

NIGERIA CENTRE FOR DISEASE CONTROL

Weekly Epidemiological Report

Main Highlight of the week

CASE MANAGEMENT OF YELLOW FEVER



In Epi-week 38, active case search for suspected cases of yellow fever continued in Ifelodun Local Government Area of Kwara State and parts of Kogi State. Laboratory samples have been collected for testing and confirmation.

This week's editorial is a second part in the control of yellow fever outbreak series and the focus is on case management of the disease.

There are several approaches to managing cases of Yellow fever, which is usually dependent on the phase of the illness. The severity of Yellow fever infection varies, as there are different phases of the disease. These phases and diagnostic criteria are described in the table below.

Table 1: Phases of Yellow fever infection and Diagnostic Criteria

Phase	Description	Diagnosis
Infective	<ul style="list-style-type: none"> ○ Experienced in about 10% of infected persons. ○ Characterized by non-specific symptoms such as fever, muscle pain with prominent back pain, headache, loss of appetite, nausea and/or vomiting ○ Most people recover after 3-4 days 	<p>The following criteria must be considered in making a diagnosis of yellow fever</p> <ul style="list-style-type: none"> ○ Compatible Clinical Presentation ○ Exposure in endemic areas ○ Absence of history of vaccination ○ Negative differential diagnosis (such as Zika, dengue, West Nile virus) ○ Positive yellow fever test
Remission	<ul style="list-style-type: none"> ○ Infected persons recover from symptoms. ○ Period lasts for about 24-48 hours. 	
Toxic	<ul style="list-style-type: none"> ○ About 15% of infected persons go into this phase ○ Characterized by high grade fever, jaundice (yellowing of the eyes and skin), dark urine and abdominal pain with vomiting. ○ Bleeding can occur from the nose, mouth, eyes or stomach ○ Multiple organ failure can also occur. 	

There is no specific treatment for Yellow fever. Management of cases is usually symptomatic with supportive management provided. This includes:

1. Hospitalization of patients for supportive care and close observation. Severely ill patients may be treated in an intensive care setting, if available
2. Ensure adequate rest for the patient
3. Rehydration
4. Use of Pain relievers and medications to reduce fever and relieve aching symptoms. Certain medications should be avoided such as aspirin and non-steroidal anti-inflammatory drugs e.g. Ibuprofen, naproxen as they may increase the risk of bleeding
5. Respiratory failure may require use of a ventilator
6. Dialysis is indicated in cases of renal failure
7. In severe case of bleeding, transfusion with fresh frozen plasma or use of heparin is indicated.

It is important to also protect the infected patient from further exposure to mosquitoes. This can be done by always staying indoors and/or under a mosquito net, for up to 5 days after the onset of fever. This will make them unavailable to uninfected mosquitoes thereby stopping the transmission cycle and further reduce risk of transmission to persons around them.

Outcome following a yellow fever infection may vary from mild to fatal. Majority of infected persons (about 80%) will be asymptomatic or have mild disease with complete recovery. The most important and critical step towards preventing an infection is vaccination, which is available from 9 months of age at health facilities.

The Nigeria Centre for Disease Control (NCDC) enjoins all states to be more vigilant and enhance their surveillance systems to be able to identify cases of yellow fever. States are also encouraged to sensitize and train healthcare workers on management procedures of yellow fever cases. **Early reporting of suspected cases of Yellow fever to the next level is very important.**

In the reporting week ending on the 24th of September, 2017:

