

SUMMARY

- A total of 99 new confirmed cases of Ebola virus disease (EVD) were reported in the week to 22 February. Guinea reported 35 new confirmed cases. Cases continue to arise from unknown chains of transmission. Transmission remains widespread in Sierra Leone, with 63 new confirmed cases. A spike of 20 new confirmed cases in Bombali is linked to the previously reported cluster of cases in the Aberdeen fishing community of the capital, Freetown. There were 14 new confirmed cases in Freetown over the same period, with cases still arising from unknown chains of transmission in Freetown and elsewhere. Transmission continues at very low levels in Liberia, with 1 new confirmed case reported in the 7 days to 22 February: a registered contact associated with a known chain of transmission in the capital, Monrovia.
- Engaging effectively with communities remains a challenge in several geographical areas. Nearly one-third of prefectures in Guinea reported at least one security incident in the week to 22 February, often as a result of rumours and misinformation linking response efforts with the spread of EVD. A total of 16 new confirmed cases were identified in Guinea and Sierra Leone after post-mortem testing of individuals who died in the community, indicating that a significant number of individuals are still either unable or reluctant to seek treatment. Ideally these individuals would have been identified as contacts associated with known chains of transmission, and have been rapidly diagnosed, isolated, and treated after the initial onset of symptoms. In Guinea and Sierra Leone, 19 and 15 unsafe burials were reported, respectively.
- Most new cases in Guinea were reported from 3 neighbouring western prefectures: Conakry (6 new confirmed cases), Coyah (8 new confirmed cases), and Forecariah (16 confirmed cases). However, the eastern prefecture of Lola, on the border with Côte d'Ivoire, reported 1 new confirmed case. Case incidence has fluctuated in this prefecture. The northern prefecture of Mali, which borders Senegal, also reported 1 new confirmed case.
- The steep decline in case incidence nationally in Sierra Leone from December until the end of January has halted. Transmission remains widespread, with 8 districts reporting new confirmed cases. A significant proportion of cases are still arising from unknown chains of transmission.
- Of laboratories that report results to the relevant ministry of health, between 84% and 98% of laboratory samples were tested within 1 day of collection in the 22 days to 22 February. At present there are no data on how rapidly results are communicated to patients.
- In the week to 22 February, 3 new health worker infections were reported (2 from Guinea, 1 from Sierra Leone), bringing the total of health worker infections reported since the start of the outbreak to 837, with 490 deaths.

## COUNTRIES WITH WIDESPREAD AND INTENSE TRANSMISSION

- There have been over 23 500 reported confirmed, probable, and suspected cases<sup>1</sup> of EVD in Guinea, Liberia and Sierra Leone (table 1), with over 9500 reported deaths (outcomes for many cases are unknown). A total of 35 new confirmed cases were reported in Guinea, 1 in Liberia, and 63 in Sierra Leone in the 7 days to 22 February.
- A stratified analysis of cumulative confirmed and probable cases indicates that the number of cases in males and females is similar (table 2). Compared with children (people aged 14 years and under), people aged 15 to 44 are approximately three times more likely to be affected. People aged 45 and over are approximately four times more likely to be affected than are children.
- A total of 837 confirmed health worker infections have been reported in the 3 intense-transmission countries; there have been 490 reported deaths (table 4).

**Table 1: Confirmed, probable, and suspected cases reported by Guinea, Liberia, and Sierra Leone**

Country	Case definition	Cumulative cases	Cases in past 21 days	Cumulative deaths
Guinea	Confirmed	2762	152	1704
	Probable	387	*	387
	Suspected	6	*	‡
	<b>Total</b>	<b>3155</b>	<b>152</b>	<b>2091</b>
Liberia	Confirmed	3153	10	‡
	Probable	1888	*	‡
	Suspected	4197	*	‡
	<b>Total</b>	<b>9238</b>	<b>10</b>	<b>4037</b>
Sierra Leone	Confirmed	8289	235	3095
	Probable	287	*	208
	Suspected	2725	*	158
	<b>Total</b>	<b>11 301</b>	<b>235</b>	<b>3461</b>
<b>Total</b>		<b>23 694</b>	<b>397</b>	<b>9589</b>

Data are based on official information reported by ministries of health. These numbers are subject to change due to ongoing reclassification, retrospective investigation and availability of laboratory results. \*Not reported due to the high proportion of probable and suspected cases that are reclassified. ‡Data not available.

## GUINEA

- Key performance indicators for the EVD response in Guinea are shown in table 3.
- A total of 35 confirmed cases were reported in the 7 days to 22 February 2015 (figure 1), compared with 52 cases the week before.
- Cases are concentrated in the west of the country, with the majority reported from Conakry (6 new confirmed cases), Coyah (8 new confirmed cases), and Forecariah (16 confirmed cases). The neighbouring prefectures of Dubreka (1 confirmed cases), Boffa (1 confirmed case), and Kindia (1 confirmed case) also reported cases during the reporting period (figure 1).
- The eastern prefecture Lola, which borders Côte d'Ivoire, and the northern prefecture Mali, which borders Senegal, were the only other prefectures to report confirmed cases in the week to 22 February; both reported 1 new confirmed case. The case in Mali is linked to the same chain of transmission as the first case reported in the prefecture: a man who travelled from the Liberian capital, Monrovia (figure 4). Cross-border surveillance has been strengthened in both areas.
- At least one security incident was reported in 10 of 34 prefectures in the week to 22 February.

