

**SUMMARY**

- A total of 79 new confirmed cases of Ebola virus disease (EVD) were reported in the week to 22 March: the lowest weekly total in 2015. There were 45 new confirmed cases reported from Guinea. Having reported no cases for 3 consecutive weeks, a new confirmed case was reported from Liberia on 20 March. Sierra Leone reported 33 new confirmed cases in the week to 22 March.
- With the exception of the case in Liberia, transmission has been restricted to districts in and around Conakry to the north and Freetown to the south. A total of 10 districts in Guinea, Liberia, and Sierra Leone reported a confirmed case in the week to 22 March. An additional 4 districts have reported a confirmed case in the past 21 days: Boffa, Dubreka, and Kindia in Guinea, and Koinadugu in Sierra Leone. The epicentre of the outbreak, in the tri-border area around the Guinean prefecture of Gueckedou, the Liberian county of Lofa, and the Sierra Leonean district of Kailahun, has not reported a confirmed case of EVD for over 90 days.
- Response indicators for Guinea suggest some improvements compared with recent weeks. Case incidence declined compared with the previous week in every prefecture to have reported a case in the past 21 days. Of 37 total reported EVD deaths in the week to 22 March, 7 were identified post-mortem in the community, compared with 28 of 49 the previous week. Similarly, in the week to 15 March, 38% of confirmed cases arose from registered contacts, compared with 28% the previous week. However, 26 unsafe burials were reported in the week to 22 March, compared with 22 the previous week. Notwithstanding these improvements, the fact that fewer than half of cases arose from known contacts, and the number of reported unsafe burials has increased suggests that the outbreak in Guinea continues to be driven by unknown chains of transmission.
- Investigations into the origin of the newly reported case in Liberia are ongoing. Heightened vigilance is being maintained throughout the country. In the week to 22 March, 238 laboratory samples were tested for EVD.
- Response indicators for Sierra Leone continue to improve. In the week to 15 March 84% of confirmed cases came from registered contacts, compared with 67% the previous week. There were no reports of unsafe burials in the week to 22 March; however, over the same period, 7 of 56 confirmed deaths from EVD were identified from post-mortem testing in the community.
- WHO is supporting the Liberian Ministry of Health to implement a heightened surveillance framework. Cross-border surveillance capacity has already been reinforced in Nimba and Grand Cape Mount counties; preliminary work to reinforce cross-border controls has already started in other border counties.
- In the context of falling case incidence and a receding zone of transmission, treatment capacity now far exceeds demand in both Liberia and Sierra Leone. Accordingly, and with technical guidance from WHO, national authorities in both countries have begun to implement plans for the phased safe decommissioning of surplus facilities. Each country will retain a core capacity of high-quality Ebola treatment centres, strategically located to ensure complete geographic coverage, with additional rapid-response capacity held in reserve.
- There was 1 new health worker infection in the week to 22 March, reported from Conakry, Guinea. This brings the total number of health worker infections reported across the three most-affected countries since the start of the outbreak to 853, with 494 deaths.

## COUNTRIES WITH WIDESPREAD AND INTENSE TRANSMISSION

- There have been almost 25 000 reported confirmed, probable, and suspected cases<sup>1</sup> of EVD in Guinea, Liberia and Sierra Leone (table 1), with over 10 000 reported deaths (outcomes for many cases are unknown). A total of 45 new confirmed cases were reported in Guinea, 1 in Liberia, and 33 in Sierra Leone in the 7 days to 22 March.
- The total number of confirmed and probable cases is similar in males and females (table 3). 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 three to five times more likely to be affected than are children.
- A total of 853 confirmed health worker infections have been reported in Guinea, Liberia, and Sierra Leone; there have been 494 reported deaths (table 5).

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

Country	Case definition	Cumulative cases	Cases in past 21 days	Cumulative deaths
Guinea	Confirmed	3011	198	1865
	Probable	398	*	398
	Suspected	20	*	‡
	<b>Total</b>	<b>3429</b>	<b>198</b>	<b>2263</b>
Liberia	Confirmed	3151	1	‡
	Probable	1879	*	‡
	Suspected	4572	*	‡
	<b>Total</b>	<b>9602</b>	<b>1</b>	<b>4301</b>
Sierra Leone	Confirmed	8520	146	3381
	Probable	287	*	208
	Suspected	3034	*	158
	<b>Total</b>	<b>11 841</b>	<b>146</b>	<b>3747</b>
Total	Confirmed	14 682	345	‡
	Probable	2564	*	‡
	Suspected	7626	*	‡
	<b>Total</b>	<b>24 872</b>	<b>345</b>	<b>10 311</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 2.
- A total of 45 confirmed cases were reported in the 7 days to 22 March (figure 1).
- At present transmission is confined to an area around and including the capital Conakry (11 confirmed cases), with the nearby prefectures Coyah (6 cases) and Forecariah (28 cases) being the only other prefectures to report cases in the week to 22 March (figure 1, figure 4). In the east of the country, Macenta was the last prefecture to report a confirmed case, over 21 days ago.
- 46% of all cases reported from the three affected countries came from Forecariah prefecture in Guinea and the neighbouring Sierra Leonean district of Kambia (figure 1, figure 4). A memorandum of understanding has been agreed between Sierra Leone and Guinea to encourage the free sharing of information. District surveillance officers from both areas will be free to investigate cases on either side of the border.

<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>

- Response indicators have shown some improvement compared with recent weeks, though many cases are still arising from unknown chains of transmission. In the week to 15 March, fewer than half of confirmed EVD cases (38%) arose among known contacts: an increase compared with 28% the previous week. In the week to 22 March, 7 of 37 (19%) EVD-positive deaths occurred in the community, a 3-fold reduction compared with 28 of 49 (57%) in the previous week. Similarly, the proportion of laboratory samples that tested positive for EVD fell to 22% in the week to 22 March, compared with 31% the previous week. There was, however, an increase in the number of reported unsafe burials, from 22 in the week to 15 March to 26 in the week to 22 March.
- Locations of 8 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). IPC assessments have also been extended to non-Ebola health facilities. Of 6 such facilities assessed to date, one met minimum IPC standards. One new health worker infection was reported from Conakry in the week to 22 March.
- Locations of the 9 operational laboratories in Guinea are shown in figure 7. All 430 samples tested in the week to 22 March were processed within 1 day of arrival at a laboratory.