- There were 224 new cases of Acute Flaccid Paralysis (AFP) reported. None was confirmed as Polio. The last reported case of Polio in Nigeria was in August 2016. Active case search for AFP is being intensified as Nigeria has assiduously reinvigorated its efforts at eradicating Polio.
- 107 suspected cases of Cholera were reported from six LGAs (five States; Bauchi – 4, Bayelsa – 8, Borno – 69, Kaduna – 8 and Kano – 18). No was laboratory confirmed and 2 deaths were recorded.
- 15 suspected cases of Lassa fever were reported from three LGAs in three States (Gombe – 2, Kaduna – 1 and Kwara – 12). No was laboratory confirmed and no death was recorded.
- There were seven suspected cases of Cerebrospinal Meningitis (CSM) reported from seven LGAs in six States (Benue – 1, Borno – 1, Ebonyi – 1, Enugu – 1, Gombe – 1 and Katsina - 2). Of these, none was laboratory confirmed and no death was recorded. Ongoing surveillance for CSM has been intensified in all the 26 States in the Nigeria meningitis belt.
- There were 265 suspected cases of Measles reported from 26 States. None was laboratory confirmed and no death was recorded.

In the reporting week, all States sent in their report. This is a remarkable improvement! Timeliness of reporting remains 84% in both previous and current weeks (Week 37 and 38) while completeness remains at 100%. It is very important for all States to ensure timely and complete reporting at all times, especially during an outbreak.

Summary Table 1 (IDSR Weekly Report as at 29/09/2017)

Disease	Variables	Week 37	Week 38		Cumulative Weeks	
		2017	2017	2016	01 - 38, 2017	01 - 38, 2016
AFP	Cases	224	224	410	11,539	10179
	Deaths	0	0	0	0	0
	CFR	0.00%	0.00%	0.00%	0.00%	0.00%
Polio	WPV Types 1 & 3	0	0	0	0	3
	WPV Types 1	0	0	0	0	3
	WPV Types 3	0	0	0	0	0
Cholera	Cases	907	107	36	3,344	460
	Deaths	26	2	1	79	14
	CFR	2.87%	1.87%	2.78%	2.36%	3.04%
Lassa Fever	Cases	8	15	3	546	837
	Deaths	2	0	0	64	98
	CFR	25.00%	0.00%	0.00%	11.72%	11.71%
CSM	Cases	2	7	30	9799	688
	Deaths	0	0	0	602	29
	CFR	0.00%	0.00%	0.00%	6.14%	4.22%
Measles	Cases	209	265	175	18,047	22677
	Deaths	0	0	0	105	99
	CFR	0.00%	0.00%	0.00%	0.58%	0.44%
Guinea Worm	Cases	0	0	0	0	0
	Deaths	0	0	0	0	0
	CFR	0.00%	0.00%	0.00%	0.00%	0.00%

1. Lassa fever

Please note that the data reflects the routine reports i.e. all suspected cases including the laboratory positive and negative cases

- 1.1. 15 suspected cases of Lassa fever were reported from three LGAs (three States; Gombe – 2, Kaduna – 1 and Kwara – 12) in week 38, 2017 compared with three suspected cases reported from three LGAs (two States) at the same period in 2016.
- 1.2. Laboratory results of the 15 suspected cases were three negative for Lassa fever and other VHFs (Gombe – 2 and Kaduna - 1) while that of Kwara State (12) is still pending.
- 1.3. Between weeks 1 and 38 (2017), 546 suspected Lassa fever cases with 117 laboratory confirmed cases and 64 deaths (CFR, 11.72%) from 80 LGAs (26 States) were reported compared with 837 suspected cases with 83 laboratory confirmed cases and 98 deaths (CFR, 11.71%) from 135 LGAs (28 States) during the same period in 2016 (Figure 1).
- 1.4. Between weeks 1 and 52 2016, 921 suspected Lassa fever cases with 109 laboratory confirmed cases and 119 deaths (CFR, 12.92%) from 144 LGAs (28 States and FCT) were reported compared with 430 suspected cases with 25 laboratory confirmed cases and 40 deaths (CFR, 9.30%) from 37 LGAs (14 States and FCT) during the same period in 2015 (Figure 2).
- 1.5. Investigation and active case search ongoing in affected States with coordination of response activities by the NCDC with support from partners.
 - 1.5.1. National Lassa Fever Working Group meeting and weekly National Surveillance and Outbreak Response meeting on-going at NCDC to keep abreast of the current Lassa fever situation in the country.
 - 1.5.2. Response materials for VHFs provided to support States
 - 1.5.3. New VHF guidelines have been developed by the NCDC (National Viral Haemorrhagic Fevers Preparedness guidelines, Infection Prevention and Control of VHF and Standard Operating Procedures for Lassa fever management) and are available on the NCDC website.
 - 1.5.4. VHF case-based forms completed by affected States are being entered into the new VHF management system. This system allows for the creation of a VHF database for the country.
 - 1.5.5. Confirmed cases are being treated at identified treatment/isolation centres across the States with Ribavirin and necessary supportive management also instituted
 - 1.5.6. Onsite support was earlier provided to Ogun, Nasarawa, Taraba, Ondo and Borno States by the NCDC and partners
 - 1.5.7. Offsite support provided by NCDC/partners in all affected States
 - 1.5.8. States are enjoined to intensify surveillance and promote Infection, Prevention and Control (IPC) measures in health facilities.