<sup>1</sup>Case definition recommendations for Ebola or Marburg Virus Diseases: <http://www.who.int/csr/resources/publications/ebola/ebola-case-definition-contact-en.pdf?ua=1>

- Difficulty engaging with communities can make identifying contacts and tracing chains of transmission more challenging. As a result, some cases are only identified after post-mortem testing. Of 45 community deaths tested for EVD in the week to 22 February, 5 were confirmed as cases, compared with 16 cases from 48 community deaths the previous week. Over the same period, 19 unsafe burials were reported, compared with 39 the previous week.
- Seventeen districts that have previously reported confirmed cases did not report any confirmed cases in the 21 days to 22 February (figure 4, figure 5).
- Locations of 6 operational Ebola treatment centres (ETCs) are shown in figure 6. Two ETCs have been assessed and have met minimum standards for infection prevention and control (IPC). At present, 3 of 6 ETCs are occupied by patients with EVD. Two new health worker infections were reported in the week to 21 February: one in Conakry and one in Coyah.
- The case fatality rate (CFR) during the month of January was 66% among hospitalized confirmed cases for whom a definitive outcome was reported. On average, it took 3.5 days between the onset of EVD symptoms and isolation and treatment of a case during January.
- In the 22 days to 22 February, 98% of samples from suspected and probable cases were tested within 1 day of collection; 79% were tested on the same day as collection. Locations of the 7 operational laboratories in Guinea are shown in figure 7.

## LIBERIA

- Key performance indicators for the EVD response in Liberia are shown in table 3.
- One confirmed case was reported in the 7 days to 22 February (figure 2). The case was reported from Montserrado county (figure 2 and figure 4), and was a known contact linked with the chain of transmission that originated from the St Paul's bridge area of the capital, Monrovia.
- Montserrado and Margibi are the only counties to have reported a confirmed case within the past 38 days (figure 5).
- Locations of the 19 operational Ebola treatment centres (ETCs) in Liberia are shown in figure 6. Of the 12 that have been assessed, all met minimum standards for IPC. There were no new health worker infections reported in Liberia in the week to 22 February.
- The CFR during the month of November was 54% among hospitalized confirmed cases for whom a definitive outcome was reported. On average, it took 2.7 days between the onset of EVD symptoms and isolation and treatment of a case during November.
- In the 22 days to 22 February, 84% of samples from suspected and probable cases were tested within 1 day of collection; a fall from 95% throughout January. 42% of samples were tested on the same day as collection. Locations of the 4 operational laboratories in Liberia are shown in figure 7.

**Table 2: Cumulative number of confirmed and probable cases by sex and age group in Guinea, Liberia, and Sierra Leone**

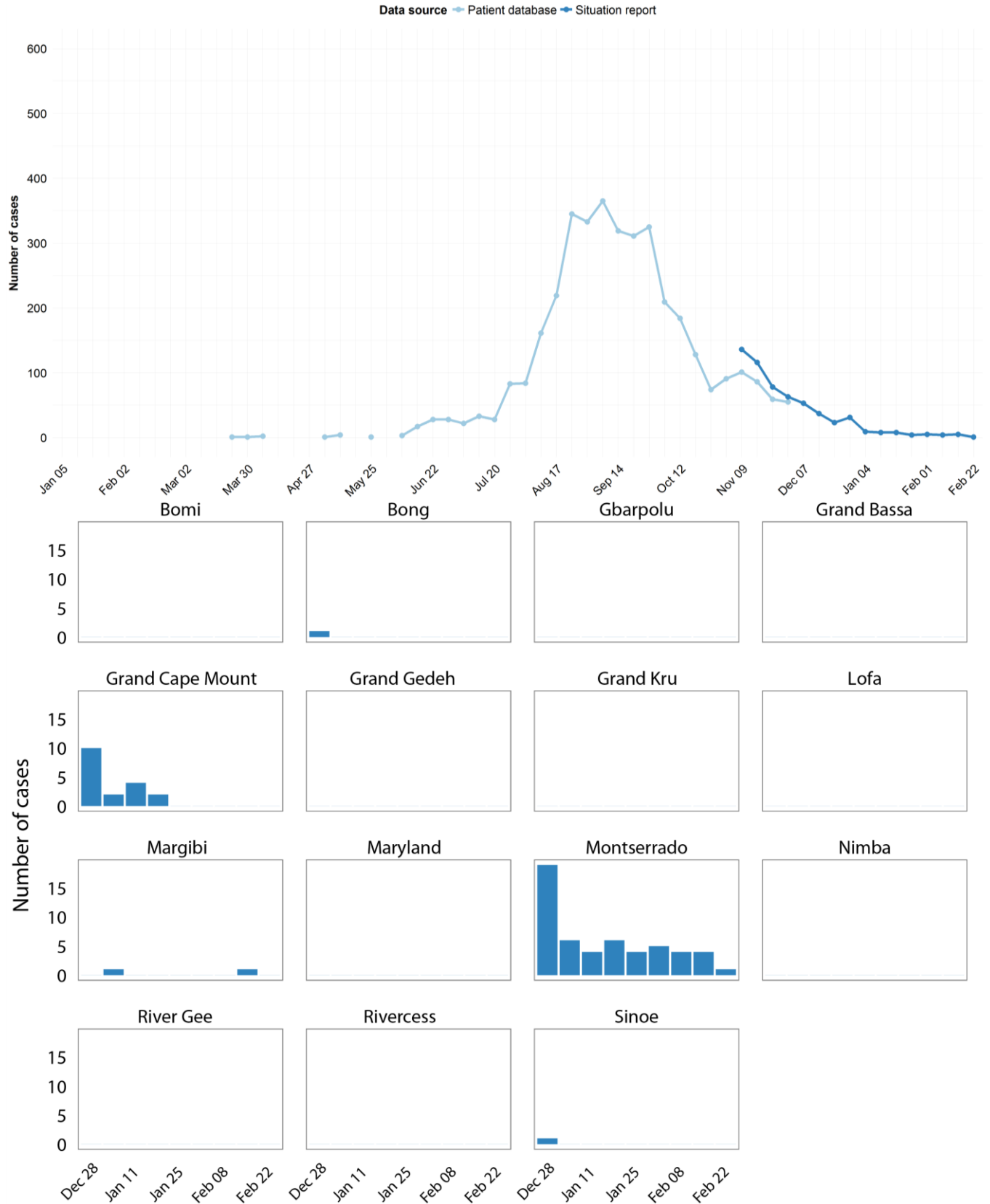
Country	Cumulative cases				
	By sex*		By age group‡		
	(per 100 000 population)		(per 100 000 population)		
	Male	Female	0–14 years	15–44 years	45+ years
Guinea	1481 (27)	1586 (29)	487 (10)	1720 (37)	837 (54)
Liberia	2854 (143)	2809 (143)	962 (56)	3054 (179)	1169 (219)
Sierra Leone	5197 (182)	5540 (191)	2242 (92)	5959 (230)	2350 (318)

