

CASE STUDY

RESPONDING TO THE
EBOLA EPIDEMIC IN WEST AFRICA:
WHAT ROLE DOES RELIGION PLAY?

By Katherine Marshall



THE 2014 EBOLA EPIDEMIC was a human and a medical drama that killed more than 11,000 people and, still more, devastated the communities concerned and set back the development of health systems. Its impact was concentrated on three poor, fragile West African countries, Guinea, Liberia, and Sierra Leone, but the tremors reverberated throughout the world, generating reactions of compassion and fear, spurring mobilization of vast human and financial resources, and inspiring many reflections on the lessons that should be learned by the many actors concerned. Among the actors were many with religious affiliations, who played distinctive roles at various points and across different sectors.

This case study is one of a series produced by the Berkley Center for Religion, Peace, and World Affairs at Georgetown University and the World Faiths Development Dialogue (WFDD), an NGO established in the World Bank and based today at Georgetown University. The goal is to generate relevant and demanding teaching materials that highlight ethical, cultural, and religious dimensions of contemporary international development topics. This case study highlights the complex institutional roles of religious actors and positive and less positive aspects of their involvement, and, notably, how poorly prepared international organizations proved in engaging them in a systematic fashion. An earlier case study on Female Genital Cutting (FGC or FGM) focuses on the complex questions of how culture and religious beliefs influence behaviors.

This case was prepared under the leadership of Katherine Marshall and Crystal Corman in May 2016. Lindsay Horikoshi and Spencer Crawford provided research support. Various colleagues reviewed earlier drafts and this version reflects their inputs. Cover photo by Sahr Ngaujah/World Vision.

About the World Faiths Development Dialogue

The World Faiths Development Dialogue (WFDD) is a not-for-profit organization working at the intersection of religion and global development. Housed within the Berkley Center in Washington, D.C., WFDD documents the work of faith inspired organizations and explores the importance of religious ideas and actors in development contexts. WFDD supports dialogue between religious and development communities and promotes innovative partnerships, at national and international levels, with the goal of contributing to positive and inclusive development outcomes.

About the Berkley Center for Religion, Peace, and World Affairs

The Berkley Center for Religion, Peace, and World Affairs at Georgetown University, created within the Office of the President in 2006, is dedicated to the interdisciplinary study of religion, ethics, and public life. Through research, teaching, and service, the center explores global challenges of democracy and human rights; economic and social development; international diplomacy; and interreligious understanding. Two premises guide the center's work: that a deep examination of faith and values is critical to address these challenges, and that the open engagement of religious and cultural traditions with one another can promote peace.

RESPONDING TO THE EBOLA EPIDEMIC IN WEST AFRICA: WHAT ROLE DOES RELIGION PLAY?

TEACHING NOTE FOR CASE STUDY

The 2013–2015 Ebola epidemic in West Africa tested local and global capacities. Far-ranging local and international resources were mobilized, eventually containing the epidemic, though at high cost. Lives and economies in the most affected countries (Guinea, Liberia, and Sierra Leone) were profoundly disrupted, but fears that Ebola could spread worldwide had global ramifications far beyond those countries. Intensive stock-taking aimed at drawing lessons from the experience followed the crisis phase, addressing many dimensions of impact and response.

This case study focuses on the roles that religious communities and leaders did (and did not) play in the crisis and their interactions with the many institutions involved in the response. Inter alia the experience highlights the vulnerability of fragile states weakened by decades of conflict, foreign interference, and poor governance, the critical issue of community trust in governments and modern medicine, and the vital but complex roles in such situations that religious actors play. The experience thus illustrates why it is important to take religious factors into account and what that can involve.

Religious institutions and beliefs played various and quite complex roles in this public health emergency. Religious demographics of the three countries differ significantly, and they are dynamic and complicated; traditional beliefs and practices play important roles alongside Muslim and Christian communities and traditions. Religious institutions are service providers, part of national health systems, and they provided substantial care as the pandemic unfolded. Traditional healing methods, still an important part of health care (for better or for worse) were especially important when people hesitated to seek help from health facilities. People's attitudes towards public health messages were colored both by religious beliefs and by the way that religious leaders they trusted responded. Traditions and common practices such as touching the deceased played central roles in disease transmission and were the focus of sharp attention in efforts to stem the epidemic. This led to significant efforts to engage religious actors in the public health response. More broadly, however, poor understanding of the religious context frustrated public health strategies and behavior change communication. Overall, faith-inspired organizations (FIOs)

and religious institutions more broadly were among the first responders, providing vital information and community support, and focusing attention on especially vulnerable groups like orphans. However, coordination of engagement was generally poor, not only with and among religious actors but throughout the response efforts. The case is in large measure a story of missed or under-appreciated opportunities for creative partnerships.

Experts and students from several disciplines can benefit from a close review of the complicating factors and experience of the multiple actors involved in the Ebola response. This case study can be tailored for use in the classroom or with practitioners in the fields of public health, emergency and disaster response, international development, post-conflict reconstruction, religious studies, international affairs, and journalism. Its primary focus is the specific question of how religious factors and actors were involved, though many dimensions extend well beyond.

Overview of Case Study:

Part A: Context

Part A lays out key facts needed to understand the case. These include an overview of the epidemiology of Ebola Virus Disease, including prevention, transmission, and treatment, an introduction to the three most affected countries (Guinea, Liberia, Sierra Leone), providing an overview of the economic, political, demographic, and health contexts, and tables summarizing country demographic and health system indicators and basic religious landscapes.

Part B: Crisis Narrative

Part B provides a narrative of the Ebola epidemic, highlighting key events and actors. It begins with patient zero and the initial alert from Doctors Without Borders/Médecins Sans Frontières (MSF) to the international community and concludes as the epidemic came largely under control in late 2014/early 2015. The narrative features local, regional, and global responses, highlighting major challenges that each actor faced. Faith-inspired organizations (FIOs) that provided direct medical services, as well as local faith actors and communities are in-

roduced as part of the story, their roles presented as an integral part of the overall narrative.

Part C: A complementary narrative: Religious actors

Part C focuses in more detail on the religious and cultural aspects of the Ebola response. This section prods students to think critically about the roles of faith networks in public health and in an epidemic. The central question is what cultural and religious

considerations need to be taken into account in designing a public health response. Examples highlight particular actors and approaches to help students evaluate the 2013–2015 Ebola outbreak and formulate action recommendations for future crises.

Part D: What followed?

Part D is a short epilogue that focuses on the many reviews undertaken to draw lessons from the epidemic.

In-classroom Question Pool

Post-conflict fragility

- What specifically made these fragile states more susceptible to public health emergencies or outbreaks? What were major factors of fragility? How can these factors be addressed in future public health emergencies?
- What does this case teach about the importance and challenges of establishing trust for public services and government particularly in a fragile state?
- Are there generic or specific roles that religious actors or communities can and do play in post-conflict reconstruction that are especially relevant for public health strategies and programs?

Coordinated response

- Compare the differences in response from Médecins Sans Frontières (MSF) and the WHO. Discuss why each responds in the way it does. List the strengths and limitations for each.
- What strengths did FIOs like Samaritan's Purse or World Vision look to in responding quickly in this case? What lessons can be drawn for coordination and community engagement in future global health emergencies?
- How can international actors best provide support when local systems are weak? What challenges stood in the way of national governments' leadership in responding and for partnership with global actors? Examine why public perceptions of foreign assistance were poor and make recommendations for future emergencies.

Public health/epidemiology

- Review the WHO guidelines for safe burial practices and note which actions are designed to respect cultural or religious traditions. Who would have known about these sensitivities in the West African context? To what extent can these guidelines be used globally?
- In what ways were standard public health approaches of identifying and confirming cases finding, contact tracing, and treatment through isolation challenging in this epidemic?
- Frame a check list for public health issues in epidemic situations where religious actors might be relevant or engaged.

Cultural and religious sensitivity

- How do you begin to identify and 'map' the religious actors and institutions in a country? Where can you learn about faith-based health care providers or faith communities with previous experience hosting or partnering with health programs?
- What lessons about 'cultural competence' arise from the history of the Ebola epidemic?
- What insights do anthropologists bring in contexts where the most common religious traditions blend with traditional spiritual practices and beliefs? Why might these be important for public health behavioral change communication (BCC)?
- The Ebola countries have strong links to diaspora communities around the world. How could persons in the diaspora intervene in a global pandemic?
- What might be some questions to ask about the gender dimensions of the crisis and response?

Suggested Assigned Readings

“A Discussion with Gwendolyn Heaner, Social Research Consultant.” WFDD, 2015.

<https://berkeleycenter.georgetown.edu/interviews/a-discussion-with-gwendolyn-heaner-social-research-consultant>

“Field Situation: How to conduct safe and dignified burial of a patient who has died from suspected or confirmed Ebola virus disease.” WHO, 2014.

http://apps.who.int/iris/bitstream/10665/137379/1/WHO_EVD_GUIDANCE_Burials_14.2_eng.pdf?ua=1

Garrett, Laurie. “Ebola’s Lessons: How the WHO Mishandled the Crisis.” *Foreign Affairs*. September/October 2015.

<https://www.foreignaffairs.com/articles/west-africa/2015-08-18/ebolas-lessons>

“Strengthening West African Health Care Systems to Stop Ebola: Anthropologists Offer Insights.” American Anthropological Association, 2014.

<http://s3.amazonaws.com/rdcms-aaa/files/production/public/FileDownloads/pdfs/about/Governance/upload/AAA-Ebola-Report.pdf>

“The Experts the Ebola Response May Need: Anthropologists.” NPR. September 28, 2014.

