DEPARTMENT OF DEFENSE (AFHSC)
West Africa Ebola Surveillance Summary #79
23 JAN 2015 (next report 26 JAN 2015)

CASE REPORT: Since the previous summary (21 JAN), there has been an increase of 91 confirmed, suspected, and probable Ebola virus disease (EVD) cases (+62 deaths), bringing the total to 21,871 cases (8,712 deaths). These cases and deaths are reported from Guinea, Liberia, and Sierra Leone, where ongoing transmission continues; Senegal, Nigeria, United States, Spain, and Mali, where there have been no incident cases over at least the past 21 days; and the United Kingdom, which reported one travel-related case (Sierra Leone) on 29 DEC 2014. The WHO declared Mali Ebola transmission-free on 18 JAN.

Based on the 21 JAN 2015 WHO situation report, incidence continues to fall in Guinea, Liberia, and Sierra Leone, with a halving time of 1.4 weeks in Guinea, 2.0 weeks Liberia, and 2.7 weeks in Sierra Leone. Over the most recent three-week period with available data, total cases have increased 5% in Liberia (ending 20 JAN), 8% in Sierra Leone (ending 21 JAN), and 6% in Guinea (ending 18 JAN). Between 11 and 18 JAN, Liberia, Sierra Leone and Guinea reported 8, 25, and 106 laboratory-confirmed cases, respectively.

On 20 JAN, WHO convened the fourth Emergency Committee meeting on the 2014-15 EVD outbreak. The Committee unanimously agreed that the outbreak continues to constitute a Public Health Emergency of International Concern (PHEIC), and the committee recommended that all previous temporary recommendations remain in effect with some additional advice on exit screening and active surveillance in border areas. The Committee was asked to meet again in three months.

DoD SURVEILLANCE GUIDELINES: On 31 OCT 2014, the Under Secretary of Defense (USD) for Personnel and Readiness issued a memorandum providing guidance for training, screening, and monitoring for DoD personnel deployed to Ebola outbreak areas. The USD also published electronic versions of the Ebola risk evaluation form (DD2990) and redeployment risk assessment form (DD2991). On 5 JAN, the Armed Forces Health Surveillance Center published updated guidelines for the detection and reporting of DoD cases of EVD.

RISK TO DoD PERSONNEL: There is significant risk to U.S. military medical personnel who care for Ebola patients or handle patients or samples without proper PPE; risk to non-medical DoD personnel is low provided there is no contact with sick people or infected animals.

MEDICAL COUNTERMEASURES: There are no approved vaccines or specific treatments for EVD. On 9 JAN, WHO said that the vaccines produced by GlaxoSmithKline and Merck have acceptable safety profiles, and could enter concurrent Phase II and Phase III trials in Guinea, Liberia, and Sierra Leone in late JAN or FEB 2015. A vaccine produced by Johnson & Johnson with Bavarian Nordic began safety trials in Britain on 6 JAN 2015. Of four drug candidates, ZMapp, TKM-Ebola, brincidofovir, and favipiravir, the latter two have recently started trials in West Africa. A fifth drug, BCX4430 (Biocryst Pharmaceuticals), shows promise against filoviruses, including Ebola, in nonhuman primate testing at USAMRIID. On 2 Jan, Aethion Medical Inc. reported FDA approval of their request to test an anti-viral hemopurification device on EVD patients in the U.S. at the Nebraska Medical Center. The device was successfully used on a patient in Germany. WHO, with Guinea, Sierra Leone and Liberia, is developing capacity to collect and use convalescent sera from recovered Ebola patients to experimentally treat ill patients in West Africa. On 9 DEC 2014, HHS offered liability protections to drug makers developing Ebola vaccines.

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<td>Cumulative Cases</td>
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Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSC summary (21 JAN 2015). All information has been verified unless noted otherwise. Sources include WHO, CDC, and health agencies in Guinea, Liberia, Sierra Leone, Mali, and the UK.

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DoD RESPONSE: About 2,110 DoD personnel are currently deployed in West Africa for the Ebola response. In Liberia, two Ebola testing laboratories manned by personnel from the U.S. Naval Medical Research and four Army Area Medical Laboratories are fully operational. DoD has completed and transferred to USAID all ten planned ETUs. On 1 JAN, AFRICOM was scheduled to transition its critical healthcare worker training mission to partners in the WHO, ETU healthcare workers trained as trainers, and the contracting company PAE.

On 8 JAN 2015, SECDEF signed a memo delegating authority to use DoD aircraft to transport Ebola symptomatic or exposed DoD personnel. On 17 DEC 2014, the CJCS issued an updated CJCSI 4220.01A, implementing SECDEF’s 21-day controlled monitoring policy. The updated policy lays out who is affected and how the monitoring will be conducted, including naming seven monitoring sites: Ft. Bliss, TX; JB Langley-Eustis, VA; Ft. Hood, TX; Ft. Bragg, NC; and JB Lewis-McCord, WA in CONUS, plus USAG Baumholder, Germany and Caserma Del Din, Vicenza, Italy, OCONUS. On 7 NOV 2014, DoD issued guidance on medical care of DoD civilians deployed to Ebola outbreak areas. As of 8 JAN, about 450 personnel are undergoing controlled monitoring at four bases in the United States and one in Germany.