Population figures are based on estimates from the United Nations Department of Economic and Social Affairs.<sup>2</sup> \*Excludes cases for which data on sex are not available. ‡Excludes cases for which data on age are not available.

<sup>2</sup> United Nations Department of Economic and Social Affairs: <http://esa.un.org/unpd/wpp/Excel-Data/population.htm>



Figure 2: Confirmed weekly Ebola virus disease cases reported nationally and by district from Liberia



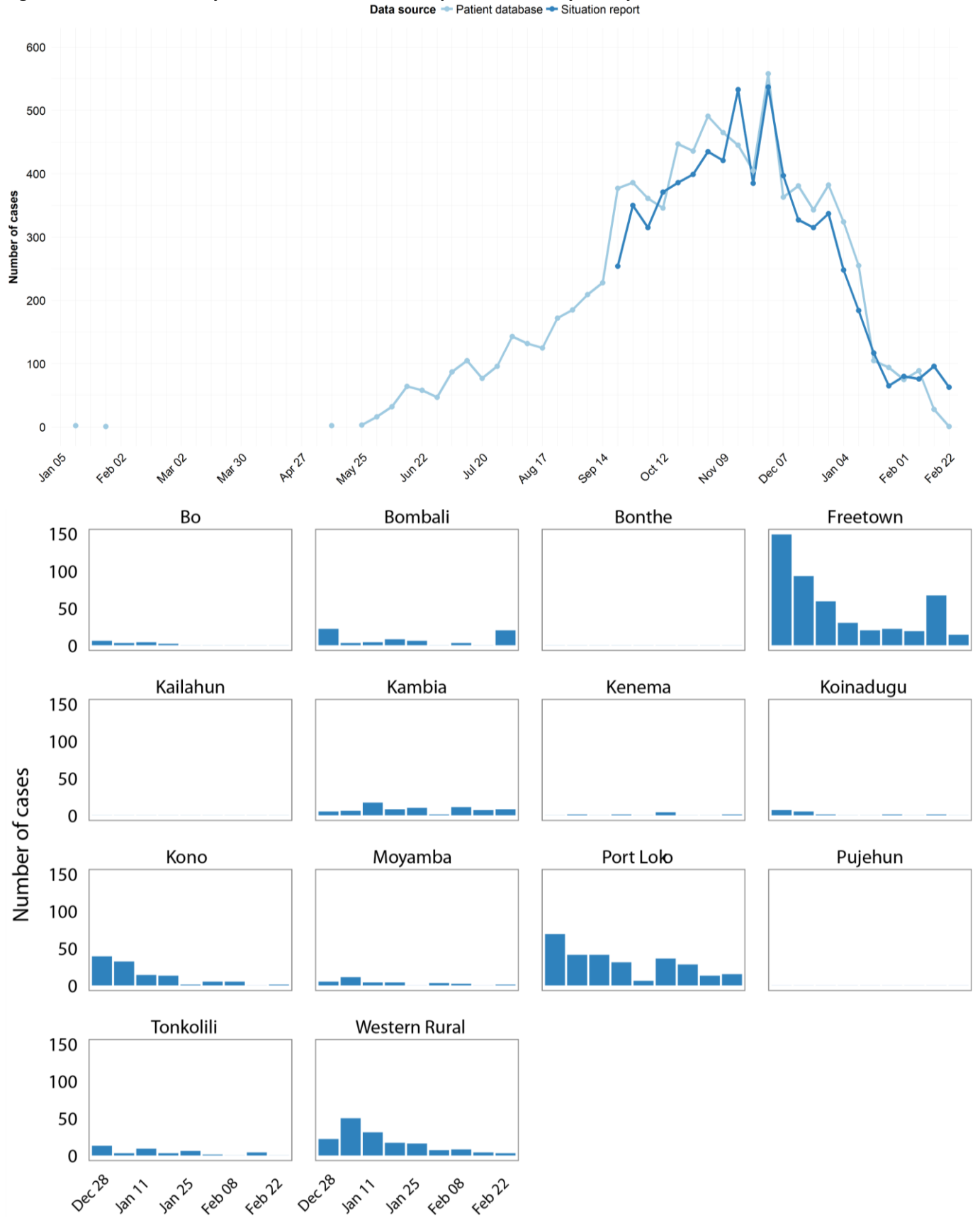
Systematic data on laboratory confirmed cases have been available since 3 November nationally, and since 16 November for each district.

