

## SUMMARY

- Guinea reported no confirmed cases of Ebola virus disease (EVD) in the week to 15 November. The most recent case from Guinea was reported on 29 October. That case is a child who was born in an Ebola treatment centre, and who was delivered by medical staff wearing full personal protective equipment (PPE). As such, no contacts are associated with this case, and all contacts associated with previous cases have completed their 21-day follow-up period. A second consecutive blood sample from the child tested negative for Ebola virus on 16 November.
- On 7 November WHO declared that Ebola virus transmission had been stopped in Sierra Leone. The country has now entered a 90-day period of enhanced surveillance, which is scheduled to conclude on 5 February 2016. Both Liberia and Sierra Leone have now achieved objective 1 of the phase 3 response framework: to interrupt all remaining chains of Ebola virus transmission.
- Robust surveillance measures are essential to ensure the rapid detection of any reintroduction or re-emergence of EVD in currently unaffected areas, and are central to the attainment of objective 2 of the phase 3 response framework: to manage and respond to the consequences of residual Ebola risks. To that end, Guinea, Liberia, and Sierra Leone have each put surveillance systems in place to enable health workers and members of the public to report any case of illness or death that they suspect may be related to EVD. In the week to 15 November, 26 493 such alerts were reported in Guinea, with alerts reported from all of the country's 34 prefectures. Equivalent data are not currently available for Liberia. In Sierra Leone, 1496 alerts were reported from 14 of 14 districts in the week ending 8 November (the most recent week for which data are available).
- As part of each country's EVD surveillance strategy, blood samples or oral swabs should be collected from any live or deceased individuals who have or had clinical symptoms compatible with EVD. In the week to 15 November, 9 operational laboratories in Guinea tested a total of 587 new and repeat samples from 14 of the country's 34 prefectures. 91% of all samples tested in Guinea were swabs collected from dead bodies. By contrast, 85% of the 757 new and repeat samples tested in Liberia over the same period were blood samples collected from live patients. In addition, all 15 counties in Liberia submitted samples for testing by the country's 4 operational laboratories. 1164 new samples (the lowest total reported in 2015) were collected from all 14 districts in Sierra Leone and tested by 9 operational laboratories. 93% of samples in Sierra Leone were swabs collected from dead bodies.
- 463 deaths in the community were reported from Guinea in the week to 15 November. This represents approximately 21% of the 2248 deaths expected based on estimates of the population and a crude mortality rate of 11 deaths per 1000 people per year. All but 1 of the 463 reported deaths were buried safely. Equivalent data are not yet available for Liberia. In Sierra Leone, 1332 reports of community deaths were received through the alert system during the week ending 8 November (the most recent week for which data are available), representing approximately 64% of the 2075 deaths expected each week based on estimates of the population and a crude mortality rate of 17 deaths per 1000 people per year.

Figure 1: Confirmed, probable, and suspected EVD cases worldwide (data up to 15 November 2015)

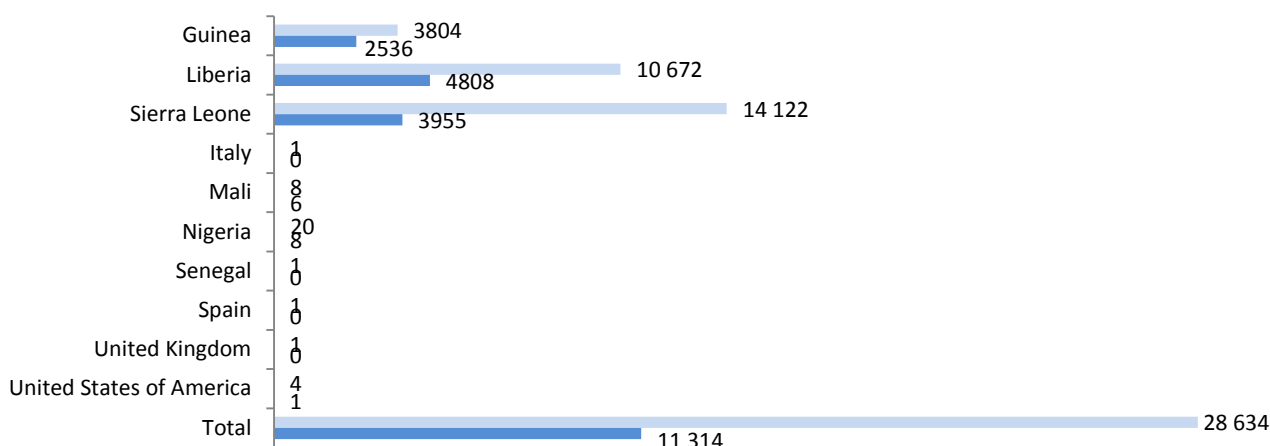


Table 1: Confirmed, probable, and suspected cases in Guinea, Liberia, and Sierra Leone

Country	Case definition	Cumulative cases	Cases in past 21 days	Cumulative deaths
Guinea	Confirmed	3351	1	2083
	Probable	453	*	453
	Suspected	0	*	‡
	<b>Total</b>	<b>3804</b>	<b>1</b>	<b>2536</b>
Liberia**	Confirmed	3151	-	‡
	Probable	1879	-	‡
	Suspected	5636	-	‡
	<b>Total</b>	<b>10 666</b>	<b>-</b>	<b>4806</b>
	Confirmed	6	0	2
	Probable	*	*	‡
	Suspected	‡	*	‡
	<b>Total</b>	<b>6</b>	<b>0</b>	<b>2</b>
Sierra Leone <sup>†</sup>	Confirmed	8704	0	3589
	Probable	287	*	208
	Suspected	5131	*	158
	<b>Total</b>	<b>14 122</b>	<b>0</b>	<b>3955</b>
<b>Total</b>	Confirmed	15 212	1	‡
	Probable	2619	*	‡
	Suspected	10 767	*	‡
	<b>Total</b>	<b>28 598</b>	<b>1</b>	<b>11 299</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. \*\*Cases reported before 9 May 2015 are shaded blue. Due to ongoing surveillance and retrospective validation of cases and deaths, these totals may be subject to revision. Liberia was declared free of Ebola virus transmission in the human population on 3 September 2015, and has now entered a 90-day period of heightened surveillance. †Sierra Leone was declared free of Ebola virus transmission in the human population on 7 November 2015, and has now entered a 90-day period of heightened surveillance.

