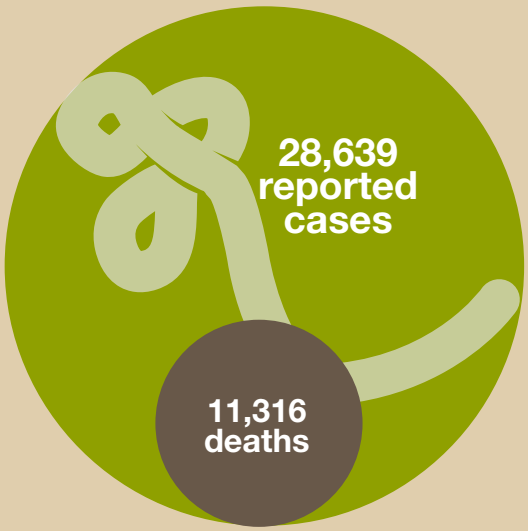
Cost of the Ebola Epidemic

2014 Ebola Epidemic



The 2014 Ebola epidemic was more than 11x larger than all previous outbreaks combined

All Other Ebola Outbreaks

1,597 deaths

As of February 28, 2016, there were 28,639 suspected, probable, and confirmed cases of Ebola and 11,316 deaths from Ebola during the 2014 epidemic in West Africa.[1] In comparison, there were 2,427 reported cases and 1,597 deaths in all other known cases and outbreaks of Ebola combined.[2]

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[1]CDC. 2016. 2014 Ebola Outbreak in West Africa - Case Counts. January 20. Accessed January 22, 2016. http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html.

[2]CDC. 2016. Outbreaks Chronology: Ebola Virus Disease. January 20. Accessed January 22, 2016. http://www.cdc.gov/vhf/ebola/outbreaks/history/chronology.html.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

CS263539-C

The Impact

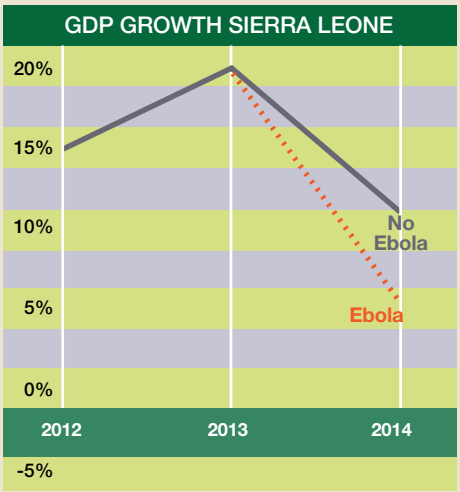
Impact of Ebola on the Economy

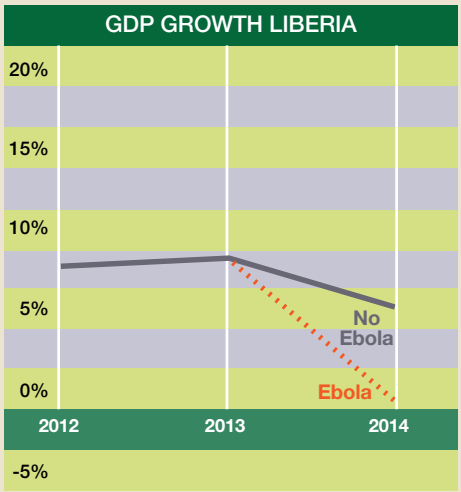
Effect on global economy

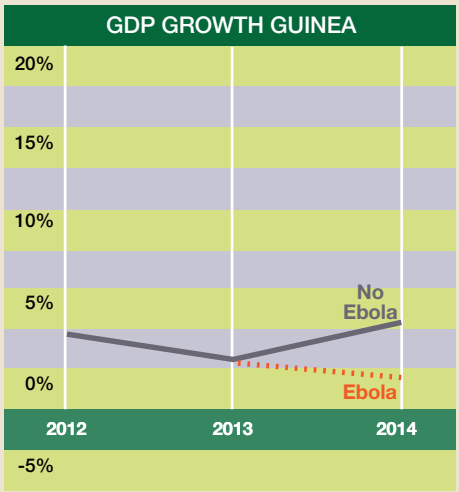
50% Sierra Leone's private sector has lost half its work force.

$2.2 billion in GDP was lost in Guinea, Liberia, and Sierra Leone in 2015, threatening not only macroeconomic stability but also food security, human capital development, and private sector growth.