<http://www.npr.org/sections/goatsandsoda/2014/09/28/351845664/the-experts-missing-from-the-ebola-response-anthropologists>

RESPONDING TO THE EBOLA EPIDEMIC IN WEST AFRICA: WHAT ROLE DOES RELIGION PLAY?

PART A: CONTEXT AND TECHNICAL BACKGROUND

What is Ebola?

Ebola Virus Disease, a filovirus, exists naturally (non-disease causing) in animal populations including fruit bats and primates. It is occasionally transferred to humans through bodily fluid contact, for example through a cut or scratch on the surface of the skin.¹ After a 1-21 day incubation period, the Ebola infection can present symptoms and initiate human-to-human transmission. Symptoms are nonspecific, mirroring the common cold and other illnesses. Forty percent of patients present with fever, fatigue, lack of appetite, nausea or vomiting, diarrhea, headache, and abdominal pain. Ebola is categorized as a hemorrhagic fever, but severe hemorrhaging is in fact quite rare. There is no cure for Ebola; healthcare workers can only treat the symptoms, such as reducing fever. Work to develop a vaccine is underway but it is still at a trial stage.

The identification of Ebola was fairly recent. It was first identified during two separate outbreaks in 1976 in Sudan and Zaire (the name Ebola comes from the Ebola River in the Democratic Republic of the Congo -DRC). Various outbreaks in the ensuing decades were largely confined to rural areas in Central Africa. Before 2014 no cases had ever been reported in West Africa.

Unlike other viruses (e.g. influenza) that can be transmitted through airborne droplets, Ebola can only be transmitted through contact with bodily fluids, including sweat, blood, feces, vomit, saliva, genital secretions, urine, and breast milk. However, Ebola is especially deadly, with an average fatality rate of 50 percent, ranging from 25 to 90 percent in past outbreaks. Bodies of the deceased are particularly infectious. Particular precautions must thus be taken to prevent transmission of Ebola, especially in handling the dead.

Healthcare workers face particular risks. Those caring for Ebola patients must wear personal protective equipment (PPE) that covers the clothing and skin, completely protecting all mucous membranes. PPE must be donned and doffed with an assistant to reduce risk of contamination. Due to the heat contained within the impermeable gowns, gloves, and boots, healthcare workers

can work in PPE for limited amounts of time, typically under an hour. Rigorous safety training and supply management is necessary to protect healthcare workers from contracting Ebola and passing it to other patients.

For a suspected or confirmed case of Ebola, infection control procedures ideally include isolating the patient in a private room with a private bathroom. In the 2014 Ebola outbreak the high case load necessitated the construction of Ebola Treatment Units (ETU), with areas for putting on PPE, removing PPE, and triaging patients and staff. Admitted patients are split into wet and dry areas. January 2015 World Health Organization (WHO) interim guidelines outlined standards for construction of ETUs.² A vital part of bringing an Ebola outbreak under control is contact tracing and isolation of all who have come into contact with the patient.

Country context

Liberia, Sierra Leone, and Guinea, three West African countries that share borders, are among the world's poorest nations. Each has experienced great instability over the past few decades. Inter-ethnic tensions and wars, resource exploitation by an economic elite and foreign entrepreneurs, and weak institutions and democratic processes have stalled growth and development progress. Among the many imperatives for sustainable human development are physical security, education and health care, attracting investment, creating jobs, infrastructure development, and building trust in public institutions.

The religious landscapes of the three countries, each marked by diversity, differ significantly and are not well researched. Among the three countries, Liberia has the largest Christian population with significant Muslim communities (mostly Sufi); traditional religions are practiced concurrently. Sierra Leone and Guinea's populations are majority Muslim. Various religious groups and communities operate significant parts of the health care system in Liberia and Sierra Leone, but their facilities are not fully integrated into national health care strategies and systems. There are fewer religiously run health facilities in Guinea. Traditional health beliefs and practitioners play significant roles in all three

countries. National and international development partners have not focused on engaging religious actors in development programs with the exception of significant interreligious peace making and peace building efforts. In Sierra Leone religious groups are engaged in the National Malaria Control Program, which gave them experience in a major health effort.³

Liberia (2015 population 4.2 million⁴), was founded by freed and free-born Black Americans from the United States and the Caribbean and gained independence in 1847. The historical connection has led to close ties to the United States. The population is majority Christian with numerous ethnic groups, including Kpelle (20 percent), Bassa (13 percent), Grebo (10 percent), Gio and Mano (8 percent each), and Kru, Lorma, Kissi, and Gola (6 percent or less each).⁵ From 1989-2003 civil war devastated Liberia; 250,000 people died and another 800,000 were displaced. The complex roots of the conflict included long-term exploitation of natural resources by the political and economic elite. By 2005, UN peacekeeping troops established enough stability for elections to proceed. Ellen Johnson Sirleaf was elected President (the first elected female African head of state). The Liberian economy is driven by foreign direct investment in rubber



Table 1. Demographic and Health System Information on Ebola-Affected Countries

	Guinea	Liberia	Sierra Leone
Population ⁶	11.7 million	4.2 million	5.8 million
Ages 0-14 (% of population) ⁷	43	43	43
GDP per Capita ⁸	\$539	\$458	\$766
Health care expenditure per capita ⁹	\$25	\$44	\$96
Life Expectancy at Birth ¹⁰	58	61	50
Infant Mortality Rate (per 1,000 live births) ¹¹	61	53	87
Maternal Mortality Ratio (Maternal deaths per 100,000 live births) ¹²	679	725	1,360
Muslim (%)	70-85	12-20	45-78
Christian (%)	4-10	40-85	11-27
Christian Traditions	Roman Catholic; Evangelical; Anglican; Baptist; Jehovah's Witnesses; Seventh-day Adventist	Methodist; Lutheran; Baptist; Episcopalian; Presbyterian; Roman Catholic; Pentecostal; Evangelical	Methodist; Presbyterian; Baptist; Seventh Day Adventist; Lutheran; Pentecostal; Roman Catholic; Evangelical
Ethno-religionist ¹³ (%)	5-25	4-40	2-40
Ethnic Groups (%)	Puehl (40); Malinke (30); Soussou (20)	Kpelle (20); Bassa (13); Grebo (10); Gio and Mano (8 each); Kru, Lorma, Kissi, and Gola (6 or less each)	Temne (35); Mende (31); Limba (8); Kono (5); Kriole, Mandingo, Loko (2 each)

and mining.¹⁴ Natural resources, including recent oil discoveries, will continue to play an important role in Liberia's economic development, presenting opportunities to spur growth, but also challenges and risks (for example corrupt practices, foreign interference). Liberia's GDP per capita (2014) of US\$457 puts it among the world's poorest nations.¹⁵ The maternal mortality ratio, at 725 deaths per 100,000 live births, is one of the highest worldwide. Malaria is the largest cause of child mortality. Health systems strengthening is a high priority, as access and quality of health services is low; more than 40 percent of the population lives at least 5km from the nearest health facility.¹⁶ Liberia is highly dependent on external funding.

Sierra Leone (2015 population 5.8 million¹⁷), a former British colony, became independent in 1961. The two main ethnic groups are the Temne (35 percent) and Mende (31 percent).¹⁸ The religious composition is diverse with Muslims, Christians, traditional religions, and many who follow more than one.¹⁹ In 1991, after decades of political corruption and mismanagement, a protracted civil war began, which lasted until 2002, when UN and British troops disarmed 70,000 fighters.²⁰ President Ernest Bai Koroma was elected to a second term in 2012. Sierra Leone today can be considered a fragile, but emerging democracy. Extractive industries dominate the economy, including iron-ore mining, oil, and gas production. Heavy dependence on natural

resource extraction involves high risks. The agriculture and fisheries sectors are promoted to enhance economic diversification. Maternal mortality, at 1,360 deaths per 100,000 live births, is the highest in the world. The Ministry of Health, with substantial support of development partners, introduced a Free Health-care Initiative for pregnant and lactating mothers and children under five, but it faces implementation challenges.²¹

Guinea (2015 population 11.7 million²²) shares porous borders with both Sierra Leone and Liberia across a densely forested area. A former French colony, it became independent in 1958.²³ The population is majority Muslim. While Guinea has avoided the civil war devastation of its neighbors, peace has been disrupted for decades with violent elections, autocratic civilian and military regimes, and coup d'états. Ethnic tensions largely explain the chronic instability. The current president, Alpha Conde, is from the Malinke ethnic group which comprises 35 percent of the population. His opponent in the 2015 election, Cellou Diallo, belongs to the largest ethnic group, Peuhl, 40 percent of the population.²⁴ The mineral sector which dominates the economy is largely in the hands of foreign investors and elite. Low access to health services, low access to water and sanitation, and low quality of health services all contribute to some of the highest rates of infant and maternal mortality worldwide.²⁵

