Bangladesh, with limited access to clean water and toilets coupled with the risk of flooding during monsoon season.<sup>11</sup> Similar concerns have been voiced about Yemen where 50 percent of the population does not have access to safe water, and the West Bank and Gaza Strip where only 10 percent of the population has access to non-contaminated improved sources of water.<sup>8,12</sup> Refugee camps on the Aegean Islands in Greece host 40 000 people from Afghanistan, the Democratic Republic of the Congo, Iraq and the Syrian Arab Republic, in conditions of extreme overcrowding with upwards of 1300 people sharing a single tap, and limited availability of soap.<sup>13</sup>

## Actionable interventions and solutions to mitigate impact

### Provision of clean water for drinking and handwashing

Many countries are using innovative approaches to provide clean water and dedicated handwashing stations, including pedal-operated, hands-free

portable sinks, tippy taps and veronica buckets on roadsides and at the entrances of shops and offices (for descriptions of these and other examples, see <https://www.covidfree-toolkit.org/local-actions/>).

## Innovative message platforms

Multiple platforms are being used to disseminate public health messages and information about water and sanitation, including religious institutions, public utility companies and mobile phone service providers sending text messages. There is some evidence that handwashing messages have led to behavioural change. A study of Google searches for “wash hands” in 21 countries during January and February 2020, using such searches as a proxy measure of population health literacy, found a correlation between greater numbers of searches and slower spreading of COVID-19.<sup>14</sup> Promotion of handwashing practices has in some locations has been accompanied by the distribution of infection prevention and control kits to both households and institutions (schools, orphanages, health facilities).

## Guidelines for institutions

Alongside these measures, guidelines and standard operating procedures are being developed for schools and other institutions relating to: safe management of water points; cleaning and disinfection of shared spaces, including toilets; use of reusable, personal cups and water bottles; education on safe coughing/sneezing behaviour; food preparation hygiene; and advice on physical distancing at common water and sanitation points.

## Supporting water delivery

A number of governments are working to support water insecure neighbourhoods and local water utilities by contracting or conscripting tankers to deliver water to areas in which improved water sources are not available and by providing temporary toilets. Providing subsidies to local governments and to private or public water utility companies can also help offset costs to residents. Other strategies include leveraging or adapting existing large-scale water and sanitation programmes to address water and sanitation issues created by COVID-19.

## Priority knowledge gaps

An important part of the COVID-19 response involves addressing the multisectoral drivers of both women’s, children’s and adolescents’ health and the pandemic. Women, children and adolescents are particularly at risk from water insecurity and more likely to be responsible for sourcing, queuing for and hauling water for households. Women are the primary domestic caregivers and spend more time than men caring for the sick and cleaning domestic spaces, including toilet facilities. For this reason, women, children and adolescents in some communities are at special risk of contracting COVID-19. The factors driving these issues include poverty, cultural and social norms, access to education and political voice. It is therefore critically important to understand the intersectionality of those factors with the danger posed by COVID-19.



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