On 14 NOV 2014, SECDEF authorized the involuntary mobilization of up to 2,100 Reserve and National Guard troops for Operation United Assistance (OUA). The units deploying were identified. In response to a request by the Department of Health and Human Services, DoD established a 30-person expeditionary medical team that could provide short-notice assistance to civilian medical providers in the United States. DoD has established a public OUA web portal.

FDA has issued Emergency Use Authorizations (EUAs) for several in vitro diagnostics for detection of Ebola virus. Under the EUAs, the DoD EZ1 real time RT-PCR Ebola Zaire virus detection assay developed by USAMRIID is approved for human diagnostic testing at the following DoD labs: USAMRIID, Landstuhl RMC, NIDDK at NMRC, NHRC, NAMRU-3, NAMRU-6, William Beaumont AMC, Carl R. Darnall AMC, Madigan AMC, Tripler AMC, and SAAMC. In Liberia, the Navy’s two mobile labs and the USAMRIID-supported Liberian Institute for Biological Research in Monrovia are qualified to perform Ebola diagnostic testing on U.S. personnel. Joint Base Langley-Eustis, Carl R. Darnall AMC, Wright-Patterson MC, WRNMMC, SAAMC and Madigan AMC have been approved as BioFire FilmArray NGDS BT-E Assay testing sites. The most recent assay approved under the EUA was the Roche LightMix® Ebola Zaire rRT-PCR Test for the presumptive detection of Ebola Zaire virus in individuals with signs and symptoms of Ebola disease, on 23 DEC 2014.

USG AND GLOBAL RESPONSE: Current information and guidance is available at the CDC and WHO Ebola web sites. On 15 JAN, WHO published a report on the first year of the EVD epidemic CDC published recommendations for managing and preventing cases of malaria in areas with Ebola on 15 JAN.

TRAVEL ADVISORY: The U.S. announced on 21 OCT 2014 that all flights carrying travelers from the affected West African nations must enter the U.S. through one of the five designated airports that are conducting enhanced screening for EVD (JFK, Newark Liberty, Washington Dulles, Chicago O'Hare, and Atlanta Hartsfield-Jackson). On 5 JAN, the U.S. ended the screening requirement for travelers from Mali and on 6 JAN, the CDC removed its Alert – Level 2, Practice Enhanced Precautions for Mali. The CDC is maintaining its Warning - Level 3, Avoid Nonessential Travel advisory for Guinea, Sierra Leone, and Liberia. On 2 NOV 2014, U.S. Customs and Border Protection (CBP) said U.S. military aircraft do not need to be re-routed to one of these airports, provided that CBP has ensured the established DoD screening protocols will take place at the arrival location. On 28 OCT 2014, the CDC recommended that state public health departments begin direct active post-arrival monitoring for 21 days along with other movement restrictions based on a traveler's exposure risk category using CDC definitions. On 20 JAN, WHO reaffirmed the need to avoid unnecessary interference with international travel and trade.

Text updated from the previous report will be printed in red; items in (+xx) represent the change in number from the previous AFHSC summary (21 JAN 2015).

All information has been verified unless noted otherwise. Sources include DoD, WHO, CDC, and USAID DART team.

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<table>
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<th>Country (as of date)</th>
<th>EVD Cases All / Lab Confirmed</th>
<th>Deaths All / Lab Confirmed</th>
<th>EVD Cases in HCW / Deaths</th>
<th>Contacts Being Followed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea (18 JAN)</td>
<td>2,871 / 2,539</td>
<td>1,876 / 1,557</td>
<td>162 / 100</td>
<td>2,166</td>
</tr>
<tr>
<td>Liberia (20 JAN)</td>
<td>8,525 (+35) / 3,136 (+1)</td>
<td>3,653 (+48) / NA</td>
<td>371 (+1) / 178</td>
<td>1,954</td>
</tr>
<tr>
<td>Sierra Leone (21 JAN)</td>
<td>10,440 (+56) / 7,944 (+21)</td>
<td>3,168 (+14) / 2,802 (+14)</td>
<td>296 / 221</td>
<td>9,895</td>
</tr>
<tr>
<td>United Kingdom (22 JAN)</td>
<td>1 / 1 ***</td>
<td>0 / 0</td>
<td>1 / 0***</td>
<td>0</td>
</tr>
<tr>
<td>United States (4 DEC)</td>
<td>4 / 4* **</td>
<td>1 / 1</td>
<td>3 / 0</td>
<td>0</td>
</tr>
<tr>
<td>Mali (21 DEC)</td>
<td>8 / 7</td>
<td>6 / 5</td>
<td>2 / 2</td>
<td>0</td>
</tr>
<tr>
<td>Nigeria (17 SEP)</td>
<td>20 / 19</td>
<td>8 / 7</td>
<td>11 / 5</td>
<td>0</td>
</tr>
<tr>
<td>Senegal (20 SEP)</td>
<td>1 / 1*</td>
<td>0 / 0</td>
<td>0 / 0</td>
<td>0</td>
</tr>
<tr>
<td>Spain (2 DEC)</td>
<td>1 / 1</td>
<td>0 / 0</td>
<td>0 / 0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21,871 (+91) / 13,652 (+22)</strong></td>
<td><strong>8,712 (+62) / 4,372 (+14)</strong></td>
<td><strong>847 (+1) / 506</strong></td>
<td><strong>14,015</strong></td>
</tr>
</tbody>
</table>