1. Beeching, Nicholas J., Manuel Fenech, and Catherine F. Houlihan. "Ebola virus disease." *BMJ* 349 (2014): g7348.
2. "Manual for the care and management of patients in Ebola Care Units/ Community Care Centres." WHO, 2015. Available at: http://apps.who.int/iris/bitstream/10665/149781/1/WHO_EVD_Manual_ECU_15.1_eng.pdf
3. Keenan, Charlotte. "How Muslims and Christians in Sierra Leone are working together to prevent malaria." Skoll Foundation, April 24, 2014. Available at: <http://archive.skoll.org/2014/04/24/muslims-christians-sierra-leone-working-together-prevent-malaria/>
4. "Liberia." CIA World Factbook, 2016. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/li.html>
5. Ibid
6. "Guinea." CIA World Factbook, 2016. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/gv.html>
7. "Population, ages 0-14 (% of total)." The World Bank, 2014. Available at: <http://data.worldbank.org/indicator/SP.POP.0014.TO.ZS>
8. "GDP per capita (current US\$)." The World Bank, 2014. Available at: <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>
9. "Health expenditure per capita (current US\$)." The World Bank, 2013. Available at: <http://data.worldbank.org/indicator/SH.XPD.PCAP>
10. "Life expectancy at birth, total (years)." The World Bank, 2014. Available at: <http://data.worldbank.org/indicator/SP.DYN.LE00.IN>
11. "Mortality rate, infant (per 1,000 live births)." The World Bank, 2015. Available at: <http://data.worldbank.org/indicator/SP.DYN.IMRT.IN>
12. "Maternal mortality ratio (modeled estimate, per 100,000 live births)." The World Bank, 2015. Available at: <http://data.worldbank.org/indicator/SH.STA.MMRT>
13. Many West Africans practice traditional indigenous religions and Christianity or Islam.
14. "Liberia profile – Timeline." BBC News, January 14, 2016. Available at: <http://www.bbc.com/news/world-africa-13732188>, "Country Partnership Strategy for the Republic of Liberia for the period FY13-FY17." The World Bank, 2013. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/07/17/090224b0828b429e/1_0/Rendered/PDF/Liberia000Coun0e0period0FY201302017.pdf
15. "GDP per capita (current US\$)." The World Bank, 2014. Available at: <http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>
16. "Country Partnership Strategy for the Republic of Liberia for the period FY13-FY17." The World Bank, 2013. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2015/07/17/090224b0828b429e/1_0/Rendered/PDF/Liberia000Coun0e0period0FY201302017.pdf
17. "Sierra Leone." CIA World Factbook, 2016. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/sl.html>
18. Ibid.
19. "All things happily to all men." *The Economist*, May 31, 2014. Available at: <http://www.economist.com/news/middle-east-and-africa/21603015-sierra-leone-bucks-west-african-trend-celebrating-its-religious-tolerance-all>
20. "Sierra Leone country profile." BBC News, January 21, 2016. Available at: <http://www.bbc.com/news/world-africa-14094194>
21. Maxmen, Amy. "Sierra Leone's free health-care initiative: work in progress." *The Lancet* 381.9862 (2013): 191-192.
22. "Guinea." CIA World Factbook, 2016. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/gv.html>
23. Ibid
24. Sierra Leone country profile." BBC News, January 21, 2016. Available at: <http://www.bbc.com/news/world-africa-14094194>
25. "Country Partnership Strategy for Guinea for the period FY14-FY17." The World Bank, 2013. Available at: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2013/09/06/000333037_20130906083708/Rendered/PDF/762300CAS0P115000OUO0900Box379823B0.pdf

RESPONDING TO THE EBOLA EPIDEMIC IN WEST AFRICA: WHAT ROLE DOES RELIGION PLAY?

PART B: AN UNEXPECTED EPIDEMIC

There were no headlines when, on December 26, 2013, a two-year old boy in the village of Meliandou, Guinea, came down with fever, black stool, and vomiting. No doctor or nurse saw him and two days later he died.²⁶ It was sadly a quite normal event in this remote community, where deaths of children are all too common. Life went on. But logging, mining, and the influx of people who came seeking jobs in this remote border region between Guinea, Sierra Leone, and Liberia (see figure 1) upset the habitats of species, including fruit bats – known in the scientific community as a likely reservoir for the Ebola virus. In hindsight, it emerged that the chain of events reflected disruptive changes and researchers determined that in December 2013, the Ebola virus jumped from a fruit bat to a primate; the primate was slaughtered and prepared as bush meat by a hunter and his family. The two-year old boy was exposed in the process. He was identified as “patient zero” of one of the most severe public health emergencies in recent history.

Ebola Virus Disease (EVD), a hemorrhagic fever, has been well documented in Central Africa since two simultaneous outbreaks in Zaire (now the Democratic Republic of Congo) and Sudan in

Figure 1. Map of Guinea Showing Initial Locations of the Outbreak of Ebola Virus Disease



Source: Baize et al. “Emergence of Zaire Ebola Virus Disease in Guinea — Preliminary Report”. *The New England Journal of Medicine*, April 2014.

1976.²⁷ Periodic flare-ups in Central Africa averaged around 70 persons infected per outbreak,²⁸ and each confirmed outbreak was in a remote village near tropical rainforests. These were controlled with rigorous case finding and isolation of cases. No case of Ebola had been confirmed in West Africa before 2013 so there was no disease surveillance for it; Ebola also had never been confirmed in environments where populations moved freely across borders or in densely settled areas. Thus following the toddler’s death in December 2013, no one expected or suspected Ebola. The epidemic spread and expanded before doctors or public health officials had any inkling of what virus was involved.

For months, people in Guinea’s forest region were infected and many died. The symptoms seemed familiar, not unlike those of the flu, malaria, and other common illnesses. On March 14, 2014, Healthmap.org, a site that maps infectious disease reports worldwide by aggregating hundreds of social media and official reports, noted local Guinean news reports of a “mystery hemorrhagic fever” that killed a cluster of eight people. This first media coverage attracted little notice. Doctors Without Borders/Médecins Sans Frontières (MSF), a renowned international NGO that fields foreign doctors in areas where healthcare is poor, began to suspect the presence of Ebola when their doctors recognized an unusual symptom, hiccups, in some patients. On March 18, 2014 they sent viral hemorrhagic fever specialists to Guéckédou, Guinea, alongside health ministry representatives, to collect viral samples.²⁹ On March 22, a French lab confirmed some samples as Ebola.³⁰ On March 23, three months after the death of “patient zero”, WHO officially recognized an outbreak of Ebola in West Africa.

Ebola spread without notice across national borders marked, if at all, by easily passable waterways where people moved freely. Liberia confirmed its first Ebola cases on March 30,³¹ and Sierra Leone not long afterwards. Well aware of the weaknesses of public health systems, MSF responded quickly, de

 **Watch MSF’s Early Reports of the Epidemic: Ebola in Guinea — an unprecedented epidemic.** 1 April 2014, <http://www.msf.org/article/video-ebola-guinea-unprecedented-epidemic>

facto taking on a leadership role. They followed WHO protocols by isolating cases and wearing personal protective equipment (PPE). MSF doctors recognized that this was far from a normal situation and sounded the alarm both within the public health community and through wider media commentary. Mariano Lugli, MSF Coordinator in Guinea, on April 1 described the situation as an “unprecedented epidemic.”³² As transmission increased rapidly, it became clear to a widening group, including the governments concerned, that the public health infrastructure was unprepared for the intensive isolation and personal protection protocols that Ebola demands.

With adequate supplies and the authority to quarantine, Ebola can be contained. This was demonstrated in one of the first reported cases in Liberia at the Firestone rubber plantation in Harbel, a town of 80,000 Firestone workers and families.³³ In late March 2014 Firestone’s managing director, unable to find a hospital in Monrovia that could isolate and care for the patient, converted their plantation hospital into an isolation ward and quarantined the patient’s family. Medical staff repurposed hazmat suits for chemical spills as PPE. Firestone’s swift and aggressive response followed standard public health procedures and for months no further cases occurred there. But Firestone had key elements that were lacking outside the plantation, including medical professionals, adaptable infrastructure, access to accurate disease control procedures, and a company culture in which workers trusted and obeyed their leaders. Many clinics and hospitals in the region were rudimentary; essential medicines and electricity were scarce and medical personnel were few and far between. Over the next few months of the outbreak, these missing factors, combined with panicked and uncoordinated responses, contributed to rising death tolls in the three countries. National and international organizations were overwhelmed or in denial.

WHO, the international organization responsible for monitoring epidemic disease, saw little reason for special alarm in the early months. On April 1, WHO spokesman Gregory Hartl commented that “while the Ebola outbreak in Guinea is serious, it is relatively small so far in comparison with earlier outbreaks of the disease.”³⁴ Not until five months later, on August 8, 2014, did WHO Director General Margaret Chan declare the outbreak one of the “most complex outbreaks in the nearly four-decade history of this disease” and a public health emergency of international concern. This meant that International Health Regulations were then implemented, involving global reporting and response mechanisms.³⁵

Epidemic surveillance networks in the affected countries were weak before the outbreak began, and, with the scarcity of trained healthcare workers, contributed to fumbled attempts at a coordinated response. Liberia had 50 doctors (0.1 per 10,000 people) in 2014, most based in Monrovia, the capital city.³⁶ Guinea has



Read more to understand possible reasons for WHO’s delayed response: Political considerations delayed WHO Ebola response, emails show. March 20, 2015. CBS News.
<http://www.cbsnews.com/news/political-considerations-delayed-who-ebola-response-emails-show/>

0.1 doctors per 10,000 people, and Sierra Leone fared little better with 136 doctors total (0.2 per 10,000 people).³⁷ Limited training capacity, brain drain, and human loss from civil war explained the shortage of doctors. Nurses and community health workers became the principal responders to the Ebola epidemic but were woefully unprepared for the intensive methods needed to isolate and care for patients

and to protect themselves. Health care workers suffered high fatality rates³⁸ and most responded with extraordinary courage and dedication. Deaths and some who abandoned their posts exacerbated the already serious shortage of people qualified to address the growing epidemic.³⁹ As an example, St Joseph’s Catholic Hospital in Monrovia closed in August 2014 after nine staff died from Ebola.⁴⁰ The combined efforts of local doctors and extraordinary measures to build new facilities with appropriate capacity for isolation could not keep pace as the number of Ebola cases spiked.