### PHASE 3 RESPONSE FRAMEWORK

- 28 598 confirmed, probable, and suspected cases have been reported in Guinea, Liberia, and Sierra Leone, with 11 299 deaths (table 1; figure 2) since the onset of the Ebola outbreak. The majority of these cases and deaths were reported between August and December 2014, after which case incidence began to decline as a result of the rapid scale-up of treatment, isolation, and safe burial capacity in the three countries. This rapid scale-up operation was known as phase 1 of the response, and was built on in the early first half of 2015 by a period of continuous refinement to surveillance, contact tracing, and community engagement interventions. This period, termed phase 2, succeeded in driving case incidence to 5 cases or fewer per week by the end of July. This marked fall in case incidence signalled a transition to a distinct third phase of the epidemic. This third phase is characterised by limited transmission across small geographical areas, combined with a low probability of high consequence incidents of re-emergence of EVD from reservoirs of viral persistence. In order to effectively interrupt remaining transmission chains and manage the residual risks posed by viral persistence, WHO, as lead agency within the Interagency Collaboration on Ebola and in coordination with national and international partners, designed the phase 3 Ebola response framework. The phase 3 response framework builds on the foundations of phase 1 and phase 2 to incorporate new developments in Ebola control, from vaccines and rapid-response teams to counselling and welfare services for survivors. The indicators below detail progress made towards attaining the two primary objectives of the phase 3 framework.

### OBJECTIVE 1: RAPIDLY INTERRUPT ALL REMAINING CHAINS OF EBOLA TRANSMISSION

- As of 7 November objective 1 of the phase 3 response framework has been achieved in Liberia and Sierra Leone.
- In Guinea, case incidence has remained at 5 confirmed cases or fewer per week for 17 consecutive weeks. No confirmed cases were reported in the week to 15 November. Key performance indicators for objective 1 of the phase 3 response framework in Guinea are shown in table 4.
- As of 14 November all contacts in Guinea had completed their 21-day follow-up period. The most recent case from Guinea was reported on 29 October. That case is a child who was born in an Ebola treatment centre in Conakry, and who was delivered by medical staff wearing full personal protective equipment (PPE). As such, no contacts are associated with this case. A second consecutive blood sample from the child tested negative for Ebola virus on 16 November.
- The *Ebola ça suffit!* ring vaccination trial is continuing in Guinea. All rings comprised of contacts and contacts of contacts associated with confirmed cases now receive immediate vaccination with the rVSV-ZEBOV Ebola vaccine. Previously, rings were randomly allocated to receive either immediate vaccination or vaccination 21 days after the confirmation of a case. On 1 September, the eligibility criteria for the trial were amended to allow the vaccination of children aged 6 years and above.
- Locations of the 7 operational Ebola treatment centres (ETCs) in Guinea are shown in figure 6. No health worker infections were reported in the week to 15 November (table 4).

**Table 2: Cases and contacts by prefecture over the past 3 weeks**

Country	Prefecture	Week		09 Nov	10 Nov	11 Nov	12 Nov	13 Nov	14 Nov	15 Nov	Week 46	Contacts under follow up*
		44	45									
Guinea	Forecariah	1	0	0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

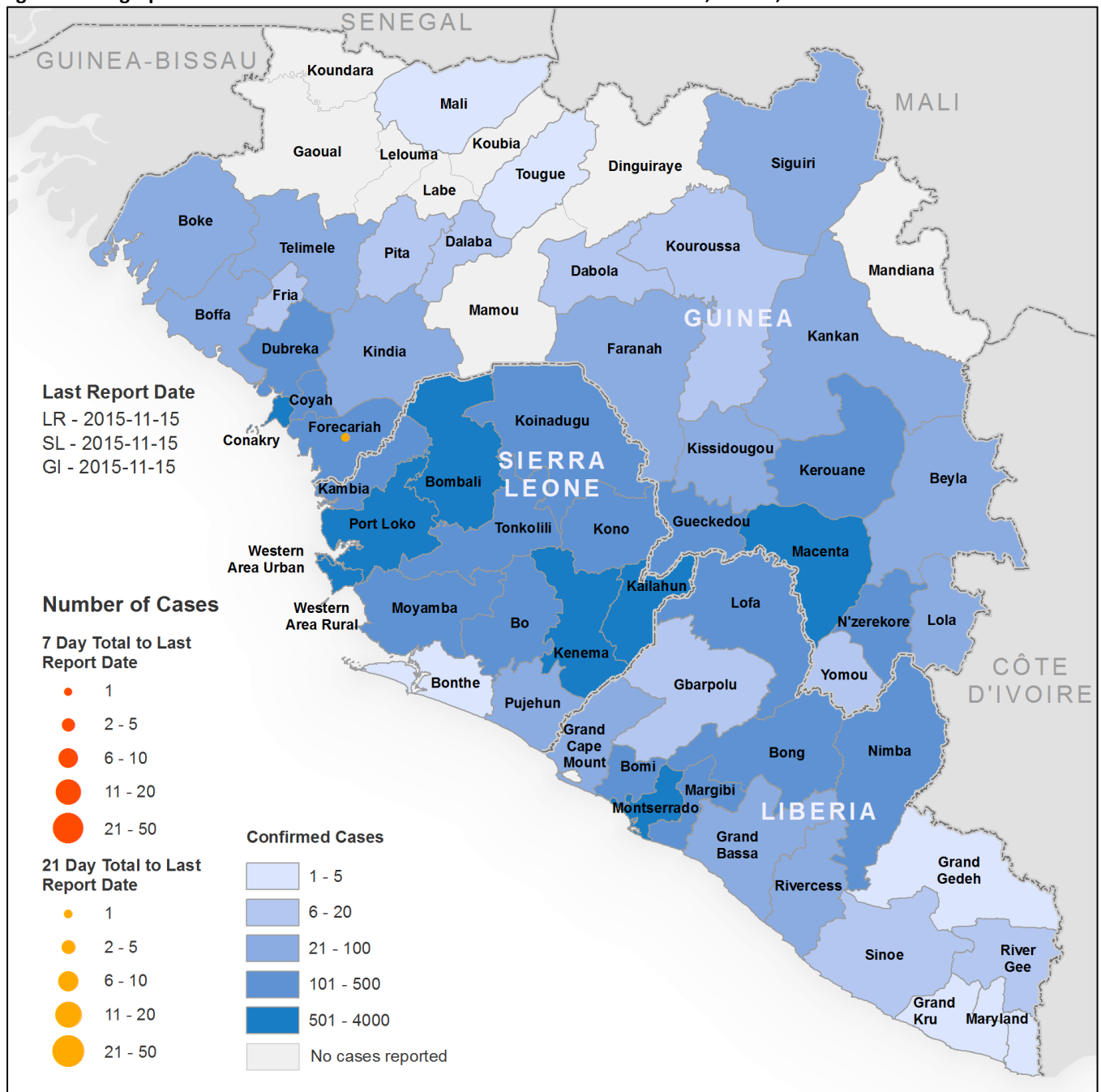
Data are based on official information reported by ministries of health. These numbers are subject to change due to ongoing reclassification, retrospective investigation, and availability of laboratory results. \*Data as of 15 November 2015.