Figure 1: Map of Nigeria showing areas affected by Lassa fever, week 1- 38, 2016 & 2017

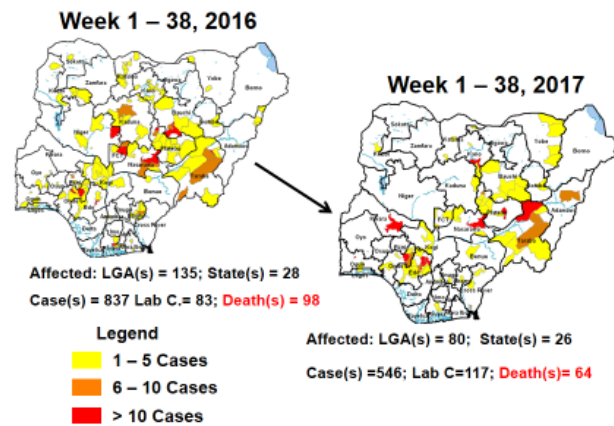
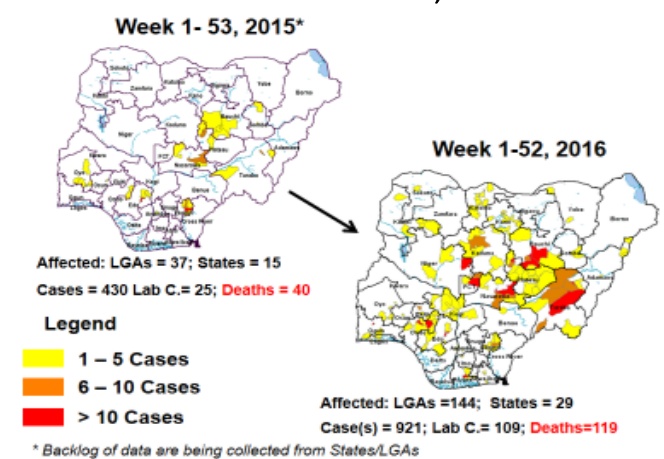


Figure 2: Map of Nigeria showing areas affected by Lassa fever, week 1 - 53, 2015 and week 1 – 52, 2016



2. MEASLES

- 2.1. In the reporting week, 265 suspected cases of Measles were reported from 26 States compared with 175 suspected cases reported from 24 States during the same period in 2016.
- 2.2. So far, 18,047 suspected Measles cases with 108 laboratory confirmed cases and 105 deaths (CFR, 0. 59%) have been reported in 2017 from 36 States and FCT (Figure 4) compared with 22,677 suspected cases and 99 deaths (CFR, 0.44%) from 36 States and FCT during the same period in 2016.
- 2.3. In 2016 (week 1 -52), 25,251 suspected Measles cases with 102 deaths (CFR, 0.40%) were reported from 36 States and FCT compared with 24,421 suspected cases with 127 deaths (CFR, 0.52%) during the same period in 2015 (Figure 5)
- 2.4. Response measures include immunisation for all vaccine-preventable diseases in some selected/affected wards/LGAs during SIAs, as well as case management.
- 2.5. Scheduled Measles campaigns in the North East were conducted from 12th – 17th January, 2017 in Adamawa, Borno and Yobe States (Phase I) and Phase II from 21st – 25th January, 2017 in Borno State and 4th – 8th February, 2017 in Yobe State
- 2.6. Measles Surveillance Evaluation and Establishment of the burden of Congenital Rubella Syndrome (CRS) in 12 selected States in the six geopolitical zones from the 17th -21st July 2017 conducted
- 2.6.1 Debrief meeting to review results and next steps from Measles evaluation conducted, held on the 15th of September 2017
- 2.7. Harmonisation of measles surveillance data with laboratory confirmed cases