Table 2: Key performance indicators for Guinea for Phase 2 of the Ebola Response

Indicator	Target	Indicator	Target
<b>Cases and deaths</b>		<b>Hospitalization</b>	
	12 Jan – 22 Mar		Aug - Feb
Number of confirmed cases	Zero	Time between symptom onset and hospitalization (days) <sup>‡</sup>	<2 days
	45		3.7
Number of confirmed deaths	Zero	<b>Outcome of treatment</b>	
	37	Case fatality rate (among hospitalized cases) <sup>#</sup>	<40%
Number of confirmed deaths that occurred in the community	Zero		50%
	7	<b>IPC and safety</b>	
<b>Diagnostic services</b>		<b>Safe and dignified burials</b>	
	23 Feb – 22 Mar		12 Jan – 22 Mar
Number of samples tested and the percent of positive EVD results <sup>*</sup>	Zero	Number of newly infected health workers	Zero
	430 22%		1
Percent of new confirmed cases from registered contacts	100%	<b>Community engagement</b>	
	38%	Number of districts with at least one security incident or other form of refusal to cooperate	Zero
<b>Contact tracing</b>		<b>Community engagement</b>	
	5 Jan - 15 Mar		5 Jan – 22 Mar
	4		

For definitions of key performance indicators see Annex 2. For the WHO activity report see Annex 3. Data are given for 7-day periods  
<sup>\*</sup>Includes repeat samples. <sup>‡</sup>Data missing for 0–3% of cases. <sup>#</sup>Outcome data missing for 3–14% of hospitalized confirmed cases.

## LIBERIA

- Key performance indicators for the EVD response in Liberia are shown in table 4.
- One new confirmed case was reported from the greater Monrovia area of Montserrado county in the week to 22 March: the first such case for over 3 weeks. The patient self-presented to hospital triage on 19 March, and was laboratory confirmed as EVD positive on 20 March. The patient is not a contact associated with the country's last confirmed case, who tested negative for EVD for a second time on 3 March. Investigations into how the patient was exposed to EVD are ongoing. At the time of writing, 71 contacts have been identified and are being monitored for follow-up. Heightened vigilance is being maintained throughout the country. In the week to 22 March, a total of 238 new laboratory samples were tested for EVD.
- No other counties have reported a confirmed case within the past 21 days (figure 5). All contacts associated with the previously last known chain of transmission have now completed 21-day follow-up.
- Locations of the 18 operational Ebola treatment centres (ETCs) in Liberia are shown in figure 6. All of the 12 facilities that have been assessed met minimum standards for infection prevention and control. A total of 12 non-Ebola health-care facilities have also been assessed to date (2 in Montserrado county, 10 in Nimba county): 5 (42%) met minimum IPC standards.
- Case fatality rates for people hospitalized with confirmed EVD for whom a definitive outcome was reported were 53%, 52% and 50% for the months of October, November and December, respectively. On average, it took 2.6 days between the onset of symptoms and hospitalization of a confirmed, probable or suspected case during February.
- Locations of the 5 operational laboratories in Liberia are shown in figure 7. 91% of samples were processed within 1 day of arrival at a laboratory.

**Table 3: 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	1627 (30)	1746 (32)	538 (12)	1890 (41)	925 (59)
Liberia	2897 (146)	2845 (145)	970 (57)	3113 (182)	1181 (221)
Sierra Leone	5396 (189)	5736 (198)	2312 (95)	6194 (239)	2419 (327)

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.

## SIERRA LEONE

- Key performance indicators for the EVD response in Sierra Leone are shown in table 6.
- A total of 33 confirmed cases were reported in the week to 22 March, compared with 55 the previous week. This is the lowest weekly total since early June 2014.
- Cases were reported from 6 northern and western districts around and including the capital Freetown, which reported 13 new confirmed cases. The neighbouring districts of Bombali (1 case), Kambia (8 cases), Moyamba (1 case), Port Loko (6 cases) and Western Rural (4 cases) also reported cases.
- Koinadugu is the only other district to have reported a confirmed case within the past 21 days.
- The proportion of confirmed EVD cases that arose among known contacts increased for the third consecutive week, to 84%. However, the proportion of confirmed cases identified after post-mortem testing of dead bodies found in the community increased from 6 of 62 (10%) in the week to 15 March, to 7 of 56 (13%) in the week to 22 March.
- According to the National Ebola Response Centre, 89% of credible reports of potential EVD cases were investigated within 24 hours in the week to 15 March: a marginal decline compared with the previous week. Potential cases were identified through contact tracing or case finding, or from reports to a dedicated

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

national Ebola alert hotline. Heightened vigilance is being maintained throughout the country: of 1671 new samples tested in the week to 22 March, 2% were EVD positive.

- Locations of the 20 operational Ebola treatment centres (ETCs) in Sierra Leone are shown in figure 6. A total of 12 of 17 assessed ETCs met minimum standards for IPC, along with 9 of 15 assessed community care centres.
- Locations of the 13 operational laboratories in Sierra Leone are shown in figure 7. A total of 87% of samples were tested within 1 day of arrival at a laboratory.

**Table 4: Key performance indicators for Liberia for Phase 2 of the Ebola Response**

Indicator	Target	Indicator	Target
<b>Cases and deaths</b>	12 Jan – 22 Mar	<b>Hospitalization</b>	Aug – Feb
Number of confirmed cases	Zero	Time between symptom onset and hospitalization (days) <sup>‡</sup>	<2 days
Number of confirmed deaths	Zero	<b>Outcome of treatment</b>	Aug – Dec
Number of confirmed deaths that occurred in the community	Zero	Case fatality rate (among hospitalized cases) <sup>#</sup>	<40%
<b>Diagnostic services</b>	12 Jan – 22 Mar	<b>IPC and safety</b>	12 Jan – 22 Mar
Number of samples tested and the percent of positive EVD results	0.54%	Number of newly infected health workers	Zero
<b>Contact tracing</b>	12 Jan – 22 Mar	<b>Safe and dignified burials</b>	26 Jan – 22 Mar
Percent of new confirmed cases from registered contacts	100%	Number of reports of unsafe burials	Zero
		<b>Community engagement</b>	12 Jan – 18 Mar
		Number of districts with at least one security incident or other form of refusal to cooperate	Zero

For definitions of key performance indicators see Annex 2. For the WHO activity report see Annex 3. Data are for 7-day periods. <sup>‡</sup>Data missing for 4–27% of cases. <sup>#</sup>Outcome data missing for 2–34% of hospitalized confirmed cases.