**Table 3: Location and epidemiological status of confirmed cases reported in the 3 weeks to 15 November 2015**

Country	Prefecture	Sub-prefecture	Week 44	Week 45	Week 46 (9 - 15 November 2015)				Date of last confirmed case
			(26 Oct - 1 Nov 2015)	(2 - 8 Nov 2015)	Cases	On contact list	Epi-link*	Unknown source of infection <sup>‡</sup>	
Guinea	Forecariah	Kaliah	1	0					29/10/2015
<b>Total</b>			<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

\*Epi-link refers to cases who were not registered as contacts of a previous case (possibly because they refused to cooperate or were untraceable), but who, after further epidemiological investigation, were found to have had contact with a previous case, OR refers to cases who are resident or are from a community with active transmission in the past 21 days. <sup>‡</sup>Includes cases under epidemiological investigation. <sup>§</sup>A case that is identified as a community death can also be registered as a contact, or subsequently be found to have had contact with a known case (epi-link), or have no known link to a previous case.

**Figure 2: Geographical distribution of new and total confirmed cases in Guinea, Liberia, and Sierra Leone**



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.

Figure 3: Confirmed weekly Ebola virus disease cases reported nationally and by prefecture from Guinea

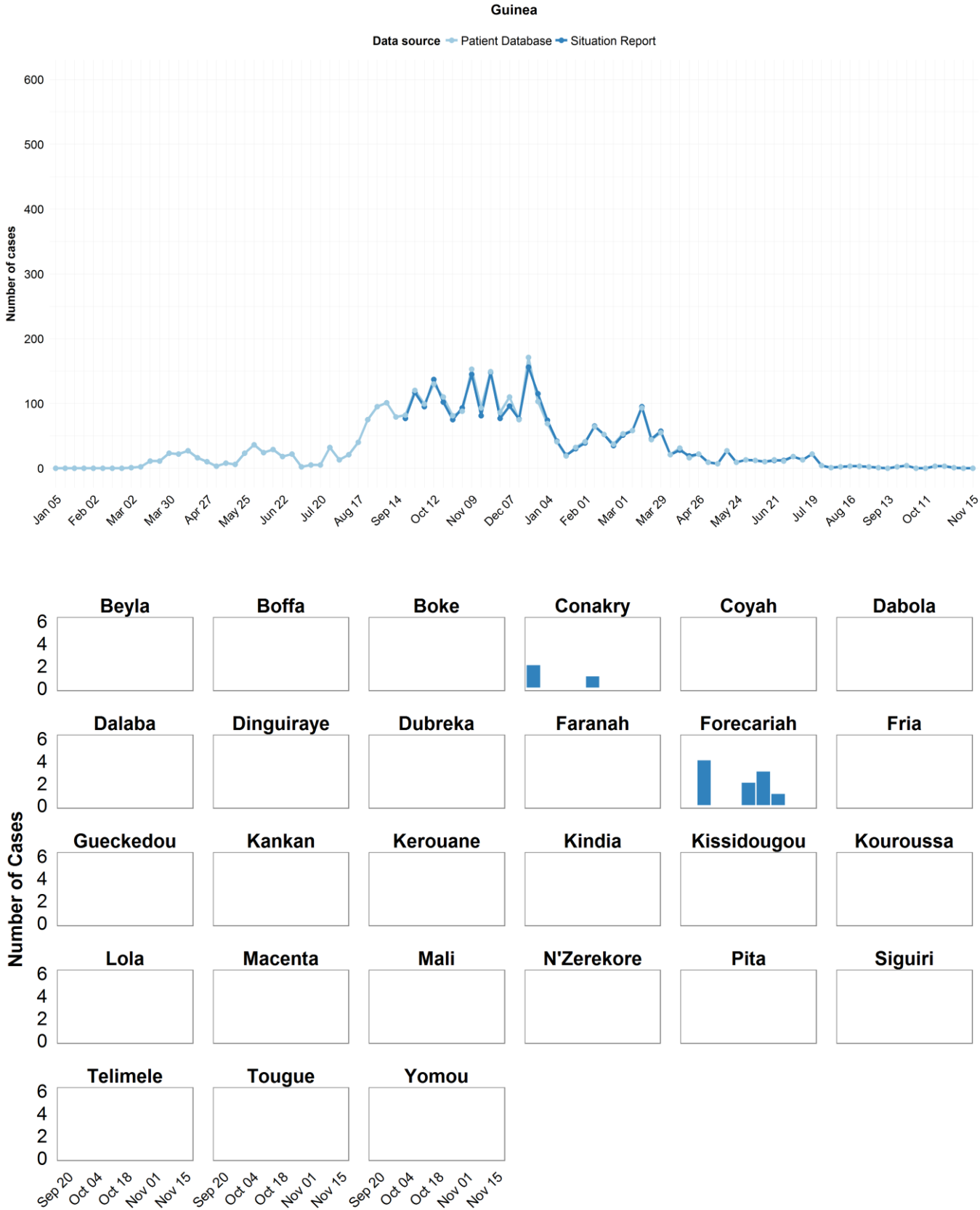


Table 4: Key performance indicators for phase 3 objective 1 in Guinea

Indicator	Week 37	Week 46	Target
Number of confirmed cases		0	0
Number of confirmed deaths (total in light blue) and proportion that occurred in the community (dark blue)		0	0
Percentage of new cases from registered contacts		100%	100%
Number of newly infected health workers		0	0
Time in days between symptom onset and case isolation		2.7	<3 days
Case fatality percentage		57%	<60%

For definitions of key performance indicators see Annex 1. Week 37 commenced 7 September. Week 46 ended 15 November.