Figure 3: Suspected Measles attack rate by States, week 38, 2017 as at 29th September, 2017

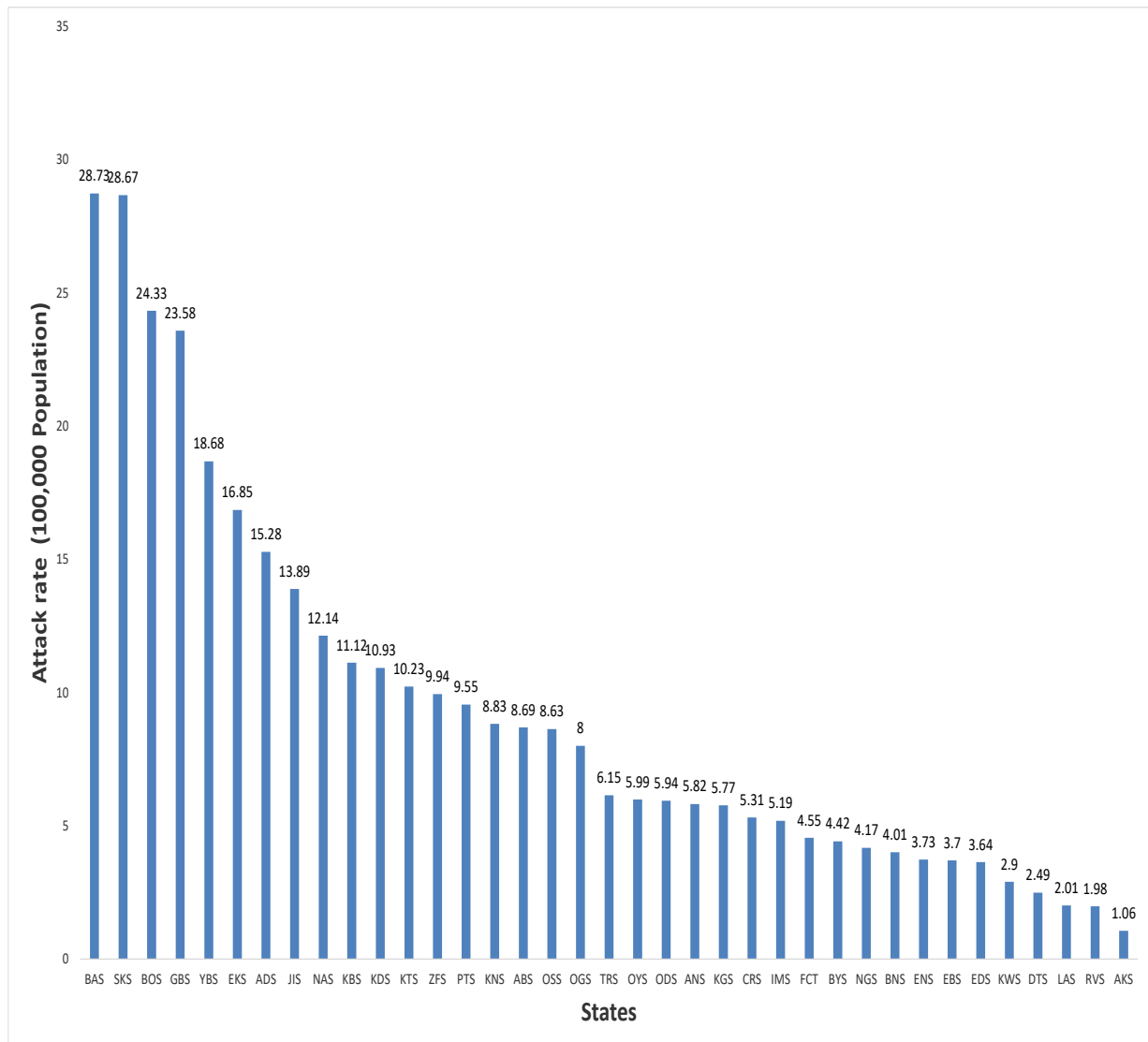
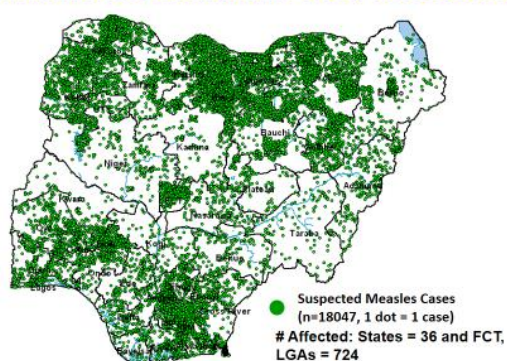