Estimated GDP growth based on World Bank 2014 projections







Aside from the devastating health effects, the Ebola epidemic also had a pronounced socio-economic impact in Guinea, Liberia, and Sierra Leone. According to 2014 projections from the World Bank[3], an estimated $2.2 billion was lost in 2015 in the gross domestic product (GDP)[4] of the three countries. The disease resulted in lower investment and a substantial loss in private sector growth, declining agricultural production that led to concerns about food security, and a decrease in cross-border trade as restrictions on movement, goods, and services increased.[5,6,7]

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[3]The World Bank. 2014. GDP growth (annual %). Accessed January 20, 2016. http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG.

[4]GDP per capita denotes the gross domestic product/population for year 2014. Values shown in current US dollars (2015).

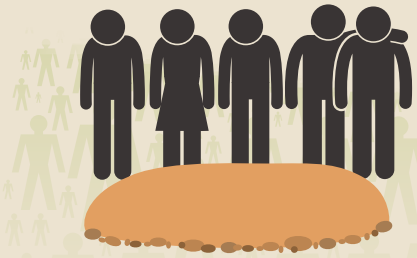
[5]The World Bank. 2015. Summary on the Ebola Recovery Plan: Sierra Leone. April 15. Accessed January 20, 2016. http://www.worldbank.org/en/topic/ebola/brief/summary-on-the-ebola-recovery-plan-sierra-leone.

[6]The World Bank. 2015. Summary on the Ebola Recovery Plan: Guinea. April 16. Accessed January 20, 2016. http://www.worldbank.org/en/topic/ebola/brief/summary-on-the-ebola-recovery-plan-guinea.

Impact of Ebola on the Healthcare System

Healthcare providers were at highest risk

881 doctors, nurses, and midwives were infected with Ebola in West Africa



513 died because of Ebola

8% reduction of healthcare workforce from Ebola in Libera

23% decrease in health services delivery in Sierra Leone

Healthcare workers caring for patients with Ebola were among those at highest risk for contracting the disease. From the start of the outbreak through November 2015, a total of 881 confirmed health worker infections were reported in Guinea, Liberia, and Sierra Leone, and there were 513 reported deaths.[8] Liberia lost 8% of its doctors, nurses, and midwives to Ebola; Sierra Leone and Guinea lost 7% and 1% of their healthcare workers, respectively.[9]

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[7]The World Bank. 2015. Summary on the Ebola Recovery Plan: Liberia - Economic Stabilization and Recovery Plan (ESRP). April 15. Accessed January 20, 2016. http://www.worldbank.org/en/topic/ebola/brief/summary-on-the-ebola-recovery-plan-liberia-economic-stabilization-and-recovery-plan-esrp.

[8]World Health Organization. 2015. "Ebola Situation Report - 4 November 2015." Accessed January 20, 2016. http://apps.who.int/iris/bitstream/10665/192654/1/ebolasitrep_4Nov2015_eng.pdf?ua=1.

[9]David K Evansa, Markus Goldstein, Anna Popova. 2015. "Health-care worker mortality and the legacy of the Ebola epidemic." The Lancet Global Health 3 (8): e439–e440. Accessed December 22, 2015. doi:10.1016/S2214-109X(15)00065-0. http://www.sciencedirect.com/science/article/pii/S2214109X15000650

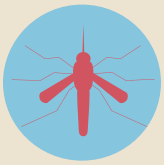
Indirect Impact of Ebola on Health Care

Hidden impact on health care

10,600 additional deaths due to untreated conditions in Guinea, Liberia, and Sierra Leone

1,091 additional estimated deaths due to HIV

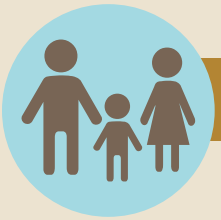
2,714 additional estimated deaths due to tuberculosis



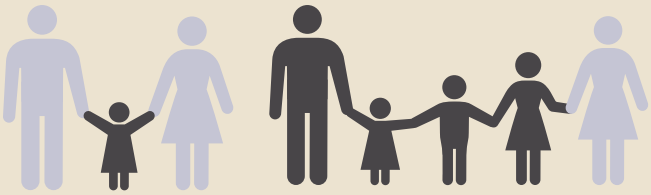
6,818 additional estimated deaths due to malaria

In addition to the devastating effects on the healthcare workforce in Guinea, Liberia, and Sierra Leone, the Ebola epidemic severely impacted the provision of healthcare services and caused setbacks in the treatment and control of HIV, tuberculosis, and malaria. Because of reduced access to healthcare services in the three most affected countries, an estimated additional 10,600 lives were lost to HIV, tuberculosis, and malaria during the epidemic based on the assumption of an approximate 50% reduction in healthcare services in these three countries.[10]