**OBJECTIVE 2: MANAGE AND RESPOND TO THE CONSEQUENCES OF RESIDUAL EBOLA RISKS**

- Key performance indicators for objective 2 of the phase 3 response framework are shown for Guinea (table 5), Liberia (table 6), and Sierra Leone (table 7). Data for several phase 3 indicators from Liberia are available at country level and will be included in subsequent situation reports.
- Robust surveillance measures are essential to ensure the rapid detection of any reintroduction or re-emergence of EVD in Liberia and Sierra Leone, which have both entered 90-day periods of enhanced surveillance, and in the large areas of Guinea that have been free of EVD transmission for many months (figure 6). To that end, Guinea, Liberia, and Sierra Leone have each put systems in place to enable members of the public to report any case of illness or death that they suspect may be related to EVD. In the week to 15 November, 26 493 such alerts were reported in Guinea (table 5), with alerts reported from all of the country’s 34 prefectures. Equivalent data are not currently available for Liberia. In Sierra Leone, 1496 alerts were reported from 14 of 14 districts in the week ending 8 November (the most recent week for which data are available; table 7).
- As part of each country’s EVD surveillance strategy, blood samples or oral swabs should be collected from any live or deceased individuals who have or had clinical symptoms compatible with EVD. In the week to 15 November, 9 operational laboratories in Guinea tested a total of 587 new and repeat samples from 14 of the country’s 34 prefectures (figures 4 and 5). 91% of all samples tested in Guinea were swabs collected from dead bodies. By contrast, 85% of the 757 new and repeat samples tested in Liberia over the same period were blood samples collected from live patients (figures 4 and 5). In addition, all 15 counties in Liberia submitted samples for testing by the country’s 4 operational laboratories. 1164 new samples (the country’s lowest weekly total in 2015) were collected from all 14 districts in Sierra Leone and tested by 9 operational laboratories (figures 4 and 5). 93% of samples in Sierra Leone were swabs collected from dead bodies.

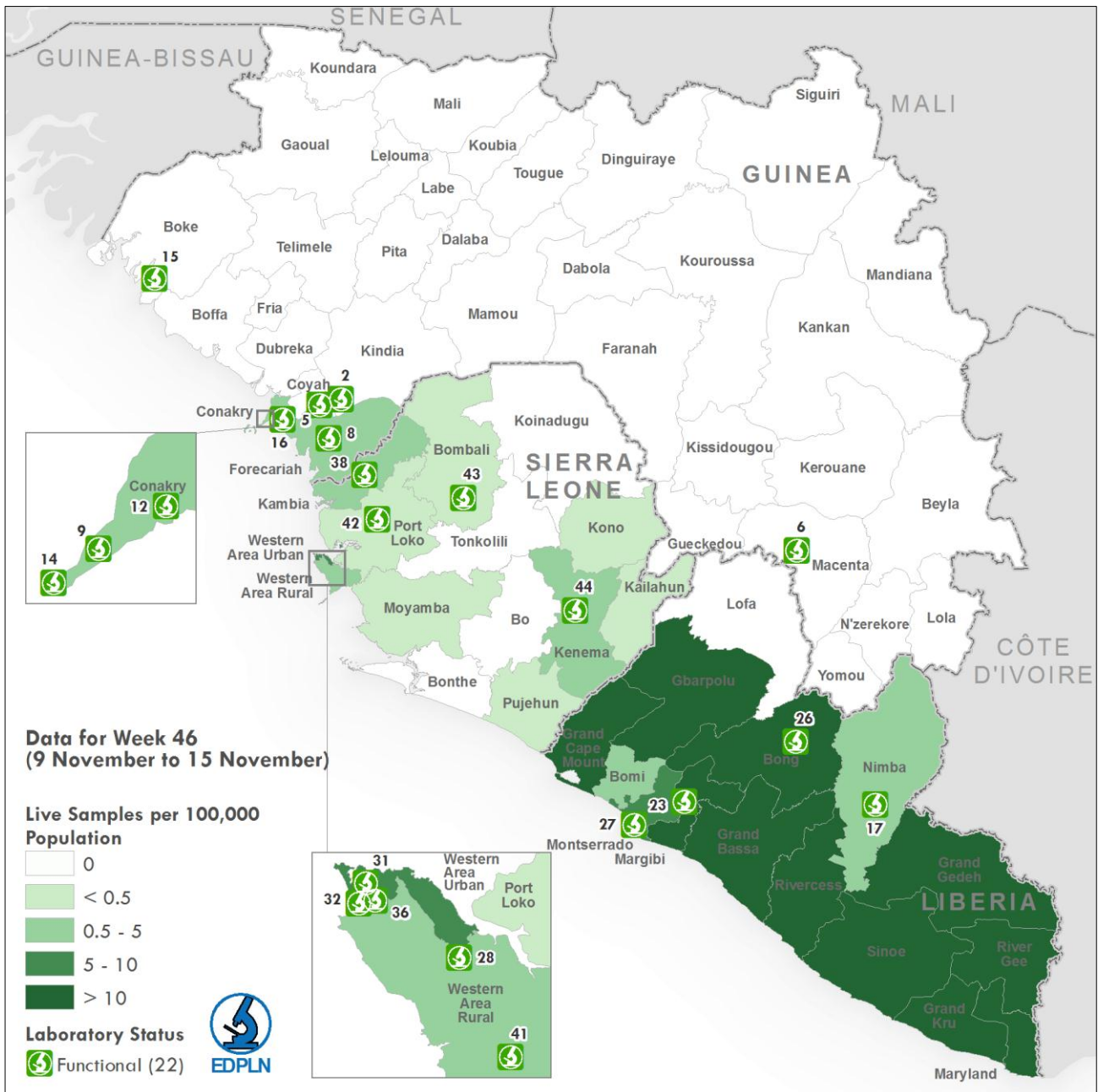
Table 5: Key performance indicators for phase 3 objective 2 in Guinea