Table 3: Key performance indicators for phase 2 of the Ebola response

Indicator	Target	Guinea			Liberia			Sierra Leone			
		8 Feb	15 Feb	22 Feb	8 Feb	15 Feb	22 Feb	8 Feb	15 Feb	22 Feb	
Cases and deaths											
	Number of confirmed cases	Zero	65	52	35	4	5	1	76	96	63
	Number of confirmed deaths	Zero	44	40	21	3	0	3	70	68	45
Number of confirmed deaths that occurred in the community	Zero	21	16	7	2	0	0	10	25	9	
<b>Diagnostic services</b>											
Percent of samples tested within one day of collection	100%	Dec	Jan	Feb*	Dec	Jan	Feb*	Dec	Jan	Feb*	
		(n=738) 96%	(n=540) 95%	(n=511) 98%	(n=884) 96%	(n=504) 95%	(n=88) 84%	(n=6366) 84%	(n=8649) 83%	(n=3568) 88%	
<b>Contact tracing</b>											
Percent of new confirmed cases from registered contacts <sup>#</sup>	100%	1 Feb	8 Feb	15 Feb	8 Feb	12 Feb	22 Feb	1 Feb	8 Feb	15 Feb	
		(7/42) 17%	(10/65) 15%	(17/53) 32%	(0/4) 0%	(5/5) 100%	(1/1) 100%	(45/84) 54%	(29/81) 36%	(18/96) 19%	
<b>Isolation</b>											
Time between symptom onset and case isolation*	<2 days	Nov	Dec	Jan	Sept	Oct	Nov	Aug	Sept	Oct	
		3.7	3.4	3.5	4.2	3.6	2.7	3.2	3.2	2.6	
<b>Outcome of treatment</b>											
Case fatality rate (among hospitalized cases) <sup>###</sup>	<40%	Nov	Dec	Jan	Sept	Oct	Nov	Aug	Sept	Oct	
		55%	57%	66%	55%	53%	54%	62%	58%	64%	
<b>IPC and Safety</b>											
Percent of IPC-assessed ETCs that met minimum IPC standards <sup>§</sup>	100%	Jan	Feb	Jan							
		(2/2) 100%	(12/12) 100%	(14/18) 78%							
<b>Safe and dignified burials</b>											
Number of unsafe burials reported	Zero	8 Feb	15 Feb	22 Feb	8 Feb	15 Feb	21 Feb	8 Feb	15 Feb	19 Feb	
		34	39	19	6	0	0	41	45	15	
<b>Social mobilization</b>											
Number of districts with at least one security incident or other form of refusal to cooperate	Zero	7 Feb	14 Feb	22 Feb	7 Feb	11 Feb	18 Feb	7 Feb	11 Feb	16 Feb	
		8	13	10	2	6	1	2	4	1	

For the lead agencies coordinating the 4 key lines of action see Annex 1. For definitions of key performance indicators see Annex 2. Data are given for complete months unless otherwise specified. \*Data to 22 February. <sup>#</sup>Data from Guinea include new confirmed and probable cases. <sup>§</sup>Isolation is not recorded for 4-6% of cases in Guinea, 56-63% in Liberia, and 29-35% in Sierra Leone. <sup>###</sup>No final outcome is recorded in 3-19% of confirmed cases in Guinea, 17-40% in Liberia, and 35-76% in Sierra Leone. CFR is reported until the end of November for Liberia due to a database migration in December. Sierra Leone last recorded hospitalization information in October. <sup>§</sup>IPC assessment results are available periodically. These data reflect IPC assessments of ETCs and not Community Care Centres (CCCs) or other Ebola facilities. <sup>\*\*</sup>Does not include foreign medical teams.

Figure 3: Confirmed weekly Ebola virus disease cases reported nationally and by district from Sierra Leone



