



Issue 157 | August 8, 2014 | Focus on Disease Outbreaks

This issue highlights recent alerts, news and publications on cholera and Ebola outbreaks. On August 1, 2014, WHO published its latest statistics on the number of cholera cases and cholera-related deaths in 2013. In 2013, there was a 47% decrease in the number of cases reported compared to 2012 and this is the second consecutive year in which reported cholera era cases declined. Resources on the Ebola outbreaks include WHO alerts, a WHO fact sheet, recent newspaper articles and reports on the One Health approach, which investigates human, animal, and environmental interconnectedness and its impact on health.

CHOLERA NEWS/OUTBREAK ALERTS

Recent Newspaper Articles on Outbreaks - Cameroon – [Aug 6, 2014](#) | Ghana – [Aug 4, 2014](#) | South Sudan – [July 30, 2014](#) | Vietnam – [Aug 6 2014](#) |

CHOLERA STATISTICS/FACT SHEETS

Cholera Fact Sheet, 2014. World Health Organization. ([Link](#))

Cholera is an acute diarrhoeal infection caused by ingestion of food or water contaminated with the bacterium *Vibrio cholerae*. Every year, there are an estimated 3–5 million cholera cases and 100,000–120,000 deaths due to cholera. The short incubation period of two hours to five days enhances the potentially explosive pattern of outbreaks.

Cholera in 2013. *Weekly Epidem Rec*, Aug 2014. WHO. ([Link](#))

In 2013, 47 countries reported a total of 129,064 cases of cholera including 2102 deaths, giving a case-fatality rate of 1.63%. This represents a decrease of 47% in the number of cases reported compared to 2012 and this is the second consecutive year in which reported cholera era cases declined.

JOURNAL ARTICLES

Epidemic Cholera Spreads Like Wildfire. *Nature*, Jan 4, 2014. M Roy. ([Link](#))

Cholera is on the rise globally, especially epidemic cholera, which is characterized by intermittent and unpredictable outbreaks that punctuate periods of regional disease fade-out. These epidemic dynamics remain however poorly understood. This article examines records for epidemic cholera over both contemporary and historical timelines, from Africa (1990–2006) and former British India (1882–1939). The authors found that the frequency

distribution of outbreak size is fat-tailed, scaling approximately as a power-law. This pattern, which shows strong parallels with wildfires, is incompatible with existing cholera models developed for endemic regions, as it implies a fundamental role for stochastic transmission and local depletion of susceptible hosts.

Epidemic Risk from Cholera Introductions into Mexico. *PLoS Curr.* 2014 Feb. S Moore. ([Link](#))

Stemming from the 2010 cholera outbreak in Haiti, cholera transmission in Hispaniola continues with over 40,000 cases in 2013. The presence of an ongoing cholera outbreak in the region poses substantial risks to countries throughout the Americas, particularly in areas with poor infrastructure.

Cholera Outbreaks in Malawi in 1998-2012: Social and Cultural Challenges in Prevention and Control. *J Infect Dev Ctries.* 2014 Jun. K Msyamboza. ([Link](#))

Despite improvements in safe drinking water and sanitation, cholera is still a major public health problem. Introduction of a community-led total sanitation approach, use of social and cultural information in community mobilization strategies, and introduction of an oral cholera vaccine could help to eliminate cholera in Malawi.

Risk Factors for Cholera Transmission in Haiti During Inter-Peak Periods: Insights to Improve Current Control Strategies from Two Case-Control Studies. *Epidemiol Infect.* 2014 Aug. F Grandesso. ([Abstract](#))

Two community-based density case-control studies were performed to assess risk factors for cholera transmission during inter-peak periods of the ongoing epidemic in two Haitian urban settings, Gonaives and Carrefour. The strongest associations were: close contact with cholera patients (sharing latrines, visiting cholera patients, helping someone with diarrhoea), eating food from street vendors and washing dishes with untreated water. Protective factors were: drinking chlorinated water, receiving prevention messages via television, church or training sessions, and high household socioeconomic level.

Water Sources As Reservoirs of *Vibrio cholerae* O1 and Non-O1 strains in Bepanda, Douala (Cameroon): Relationship Between Isolation and Physico-Chemical Factors. *BMC Infectious Dis,* July 2014. J Akoachere. ([Link](#))

Cholera has been endemic in Douala since 1971. Most outbreaks start from Bepanda, an overcrowded neighbourhood with poor hygiene and sanitary conditions. We investigated water sources in Bepanda as reservoirs of *Vibrio cholerae*, the causative agent of cholera, determined its antibiotic susceptibility and some physico-chemical characteristics that could maintain the endemicity of this organism in Bepanda.

REPORTS

Strategies & Challenges to Handwashing Promotion in Humanitarian Emergencies, 2014. J Vujcic. ([Link](#))

Handwashing promotion is deemed important by experts in WASH in emergencies. However, there are a number of constraints to the success of programs to promote handwashing among emergency-affected persons. These include a lack of targets for prevalence of handwashing practice among the target population, lack of attention to and capacity for developing and implementing effective behavior change communication approaches, lack of understanding of best practices and use or acceptability of different types of handwashing hardware, and limitations in improving programs based on existing knowledge derived from the development

context.