**Table 5: Ebola virus disease infections in health-care workers in the three countries with intense transmission**

Country	Cases	Deaths
Guinea	179	93
Liberia	372	180
Sierra Leone	302	221*
<b>Total</b>	<b>853</b>	<b>494</b>

Data are confirmed cases and deaths only, apart from deaths in Sierra Leone, which include confirmed, probable, and suspected deaths.

\*Data as of 17 February.

**Table 6: Key performance indicators for Sierra Leone for Phase 2 of the Ebola Response**

Indicator	Target	Indicator	Target
<b>Cases and deaths</b>	12 Jan – 22 Mar	<b>Hospitalization</b>	Aug – Feb
Number of confirmed cases	Zero	Time between symptom onset and hospitalization (days) <sup>‡</sup>	<2 days
Number of confirmed deaths	Zero	<b>Outcome of treatment</b>	Aug – Dec
Number of confirmed deaths that occurred in the community	Zero	Case fatality rate (among hospitalized cases) <sup>#</sup>	<40%
<b>Diagnostic services</b>	12 Jan – 22 Mar	<b>IPC and safety</b>	12 Jan – 22 Mar
Number of samples tested and the percent of positive EVD results	1671	Number of newly infected health workers	Zero
<b>Contact tracing</b>	12 Jan – 15 Mar	<b>Safe and dignified burials</b>	26 Jan – 22 Mar
Percent of new confirmed cases from registered contacts	100%	Number of reports of unsafe burials	Zero
	84%	<b>Community engagement</b>	12 Jan – 16 Mar
		Number of districts with at least one security incident or other form of refusal to cooperate	Zero

For definitions of key performance indicators see Annex 2. For the WHO activity report see Annex 3. Data are for 7-day periods. <sup>‡</sup>Data missing for 6–11% of cases. <sup>#</sup>Outcome data missing for 32–76% of hospitalized confirmed cases.

Figure 1: Confirmed weekly Ebola virus disease cases reported nationally and by district from Guinea

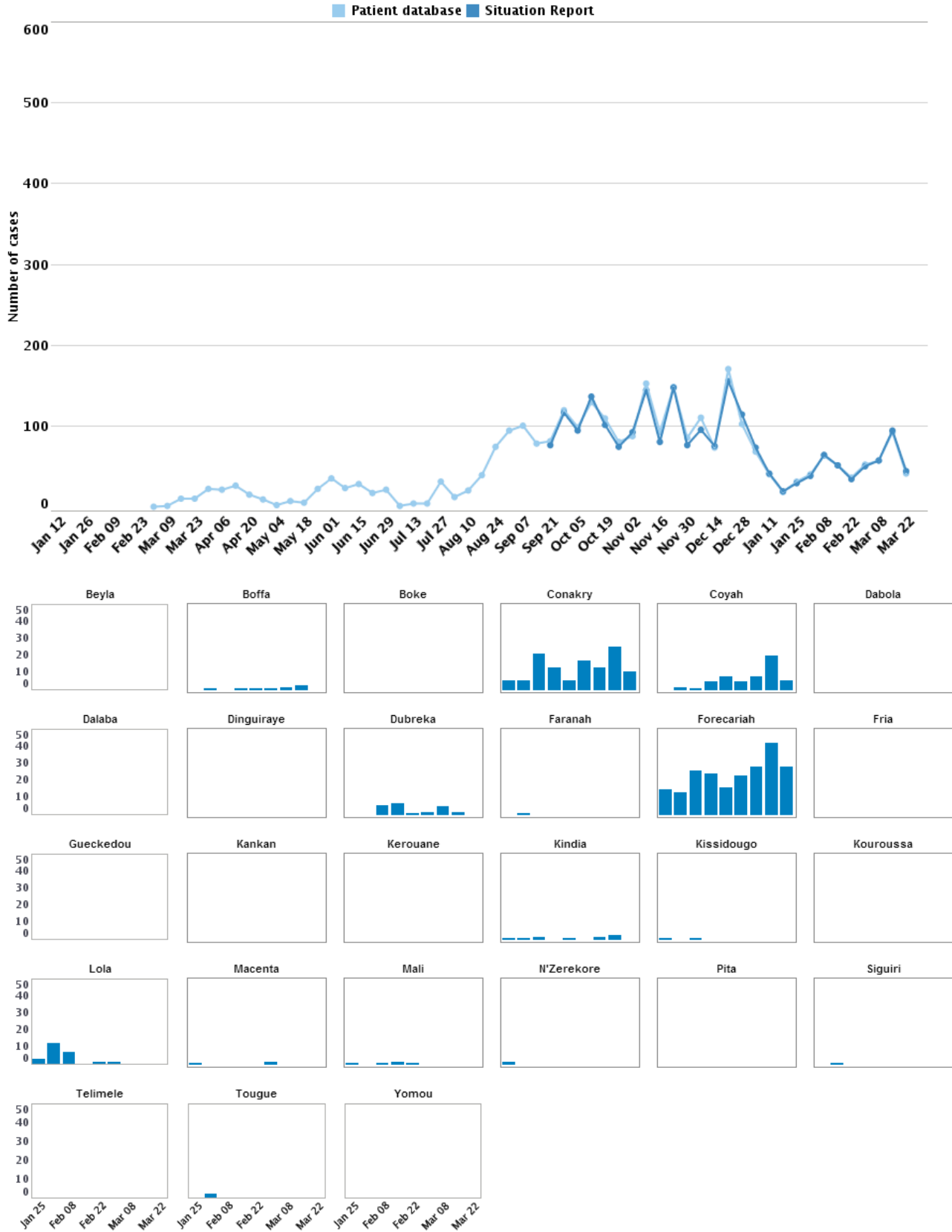
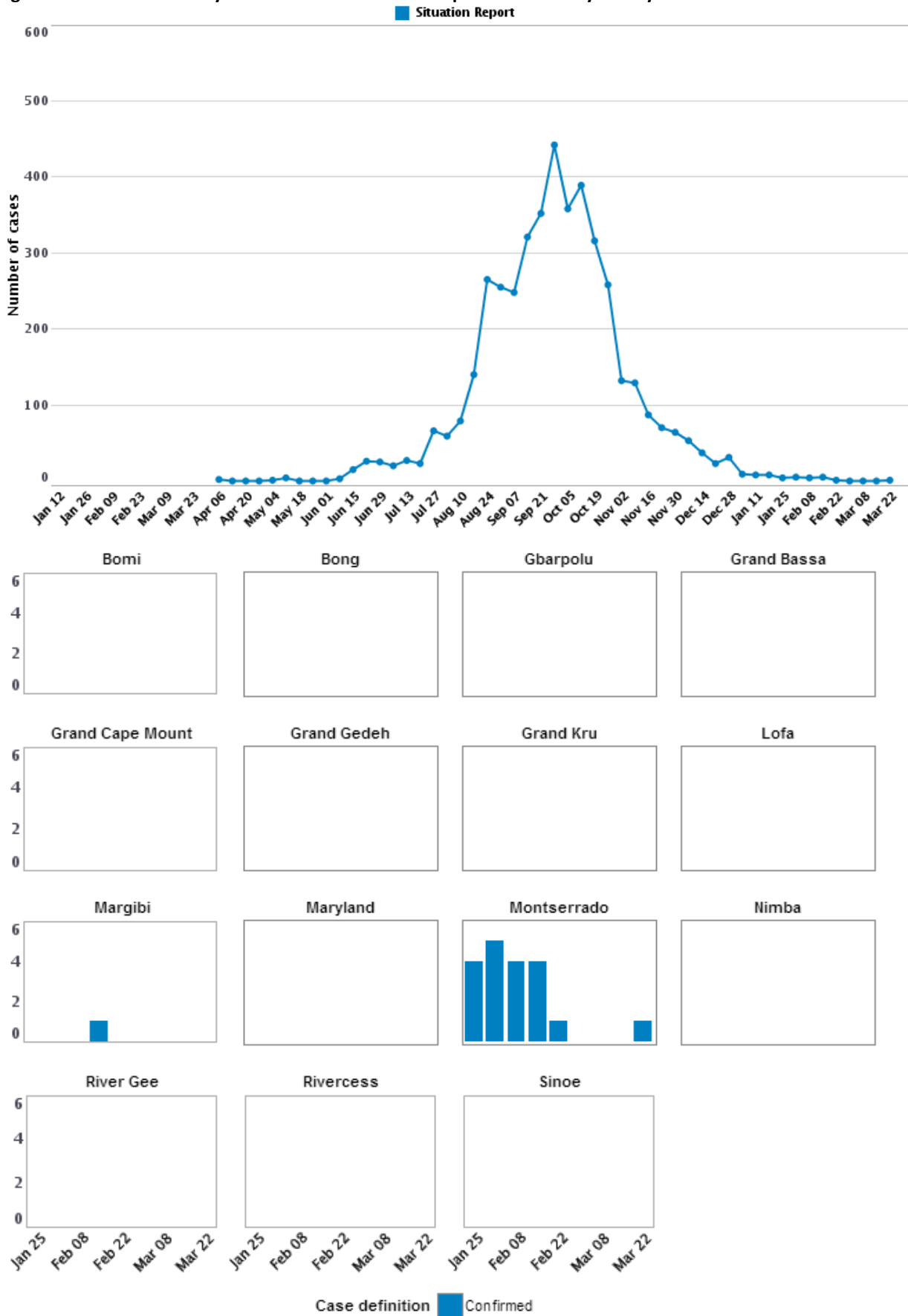