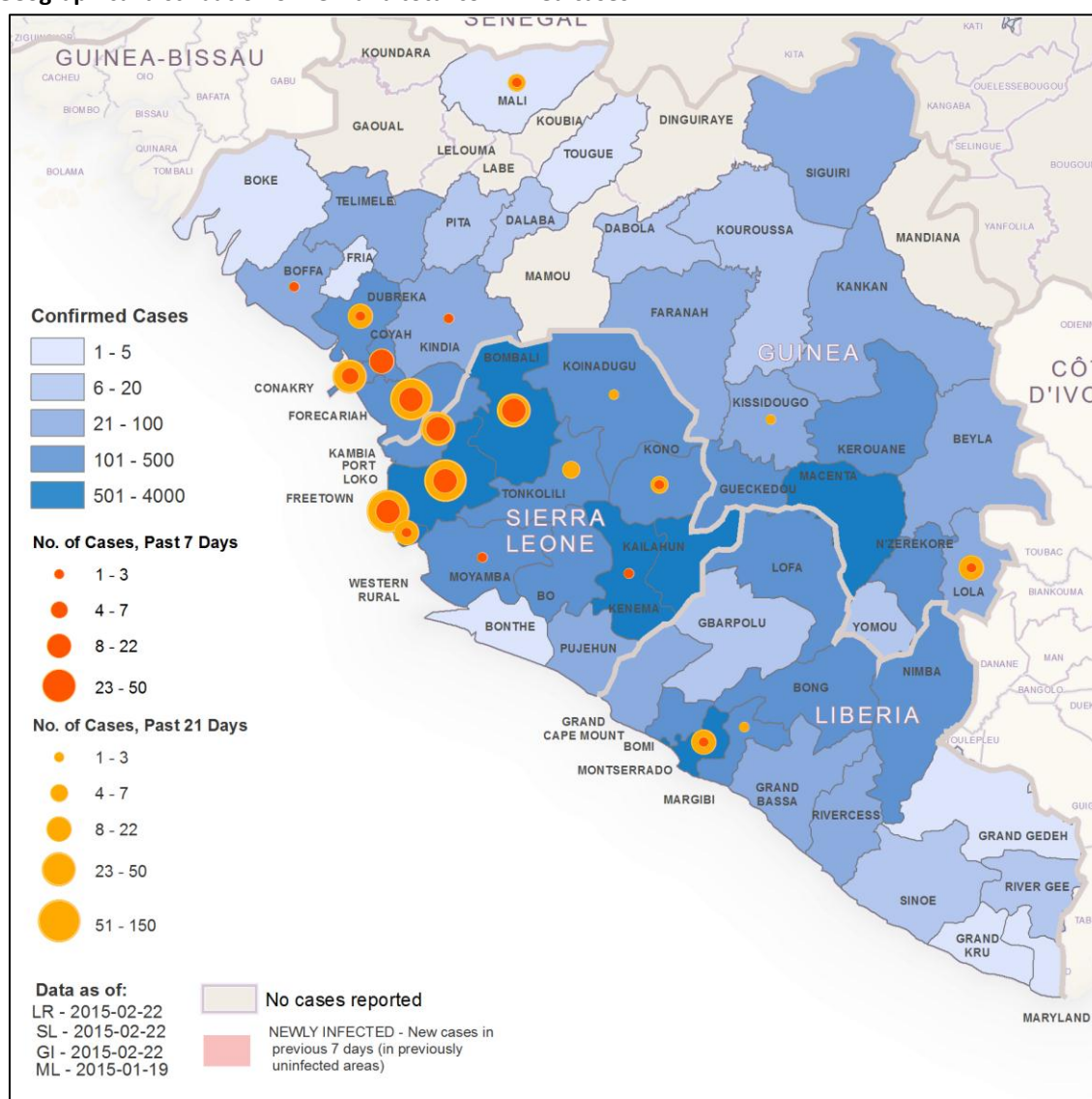


**Table 4: Ebola virus disease infections and deaths in health workers in the three countries with intense transmission**

Country	Cases	Deaths
Guinea	170	89
Liberia	372	180
Sierra Leone*	295	221
<b>Total</b>	<b>837</b>	<b>490</b>

Data are confirmed cases and deaths only, apart from deaths in Sierra Leone, which include confirmed, probable, and suspected deaths. \*Data for 17 February.

**Figure 4: Geographical distribution of new and total confirmed cases**



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

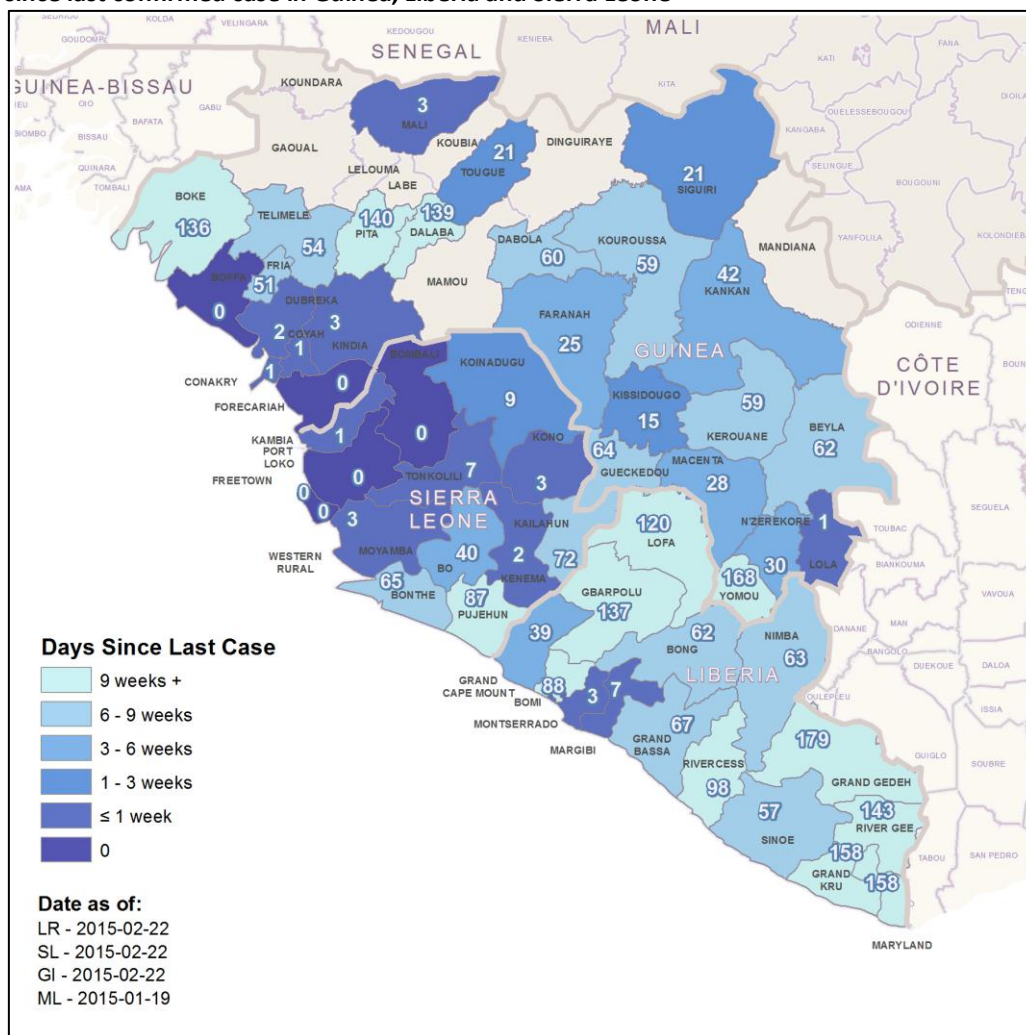
### SIERRA LEONE

- Key performance indicators for the EVD response in Sierra Leone are shown in table 3.
- After a rapid decline, weekly case incidence has stabilized since the week ending January 25, at between 60 and 100 confirmed cases per week. A total of 63 cases were reported in the week to 22 February. The total for the previous week has been revised up to 96 confirmed cases, after missing laboratory data was included.