Indicator	Week 37	Week 46	Target
Number of alerts		26,493	N/A
Percentage of prefectures reporting alerts		100%	100%
Percentage of live alerts tested for EVD	Data not yet compiled		100%
Percentage of expected community deaths that were reported*		21%	100%
Percentage of reported community deaths that were swabbed and those which were EVD positive		98%	100%
Number of new and repeat samples tested (those from live patients in light blue and from dead bodies in dark blue)		587	N/A
Percentage of prefectures providing samples for EVD testing		41%	100%
Number of unsafe burials		1	0
Number of prefectures with at least one security incident or other form of refusal to cooperate		0	0

For definitions of key performance indicators see Annex 2. Week 37 commenced 7 September. Week 46 ended 15 November.

- Figures 4 and 5 show the locations of operational laboratories in each of the 3 countries, along with the geographic distribution of blood samples taken from live patients with symptoms compatible with EVD, and of oral swabs taken collected from dead bodies. In both Guinea and Sierra Leone the majority of samples tested in the week to 15 November were oral swabs collected from dead bodies (91% and 93%, respectively). By contrast, 85% of samples tested in Liberia were blood samples collected from live patients.

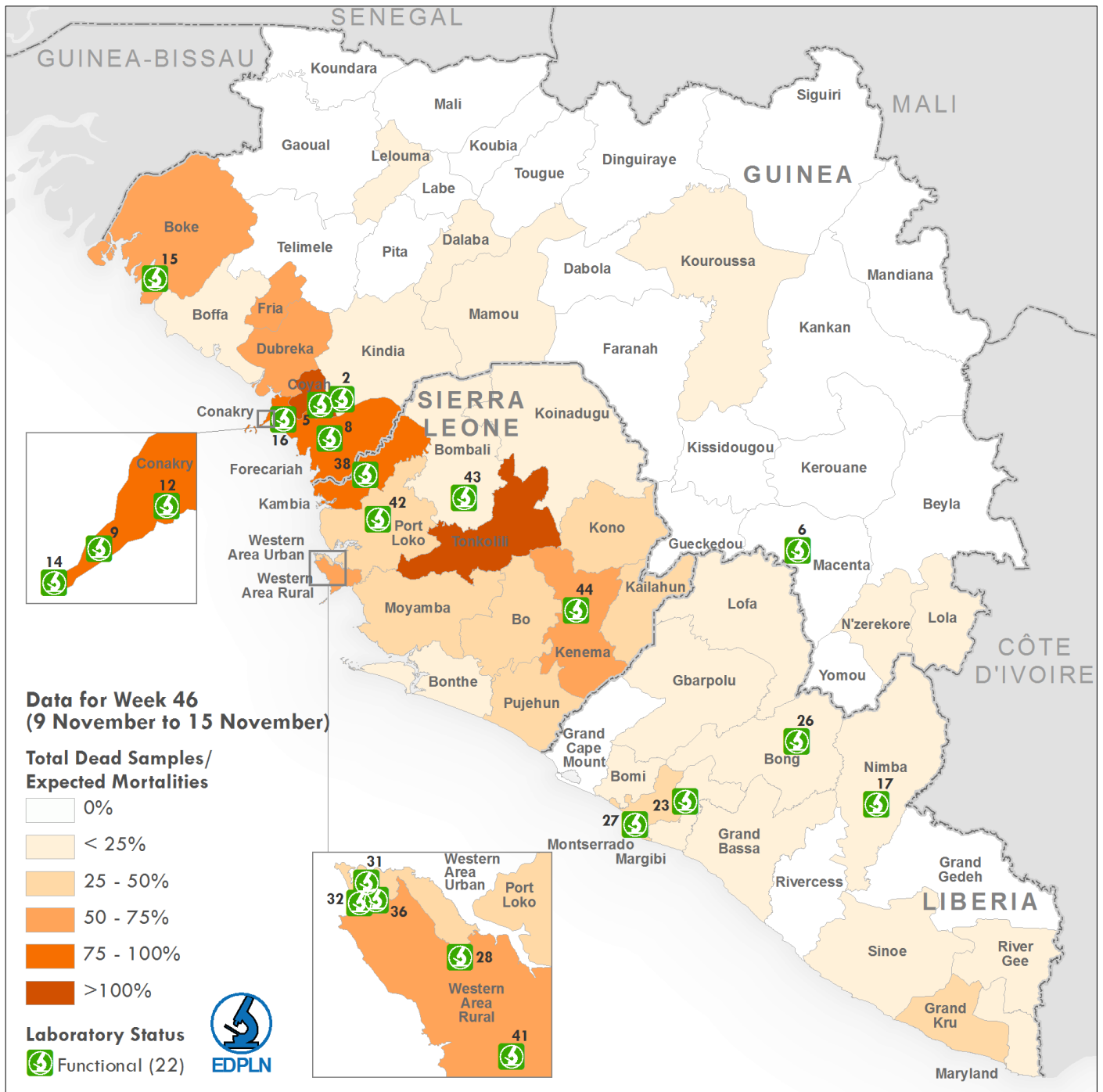
**Figure 4: Location of laboratories and geographical distribution of samples from live patients in Guinea, Liberia, and Sierra Leone in the week to 15 November 2015**



