

U.S. Senate Committee on Appropriations
Outside Witness Testimony:
U.S. Government Response: Fighting Ebola and Protecting America

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Overview: Water, Sanitation, Hygiene and Communicable Diseases in West Africa

The current outbreak of Ebola Virus Disease (EVD) requires the United States and other governments to critically examine investments in primary and preventative health services. Safe drinking water, sanitation and toilets, and hygiene, collectively known as WASH, are essential for preventing the spread of disease and saving lives. While WASH was made a U.S. foreign policy priority by the *Senator Paul Simon Water for the Poor Act of 2005*, and continues to be a central component of the work of the United States Agency for International Development (USAID) and the U.S. Department of State, there is much more to be done. As evidenced by current conditions in Guinea, Liberia and Sierra Leone, investments in WASH remain inadequate and insufficiently targeted to protect the poorest and most vulnerable from leading causes of preventable death, as well as disease outbreaks such as that currently underway in West Africa. Put simply, long-term WASH funding trends have left the poorest behind.¹ The severe consequences of this neglect are now being felt by the people of West Africa.

Guinea, Liberia and Sierra Leone are among the poorest countries in the world. High rates of newborn, child and maternal mortality plague all three countries, largely from causes that can be prevented in part with improved access to safe water, toilets, and hygiene practices. However, access to safe drinking water and sanitation is extremely low in all three countries, with only 18.9% access to toilets in Guinea, 16.8% in Liberia, and 13% in Sierra Leone.² This leads to open defecation; poor management of feces; and a range of preventable illnesses, including intestinal worms, trachoma (the leading cause of preventable blindness in the world), and diarrhea, the third leading cause of death for children aged one month to five years.

During a public health crisis, the consequences only get worse. Without access to WASH near homes, schools or health facilities, and a strong health system, people suffering from water-related illnesses are left with no options as health care workers scramble to contain a deadly epidemic; it is expected that mortality from pneumonia, malaria, and diarrhea, easily prevented

¹ WaterAid, *Off Track, Off Target: Why Investment in Water, Sanitation and Hygiene is Not Reaching Those Who Need it Most*, 2011, available at <http://www.wateraid.org/off-track-off-target-VNR>.

² WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation, 2012. Available at <http://www.wssinfo.org/data-estimates/maps/>.

or treated with access to the health system, will increase in Ebola-affected countries, because basic health care is no longer the priority for health systems stretched beyond capacity.

Handwashing with soap, a major tool in preventing communicable diseases such as Ebola, receives scant attention and its practice is low in most poor countries; for example, according to the most recent Demographic and Health Survey available for Liberia, a mere 2% of households in that country had designated a place to wash their hands. Even with a designated handwashing station, unreliable access to water or soap can mean that families go without this foundational tool for disease prevention. Handwashing with soap is estimated to reduce respiratory illness like colds by 21% and diarrhea by nearly one-third.³ In the context of a serious disease outbreak, handwashing, especially after contact with someone who is or may be infected with Ebola, is a potentially lifesaving act. Hygiene campaigns are currently underway in the three Ebola-affected countries, but much more work remains to be done to ensure that the adoption of hygiene behaviors is sustained beyond the current crisis.

Despite strong evidence of the links between water for drinking and washing, toilets and sanitation for waste management, and hygiene for disease prevention, WASH is not perceived as a matter of primary health, but rather as infrastructure. U.S. leadership can help change this, to the benefit of the people of West Africa and the efficiency of foreign aid budgets at home.

The U.S. response to Ebola must invest in health systems, including WASH.

Years of emphasis on treating diseases rather than preventing them, and neglect of health systems and determinants of health, like WASH, has left the world scrambling to keep up with the spread of Ebola. Yet, this tragedy could have been prevented.

Safe drinking water, sanitation and toilets, and hygiene promotion and supplies are cornerstones of a healthy population and a health system capable of addressing long-term needs.⁴ WASH in health facilities is core to quality health care and critical to protecting health care workers, who are at especially high risk of acquiring Ebola, and are the very people the world is now depending on to contain the spread of a deadly disease. Yet, across sub-Saharan Africa, only 57% of health facilities have access to an improved source of water.⁵ This means health care workers are unable to wash their hands, clean bed sheets and clothing worn by themselves or by patients, or wash away bodily fluids and other infectious agents. As a result, health care-acquired infections are thought to be up to twenty times higher in sub-Saharan

³ As cited by the United States Centers for Disease Control and Prevention, available at <http://www.cdc.gov/handwashing/why-handwashing.html>.

⁴ See for example Mariame Dem, Stopping the Next Ebola Before It Starts, The Lancet Global Health Blog, October 31, 2014, available at <http://globalhealth.thelancet.com/2014/10/31/stopping-next-ebola-it-starts>.

⁵ WHO, Water, sanitation, hygiene and environmental conditions in health care facilities in low-resource settings, 2014.