Robust epidemic surveillance, essential to bringing the epidemic under control, was a continuing challenge. Responding to Ebola, like other epidemic diseases, requires testing of suspected cases to confirm the infection and, given the nature of disease transmission, immediate identification, isolation, and monitoring of everyone who has come in



Watch Swedish public health expert Hans Rosling’s account of the response in Liberia
<http://www.bbc.com/news/magazine-32017211>

contact with the patient who have presented symptoms. Robust laboratory facilities and other infrastructure as well as trained staff are essential. As the gravity of the situation became apparent, foreign advisors helped with case finding and contact tracing. However, a host of logistic obstacles, including weak transportation and communications infrastructure, complicated the task. Contact tracers faced impassable roads and bridges at the height of the outbreak.⁴¹ Many towns were accessible only by foot—roads were too muddy for even a motorbike during the rainy season from May-October. Extraordinary efforts were required to gather and process information.

Apart from caring for the growing number of patients the focus was on communicating the dangers and necessary public health measures across the three affected countries. The gravity and magnitude of these challenges were underscored as it became

clear that public trust of outsiders, both government officials and foreign personnel, was so weak that messages were rejected or misunderstood. As health workers reached communities, directives (on isolating contacts, for example) and messages (to avoid touching others, for example) were not taken seriously or were rejected outright. People hid sick relatives and lied in order to prevent officials from taking their loved ones to isolation units, perceived as places of death where patients who entered and were never returned to relatives. Some viewed illness as a spiritual ailment and sought treatment through traditional healers or prayer alone. Pentecostal Christians, for example, use healing services and the laying on of hands for various ailments including suspected Ebola cases. Responders were slow to understand both the distortions of messages and the ways in which common traditional practices contributed to the spread of the disease.

The issue of community trust and engagement emerged as a vital issue early in the crisis. An editorial in the respected journal *The Lancet* in June 2014 urged responders to focus on good communication, transparency, and engagement with communities.⁴² Public health specialists focused increasingly on cultural practices, some deeply embedded, that were linked to transmission of Ebola. Concern centered especially on burial practices, as evidence emerged that many infections could be traced to funeral events. A May 2014 funeral of a traditional leader in Sierra Leone was identified as the source of 365 deaths and many more cases.⁴³ A common practice across religious and cultural traditions in West Africa involves touching the deceased. Muslim funeral practices entail washing the body.⁴⁴ Funeral ceremonies of some ethnic groups and secret societies involve elaborate washing and various clandestine activities that transfer powers between a deceased leader and successor.⁴⁵ Community suspicion of health care workers and responders was heightened as responders wearing white body suits wrapped dead bodies in black tarps, removing remains without speaking to family members or asking permission. WHO urged health workers to follow general safe burial guidelines for viral hemorrhagic fevers, a broad category that includes Ebola,⁴⁶ which included wearing protective clothing and carefully preparing a burial site or burning bodies. There was, initially, little consideration for local burial rituals, many of which conflicted directly with WHO protocols. Impersonal and fearful public health responses accentuated already live distrust for officials and outsiders. Some reports surfaced of people digging up remains from graves so that traditional rites could be observed;⁴⁷ others conducted secret burials, eluding data collectors or tracers. Haltingly at first governments and partners began to work with different religious leaders to develop an agreed protocol to assure safe and dignified Burials.⁴⁸ Safe burials became a critical monitoring target in Ebola response efforts.

Fears sparked by the epidemic went far beyond West Africa. Intense focus in July 2014 centered on the evacuation and treat-

ment of an American doctor and missionary in the United States whose case was covered almost hour by hour. Dr. Kent Brantly worked at ELWA (Eternal Love Winning Africa) Mission Hospital in Monrovia, Liberia's capital city, a private hospital supported by the faith-inspired NGO Samaritan's Purse. Two Ebola patients were sent to ELWA by the Ministry of Health in early June, as public hospitals lacked isolation protocols or

doctors to treat Ebola.⁴⁹ Over the next month many more Ebola patients arrived. On July 20 Dr. Brantly, infected with Ebola, was flown to the United States. He survived, possibly due to an experimental drug, ZMapp, used to treat him⁵⁰ but more likely because of intensive management of symptoms, such as replenishing low potassium levels. Fear that Ebola could spread beyond the region was heightened when a nurse in Spain became the first case of transmission of Ebola outside of Africa on October 6 after she treated two Spanish missionaries flown home for treatment. On October 11, a nurse in Dallas, Texas was diagnosed with Ebola after treating a man who contracted it in Liberia. Cases in Nigeria, Senegal, and Mali raised red flags, though in each case the outbreaks were quickly contained. Parents fearful of contagion pulled their children from school in the US, even when the individual of concern had visited an African country with no reported Ebola cases.⁵¹

Fears about international spread of Ebola led to stringent travel bans that had a devastating impact on the West Africa region, even the entire African continent. WHO, in accordance with the International Health Regulations, discouraged flight restrictions, but several international airlines suspended flights in and out of West Africa.⁵² The economies not only of the three most affected countries but the region were affected. Tourism dropped sharply, meetings were cancelled, and commerce plummeted. Sierra Leone closed its borders on June 11, Liberia on July 28, and Guinea on August 9 as their governments sought to minimize transmission. But border closings made it even more difficult to import essential supplies and limited the number of helpers who could arrive.⁵³ Schools closed and life, already difficult, became more so as the health systems were disrupted and even the agricultural systems on which people depended were interrupted.

In September 2014, estimates from a Centers for Disease Control and Transmission (CDC) model were published, noting that "Without additional interventions or changes in community behavior...by January 20, 2015, there will be a total of ap-



Listen to Christian and Muslim leaders in Sierra Leone discuss perceptions and communication with their communities: World Vision Sierra Leone: Interfaith Video on Ebola published September 12, 2014. <https://www.youtube.com/watch?v=i4ngSnhgpmJM>

proximately 550,000 Ebola cases in Liberia and Sierra Leone or 1.4 million if corrections for underreporting are made. Cases in Liberia are currently doubling every 15-20 days, and those in Sierra Leone and Guinea are doubling every 30-40 days.”⁵⁴ Misinformation about viral evolution led to unfounded fears that the virus could mutate to airborne transmission.

As governments struggled to control the spreading epidemic and casualty figures rose (see figure 2), initial authoritarian approaches exacerbated distrust and suspicions that owed much to the legacy of bitter conflicts and poor governance. Such approaches backfired.⁵⁵ An early indication of distrust came in April 2014, when a mob attacked an MSF treatment facility in Macenta, Guinea, believing that its staff were introducing the disease to the community. In Liberia, unable to cope with the quantity and care required for “safe” burials, on August 4 the Liberian government ordered cremation for all Ebola deaths. Communities responded with outrage. The governments mobilized military personnel in their response, sparking memories of past autocratic rule; to restrict movement in and out of West Point, an informal settlement in Monrovia, Liberian soldiers set up barricades beginning August 20, which sparked riots.⁵⁶ President Sirleaf declared a state of emergency and mandated quarantines and curfews, especially in informal settlements where infection was spreading rapidly. Further incidents in Guinea underscored the gravity of the challenges presented by public distrust. In September 2014, eight healthcare workers and journalists were killed by the community in the southwest, soon followed by an incident when an army of 3000 heavily armed, angry youths in the mining town of Forecariah, chased WHO epidemiologists out of town.^{57,58} In another region,

public health workers spraying disinfectant around a mosque were attacked by a mob, and police used tear gas to disperse the crowds.⁵⁹

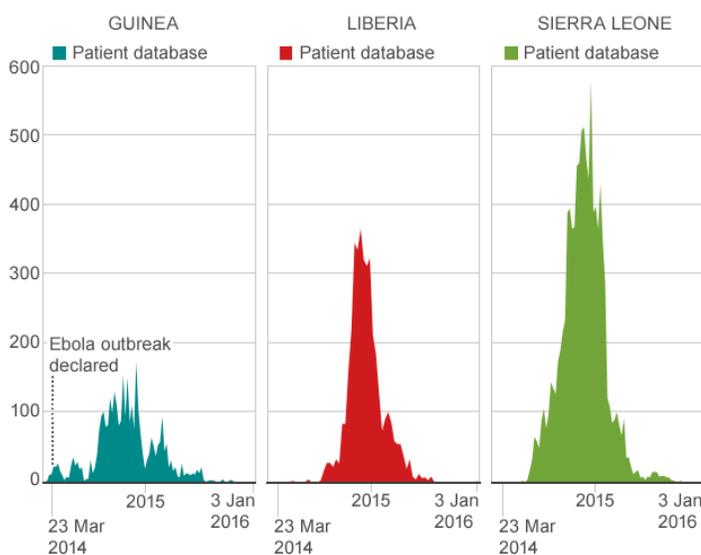
The human suffering that Ebola epidemic caused, as well as fears that it would spread spurred a large-scale international emergency response. WHO and other international organizations, notably the World Bank, national governments, and many NGOs, mobilized human and financial resources. New grants were approved, and some funds from existing health

projects in the affected countries were reallocated.⁶⁰ Epidemic surveillance teams from CDC were deployed. The United States sent 2,800 troops to Liberia in October 2014 as part of its support, to construct ETUs and provide transportation and logistical support for supplies.⁶¹ The US military medical team also trained

health workers. The presence of foreign troops in uniform, however, caused conspiracies to spread on social media and in the Liberian Observer suggested that Ebola was created by outsiders to decimate the local population.⁶² Many private organizations sent healthcare workers and supplies, including, MSF, Caritas, World Vision, Catholic Relief Services (CRS), and Samaritan’s Purse.