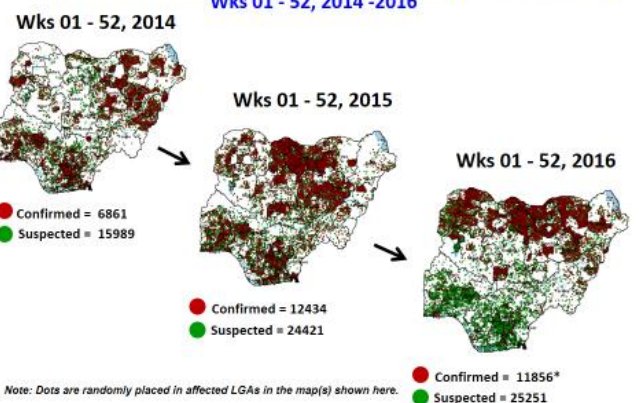
Figure 4: Map of Nigeria showing Distribution of suspected Measles cases, Weeks 1- 37, 2017as at 22/09/2017

Distribution of Suspected Measles Cases, Wks01-38 2017



Note: Dots (cases) are randomly placed in affected LGAs in the map(s) shown here.
Source: Measles Case-Based database as at 29-Sep-2017

Figure 5: Suspected & confirmed (Lab + Epi Link + Clinical) Measles cases weeks 1 – 52, 2014 - 2016
Suspected and Confirmed (Lab + Epi Link + Clinical) Measles Cases, Wks 01 - 52, 2014 -2016



Source: Measles Case-Based database as at 06-Jan-2016 (Latest Onset= 31-Dec-2016)

3. POLIOMYELITIS

- 3.1. As at September 17th 2017, no new case of WPV was recorded
- 3.2. Three new cVDPV2, environmental derived and Polio compatible cases identified
 - 3.2.1. In the reporting week, 224 cases of AFP were reported from 174 LGAs in 28 States and FCT
 - 3.2.2. AFP Surveillance has been enhanced and outbreak response is on-going in Borno and other high risk States
 - 3.2.3. The 1st round of SIPDs in 2017 was conducted from 28th – 31st January 2017 in the 18 high risk States. This was carried out using mOPV2 (2nd mOPV2 OBR). The schedule for other SIAs is as described in Table 2
 - 3.2.4. The 2nd and 3rd round of SIPDs completed (25th-28th February and 8th – 11th July, 2017) in 14 & 18 high risk States using bOPV respectively.
 - 3.2.5. The 1st and 2nd rounds of NIPDs completed (from 25th – 28th March, 2017 and 22nd – 25th April, 2017) nationwide respectively.
 - 3.2.6. Between weeks 1 and 52 in 2016, four WPVs were isolated from Borno State compared to no WPV isolated during the same period in 2015.
- 3.3. No circulating Vaccine Derived Polio Virus type 2 (cVDPV2) was isolated in week 1 - 52, in both 2016 and 2015.
- 3.4. Between weeks 1 and 52, 2016 two (2) cVDPV2 were isolated in two LGAs (two States) while one (1) cVDPV2 was isolated from Kwali, FCT during the same period in 2015.
- 3.5. Six confirmed WPVs were isolated in 2014.
- 3.6. The SIAs were strengthened with the following events:
 - 3.6.1. Immunisation for all vaccine-preventable diseases in some selected wards/LGAs.
 - 3.6.2. Use of health camp facilities.
 - 3.6.3. Field supportive supervision and monitoring.
 - 3.6.4. Improved Enhanced Independent Monitoring (EIM) and Lots Quality Assessments (LQAs) in all Polio high risk States.
 - 3.6.5. High level of accountability framework