The analysis includes initial and repeat samples but excludes samples with unknown and incorrect testing weeks and samples with unknown or incorrect location information. EDPLN=Emerging and Dangerous Pathogens Laboratory Network. 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. 2=CREMS Lab – Kindia; 5=EU Mobile Lab – Coyah; 6=IP France – Macenta; 8=K-Plan Mobile Lab – Forecariah; 9=IP Dakar – Conakry; 12=REDC Lab – Conakry; 14=K-Plan Mobile Lab – Conakry; 15=Boke Mobile Lab; 17=Tappita Lab – Nimba; 23=LIBR National Reference Lab/USAMRIID; 26=OIC-NMRC Mobile Lab Bong; 27=MOH Lab – Montserrado; 28=China-CDC Lab – Jui; 31=CPHRL/DTRA – Western Area Urban; 32=EMDF/NICD – Western Area Urban; 36=MOH/Emergency – PCMH/Freetown; 38=Nigeria Mobile Lab – Kambia; 41=PH England Mobile Lab – Western Area Rural; 42=PH England Mobile Lab – Port Loko; 32=PH England Mobile Lab – Makeni; 44=PH England Mobile Lab – Kenema.



Figure 5: Location of laboratories and geographical distribution of samples from dead bodies in Guinea, Liberia, and Sierra Leone in the week to 15 November 2015



The analysis includes initial and repeat samples but excludes samples with unknown and incorrect testing weeks and samples with unknown or incorrect location information. EDPLN=Emerging and Dangerous Pathogens Laboratory Network. 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. 2=CREMS Lab – Kindia; 5=EU Mobile Lab – Conakry; 15=Boke Mobile Lab; 17=Tappita Lab – Nimba; 23=LIBR National Reference Lab/USAMRIID; 26=OIC-NMRC Mobile Lab Bong; 27=MOH Lab – Montserrado; 28=China-CDC Lab – Jui; 31=CPHRL/DTRA – Western Area Urban; 32=EMDF/NICD – Western Area Urban; 36=MOH/Emergency – PCMH/Freetown; 38=Nigeria Mobile Lab – Kambia; 41=PH England Mobile Lab – Western Area Rural; 42=PH England Mobile Lab – Port Loko; 32=PH England Mobile Lab – Makeni; 44=PH England Mobile Lab – Kenema.

- 463 deaths in the community were reported from Guinea in the week to 15 November (table 5). This represents approximately 21% of the 2248 deaths expected based on estimates of the population and a crude mortality rate of 11 deaths per 1000 people per year. All but 1 of the 463 reported deaths were buried safely. Equivalent data are not yet available for Liberia. In Sierra Leone, 1332 reports of community deaths were received through the alert system during the week ending 8 November (the most recent week for which data are available; table 6), representing approximately 64% of the 2075 deaths expected each week based on estimates of the population and a crude mortality rate of 17 deaths per 1000 people per year.
- Capacity to isolate and treat patients with EVD remains central to the attainment of phase 3 objective 1. Phase 3 objective 2 depends on the maintenance of core standby treatment and isolation capacity. The locations of the 18 operational Ebola treatment centres (ETCs) in Guinea, Liberia, and Sierra Leone are shown in figure 6.
- The deployment of rapid-response teams to quickly limit the transmission of Ebola virus following the detection of a new chain of transmission was and continues to be a cornerstone of the national response strategy in Sierra Leone. Between 14 and 28 November planning will commence for a series of simulation exercises to test national and international rapid-response capacities in the event of detection of a new case of EVD.
- The unprecedented scale of the EVD outbreak in Guinea, Liberia, and Sierra Leone means there are estimated to be several thousands of survivors throughout the three countries. Survivors have contributed enormously to many aspects of response, but they face many challenges. In addition to the stigmatization they frequently experience when they return to their own communities, survivors also face myriad health issues, from joint pains and headaches to problems with vision and poor mental health. Although there is a vibrant self-organised survivor-support community, survivors require specialized medical support as well as access to routine health care services such as ante-natal care and vaccinations and screening. With guidance from WHO and other partners, ministries of health in the three most-affected countries have plans in place to deliver a comprehensive package of services to ensure the welfare of survivors and mitigate risks posed by viral persistence.

**Table 6: Key performance indicators for phase 3 objective 2 in Liberia**

Indicator	Week 37		Week 46		Target
	1	2	1	2	
Number of new and repeat samples tested (those from live patients in light blue and from dead bodies in dark blue)					N/A
Percentage of counties providing samples for EVD testing					100%
Number of counties with at least one security incident or other form of refusal to cooperate					0