**Case Fatality Proportion:** As of 14 JAN 2015, the WHO said the case fatality rate in the three intense-transmission countries among cases for whom a definitive outcome is recorded is 71%. For hospitalized patients, the case fatality rate is 57% in Guinea, 58% in Liberia, and 60% in Sierra Leone.

†Excluding Liberia / *Imported from Liberia / **1 imported from Guinea / ***Imported from Sierra Leone / NA = Not Available

Shaded countries have been declared Ebola transmission-free by WHO.

The total number of cases is subject to change due to reclassification, retrospective investigation, consolidation of cases and laboratory data, and enhanced surveillance.
Cumulative number of suspect, probable, and confirmed Ebola virus disease cases by district in West Africa

Number of cases*

- 0
- 1 - 15
- 16 - 150
- 151 - 250
- 251 - 500
- >500

No reported cases for 21 days or more

*Sierra Leone reported 23 cases that were not assigned to a district.

As of dates:
- Guinea, 17 JAN
- Liberia, 20 JAN
- Sierra Leone, 21 JAN

All information has been verified unless noted otherwise. Sources include WHO, and the Guinea, Liberia, and Sierra Leone Ministries of Health.

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New suspect, probable, and confirmed Ebola virus disease cases by district in West Africa, during the most recently reported three-week period.

**Number of New Cases**

- 0
- 1 - 25
- 26 - 100
- 101 - 200
- >200

*Sierra Leone reported 23 cases that were not assigned to a district.

As of dates:
- Guinea, 27 DEC - 17 JAN
- Liberia, 30 DEC - 20 JAN
- Sierra Leone, 31 DEC - 21 JAN

All information has been verified unless noted otherwise. Sources include WHO, and the Guinea, Liberia, and Sierra Leone Ministries of Health.

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Cases reported in Senegal, Nigeria, Spain, Mali, the U.K., and the U.S. are not included in the graph. The total number of cases may vary weekly due to reclassification, retrospective investigation, consolidation of cases and laboratory data, and enhanced surveillance.

All information has been verified unless noted otherwise. Sources include the Guinea, Liberia, and Sierra Leone Ministries of Health.

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Daily reported confirmed EVD cases, with trend line, for Guinea, Liberia, and Sierra Leone using the last two full months of available data.
Additional Resources and Media Reports

Ebola Web Sites

• **WHO**
• **WHO (Africa)**
• **CDC**
• **UNMEER Sit Reps**
• **Liberia MOH**
• **Sierra Leone MOH**
• **Humanitarian Response (West Africa)**
  Access to MOH, WHO, UN, and other reports

• **AFHSC guidelines**
• **USAMRIID**
• **State Department Travel Site**
• **USAID Ebola Site**
• **DoD News**
• **DoD Operation United Assistance Web Portal**
• **AFRICOM Operation United Assistance Web Portal**

Information and News

• **Ebola ebbing in West Africa but vigilance needed: WHO** (Reuters, 22 JAN)
• **Ebola vaccine trials to begin in Liberia** (CNBC, 22 JAN)
• **Sierra Leone lifts Ebola quarantine measures amid progress** (Reuters, 22 JAN)
• **Study shows how Ebola becomes lethal as it spreads** (Science Daily, 21 JAN)
• **Mutant Ebola virus may evade drugs, study finds** (NBC News, 20 JAN)
• **4th meeting of the IHR Emergency Committee** (WHO, 21 JAN)
• **Guinean priests beaten up over health fears** (BBC News, 20 JAN)
• **Guinea schools reopen, but Ebola fears still keep many home** (Fox News, 20 JAN)
• **Economic impact of Ebola less severe than first thought: World Bank** (Reuters, 20 JAN)
• **U.S.-built Ebola treatment centers in Liberia are nearly empty as outbreak fades** (Washington Post, 18 JAN)
• **Liberia aims to be Ebola-free by end-February as cases fall to 10** (Reuters, 16 JAN)
• **One year into the Ebola epidemic** (WHO, 15 JAN)
• **New Ebola cases slump in all three worst-hit countries: WHO** (Reuters, 15 JAN)
• **Prediction: all predictions about Ebola are unpredictable** (NPR, 15 JAN)

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