Figure 2: Confirmed weekly Ebola virus disease cases reported nationally and by district from Liberia



Data are laboratory confirmed cases reported by the Liberian Ministry of Health



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

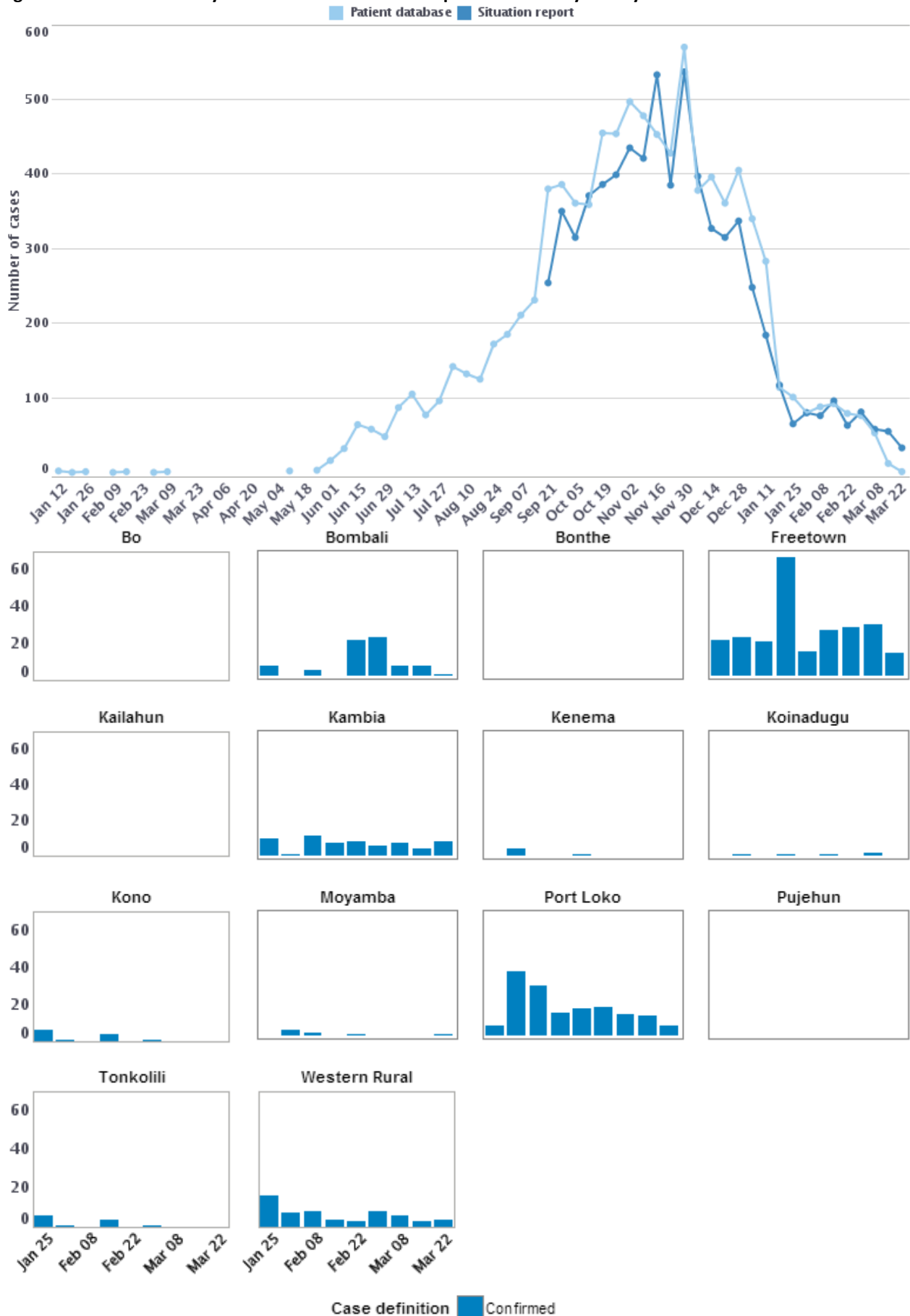
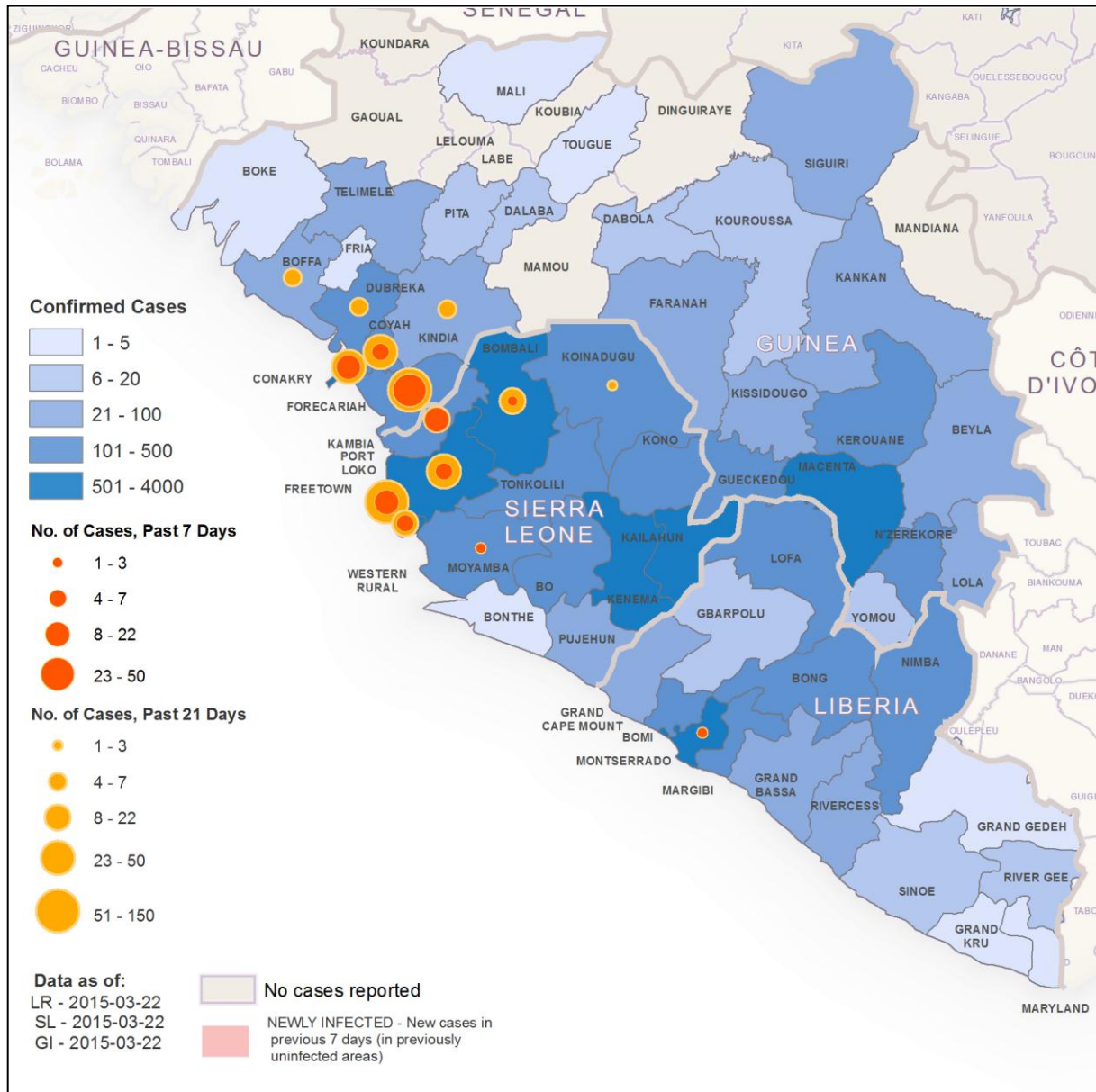


Figure 4: Geographical distribution of new and total confirmed cases



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.