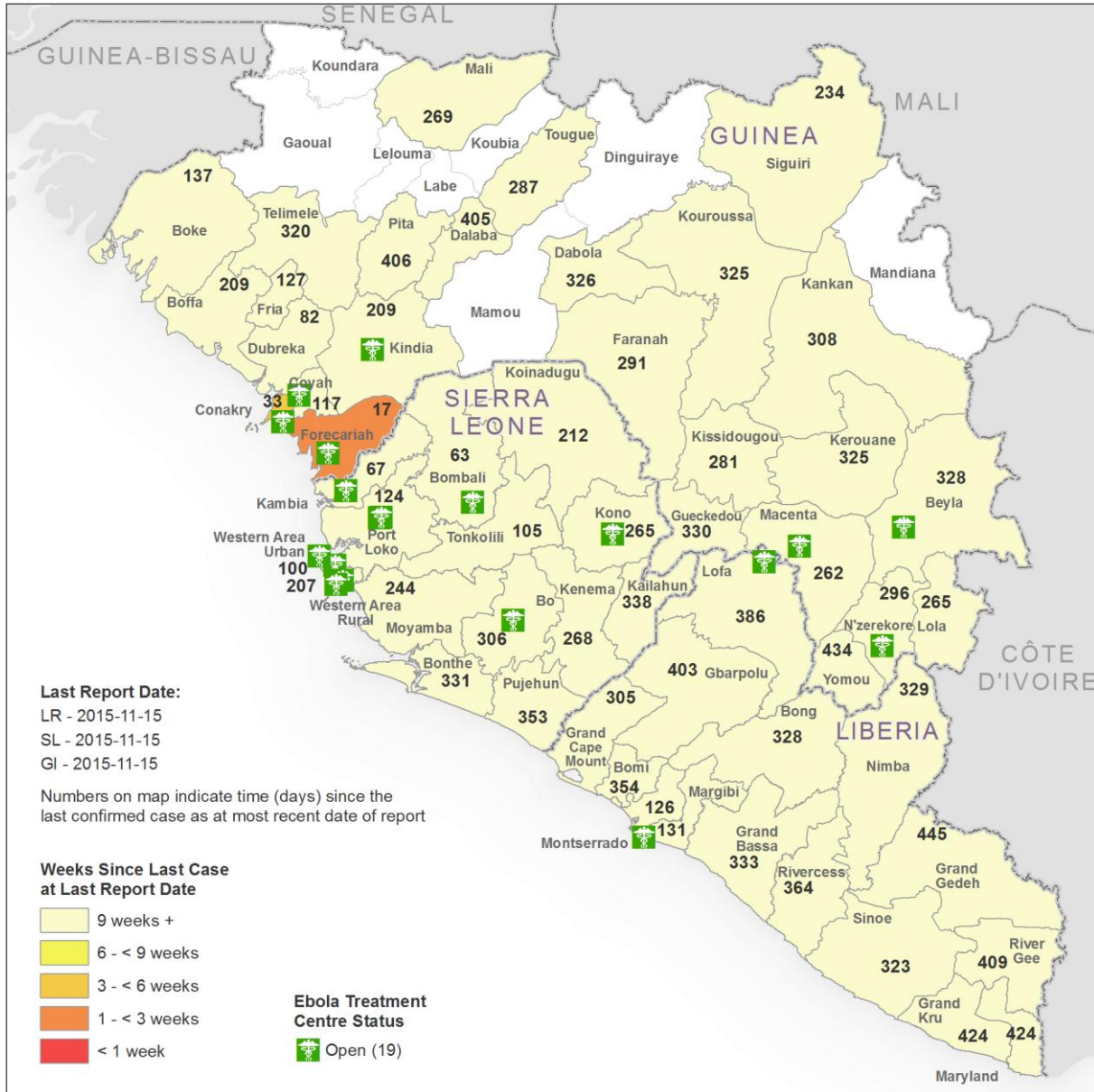
For definitions of key performance indicators see Annex 2. Week 37 commenced 7 September. Week 46 ended 15 November.

Table 7: Key performance indicators for phase 3 objective 2 in Sierra Leone

Indicator	Week 37	Week 46	Target
Number of alerts		1496	N/A
Percentage of districts reporting alerts		100%	100%
Percentage of live alerts tested for EVD	Data not yet compiled		100%
Percentage of expected community deaths that were reported		64%	100%
Percentage of reported community deaths that were swabbed and those which were EVD positive <sup>§</sup>		87%	100%
Number of new samples tested (those from live patients in light blue and from dead bodies in dark blue)		1164	N/A
Percentage of districts providing samples for EVD testing		100%	100%
Number of unsafe burials		0	0
Number of districts with at least one security incident or other form of refusal to cooperate		8	0

For definitions of key performance indicators see Annex 2. Week 37 commenced 7 September. Week 46 ended 15 November. <sup>§</sup>Swabs expressed as a proportion of total number of burial alerts reported by the National Ebola Response Centre.

Figure 6: Location of Ebola treatment centres and time since last confirmed case in Guinea, Liberia, and Sierra Leone



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### PREVIOUSLY AFFECTED COUNTRIES

- Seven countries (Italy, 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. On 6 October 2015, a patient who was reported as a case in the United Kingdom on 29 December 2014, and who later recovered, was hospitalised in the United Kingdom after developing late EVD-related complications. As of 15 November all contacts had completed their 21-day follow-up period and the patient had been discharged.

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

- The introduction of an EVD case into unaffected countries remains a risk as long as cases exist in any country. With adequate preparation, however, such an introduction can be contained through a timely and effective 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 support visits by preparedness-strengthening teams (PSTs) to help identify and prioritize gaps and needs, direct technical assistance, and provide 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—Benin, Burkina Faso, Cameroon, Central African Republic, Democratic Republic of the Congo, Ethiopia, Gambia, Ghana, Mauritania, Niger, Nigeria, South Sudan, and Togo. The criteria used to prioritize countries include the geographical proximity to affected countries, the magnitude of trade and migration links, and the relative strength of their health systems.
- Since 20 October 2014, technical support has been provided Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Ethiopia, Gambia, Ghana, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, South Sudan, and Togo through team missions and targeted technical support. Technical working group meetings, field visits, high-level table-top exercises, and field simulations have helped to identify key areas for improvement. Each country has a tailored plan to strengthen operational readiness.
- From October 2014 to November 2015, WHO has undertaken over 290 field deployments to priority countries to assist with the implementation of national plans.
- WHO provides personal protective equipment (PPE) modules containing minimum stocks to cover staff protection and other equipment needs to support 10 patient-beds for 10 days for all staff with essential functions. PPE modules have been delivered or are in the process of being delivered to all countries on the African continent. In addition, all countries have received a PPE training module.
- Contingency stockpiles of PPE are in place in the United Nations Humanitarian Response Depots (UNHRD) in Accra and Dubai, and are available to any country in the event that they experience a shortage.