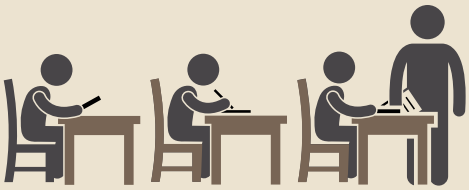
[10] Alyssa S. Parpia, M., Martial L. Ndeffo-Mbah, P., Natasha S. Wenzel, M., & Alison P. Galvani, P. Impact of the 2014-2015 Ebola Outbreak on Malaria, HIV, and Tuberculosis in West Africa. Emerging Infectious Diseases (in press)



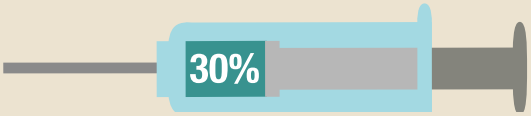
Impact of Ebola on Children



17,300 children lost one or both parents to Ebola



More than **33 weeks** of education were lost due to school closures



30% decline in childhood vaccination coverage

Children were greatly affected by the Ebola epidemic. Nearly 20% of all Ebola cases occurred in children under 15 years old. Figures from the Guinea[11], Liberia[12], and Sierra Leone[13] recovery plans estimate that more than 17,300 children have been orphaned because of Ebola. In June 2014, all schools in Guinea, Liberia, and Sierra Leone closed because of the epidemic. By the time the schools reopened in 2015, students had lost approximately 1,848 hours of education due to school closures, ranging from around 33 weeks in Guinea to 39 weeks in Sierra Leone.[14] Children also experienced a gap in vaccination schedules as routine immunizations decreased by 30% when funding and logistics previously dedicated to vaccination campaigns were redirected to fight the epidemic or were postponed to avoid public gatherings.[15]

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[11]2015. "Guinea: Post-Ebola Socio-economic Recovery and Resilience Strategy 2015-2017." Document of the Government of the Republic of Guinea. Accessed January 20, 2016.

[12]2015. "The Economic Stabilization and Recovery Plan." Republic of Liberia

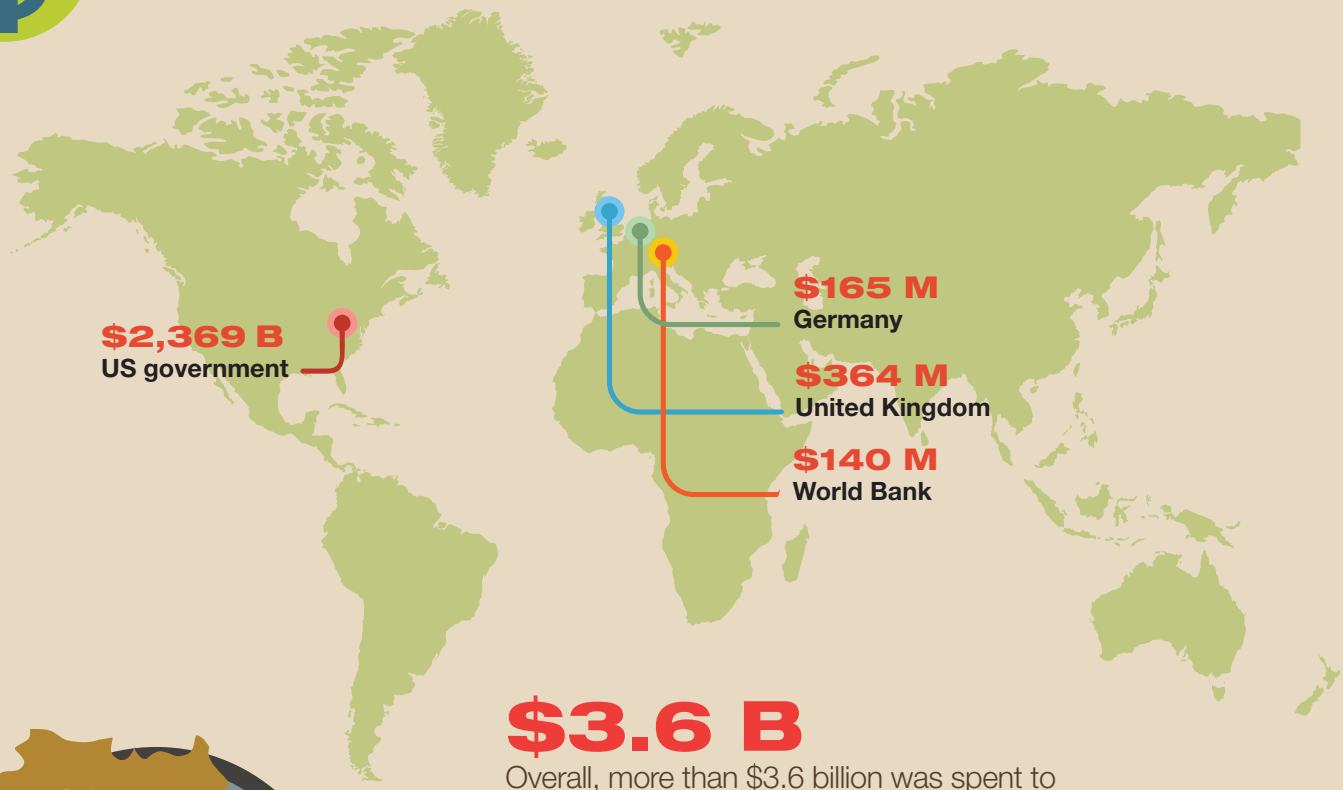
[13]2015. "National Ebola Recovery Strategy for Sierra Leone 2015-2017." Government of Sierra Leone.