Despite political concern, promises, and pledges, mobilizing funds so that they reached those who could use them was difficult. Extraordinary efforts and special provisions were required to respond even at a minimal level and frustrated criticisms were heard from many quarters. Calls for better coordination mounted. An estimated US\$8.2 billion was committed and channeled through international organizations.⁶³ However, disbursements did not keep pace, and there were substantial delays in reaching organizations on the ground. In Liberia, for example, of US\$370 million promised as of October 31, 2014, only US\$14.2 million had been transferred to the government and actual disbursements stood at US\$8.3 million, or 2 percent of total commitments.⁶⁴ There was strong verbal commitment to the idea that the governments of Liberia, Sierra Leone, and Guinea must lead the response efforts, with support from international actors. However, only 11.5 percent of committed funds actu-

Figure 2. Trajectory of Ebola cases
Weekly reported Ebola cases



Source: WHO



Source: Ebola: Mapping the outbreak. 14 January 2016. BBC
<http://www.bbc.com/news/world-africa-28755033>

Watch MSF International’s president address the United Nations. September 2, 2014.

<http://www.msf.org/article/msf-international-president- united-nations-special-briefing-ebola>

Read more about the US military’s approach to degrade and destroy Ebola.

Sept 9, 2014.

<http://foreignpolicy.com/2014/09/16/can-the-u-s-army-degrade-and-destroy-ebola/>

ally went to programs directly managed by the governments.⁶⁵ Non-governmental organizations that were already working in the countries and thus had on-the-ground networks often worked outside official channels to deliver aid where most needed. The implementation delays and gaps between stated intentions and actual results were the result of many factors but among them were weak accountability systems and fears of possible leakage of funds that made funding organizations wary.

The number of weekly new cases hit its peak in November 2014 (see figure 2). By early 2015, the response to the Ebola epidemic moved to a new phase, with the focus shifting from slowing transmission to ending the epidemic, or “getting to zero”. As of late January 2015, the estimates of total cases of Ebola was 22,057, and deaths 8,795.⁶⁶ The highest numbers of deaths were in Liberia: 3,686, compared with 3,199 in Sierra Leone and 1,910 in Guinea. While it was clear that CDC’s upper projection of 1.4 million cases of Ebola was greatly exaggerated,⁶⁷ the situation was grim one year after patient zero. The ranks of health workers were thinned by deaths and departures, weakening all health services. Many citizens were still reluctant to seek health care, afraid of contagion at health care facilities. Maternal mortality, already among the world’s highest, worsened; anti-malaria programs suffered. Survivors of Ebola faced stigma. Children orphaned by Ebola, estimated at 9,600 as of February 11, 2015, needed care. Schools, closed in all

three countries during the height of the epidemic, opened only gradually in early 2015. Sharply disrupted trade and problems of food security were new worries, as harvesting was halted and markets reopened slowly.

In order to be declared free of Ebola a country must report zero cases for at least 42 days, or twice the incubation period. This is followed by a 90-day enhanced surveillance period, so that any flareups can be rapidly detected and controlled.^{68, 69} The process of “getting to zero” and

resuming normal life and development was slow and painful. Experts warned of the dangers of flare-ups and their prognosis was correct, as the virus has recurred in each of the countries after they were declared free of Ebola. Flare-ups occurred in March, 2016; the fear is that the disease is now endemic in the region.

 **Watch WHO’s animated map of Ebola cases in West Africa from January 2014 to December 2015.**

<http://www.who.int/csr/disease/ebola/photos/animated-map-med-january-2016.gif>

Country situations have gradually improved, albeit with a searing legacy from the unexpected epidemic. The focus turned to recovery of the region, learning lessons from the Ebola epidemic, and looking to future response to global public health emergencies.

26. “Factors That Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment.” World Health Organization, 2015. Available at: <http://www.who.int/csr/disease/ebola/one-year-report/factors/en/>.
27. “Ebola Virus Disease.” World Health Organization, August 1, 2015. Available at: <http://www.who.int/mediacentre/factsheets/fs103/en/>.
28. “Outbreaks Chronology: Ebola Virus Disease.” Centers for Disease Control and Prevention, December 16, 2015. Available at: <http://www.cdc.gov/vhf/ebola/outbreaks/history/chronology.html>.
29. “Guinea.” MSF, 2015. Available at: <http://www.doctorswithoutborders.org/country-region/guinea>
30. Samb, Saliou. “Guinea Confirms Fever is Ebola, Has Killed up to 59.” Reuters, March 22, 2014. <http://uk.reuters.com/article/2014/03/22/uk-guinea-ebola-idUKBREA2L0M920140322>; Kotz, Deborah. “Digital health map tracks new Ebola cases in real time.” Boston Globe, August 7, 2014. Available at: <https://www.bostonglobe.com/lifestyle/health-wellness/2014/08/07/digital-health-map-tracks-new-cases-ebola-virus-real-time/DjPXtj8O7R81wjj7dhDkIN/story.html>
31. Toweh, Alphonso. “Liberian Health Authorities Confirm Two Cases of Ebola: WHO.” Reuters, March 30, 2014. Available at: <http://www.reuters.com/article/2014/03/30/us-liberia-ebola-idUSBREA2T0ON20140330>
32. “Ebola Toll Rises in ‘unprecedented’ Outbreak.” CNN, April 4, 2014. Available at: <http://www.cnn.com/2014/03/31/health/africa-ebola/>
33. Beaubien, Jason. “Firestone did what governments have not: stopped Ebola in its tracks.” NPR, October 6, 2014. Available at: <http://www.npr.org/sections/goatsandsoda/2014/10/06/354054915/firestone-did-what-governments-have-not-stopped-ebola-in-its-tracks>
34. “Guinea Ebola.” United Nations, April 2, 2014. Available at: <http://www.unmultimedia.org/tv/unifeed/asset/U140/U140401a/>
35. “Statement on the 1st meeting of the IHR Emergency Committee on the 2014 Ebola outbreak in West Africa.” World Health Organization, August 8, 2014. Available at: <http://www.who.int/mediacentre/news/statements/2014/ebola-20140808/en/>
36. Kay, Katty. “Ebola outbreak: Liberia ‘close to collapse’ - ambassador.” BBC News, October 7, 2014. Available at: <http://www.bbc.com/news/world-africa-29516663>
37. Chothia, Farouk. “Ebola drains already weak West African health systems.” BBC News, September 24, 2014. Available at: <http://www.bbc.com/news/world-africa-29324595>
38. “Health worker Ebola infections in Guinea, Liberia and Sierra Leone.” WHO, May 21, 2015. Available at: http://www.who.int/hrh/documents/21may2015_web_final.pdf
39. Ibid
40. Nzwili, Frederick. “Ebola crisis demands international help, warns Caritas.” The Table, 2014. Available at: <http://www.thetablet.co.uk/news/1229/0/ebola-crisis-demands-international-help-warns-caritas->
41. “Liberia: A Country – and Its Capital – Are Overwhelmed with Ebola Cases.” World Health Organization, 2015. Available at: <http://www.who.int/csr/disease/ebola/one-year-report/liberia/en/>.
42. Lancet, The. “Ebola in west Africa: gaining community trust and confidence.” *The Lancet* 383.9933 (2014): 1946.
43. “Situation Report.” World Health Organization, 2015.