Figure 6: Polio Compatible cases in Nigeria as at Week 1 - 52, 2014 - 2016 (Data as at 17/09/17)

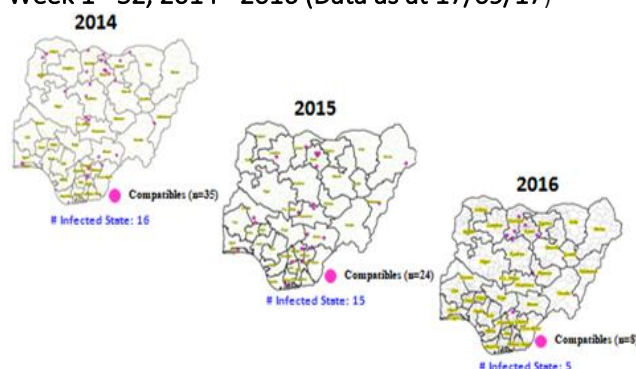


Table 2: 2017 SIAs

S/N	Month	Dates	Scope	Remarks	Target Populations	Antigen
1	January	28 th - 31 st	SIPDs (18 States)	2nd mOPV2 OBR in 18 states	33,478,035	mOPV2
2	February	25 th - 28 th	SIPDs (14 High Risk States)	List of high risk states reviewed using the HR Algorithm and local information on risk	26,256,251	bOPV
3	March	25 th - 28 th	NIPDs (36+1)	Nationwide	59,961,520	bOPV
4	April	22 nd - 25 th	NIPDs (36+1)	Nationwide	59,961,520	bOPV
5	July	8 th -11 th	SIPDs (18 High Risk States)	High Risk States	33,478,035	bOPV
6	October	14 th - 17 th	SIPDs (18 High Risk States)	High Risk States	33,478,035	bOPV
7	December	9 th - 12 th	SIPDs (6 High Risk States)	High Risk States		bOPV

4. CHOLERA

- 4.1. 107 suspected cases of Cholera and 2 deaths (CFR, 2.87%) were reported from six LGAs (five States; Bauchi – 4, Bayelsa – 8, Borno – 69, Kaduna - 8 and Kano – 18) in week 38 compared with 35 suspected cases and one Laboratory confirmed case reported from 13 LGAs in three States during the same period in 2016.
- 4.2. Between weeks 1 and 38 (2017), 3344 suspected Cholera cases with 41 laboratory confirmed and 79 deaths (CFR, 2.38%) from 60 LGAs (18 States) were reported compared with 460 suspected cases and 14 deaths (CFR, 3.04%) from 46 LGAs (12 States) during the same period in 2016 (Figure 7).
- 4.3. Between weeks 1 and 52 (2016), 768 suspected Cholera cases with 14 laboratory confirmed cases and 32 deaths (CFR, 4.17%) from 57 LGAs (14 States) were reported compared with 5,301 cases with 29 laboratory confirmed cases and 186 deaths (CFR, 3.51%) from 101 LGAs (18 States and FCT) during the same period in 2015 (Figure 8).
- 4.4. Cholera preparedness workshop held from 31st May – 1st June, 2017 in Abuja to develop Cholera preparedness plan as the season set in.
- 4.5. NCDC/partners provided onsite support in Kwara, Zamfara and Kebbi States.
- 4.6. NCDC/partners are providing onsite support in Borno State.
- 4.7. Preparedness and Response to Acute Watery Diarrhoea/ Cholera Guidelines have been finalised http://ncdc.gov.ng/themes/common/docs/protocols/45_1507196550.pdf
- 4.8. RDT procured by NCDC and WHO currently being prepositioned in affected States
- 4.9. States are enjoined to intensify surveillance, implement WASH activities and ensure early reporting.