[14]United Nations Development Group (UNDG) - Western and Central Africa. 2015. "Socio-Economic Impact of Ebola Virus Disease in West African Countries: A call for national and regional containment, recovery and prevention." Accessed December 23, 2015. http://www.africa.undp.org/content/dam/rba/docs/Reports/ebola-west-africa.pdf.

[15]UNDP. 2014. "Assessing the socio-economic impacts of Ebola Virus Disease in Guinea, Liberia and Sierra Leone: The Road to Recovery." Accessed December 22, 2015. http://www.africa.undp.org/content/dam/rba/docs/Reports/EVD%20Synthesis%20Report%2023Dec2014.pdf.

The Response

Cost of the Response



$3.6 B

Overall, more than $3.6 billion was spent to fight the epidemic by the end of 2015

3 new operations centers were set up in Guinea, Liberia, and Sierra Leone

The countries highlighted in the map above were the top donators to the international Ebola response, donating more than $3,611 billion (USD) by December 2015.[16] The U.S. government allocated approximately $2,369 billion for Ebola response activities, including $798 million to CDC, $632 million to the Department of Defense, and $939 to the U.S. Agency for International Development. In addition to providing personnel, technical expertise, and resources to the response, these funds established three new emergency operations centers in Guinea, Liberia, and Sierra Leone.

[16]USAID. 2015. "West Africa - Ebola Outbreak: Fact Sheet #6, Fiscal Year (FY) 2016." January 21, 2016. Accessed February 18, 2016. https://www.usaid.gov/sites/default/files/documents/1866/west_africa_fs07_01-21-2016.pdf

Impact of the Response on Travel

More than **339,000** people were screened flying out of Guinea, Liberia, and Sierra Leone to prevent the spread of Ebola

To prevent Ebola from crossing borders, travelers leaving West Africa were screened at airports. More than 339,000 people were screened before leaving Guinea, Liberia and Sierra Leone. Exit screening helped to identify those at risk for Ebola and prevent disease transmission to other countries. The United States also implemented enhanced entry screening for travelers coming from Guinea, Liberia, Sierra Leone, and Mali by routing them to designated airports that were able to assess travelers for risk. More than 38,000 travelers entering the United States were screened for Ebola.[17]

[17]CDC - Division of Global Migration and Quarantine - International Border Team

Impact of the Response on the Healthcare System

24,655 healthcare workers were trained in infection prevention and control in West Africa

24 labs in Guinea, Liberia and Sierra Leone became able to test for Ebola

During the height of the response, CDC trained 24,655 healthcare workers in West Africa on infection prevention and control practices.[18] In the United States, more than 160 clinical webinars and conference calls were held with professional organization members and more than 6,500 people were trained during live training events throughout the response.[19] In addition, Laboratory capacity was expanded in Guinea, Liberia, and Sierra Leone, with 24 labs able to test for Ebola by the end of 2015.[20]

For references, see http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/cost-of-ebola.html.

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[18]CDC - International Infection Control Team

[19]CDC - Division of Healthcare Quality Promotion

[20]2015. Ebola labs testing in infected African countries. February 20. Accessed January 20, 2016. https://public.tableau.com/profile/jenniferchan.nethope.#!/vizhome/NetHope_HDX_LabTesting_FINAL_DAedit/EbolaLabstestingininfectedafricancountries.

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