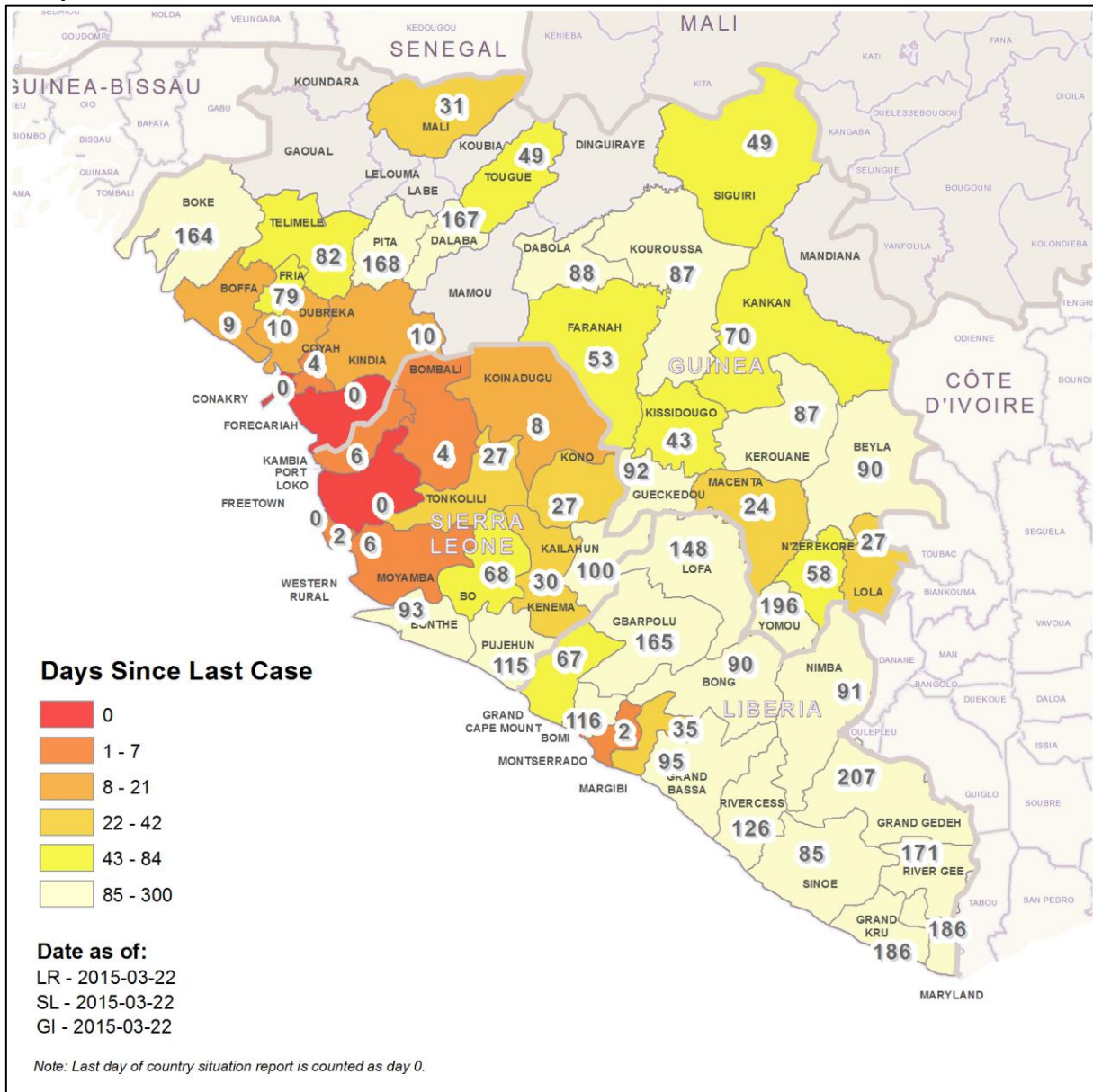
**COUNTRIES WITH AN INITIAL CASE OR CASES, OR WITH LOCALIZED TRANSMISSION**

Six countries (Mali, Nigeria, Senegal, Spain, the United Kingdom and the United States of America) have previously reported a case or cases imported from a country with widespread and intense transmission.

**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-strengthening teams (PSTs), direct technical assistance to countries, and the provision of technical guidance and tools.

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

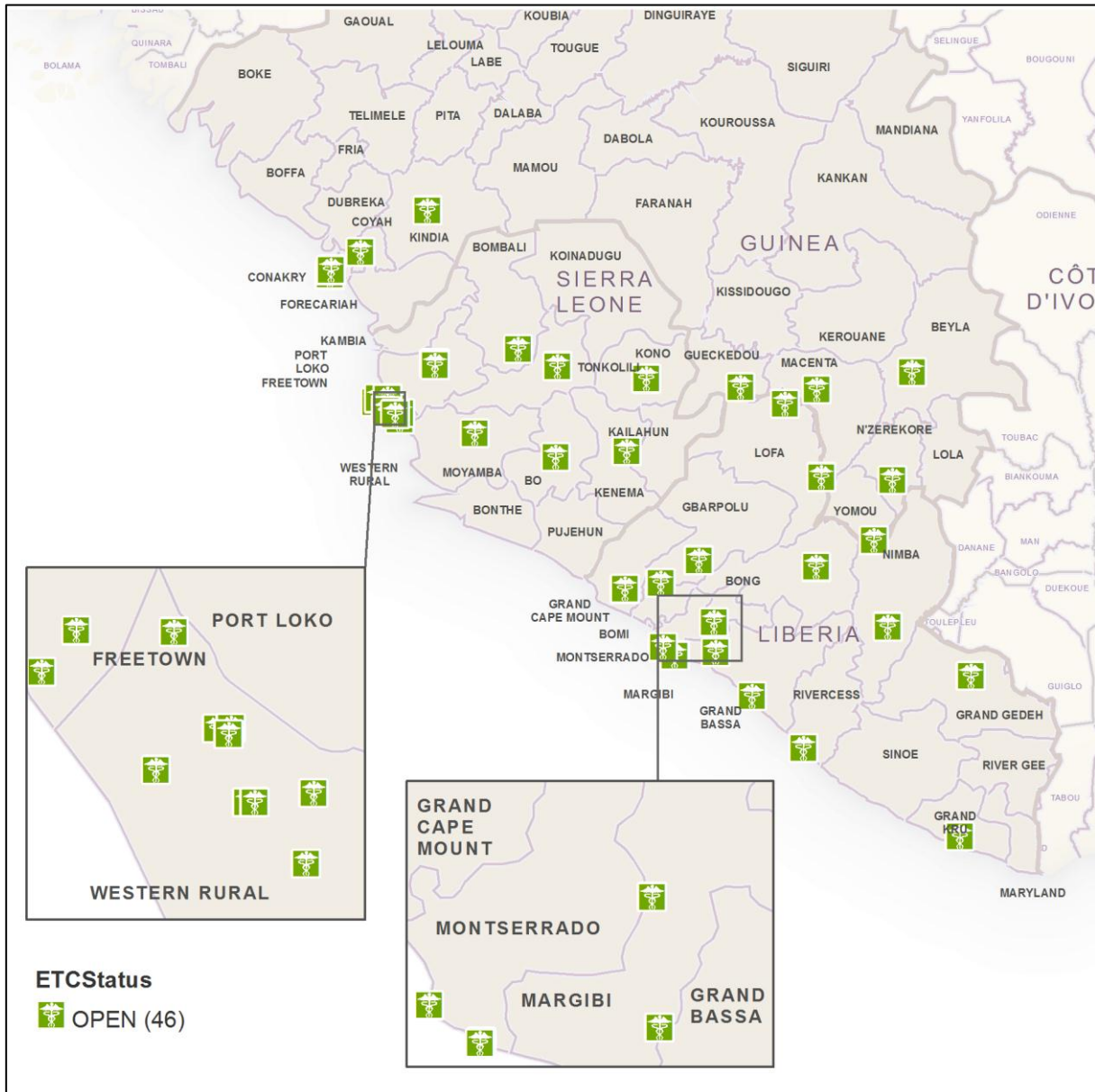


**Priority countries in Africa**

- 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. Other countries of focus include Nigeria, Democratic Republic of the Congo and South Sudan.
- Since 20 October 2014, 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.
- Follow-up visits to support priority needs in EVD preparedness have implemented immediate activities in the four Member States (Côte d’Ivoire, Senegal, Mali, and Guinea Bissau) immediately surrounding countries experiencing widespread and intense EVD transmission. In addition to supporting priority areas in each of

these countries, the visits were able to strengthen cross-border surveillance and the sharing of outbreak data under the framework of the International Health Regulations. A program to roll-out longer term support is currently under development, with staff levels being increased in WHO Country Offices to coordinate preparedness activities. EVD preparedness officers are currently deployed to Côte d'Ivoire, Guinea Bissau, The Gambia, and Ethiopia.