44. Onishi, Norimitsu. "Liberia Conquers Ebola, but Faces a Crisis of Faith." *The New York Times*. May 9, 2015. Available at: <http://www.nytimes.com/2015/05/10/world/africa/after-ebola-outbreak-liberian-churches-confront-crisis-of-faith.html>.
45. "Factors That Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment." World Health Organization, 2015. Available at: <http://www.who.int/csr/disease/ebola/one-year-report/factors/en/>; Maxmen, Amy. "How the Fight Against Ebola Tested a Culture's Traditions." *National Geographic*, January 30, 2015. Available at: <http://news.nationalgeographic.com/2015/01/150130-ebola-virus-outbreak-epidemic-sierra-leone-funerals/>
46. "Article 7: Use Safe Burial Practices." World Health Organization, Available at: <http://www.who.int/csr/resources/publications/ebola/whoemcesr982sec7-9.pdf>.
47. Johnson, Alaskai Moore. "Angry Youths Dig Suspected Ebola Coffin From Grave." *Liberian Observe*, September 2, 2014. Available at: <http://www.liberianobserver.com/news/angry-youths-dig-suspected-ebola-coffin-grave>
48. WHO. "New WHO safe and dignified burial protocol—key to reducing Ebola transmission." WHO, 2014. Available at: <http://www.who.int/mediacentre/news/notes/2014/ebola-burial-protocol/en/>.
49. Brantly, Kent. "This Is What It Feels Like to Survive Ebola." *TIME*, September 5, 2014. Available at: <http://time.com/3270016/ebola-survivor-kent-brantly/>
50. Sifferlin, Alexandra. "Who Gets the Experimental Ebola Drugs?." *TIME*, August 12, 2014. Available at: <http://time.com/3104174/who-gets-the-experimental-ebola-drugs/>
51. Steinhauer, Jennifer. "In U.S., Fear of Ebola Closes Schools and Shapes Politics." *New York Times*, October 19, 2014. Available at: <http://www.nytimes.com/2014/10/20/us/fear-of-ebola-closes-schools-and-shapes-politics.html>
52. Hogan, Caelainn. "WHO cautions against Ebola-related travel restrictions." *Washington Post*, August 19, 2014. Available at: https://www.washingtonpost.com/national/health-science/2014/08/19/83da2974-26f2-11e4-8593-da634b334390_story.html
53. "Flight restrictions hamper ability to battle Ebola, UN cautions." *UN News Centre*, August 25, 2014. Available at: <http://www.un.org/apps/news/story.asp?NewsID=48555#.Vsy2zJMrJE4>
54. "Questions and Answers: Estimating the Future Number of Cases in the Ebola Epidemic—Liberia and Sierra Leone, 2014–2015." CDC, 2014. Available at: <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/qa-mmwr-estimating-future-cases.html>
55. Petherick, Anna. "Ebola in west Africa: learning the lessons." *The Lancet* 385.9968 (2015): 591-592.
56. Leaf, Aaron. "Ebola Spotlights Liberians' Distrust of Their Political Leaders." *All Jazeera America*, October 14, 2014. Available at: <http://america.aljazeera.com/opinions/2014/10/liberia-ebola-ellenjohnsonsirleafunconstitutionalpowergrab.html>.
57. Petherick, Anna. "Ebola in west Africa: learning the lessons." *The Lancet* 385.9968 (2015): 591-592.
58. Jerving, Sara "Why Liberians Thought Ebola Was a Government Scam to Attract Western Aid." *The Nation*. September 16, 2014. Available at: <http://www.thenation.com/article/why-liberians-thought-ebola-was-government-scam-attract-western-aid/>.
59. Hussain, Misha. "Mistrust and Maches Thwart Efforts to Contain Ebola in Guinea." *Reuters*, February 10, 2015. Available at: <http://www.reuters.com/article/2015/02/10/us-health-ebola-guinea-hostility-idUSKBN0LE1HC20150210>.
60. "World Bank Group Ebola Response Fact Sheet." World Bank, April 6, 2016. Available at: <http://www.worldbank.org/en/topic/health/brief/world-bank-group-ebola-fact-sheet>
61. Giahuye, James Harding. "U.S. Military Ends Ebola Mission in Liberia." *Reuters*, February 26, 2015. Available at: <http://www.reuters.com/article/us-health-ebola-usa-idUSKBN0LU2HR20150226>.
62. McCoy, Terrence. "A professor in U.S. is telling Liberians that the Defense Department 'manufactured' Ebola." *Washington Post*, September 26, 2014. Available at: <https://www.washingtonpost.com/news/morning-mix/wp/2014/09/26/an-american-professor-is-telling-liberians-that-the-u-s-manufactured-ebola-outbreak/>
63. "Global Ebola Response Resource Tracking." World Bank, December 18, 2015. Available at: <http://www.worldbank.org/en/topic/ebola/brief/global-ebola-response-resource-tracking>.
64. Ministry of Finance and Development Planning. "The Government of Liberia and Development Partners' Contributions in Response to the Ebola Crisis." The Government of Liberia, November 14, 2014.
65. *Ibid.*
66. "WHO Situation Report." WHO, January 28, 2015. Available at: http://apps.who.int/iris/bitstream/10665/150249/1/roadmapsitre28Jan15_eng.pdf?ua=1&ua=1&ua=1
67. "Questions and Answers: Estimating the Future Number of Cases in the Ebola Epidemic—Liberia and Sierra Leone, 2014–2015." CDC, 2014. Available at: <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/qa-mmwr-estimating-future-cases.html>
68. "Latest Ebola outbreak over in Liberia; West Africa is at zero, but new flare-ups are likely to occur." WHO, January 14, 2016. Available at: <http://www.who.int/mediacentre/news/releases/2016/ebola-zero-liberia/en/>, "Ebola Situation Report – 17 February 2016." WHO, 2016. Available at: <http://apps.who.int/ebola/current-situation/ebola-situation-report-17-february-2016>
69. "2014 Ebola Outbreak in West Africa - Case Counts." CDC, March 27, 2016. Available at: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html#modalIdString_cases-former-widespread

RESPONDING TO THE EBOLA EPIDEMIC IN WEST AFRICA: WHAT ROLE DOES RELIGION PLAY?

PART C: A COMPLEMENTARY NARRATIVE: RELIGIOUS ACTORS

Religious actors were among the many communities affected by and responding to the Ebola epidemic in Guinea, Liberia, and Sierra Leone. Like the government health services and many international partners, public and private, religious communities had never experienced Ebola and were caught off guard as the epidemic spread from community to community and alarming reports began to emerge about a dangerous new disease. Local religious institutions felt the impact of the Ebola epidemic first hand. In many places, they were present and thus first responders, even if they could do little more at first than bury the dead and console the living.

Religious communities in the three countries most affected by Ebola are remarkably diverse. They were (and are) part of communities large and small, rural and urban, present virtually everywhere. Religious actors included specialized health providers, religious leaders from many different traditions, countless groups (formal and informal), a few interreligious organizations (most formed in response to years of conflict), and various national and international faith-inspired organizations (FIOs). Like the national governments, capacities had often been weakened by the years of conflict. Even so anecdotes during the Ebola crisis and some surveys indicate that among the many institutions that were part of societies, public and private, those with a religious inspiration were most trusted by communities.

Public health officials and development partners initially paid little heed to the dense religious networks at the community level or simply took them for granted. Guinea, Liberia, and Sierra Leone did not have disaster preparedness plans or a public health strategy that looked to religious actors to play specific roles. If anything, public health experts tended to view religious beliefs about disease as more an obstacle than an asset. Even so, various transnational organizations (for example, Catholic Relief Services and Samaritan's Purse) had a strong faith ethos, with well-developed links in the communities through pastors, imams, women's groups, and other entities. They worked with their local partners as a matter of course as they mobilized to respond to the epidemic.

Religiously run clinics and hospitals were on the front lines as the Ebola epidemic spread. Especially in Liberia and Sier-

ra Leone, religious institutions had long provided a substantial share of health care with a diversity of facilities. National healthcare systems were severely damaged or destroyed during the long years of conflict and civil war; weak health systems are a common challenge for all three countries. Many faith-run facilities, in contrast, had endured during the years of conflict. They worked with the governments and various external partners through a patchwork of public-private partnerships.⁷⁰ The Christian Health Association of Liberia (CHAL)⁷¹ and the Christian Health Association of Sierra Leone (CHASL),⁷² umbrella organizations that included most Christian health facilities, operated laboratories, outpatient clinics, eye clinics, and pharmacies that represented (by the estimate of CHAL and CHASL) some 46 percent and 30 percent,⁷³ respectively, of overall health services. Guinea had no national faith or NGO coordinating organization but FIOs ran some health clinics and programs (addressing HIV and AIDS, for example).

Faith-linked health facilities were quickly overwhelmed as more patients than they could cope with arrived at their doors. There were many tales of heroism and sacrifice; medical staff became ill and many died. As supplies and funds (for example for hazard pay) began to trickle in, they often did not reach the faith-run facilities because they were not fully integrated in national systems; preference generally went to public facilities. Some faith-run hospitals did receive supplies and funds directly from international partners but they were stretched thin. Cooper Adventist Hospital in Liberia and Waterloo Adventist Hospital in Sierra Leone, for example, received medical equipment, supplies, and training support from the Adventist Development and Relief Agency (ADRA), a Silver Spring, Maryland based entity. CHAL and CHASL facilities received support from organizations such as DIFAEM-Germany and Christian Relief Services.

Initial responses by faith communities to the crisis were mixed. Fear was common and although faith leaders tried to offer comfort, seeing pastors die from Ebola did not help. After congregants at the United God Is Our Light Church, for example, laid their hands on a visitor with Ebola during a healing prayer, eight members died within weeks. In June 2014, a female lead-

er at a Liberian church brought an Ebola patient for a healing prayer. Because congregants' hands were laid on the patient, Ebola spread quickly through the church, killing a tenth of the members.⁷⁴ The Liberia Council of Churches in July, 2014 described Ebola as divine punishment for immoral acts such as homosexuality and government corruption.⁷⁵

Faith leaders played a role in shifting attitudes as the crisis unfolded. Many took on leadership roles or worked with others to respond to the epidemic. It is worth noting, however, that religious and interreligious bodies responded in various different ways, and few mechanisms for communication and common action were available for them. As the number of deaths skyrocketed, it was often religious leaders who led efforts to stop practices that could transmit the virus.



Read more about how religious leaders in Liberia reacted to Ebola throughout the epidemic. Liberia Conquers Ebola, but Faces a Crisis of Faith. May 9, 2015.

http://www.nytimes.com/2015/05/10/world/africa/after-ebola-outbreak-liberian-churches-confront-crisis-of-faith.html?_r=0

The Catholic Church, led by Caritas and local Bishops' conferences, moved swiftly to communicate with its network of churches, religious orders, and health professionals. Umbrella bodies like the Liberian Council of Churches, the Inter-Religious Council of Liberia, the Inter-Religious Council of Guinea, and the Inter-Religious Council of Sierra Leone took various steps to mobilize their members. Apart

from direct engagement through hospitals and clinics, congregations and umbrella organizations drew on experience gained through community mobilization for peacebuilding, malaria,⁷⁶ and HIV/AIDS.⁷⁷ In July 2014 the Liberian government and the Inter-Religious Council established a Religious Leaders' Ebola Response Task Force that focused on framing and disseminating media messages on prevention and how to respond when cases were suspected.⁷⁸ They received funds in September 2014 for efforts to spread common messages across Christian and Muslim communities, including, for example, halting touching such as the sign of peace, even stopping services, and not touching bodies during funeral practices.^{79, 80}

Religious leader and community engagement was enhanced as new partnerships were formed. Community leaders, including faith leaders, contributed to the vital task of case finding and monitoring and were often much more successful than government counterparts. Priests, parish volunteers, imams, spiritualists and traditional healers worked with Caritas, for example, on social mobilization. They were able to deliver Ebola prevention information effectively but also helped in confronting stigma and dispelling the myths that continued to circulate.⁸¹ Guinean religious leaders, organized into 20 social mediation

councils with support from UNICEF and Caritas, visited communities to report resistance to Ebola messages.⁸²