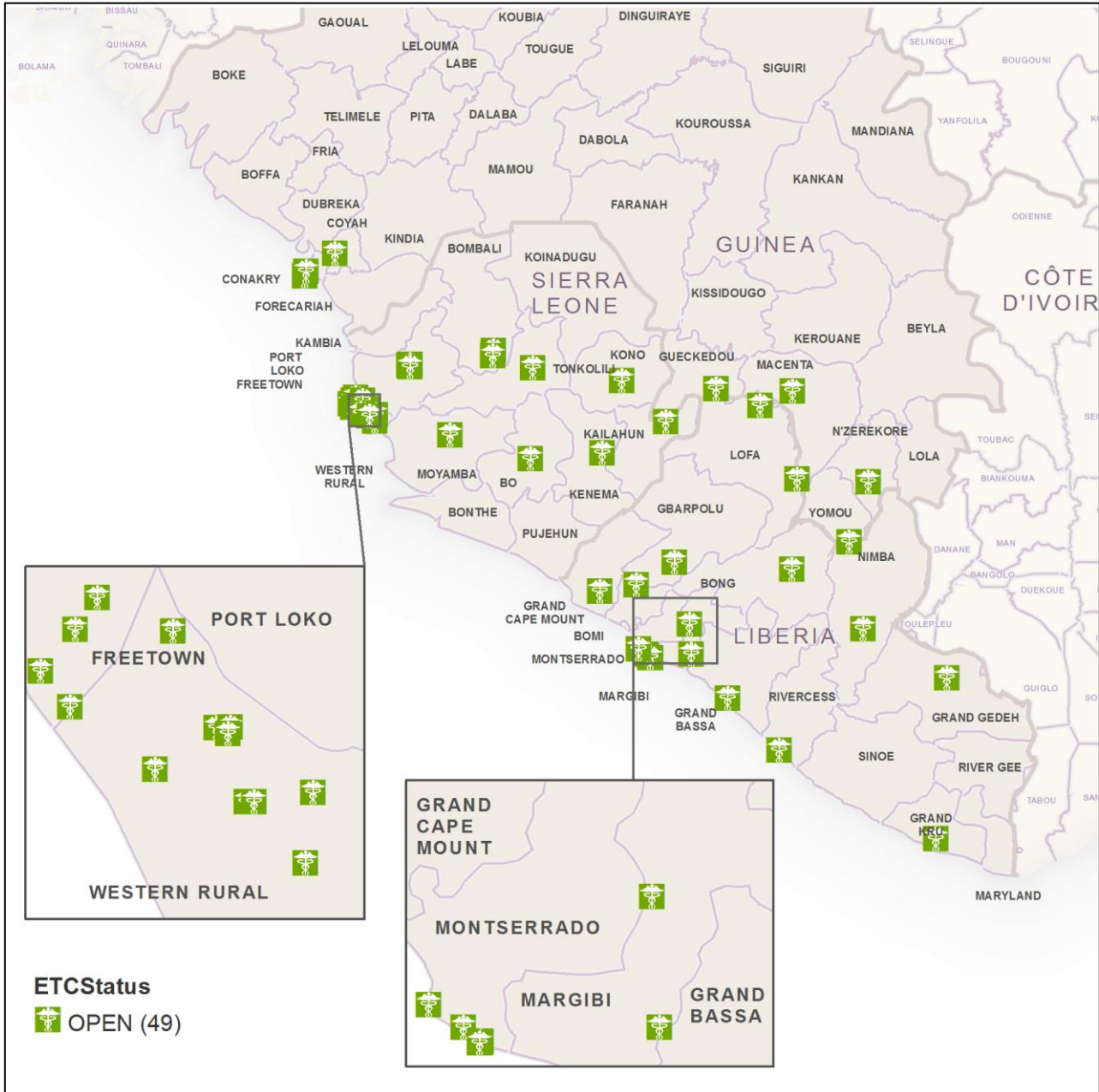
- There has been a sharp increase in reported confirmed cases in the northern district of Bombali, with 20 confirmed cases reported in the week to 22 February. The neighbouring districts of Kambia (8 confirmed cases) and Port Loko (15 confirmed cases) also report persistent transmission. The capital, Freetown, reported 14 new confirmed cases (figure 3, figure 4). The outbreak in Bombali is reportedly linked to the cluster of cases in the Aberdeen area of Freetown. A response team continues to trace and monitor over 2000 contacts associated with the cluster.
- Although most cases are reported from western districts, transmission is also reported in several other regions of the country, including the eastern districts of Kenema and Kono, which each reported 1 case in the week to 22 February.
- Community engagement remains a challenge in several areas of Sierra Leone. A total of 15 unsafe burials were reported in the 3 days to 19 February, 7 of which took place in Bombali. The remainder took place in Freetown (6) and Kambia (2). In the 3 days to 19 February, a total of 9 confirmed cases were identified after post-mortem testing of dead bodies found in the community. 691 swabs were tested, compared with 25 cases from 932 swabs the previous week.
- Locations of the 24 operational Ebola treatment centres (ETCs) in Sierra Leone are shown in figure 6. A total of 14 of 18 (78%) of assessed ETCs met minimum standards for infection prevention and control. One new health worker infection was reported in the week to 22 February.
- There are 13 operational laboratories in Sierra Leone (figure 7). In the 22 days to 14 February, 88% of samples from suspected and probable cases were tested within 1 day of collection. 50% of samples were tested on the same day they were collected.