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



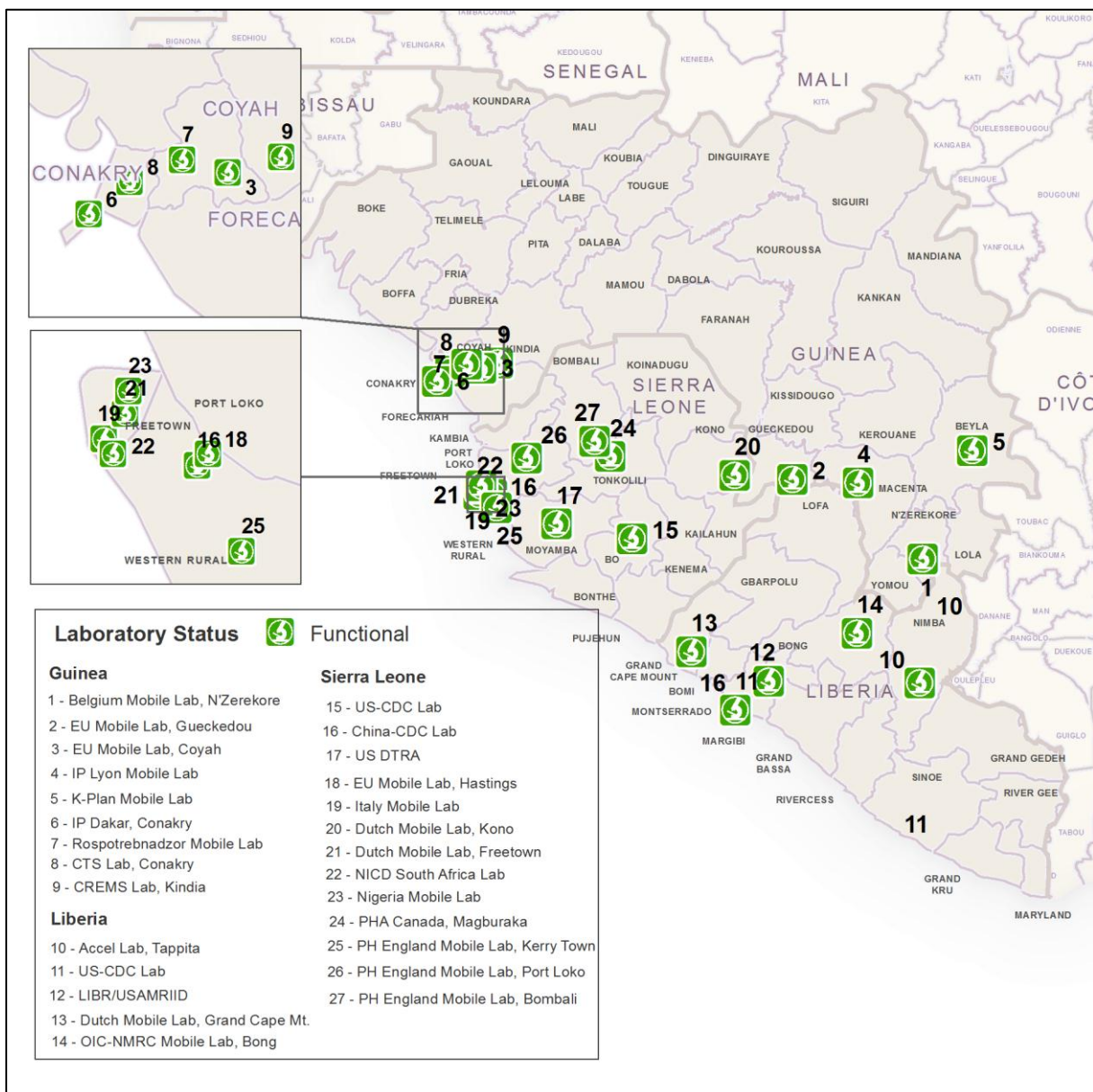
*Locations of community care centres and community transit centres are not shown.*

### Follow-up PST support to priority countries

- Following the initial PST assessment missions to the 14 high-priority countries undertaken in 2014, a second phase of preparedness strengthening has been initiated to achieve the following goals:
  - Provide tailored, targeted technical support to strengthen EVD capacities in human resources; operationalise plans; test and improve procedures through field exercises and drills; and support the implementation of preparedness plans with financial and logistics support;
  - Provide leadership and coordinate partners to fully support one national plan;

- Contribute to the International Health Regulations (2005) strengthening of national core capacities and the resilience of health systems.
- A mission to Benin completed its work on 21 March 2015, with follow-up activities planned for the next 60 days in the following areas: surveillance, early detection and rapid response; founding of a national ETC; capacity building for safe burials and clinical management; and infection prevention and control.
- In Gambia, a follow-up mission completed various training programmes designed to improve national capacity of rapid response and safe case management.
- A follow up visit to Togo is ongoing, with support provided to national authorities in the areas of response coordination, logistics and rapid response. A 2-day training of programme for regional medical officers is underway, and will address surveillance, early detection and the management of alerts, case investigation, and contact tracing.

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



## Training

- A pilot rapid-response 5-day training session with the Eastern Mediterranean Regional Office (EMRO) took place from 15 to 19 March in Khartoum, with participants from both Sudan and Yemen. The course includes 3 days of simulations. The course is now being adapted for roll-out to other countries.

## Surveillance and preparedness indicators

- Indicators based on surveillance data, case management capacity, laboratory testing and equipment stocks are collected on a weekly basis from the four countries neighbouring Guinea, Liberia, and Sierra Leone.
- An interactive preparedness dashboard based on WHO EVD checklist is now available online<sup>3</sup>.