Several international FIOs played significant and positive roles from early in the crisis. Early support came primarily for urgently needed commodities, such as PPE. In October 2014, Samaritan's Purse sent 100 tons of PPE and supplies to Community Care Centers in Liberia.⁸³ With deep roots in the region, Caritas, Catholic Relief Services (CRS), World Vision, and the Episcopal Church of Liberia were able to respond especially quickly, each through well-established networks of local partners. World Vision, for example, engaged in Sierra Leone with health networks they worked with as part of their "Channels of Hope" program (initially focused on malaria and HIV and AIDS).⁸⁴ Tearfund worked with the Evangelical Fellowship of Sierra Leone.⁸⁵ The United Methodist Committee on Relief worked directly with the United Methodist health board,⁸⁶ and the Rome-based lay Catholic Community of Sant'Egidio provided support through clinics in Guinea where they had worked on HIV and AIDS.⁸⁷ International Muslim FIOs had been less active in the region than their Christian counterparts even though large segments of the population were Muslims. This prompted the Islamic Development Bank to provide a grant of US\$35 million to support Ebola response efforts in Guinea and Sierra Leone, with additional pledges of US\$360 million for sustainable recovery efforts.⁸⁸ FIO leaders, such as Ruth Messenger of the American Jewish World Service, encouraged organizations to ensure that as they moved swiftly to assist they respect the need to avoid proselytizing, and to focus efforts on promoting human rights and providing healthcare.⁸⁹

The high levels of distrust toward the governments emerged as a critical problems as communities ignored official messages. There were several horrific instances of violence where health officials were attacked and killed. The distrust was a legacy of the long years of violence, harsh military and police interventions, and widespread corruption. Religious leaders were more exempt from these taints than others and many were trusted community leaders, looked to to provide guidance on many aspects of life, spiritual and beyond. One survey in Liberia during the Ebola outbreak found that the most trusted individuals in society were family members, radio talk show hosts, religious leaders, and international NGOs.⁹⁰ The distrust was a critical obstacle to controlling the epidemic and underscored the vital importance of public health communication to support behavior change.



Read this Lancet editorial from June 7, 2014 that argues for the critical importance of trust and communication.

[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(14\)60938-7/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(14)60938-7/fulltext)

The focus on communications sharpened as it became ever clearer that building trust among communities and conveying clear messages about the causes of Ebola was vital to bringing the epidemic under control. Religious leaders were, more and more as the months unfolded, engaged in behavior change communication (BCC), as agents who could spread information through congregations and the larger community. Radio stations and programs operated by Catholic, Christian, and interfaith organizations were reportedly the most trustworthy source of information during the outbreak. They worked to provide accurate public health messages, thus helping to dispel myths and reduce stigma associated with Ebola. CRS reported that 95 percent of respondents reported some behavior change (washing hands with soap and water) after receiving messages through the radio.⁹¹ Several faith communities, seeing opportunity in fairly widespread use of mobile phones in the region, used SMS messages to check on those in quarantine and to disseminate health messages. Prayers, including various inter-religious prayer services, were part of the response.

However heartening the growing partnerships and engagement, the story was not one of universal acceptance of public health messages and cooperation. Many religious communities (including secret societies, various Muslim groups, and the decentralized Pentecostal communities) remained suspicious or simply unreachable by the increasingly intensive efforts. The technocratic BCC approaches initially adopted by the public health communities (local and international) were poorly adapted and many were ignored, including by religious leaders. Some religious leaders continued the laying on of hands as their approach to healing spirit and body. But the communication efforts of religious groups had a growing impact over the months.

Burial rituals were a critical problem because burial practices, including washing dead bodies and laying of hands, was a major source of transmission. This was evident early in the crisis but the initial response was to follow conventional public health procedures: immediate burial by teams in protective gear or cremation. It was some time before the central role of religious leaders and religious beliefs was recognized. By October 2014, WHO had collected data showing that up to 60 percent of Ebola cases were linked to burials.⁹² Reports arrived of communities restricting health professionals who were trying to bury victims, making it clear that

 **Read how different religious communities and traditions changed practices. No More Touching Is New Religious Edict in Ebola Hot Zone. December 3, 2014.**
<http://www.bloomberg.com/news/articles/2014-12-03/no-more-touching-is-new-religious-edict-in-ebola-hot-zone>

relief workers had little guidance as to how to navigate burial traditions and educate communities.⁹³ It became apparent that burial rituals must be adapted, as a basic human relations matter, and that the need to modify traditional practices was a matter of survival. Resistance to initial sanitized and impersonal strategies of burial (deemed undignified) and cremation made it clear that the religious leaders and their funerary rituals had to be integrated into the public health response.

The International Federation of Red Cross and Red Crescent Societies, the World Council of Churches, Islamic Relief, Caritas Internationalis, and World Vision met with WHO in September 2014 to seek solutions that would meet public health essentials but also respect cultural and religious sensitivities in burials.⁹⁴ This multireligious consultation led to an agreed protocol (formalized in November): “How to conduct safe and dignified burial of a patient who has died from suspected or confirmed Ebola virus disease”. It offers specific protocols for Muslim and Christian burials, directing burial teams to work with a faith leader and family witness to obtain a formal agreement with the family, and provides alternatives to touching or bathing the dead bodies. By recognizing the importance of religious beliefs in the burial of the bodies, responders could more easily engage with communities and their religious leaders, convincing them to cooperate with and report deaths to the authorities, significantly curbing transmission.⁹⁵ The implementation of the updated guidelines, alongside proper quarantining and home care supported by religious communities, were game-changers in the fight against Ebola.

Community buy-in is vital in any epidemic situation, and the Ebola virus presented particular demands in West Africa. The virus was previously unknown and common practices were responsible for transmission. Health systems were especially weak, undermined by long years of conflict, and bitter legacies of conflict were reflected in distrust of governments and other partners. Trusted religious actors could play especially important roles. Some national and international partners came to appreciate that religious institutions and beliefs were essential players, because they were trusted and because their dense community networks offered a useful way to gain knowledge and to communicate. But engaging religious communities calls for sensitivity to their potential and respect for their knowledge.⁹⁶ Understanding the religious landscape in each country well enough to work effectively as partners was especially dif-

 **Watch the head of Muslim Council of Liberia promote safe burial practices in this UNICEF video published October 30, 2014.**
<https://www.youtube.com/watch?v=4j8JhuS1Hkg>

difficult in the Ebola epidemic. Relevant knowledge of the complex and dynamic religious landscape was limited; there were few focal points to engage religious communities systematically on health issues. Traditional healers and secret societies fell outside the often fairly hierarchical Christian denominations, Pentecostal churches were fragmented, and Muslim communities were decentralized with significant divisions among communities (different Sufi orders, Sunni and Shia, for example). While anthropologists and ethnographers had studied religion from various angles and religious actors were already engaged on health issues, accessing knowledge did not come easily or quickly. As a result, partnerships were formed in a patchy, ad hoc manner, and faith-linked communities and institutions played many significant yet fragmented roles.

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70. "Analytical summary - Partnerships for health development." WHO, 2014. http://www.who.int/profiles_information/index.php/Liberia:Analytical_summary_-_Partnerships_for_health_development
 71. "Despite growing African Ebola crisis, ministries keep going & serving." Christian Examiner, October 3, 2014. Available at: <http://www.christianexaminer.com/article/despite-growing-african-ebola-crisis-ministries-keep-going-serving-there/47447.htm>
 72. "Christian Health Association of Sierra Leone." Bread and Water for Africa, January 7, 2015. Available at: <http://africanrelief.org/2015/01/07/chas/>
 73. Olivier, Jill, et al. "Understanding the roles of faith-based health-care providers in Africa: review of the evidence with a focus on magnitude, reach, cost, and satisfaction." *The Lancet* 386.10005 (2015): 1765-1775.
 74. Onishi, Norimitsu. "Liberia Conquers Ebola, but Faces a Crisis of Faith." *New York Times*, May 9, 2015. Available at: <http://www.nytimes.com/2015/05/10/world/africa/after-ebola-outbreak-liberian-churches-confront-crisis-of-faith.html>
 75. Ibid.
 76. Keenan, Charlotte. "How Muslims and Christians in Sierra Leone are working together to prevent malaria." Skoll Foundation, April 24, 2014. Available at: <http://archive.skoll.org/2014/04/24/muslims-christians-sierra-leone-working-together-prevent-malaria/>
 77. Koker, Imam Alhaji Mustapha Alpha. "Channels of Hope: Mobilizing faith leaders to help save lives, stop stigma in Ebola-stricken Sierra Leone." World Vision, 2015. Available at: http://www.worldvision.org/sites/default/files/CoH%20Fact%20Sheet_Final%20Letter%20Size_July%204%202015.pdf
 78. "Keeping the Faith: The Role of Faith Leaders in the Ebola Response." Christian Aid, CAFOD, Tearfund, and Islamic Relief, 2015. Available at: <http://www.christianaid.org.uk/Images/keeping-the-faith-july-2015.pdf>
 79. Onishi, Norimitsu. "Liberia Conquers Ebola, but Faces a Crisis of Faith." *New York Times*, May 9, 2015. Available at: <http://www.nytimes.com/2015/05/10/world/africa/after-ebola-outbreak-liberian-churches-confront-crisis-of-faith.html>
 80. The Liberian Ebola Trust Fund published only one disbursement report for September 2014.
 81. "Ebola: religious leaders help stem crisis." CAFOD, September 2, 2014. Available at: <http://cafod.org.uk/News/Emergencies-news/Ebola-religious-leaders>
 82. "Guinea Ebola Situation Report." UNICEF, January 21, 2015. Available at: http://www.unicef.org/appeals/files/UNICEF_Guinea_Ebola_SitRep_21_January_2015.pdf
 83. "Ebola Supplies Being Distributed in Liberia." Samaritan's Purse, October 5, 2014. Available at: <http://www.samaritanspurse.org/article/hope-takes-flight-across-the-atlantic/>
 84. Marshall, Katherine. "Ebola: Ten Proposals to Engage Religious Actors More Proactively." *The Huffington Post*, October 8, 2014. Accessed December 16, 2015. http://www.huffingtonpost.com/katherine-marshall/ebola-ten-proposals-to-en_b_5952808.html.
 85. "Ebola." Tearfund. Available at: <http://www.tearfund.org/en/latest/ebola/>.
 86. <https://www.umcor.org/umcor/donate/ebolareponse>
 87. "Guinea Conakry: Ebola Emergency." Community of Sant'Egidio. October 1, 2014. Available at: http://www.santegidio.org/pageID/3/langID/en/itemID/9895/Guinea_Conakry_Ebola_Emergency.html.
 88. "Sierra Leone: IDB Pledges US\$360 Million for Post-Ebola Recovery in Guinea and Sierra Leone." *AllAfrica.com*. July 28, 2015. Available at: <http://allafrica.com/stories/201507281957.html>.
 89. Messenger, Ruth. "Faith-based organisations and health care: invest, don't proselytise." *Lancet* (London, England) 386.10005 (2015): 1733-1733.
 90. Mukpo, Ashoka. "SURVIVING EBOLA Public Perceptions of Governance and the Outbreak Response in Liberia." *International Alert*. 2015. Accessed December 16, 2015. http://international-alert.org/sites/default/files/Liberia_SurvivingEbola_EN_2015.pdf.
 91. Corman, Crystal, Lindsay Horikoshi, and Spencer Crawford. "Response to Ebola: Mapping Religious Networks and FIOs." *Berkley Center for Religion, Peace, and World Affairs*. February 10, 2015. Available at: <http://repository.berkeleycenter.georgetown.edu/141008BCWFDDResponseEbolaMappingReligiousNetworksFIOs.pdf>.
 92. "Sierra Leone: a traditional healer and a funeral." WHO, 2016. Available at: <http://www.who.int/csr/disease/ebola/ebola-6-months/sierra-leone/en/>
 93. Dockins, Pamela. "WHO: Traditional Burials Hamper Ebola Fight." *Voice of America*, August 2, 2014. Available at: <http://www.voanews.com/content/traditional-burial-practices-hamper-efforts-to-fight-ebola/1970353.html>
 94. "New WHO safe and dignified burial protocol - key to reducing Ebola transmission." WHO, November 7, 2014. Available at: <http://www.who.int/mediacentre/news/notes/2014/ebola-burial-protocol/en/>
 95. "Improving burial practices and cemetery management during an Ebola virus disease epidemic – Sierra Leone 2014, Morbidity and Mortality Weekly Report." *Centers for Disease Control and Prevention*, January 16, 2015. Available at: http://www.rescue.org/sites/default/files/resource-file/The%20Ebola%20Lessons%20Reader_Final.pdf
 96. Ibid