### Ongoing follow-up support to priority countries

- Following initial PST assessment missions to the priority countries in 2014, a second phase of preparedness-strengthening activities have provided support on a country-by-country basis. Planned activities are highlighted below.
- With support from WHO, national and regional rapid-response team training are scheduled in Niger from 16 to 21 November and in Mauritania from 22 to 27 November.
- WHO in collaboration with the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET) is implementing a surveillance-strengthening project in 6 priority countries: Benin, Gambia, Guinea-Bissau, Mauritania, Niger, Tanzania, and Togo.
- A 10-day training workshop for 21 national logisticians is in progress in Senegal from 16 to 25 November, and will be followed by a second training in Uganda from 7 to 16 December.
- In Gambia, an assessment of disaster risk management capacity is scheduled from 23 to 27 November.

### EVD preparedness officers

- Dedicated EVD preparedness officers have been deployed to support the implementation of country preparedness plans, coordinate partners, provide a focal point for inter-agency collaboration, offer specific technical support in their respective areas of expertise, and develop capacity of national WHO staff. Preparedness officers are currently deployed to Benin, Burkina Faso, Cameroon, Central African Republic, Côte d'Ivoire, Ethiopia, Gambia, Guinea-Bissau, Mauritania, Niger, Senegal, and Togo.

### Training, exercises, and simulations

- Priority countries that have achieved a minimum of 50% implementation of preparedness checklist activities are encouraged to undertake a series of drills on elements of an EVD response and a functional exercise to test the coordination of the Ebola operations centre.
- Simulation exercises aimed at testing preparedness capabilities are being planned for Burkina Faso, Ethiopia, Guinea-Bissau, Mauritania, Niger, and Togo.
- Exercise planning to test the functioning of an Ebola treatment centre, and a logistics assessment mission is planned for the Central African Republic from 23 to 27 November.

### Surveillance and preparedness indicators

- Indicators based on surveillance data, case management capacity, laboratory testing, and equipment stocks continue to be collected on a weekly basis from the four countries that share a border with affected countries: Côte d'Ivoire, Guinea-Bissau, Mali, and Senegal.
- An interactive preparedness dashboard based on the WHO EVD checklist<sup>1</sup> is available online.

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<sup>1</sup> See: <http://who.int/csr/resources/publications/ebola/ebola-preparedness-checklist/en/>

## ANNEX 1: EBOLA RESPONSE PHASE 3, OBJECTIVE 1

Indicator	Numerator	Numerator source	Denominator	Denominator source
Number of confirmed cases	# of new confirmed cases	Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports	N/A	N/A
Number of confirmed deaths and proportion that occurred in the community	# of new confirmed deaths # of new community deaths with positive EVD swab results	Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports	N/A	N/A
Percentage of new cases from registered contacts	# of new confirmed cases registered as a contact	Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports	# of new confirmed cases	Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports
Number of newly infected health workers	# of newly infected health workers	Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports	N/A	N/A
Time in days between symptom onset and case isolation	Time between symptom onset and hospitalization of confirmed, probable or suspected cases (geometric mean number of days)	Patient database	N/A	N/A
Case fatality percentage	# of deaths among hospitalized confirmed cases	Patient database	# of hospitalized confirmed cases with a definitive survival outcome recorded	Patient database

## ANNEX 2: EBOLA RESPONSE PHASE 3, OBJECTIVE 2

Indicator	Numerator	Numerator source	Denominator	Denominator source
Number of alerts	# of alerts	Guinea: Alert database Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database	N/A	N/A
Percentage of prefectures/ counties/ districts reporting alerts	# of prefectures/ counties/ districts reporting alerts	Guinea: Alert database Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database	Total number of prefectures/ counties/ districts	MoH
Percentage of live alerts tested for EVD	# of live alerts which were tested for EVD	Guinea: Not yet confirmed Liberia: Not yet confirmed Sierra Leone: Not yet confirmed	# of live alerts	Guinea: Alert database Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database
Percentage of expected community deaths that were reported	# of reported community deaths (Sierra Leone: # of reported burial alerts)	Guinea: Daily WHO situation reports Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database	# of expected community deaths = crude mortality * population	Crude mortality: World Bank 2013 Guinea: 2014 census Liberia: Not yet confirmed Sierra Leone: Daily MoH Ebola situation reports
Percentage of reported community deaths that were swabbed and those which were EVD positive	# of community deaths that were swabbed for EVD (Liberia and Sierra Leone: total # of EVD swabs) # of new community deaths with positive EVD swab results	Guinea: Weekly WHO situation reports Liberia: Laboratory database Sierra Leone: Laboratory database Guinea: Daily WHO situation reports Liberia: Daily MoH Ebola situation reports Sierra Leone: Daily MoH Ebola situation reports	# of reported community deaths (Sierra Leone: # of reported burial alerts)	Guinea: Daily WHO situation reports Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database
Number of new and repeat samples tested	# of new and repeat samples tested for EVD (Sierra Leone: # of new samples tested for EVD)	Guinea: Laboratory database Liberia: Laboratory database Sierra Leone: Daily MoH Ebola situation reports	N/A	N/A
Percentage of prefectures/ counties/ districts providing samples for EVD testing	% of prefectures/ counties/ districts providing samples for EVD testing	Guinea: Laboratory database Liberia: Laboratory database Sierra Leone: Laboratory database	Total number of prefectures/ counties/ districts	MoH
Number of unsafe burials	# of burials that were reported to be unsafe	Guinea: Daily WHO situation reports Liberia: Not yet confirmed Sierra Leone: NERC district daily R2 database	N/A	N/A
Number of prefectures/ counties/ districts with at least one security incident or other form of refusal to cooperate	# of prefectures/ counties/ districts with at least one security incident or other form of refusal to cooperate in the past week	Guinea: Daily WHO situation reports Liberia: UNICEF Ebola situation reports Sierra Leone: UNICEF Ebola situation reports	N/A	N/A