Figure 5: Days since last confirmed case in Guinea, Liberia and Sierra Leone



22 February is counted as day 0.

Figure 6: Location of Ebola treatment centres in Guinea, Liberia, and Sierra Leone



*Locations of community care centres and community transit centres are not shown.*

### COUNTRIES WITH AN INITIAL CASE OR CASES, OR WITH LOCALIZED TRANSMISSION

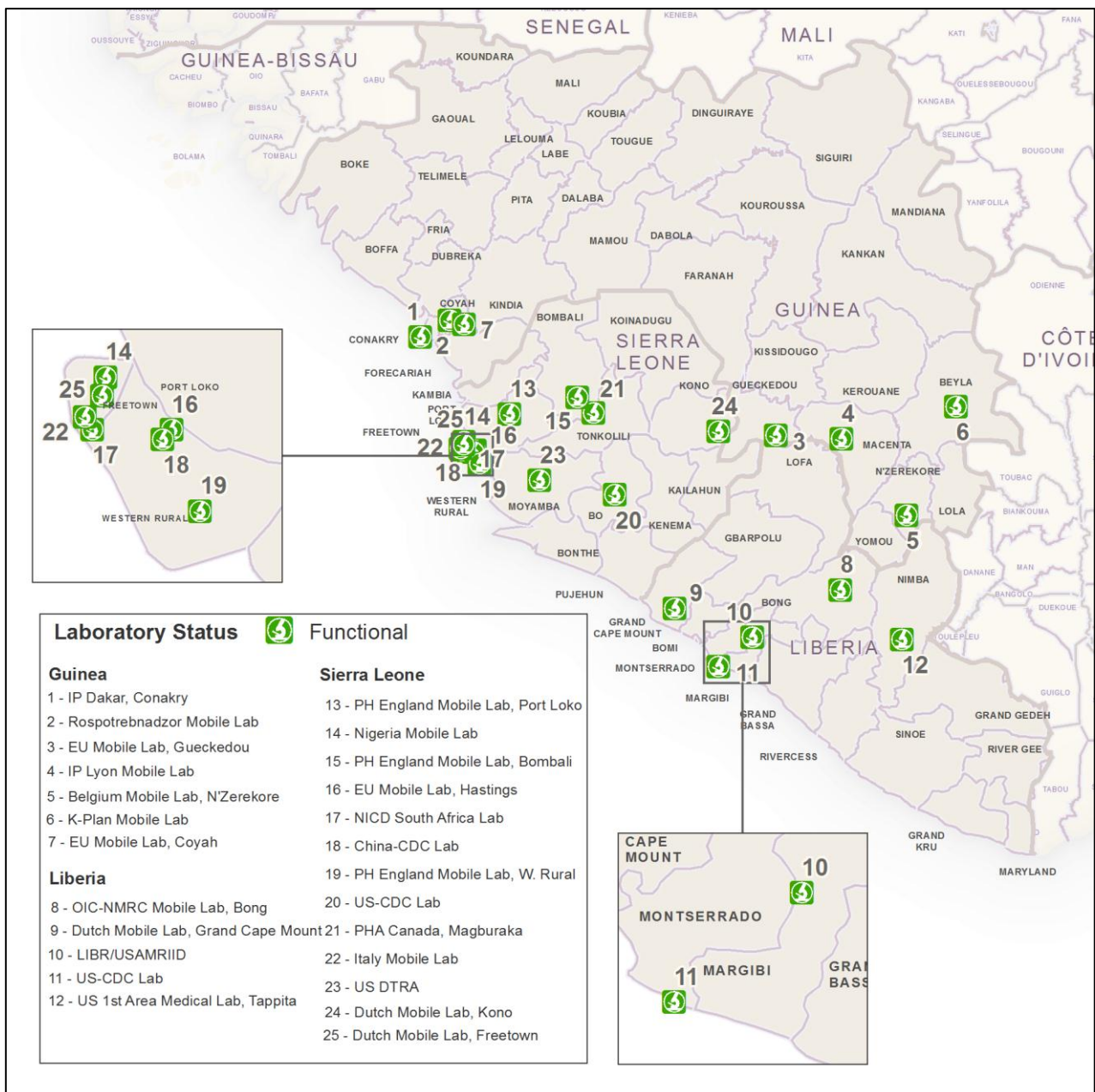
- Six countries (Mali, Nigeria, Senegal, Spain, the United Kingdom and the United States of America) have reported a case or cases imported from a country with widespread and intense transmission.
- In the United Kingdom, public health authorities confirmed a case of EVD in Glasgow, Scotland, on 29 December 2014 (table 5). The case was a health worker who returned from volunteering at an ETC in Sierra Leone. The patient was isolated on 29 December and received treatment in London. On 23 January the patient tested negative twice for EVD, and on 24 January the patient was discharged. All contacts have completed 21-day follow-up.

Table 5: Ebola virus disease cases and deaths in the United Kingdom

Country	Cumulative cases					Contact tracing			
	Confirmed	Probable	Suspect	Deaths	Health workers	Contacts under follow-up	Contacts who have completed 21-day follow-up	Date last patient tested negative	Number of days since last patient tested negative
United Kingdom	1	0	0	0	100%	0	55	23/01/2015	32

Data are based on official information reported by ministries of health. These numbers are subject to change due to ongoing reclassification, retrospective investigation and availability of laboratory results.

Figure 7: Location of laboratories in Guinea, Liberia, and Sierra Leone





## PREPAREDNESS OF COUNTRIES TO RAPIDLY DETECT AND RESPOND TO AN EBOLA EXPOSURE

- The introduction of an EVD case into unaffected countries remains a risk for as long as cases are reported in any country. With adequate levels of preparation, however, such introductions of the disease can be contained with a rapid and adequate response.
- WHO's preparedness activities aim to ensure all countries are ready to effectively and safely detect, investigate and report potential EVD cases, and to mount an effective response. WHO provides this support through country visits by preparedness support teams (PSTs), direct technical assistance to countries, and the provision of technical guidance and tools.