RESPONDING TO THE EBOLA EPIDEMIC IN WEST AFRICA: WHAT ROLE DOES RELIGION PLAY?

PART D: WHAT FOLLOWED?

In retrospect, the turning point for the Ebola crisis came in late 2014 as cases and deaths declined sharply. Periodic flare-ups continued up to the moment this case study was completed, and Ebola may become endemic in the region. International and national focus shifted to three challenges: learning lessons to help in future epidemics, rebuilding health care and other services in the three Ebola-stricken countries (with implications for other fragile states), and reviewing the country strategies to spur recovery and strengthen governance. Major national and international review exercises focus on all three topics (see list below). This case study suggests a fourth challenge: to assess how stronger partnerships with religious institutions could have enhanced the response.

The Ebola crisis was devastating for its victims and for survivors and it had many broader consequences for the most affected countries. Their development strategies were derailed and need to be revitalized across all sectors. Most directly the epidemic set back efforts to strengthen weak and fragile health systems, threatening to erase health care gains of recent years. Childhood vaccination rates in Liberia declined by 25 percent and the number of pediatric malaria treatments in Sierra Leone dropped by 40 percent.⁹⁷ Children orphaned by Ebola were estimated at 9,600 as of February 11, 2015. ‘Building back better’ is a central challenge.

There has been an impressive series of reviews of international response from many vantage points, seeking to learn lessons. A prominent example is the report of a task force led jointly by Harvard University and the London School of Hygiene and Tropical Medicine, which presented ten hard-hitting recommendations.⁹⁸ Major reviews are listed below.

Among the many lessons emerging from the crisis are the need to clarify responsibilities and regulations that apply in epidemics, many recommendations to strengthen WHO, and a focus

 Listen to Peter Piot as he discusses recommendations for health agencies and public health systems in response to the 2014-15 Ebola outbreak.

<http://www.thelancet.com/pb/assets/raw/Lancet/stories/audio/lancet/2015/22november-ebola.mp3>

on financing mechanisms. Assessments emphasize the importance of community engagement, touching on practical matters like providing food for quarantined patients, maintaining clear communication with families, ensuring that basic primary care is not undermined, psychosocial support to communities, reaching vulnerable populations better, and enlisting survivors in response efforts.⁹⁹ Behavior change communication (BCC) for public

health emerges as a vital part of epidemic response. Improving financial mobilization and accountability, including transparency, is essential.¹⁰⁰ International organizations were slow to disburse the funds they had committed and limited transparency and accounting measures complicated assessment of the impact of interventions. Coordination is a central and continuing challenge; for example, local and international NGOs and FIOs largely worked outside of the government funding channels. Fragmented responses exacerbated perceptions of distrust and corruption and made coordination more demanding and problematic.

The official reviews are striking for the limited attention they give to religious engagement (the word ‘religious’ appears once in the Lancet review and not at all in several others). Several parallel reviews have focused on the religious response, also highlighting lessons learned. An important challenge and lesson is the need to integrate the different perspectives and lessons and to give the religious dimensions the attention they deserve.

97. Horton, Richard. "Offline: Can Ebola be a route to nation-building?." *The Lancet* 384.9961 (2014): 2186.

98. Moon, Suerie et al. "Will Ebola change the game? Ten essential reforms before the next pandemic. The report of the Harvard-LSHTM Independent Panel on the Global Response to Ebola." *The Lancet* 386.10009 (2015): 2204-2221.

99. Ibid.

100. "Sierra Leone Loses Track of Millions in Ebola Funds." *The New York Times*. February 14, 2015. Accessed December 16, 2015. <http://www.nytimes.com/2015/02/15/world/africa/sierra-leone-loses-track-of-millions-in-ebola-funds.html>.

List of key reviews

“Ebola Outbreak in West Africa: Lessons Learned from Assessments in Sierra Leone and Liberia.” ALNAP, 2015.
<http://www.alnap.org/resource/20616>

“Epidemics: Neglected emergencies?” MSF, 2015.
<http://www.msf.org/article/epidemics-neglected-emergencies>

Freiden, Thomas. “Lessons Learned After the Ebola Crisis” Council on Foreign Relations, 2015. Thomas Frieden.
<http://www.cfr.org/diseases-infectious/lessons-learned-after-ebola-crisis/p37278>

Gates, Bill. “The next epidemic—lessons from Ebola.” *New England Journal of Medicine* 372.15 (2015): 1381-1384.
<http://www.nejm.org/doi/full/10.1056/NEJMp1502918>

Heymann, David L., et al. “Global health security: the wider lessons from the west African Ebola virus disease epidemic.” *The Lancet* 385.9980 (2015): 1884-1901.

“Lessons from Ebola Affected Communities: Being prepared for future health crises.” Royal African Society, 2016.
http://www.royalafriansociety.org/sites/default/files/reports/AAPPG_report_3.10_sngls_web.pdf

Moon, Suerie et al. “Will Ebola change the game? Ten essential reforms before the next pandemic. The report of the Harvard-LSHTM Independent Panel on the Global Response to Ebola.” *The Lancet* 386.10009 (2015): 2204-2221.
[http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(15\)00946-0/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(15)00946-0/fulltext)

“Report of the Ebola Interim Assessment Panel.” WHO, 2015.
<http://www.who.int/csr/resources/publications/ebola/ebola-panel-report/en/>

“The Ebola Lessons Reader: What’s being said, what’s missing, and why it matters.” International Rescue Committee, 2016.
http://www.rescue.org/sites/default/files/resource-file/The%20Ebola%20Lessons%20Reader_Final.pdf

“The Road to Zero: The CDC’s Response to the West African Ebola Epidemic.” CDC, 2015. CDC.
<http://www.cdc.gov/about/pdf/ebola/ebola-photobook-070915.pdf>

List of faith-linked reviews

“A Call to Impact and Solidarity in the Wake of Ebola: Accompanying Catholic Health Networks and Supporting Resiliency in West Africa.” Fadica, 2015.
<http://www.camilliani.org/wp-content/uploads/2015/11/FADICA-Report-Call-to-Impact-Solidarity-Oct-2015.pdf>

“Keeping the Faith: The Role of Faith Leaders in the Ebola Response.” Christian Aid, CAFOD, Tearfund, and Islamic Relief, 2015.
<http://www.christianaid.org.uk/Images/keeping-the-faith-july-2015.pdf>

Marshall, Katherine, and Sally Smith. “Religion and Ebola: learning from experience.” *The Lancet* 386.10005 (2015): e24-e25.

“Still Surviving Ebola - Emergency and Recovery Response in Sierra Leone.” World Vision, 2016.
<http://www.wvi.org/ebola-crisis/publication/still-surviving-ebola-emergency-and-recovery-response-sierra-leone>

“The Road to Zero: The CDC’s Response to the West African Ebola Epidemic.” CDC, 2015. CDC.
<http://www.cdc.gov/about/pdf/ebola/ebola-photobook-070915.pdf>