EBOLA

FACT SHEETS/WEBSITES

Frequently Asked Questions on Ebola Virus Disease, 2014, World Health Organization. [\(Link\)](#)

When visiting patients in the hospital or caring for someone at home, hand washing with soap and water is recommended after touching a patient, being in contact with their bodily fluids, touching his/her surroundings.

WHO Ebola Virus West Africa Update – Aug 6, 2014

Between August 2-4, 2014, a total of 108 new cases of Ebola virus disease (laboratory-confirmed, probable, and suspect cases) as well as 45 deaths were reported from Guinea, Liberia, Nigeria, and Sierra Leone.

Ebola Virus Disease: Alerts, Publications, Resources. World Health Organization. [\(Link\)](#)
Technical information on infection control, response plans, etc.

USAID PREDICT Project. [\(Link\)](#)

PREDICT has been conducting global surveillance to detect and prevent spillover of pathogens of pandemic potential that can move between wildlife and people.

NEWSPAPER ARTICLES

Ebola Can Be Killed by Soap and Water. *CBN News*, Aug 2014. L Johnson. [\(Link\)](#)

This article describes how the Ebola virus can be killed by washing hands using soap and water and with education, this practice can help stop the spread of the virus.

Liberia: 'Practice Good Hand Hygiene' – U.S. Monitoring Ebola Situation. *AllAfrica*, June 2014. [\(Link\)](#)

Transmission among humans is almost exclusively among caregiver, family members or health care workers tending to the very ill or preparation of the body of a deceased case for burial. The virus is easily killed by contact with soap, bleach, sunlight, or drying. A washing machine will kill the virus in clothing saturated with infected body fluids.

How Deforestation Shares the Blame for the Ebola Epidemic. *Washington Post*, July 2014. T McCoy. [\(Link\)](#)

The commonality between numerous outbreaks of Ebola, scientists say, is growing human activity and deforestation in previously untouched forests, bringing humans into closer contact with rare disease strains viral enough to precipitate an epidemic.

JOURNAL ARTICLES/BLOG POSTS

The 2014 Ebola Virus Disease Outbreak in West Africa. *J Gen Virol*, Aug 2014. D Gatherer. [\(Link\)](#)

On March 23, 2014, the World Health Organization issued its first communiqué on a new outbreak of Ebola virus disease (EVD), which began in December 2013 in Guinée Forestière (Forested Guinea), the eastern sector of the Republic of Guinea. The appearance of cases in

the Guinean capital, Conakry, and the transit of another case through the Liberian capital, Monrovia, presents the first large urban setting for EVD transmission.

The Ebola Threat: A “New Normal”? *World Bank Blog*, July 2014. P Marquez. ([Link](#))

“As recently described by Laurie Garrett of the Council of Foreign Relations, the Ebola virus in West Africa should be tackled the same way it was done in 1976: with soap, clean water, protective gear, safe medical practices, and quarantine; technology and vaccines are of no use. Also community engagement and involvement, effective contact tracing, cross-border collaboration and effective coordination would be critical. But I also add that in pursuing a broader development agenda to end poverty and enhance shared prosperity over the medium term, countries and the international community have the responsibility to act on the recognition that environmental factors can impact human health and support the development of sustainable ‘One Health’ platforms to deal with the emergence of new viruses or the reemergence of known pathogens that risk affecting all of us across the world.”

Outbreak of Ebola Virus Disease in Guinea: Where Ecology Meets Economy. *PLoS Neglected Tropical Diseases*, July 2014. D Bausch. ([Link](#))

As best as can be determined, the first case of Ebola virus disease in Guinea occurred in December 2013, at the beginning of the dry season, a finding consistent with observations from other countries that outbreaks often begin during the transition from the rainy to dry seasons.

Effects of Environmental Change on Zoonotic Disease Risk: An Ecological Primer. *Trends in Parasitology*, Apr 2014. A Estrada-Pena. ([Link](#))

Impacts of environmental changes on zoonotic disease risk are the subject of speculation, but lack a coherent framework for understanding environmental drivers of pathogen transmission from animal hosts to humans. This article reviews how environmental factors affect the distribution of zoonotic agents and their transmission to humans, exploring the roles they play in zoonotic systems.

Zoonoses and One Health: A Review of the Literature. *Journal of Parasitology Research*, Jan 2014. S Bidaisee. ([Link](#))

One health is a concept that was officially adopted by international organizations and scholarly bodies in 1984. It is the notion of combining human, animal, and environmental components to address global health challenges that have an ecological interconnectedness.

Seeing the Forest for the Trees: How “One Health” Connects Humans, Animals, and Ecosystems. *Environmental Health Perspectives*, May 2014. W Nicole. ([Link](#))

With West Nile encephalitis, SARS, Ebola hemorrhagic fever, swine flu, and other zoonotic diseases popping up regularly in recent decades, scientists and medical practitioners have taken notice. In 2004 the Wildlife Conservation Society held the One World, One Health conference to bring together leaders from various disciplines; it culminated in the 12 Manhattan Principles, which urged world leaders, scientists, and society to more holistically consider the interrelationship between zoonotic diseases and ecosystems.

WASHplus Weeklies will highlight topics such as Urban WASH, Indoor Air Pollution, Innovation, Household Water Treatment and Storage, Hand Washing, Integration, and more. If you would like to feature your organization's materials in upcoming issues, please send them to Dan Campbell, WASHplus Knowledge Resources Specialist, at dacampbell@fhi360.org.



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