### Priority countries in Africa

- The initial focus of support by WHO and partners is on highest priority countries – Côte d'Ivoire, Guinea Bissau, Mali and Senegal – followed by high priority countries – Burkina Faso, Benin, Cameroon, Central African Republic, Democratic Republic of the Congo, Ethiopia, Gambia, Ghana, Mauritania, Nigeria, South Sudan, Niger and Togo. The criteria used to prioritize countries include geographical proximity to affected countries, trade and migration patterns, and strength of health systems.
- Since 20 October 2014, preparedness-strengthening teams (PSTs) have provided technical support in 14 countries: Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Guinea Bissau, Mali, Mauritania, Niger, Senegal and Togo. Technical working group meetings, field visits, high-level exercises and field simulations have helped to identify key areas for improvement. Each country has a tailored 90-day plan to strengthen operational readiness. WHO and partners are deploying staff to the 14 countries to assist with the implementation of 90-day plans.
- A rapid response assessment team and PST were deployed to Côte d'Ivoire from 8 to 18 February 2015, and focused on cross-border collaboration with Guinea, response coordination, surveillance, and resource mobilization.
- A PST team visit to Senegal (16–23 February) was deployed to the Kedougou region bordering the Guinea prefecture of Mali, to strengthen cross-border surveillance and collaboration. A team in Dakar focused on the development of a national Ebola exercise plan, and on delivering immediate logistic support.
- In Mali (18–25 February), a PST team is currently supporting EVD preparedness activities in three regions: Bamako, Kayes, and Koulikoro.
- A PST is currently deployed to Guinea-Bissau (22–28 February), and will focus on cross-border collaboration, reporting and analysis on strategic information, coordination, infection prevention and control, and logistics
- In addition to the PST country visits, a tripartite meeting between Guinea, Mali and Senegal is currently ongoing (25–26 February 2015) in Labe, Guinea, to increase collaboration between the three countries on EVD.
- Follow-up PSTs are planned to all priority countries with a focus on the following:
  - Provision of tailored, targeted technical guidance tools and support to strengthen EVD preparedness capacities; operationalise plans; test and improve procedures through field exercises and drills; and support the implementation of preparedness plans , including logistics support;
  - Foster inter-country collaboration and networking, including cross-border communication, cooperation, and exchanges;
  - Provide leadership and coordinate partners to fully support one national plan and the steering role of national authorities;
  - Coordinate global advocacy and support to EVD preparedness, document and disseminate experiences, lessons learnt and good practices, monitor progress, and evaluate outcomes;
  - Strengthen the implementation of the International Health Regulations, and ensure that the core capacities to manage health emergencies are at the heart of resilient health systems.

**ANNEX 1: COORDINATION OF THE EBOLA RESPONSE**

WHO continues to work with many partners in response to the EVD outbreak, including the African Union, the Economic Community of West African States, the Mano River Union, national governments, non-governmental organizations and UN agencies. Agencies responsible for coordinating 4 key lines of action in the response are given below.

Lines of action	Lead agency
Case management	WHO
Case finding, lab and contact tracing	WHO
Safe and dignified burials	International Federation of Red Cross and Red Crescent Societies (IFRC)
Community engagement and social mobilization	UNICEF

## ANNEX 2: DEFINITIONS OF KEY PERFORMANCE INDICATORS

Indicator	Numerator	Numerator Source	Denominator	Denominator Source
<b>Cases and deaths</b>				
Number of confirmed cases	# of confirmed cases	Guinea: Daily WHO situation reports Liberia/ Sierra Leone: Ministry of Health Ebola situation Reports	N/A	N/A
Number of confirmed deaths	# of confirmed deaths	Guinea: Daily WHO situation reports Liberia/ Sierra Leone: Ministry of Health Ebola situation Reports	N/A	N/A
Number of confirmed deaths that occurred in the community	# of deaths that occurred in the community with positive EVD swab results	Guinea: Weekly WHO situation reports Liberia / Sierra Leone: Ministry of Health	N/A	N/A
<b>Diagnostic Services</b>				
Percent of samples tested within one day of collection	# of samples for which the difference between date of sample testing and date of sample collection is less than or equal to one day*	Laboratory Database	# of samples that have date of test and date of collection recorded*	Laboratory Database
<b>Contact tracing</b>				
Percent of new confirmed cases from registered contacts	# of new confirmed cases registered as a contact	Guinea: Weekly country situation reports Liberia: Ministry of Health Ebola situation reports Sierra Leone: Weekly Ministry of Health Surveillance Report	# of new confirmed cases	Guinea: Daily WHO situation reports Liberia/ Sierra Leone: Ministry of Health Ebola situation Reports
<b>Isolation</b>				
Time between symptom onset and case isolation (days)	Time between symptom onset and isolation of confirmed or probable cases (geometric mean # of days)	Clinical investigation records	N/A	N/A
<b>Outcome of treatment</b>				
Case fatality rate (among hospitalized cases)	# of deaths among hospitalized cases (confirmed)	Clinical investigation records	# of hospitalized cases (confirmed) with a definitive survival outcome recorded	Clinical investigation records
<b>Infection Prevention and Control (IPC) and Safety</b>				
Percent of IPC-assessed ETCs that met minimum IPC standards	# of IPC-assessed ETCs that met minimum IPC standards**	IPC Reports	# of IPC-assessed ETCs	IPC Reports
Number of newly infected health workers	# of newly infected health workers	Guinea / Sierra Leone: Daily WHO situation reports Liberia: Ministry of Health Ebola situation Reports	N/A	N/A
<b>Safe and dignified burials</b>				
Number of unsafe burials reported	# of reports/alerts of burials that were not known to be safe	Guinea: Weekly WHO situation reports Liberia / Sierra Leone: Ministry of Health	N/A	N/A
<b>Social mobilization</b>				
Number of districts with at least one security incident or other form of refusal to cooperate	# of districts with at least one security incident or other form of refusal to cooperate in the past week	Guinea: Daily WHO situation reports Liberia / Sierra Leone: UNICEF	N/A	N/A

*For samples that do not have a date of testing recorded, the date of receipt at a laboratory is used as a proxy.*