## 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, laboratory services, and contact tracing	WHO
Safe and dignified burials	International Federation of Red Cross and Red Crescent Societies (IFRC)
Community engagement and social mobilization	UNICEF

<sup>3</sup> See: <http://apps.who.int/ebola/preparedness/map>

## ANNEX 2: DEFINITION OF KEY PERFORMANCE INDICATORS FOR PHASE 2 OF THE EBOLA RESPONSE.

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: Daily 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: Daily 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: Daily Ministry of Health	N/A	N/A
<b>Diagnostic Services</b>				
Number of samples tested and percentage with positive EVD results	# of new samples tested # of new samples tested with a positive EVD result	Guinea: Laboratory database Liberia/Sierra Leone: Daily Ministry of Health Ebola situation reports	N/A # of new samples tested	Guinea: Laboratory database Liberia/Sierra Leone: Daily Ministry of Health Ebola situation reports
<b>Contact tracing</b>				
Percent of new confirmed cases from registered contacts	# of new confirmed cases registered as a contact	Guinea: Weekly WHO situation reports Liberia: Daily 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: Daily Ministry of Health Ebola situation Reports
<b>Hospitalization</b>				
Time between symptom onset and hospitalization (days)	Time between symptom onset and hospitalization of confirmed, probable or suspected cases (geometric mean number 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>				
Number of newly infected health workers	# of newly infected health workers	Guinea: Daily WHO situation reports Liberia/Sierra Leone: Daily 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: Daily WHO situation reports Liberia/Sierra Leone: Ministry of Health situation reports	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

## ANNEX 3: WHO ACTIVITIES REPORT

## Staff and expert deployments



Since 23 March 2014, WHO has deployed 2013 technical experts, including 562 individuals through the GOARN network, to the Ebola outbreak response in West Africa. Of those, 777 have gone to Guinea, 460 to Liberia, and 668 to Sierra Leone. In addition, 108 individuals were deployed to Nigeria, Mali, and Senegal. Among those deployed, there have been 600 epidemiologists, 76 field coordinators, 73 data managers, 242 laboratory technicians, 26 clinicians, 110 logisticians, 128 IPC specialists, 44 communications officers, 53 social mobilization/community engagement experts and 15 anthropologists.

## Laboratories



WHO has coordinated the deployment of more than 230 experts to 26 mobile laboratories through the Emerging and Dangerous Pathogens Laboratory Network (EDPLN), which is a central pillar of GOARN. These field laboratories can test more than 750 samples per day, if needed. This capacity has enabled the rapid confirmation of cases in the three most-affected countries.

## Ebola treatment units and foreign medical teams



Since August 2014, WHO has assisted with the construction of 5 Ebola treatment units (ETUs) and provided technical support during the establishment of an additional 72 and at least 85 community care centres and 78 holding centres in the three affected countries. This was done in partnership with MSF, Emergency, Partners in Health, IFRC, IMC, IOM, Samaritan's Purse, and Save the Children, among others. Technical support provided by WHO in the ETUs included IPC, training, clinical advice, occupational health and safety, and FMT coordination.

WHO also assisted in the deployment of 58 foreign medical teams and technical experts from, but not limited to, the African Union, China, Cuba, Denmark, France, Norway, Uganda, the United Kingdom, and the United States. On 22 March 2015, 152 members of the Cuban medical team returned home.

## Guidelines and technical documents



WHO has developed nearly 60 technical documents and guidelines for experts responding to the Ebola outbreak. These cover a broad range of public health topics and include guidance on preparedness, surveillance, outbreak control, and evaluation for Ebola and Marburg epidemics; infection prevention and control guidance; guidelines on the proper use of personal protective equipment (PPE); how to conduct safe and dignified burials; a clinical management pocket guide for viral haemorrhagic fevers; a manual for care and management of patients in Ebola treatment units; and key messages for social mobilization and community engagement (with UNICEF).

## Training



Since 23 March 2014, WHO has provided more than 250 visual aids, facilitator's guides, and other training materials by WHO IPC and clinical management trainers to the Ebola response training community.

WHO has provided predeployment training for more than 1 500 staff, consultants, clinicians, communicators, and technical experts. In addition to in-person training, online training modules have been accessed by over 1 400 users in 123 countries.

## Partnerships and collaboration



WHO has partnered with world-leading organizations in response to this outbreak. We have also utilized our partner networks – the Global Operations Alert and Response Network (GOARN), the Emerging and Dangerous Pathogens Laboratory Network (EDPLN), and the WHO Emergency Communications Network (ECN) – to provide experts in outbreak response. Our UN partners have included: UNDP, UNFPA, UNICEF, UNOCHA, IOM, and WFP, as well as UNMEER. All of these partners helped WHO ensure the response has had strong operational and technical expert.



**Logistics**



Since 23 March 2014, WHO has deployed more than 100 international and national logisticians to the Ebola outbreak response in West Africa. These individuals handle national and field coordination in the three affected countries, and are technical experts in vaccination logistics and cold chain management; supply chain and transport capacity; fleet and driver management; water sanitation and hygiene (WASH), infection prevention and control (IPC) support, and safe burial management; patient and forensic sample transport; medical facility management and maintenance; and telecommunications and security.

WHO logisticians have trained hundreds of teams in the protocols for safe and dignified burials in Ebola settings. They helped build the first Ebola treatment centre in Kenema, Sierra Leone, and have placed nearly 700 beds in treatment, care, and holding centres in all three countries. Logisticians have managed a fleet of more than 400 vehicles and countless motorcycles and bikes, which have been critical in surveillance, contact tracing, response, and burial activities.

More than 1.42 million PPE sets have been shipped to and distributed in the affected countries in support of WHO and partner activities.

**Research and development**



WHO has facilitated the review and consideration of numerous vaccines, drugs, therapies, and diagnostics for the treatment and detection of Ebola virus disease. Through an accelerated development process, there are now two candidate vaccines in Phase III clinical trials, with additional vaccines being developed by groups around the world. Alternative therapies have been reviewed, and several have been identified as appropriate for administration in clinical trials. Blood and plasma from Ebola survivors are being given to Ebola patients and closely studied as a therapeutic intervention. Dozens of diagnostic tools are being evaluated, and those that meet pre-qualification requirements are approved for UN procurement.

**Donors**



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