Africa than in developed countries such as the United States.⁶ Ebola is among the worst examples of infections that may be acquired in these conditions.

Sanitation in health facilities:

When patients are desperately ill with vomiting and diarrhea, good waste management—especially keeping vomit, feces and urine separate from drinking water and segregated from human contact—is critical. This is especially true given the high EVD viral load contained in feces. This requires basic latrines, at minimum, available to all patients and health care workers at each facility. World Health Organization recommendations are for a separate latrine or flush toilet for each individual with a confirmed case of EVD in order to maintain isolation.⁷

Given sanitation access levels in the three countries currently affected by Ebola, it is clear that a robust commitment is needed to ensure that health facilities have enough toilets to accommodate their patients, protect health workers, and contain the spread of disease, whether Ebola or flu. Constructing accessible latrines now will help to ensure that health facilities are higher quality and safer in the future, contribute to the overall well being of the population, even in absence of a public health crisis, and save the United States money in the long run, because well built latrines—and their benefits—will outlast this Ebola outbreak.

Hygiene in health facilities:

On a day-to-day basis, preventable illnesses of a wide variety may be acquired in health facilities that do not have access to sufficient water for washing and soap for sanitizing. For example, sepsis, which causes an estimated 7% of neonatal mortality⁸ and 11% of maternal mortality,⁹ can be prevented if women give birth in a location with good access to WASH and a trained assistant who can provide quality care. Similarly, while it requires more careful protocols, Ebola can be prevented with thorough handwashing and cleaning of surfaces, bedding, and anything else with which patients may come into contact.

However, regular hygiene relies on access to enough water for washing; in the case of a health facility, entire rooms may be in need of cleaning, or, in the case of Ebola, surfaces and laundry may require repeated washing to eliminate risk of infection. These circumstances call for more water than can reasonably be carried from a nearby stream or hand pump, which is the only

⁶ Nejad et al., Health-care associated infection in Africa: a systematic review, 2011.

⁷ WHO, Ebola Virus Disease (EVD) Key questions and answers concerning water, sanitation and hygiene, 2014, available at http://www.who.int/water_sanitation_health/WASH_and_Ebola.pdf?ua=1.

⁸ USAID, Acting on the Call: Ending Preventable Child and Maternal Deaths, June 2014, available at <http://www.usaid.gov/what-we-do/global-health/acting-call-ending-preventable-child-and-maternal-deaths-report>.

⁹ USAID, Ending Preventable Maternal Mortality: USAID Maternal Health Vision for Action, June 2014, available at <http://www.usaid.gov/sites/default/files/documents/1864/MCHVision.pdf>.

choice of 780 million people worldwide who live without access to safe drinking water. Yet, with fewer than 60% of health clinics in sub-Saharan Africa having access to safe drinking water, health systems clearly have a long way to go before they can ensure proper hygiene practice is observed in all settings and guarantee protection from health facility-acquired infections to health care workers, patients and their families. Partner governments cannot bridge this gap alone. Donor governments, such as the United States, must provide support to ensure that water is available, good hygiene behaviors are taken up, and long-term monitoring is supported to ensure the right strategies are in place. Given the links between hygiene and Ebola, the U.S. crisis response now can lay the groundwork for long-term positive change.

Conclusion

This EVD outbreak is likely to have serious long-term consequences for the social and economic stability and growth of three very poor countries. As such, the global community must focus on lasting solutions to the current health crisis. Guinea, Liberia and Sierra Leone must be supported to lay the groundwork to emerge stronger, and better prepared to meet the basic health needs of their citizens so that they will have the wherewithal to respond to—and even prevent—the next health crisis. This requires the U.S. Government to:

- Ensure WASH features strongly in the U.S. emergency response to Ebola, following WHO and CDC guidelines¹⁰;
- Contribute to health systems strengthening and disease prevention, including WASH in health facilities, rather than focusing exclusively on immediate needs;
- Increase funding for WASH for households, communities, schools, and health facilities, so basic needs are met in the future and countries are stronger before the next crisis comes; and
- Pass the *Senator Paul Simon Water for the World Act* (H.R. 2901) this year, to further USAID's commitment to the poorest of the poor, WASH for health, and efficient investments that can save everyone money in the long run.

We are at a critical juncture in the global response to EVD; if we are to get ahead of it, disease prevention must be prioritized equally to care and treatment, and groundwork must be laid for stronger systems that will better withstand future health crises—as well as the day-to-day needs of the populations that depend on them. Had WASH infrastructure been in place and accessible to all, and had health systems been stronger, the U.S. and our allies would be investing less to guard against the further spread of Ebola. Now is the time to make sure we are making smart investments for the future, and saving lives in the process.

¹⁰ CDC, Questions and Answers: Infection Control in General Healthcare Settings in Countries with Widespread Ebola Transmission, available at <http://www.cdc.gov/vhf/ebola/hcp/qa-infection-control-general-healthcare-widespread-ebola-transmission.html>.