Figure 7: Status of LGAs/States that reported Cholera cases in week 1- 38, 2016 & 2017

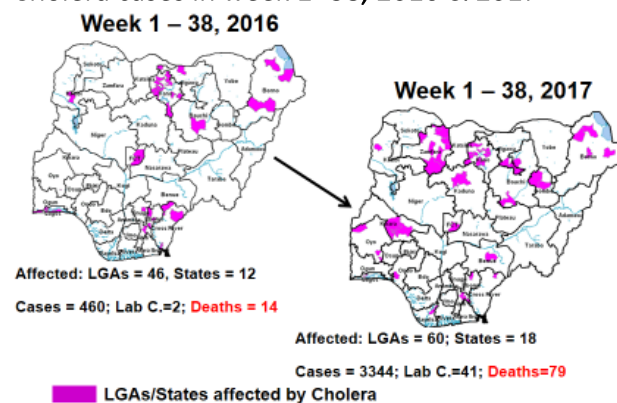
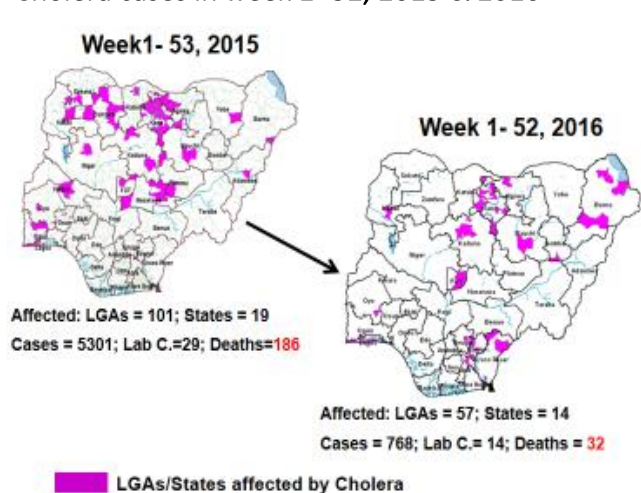


Figure 8: Status of LGAs/States that reported Cholera cases in week 1- 52, 2015 & 2016



5. CEREBROSPINAL MENINGITIS (CSM)

- 5.7. In the reporting week 38, seven suspected Cerebrospinal Meningitis (CSM) cases were reported from seven LGAs (six States) compared with 30 suspected cases from seven LGAs (six States) at the same period in 2016.
- 5.8. Between weeks 1 and 38 (2017), 9799 suspected CSM cases with 108 laboratory confirmed cases and 602 deaths (CFR, 6.15%) were recorded from 315 LGAs (33 States) compared with 688 suspected cases and 29 deaths (CFR, 4.22%) from 137 LGAs (28 States) during the same period in 2016 (Figure 9).
- 5.9. Between weeks 1 and 52, 2016, 831 suspected CSM cases with 43 laboratory confirmed cases and 33 deaths (CFR, 3.97%) were recorded from 154 LGAs (30 States and FCT) compared with 2,711 suspected cases and 131 deaths (CFR, 4.83%) from 170 LGAs (28 States and FCT) during the same period in 2015 (Figure 10)

Figure 9: Map of Nigeria showing areas affected by CSM, Week 1 - 38, 2016 & 2017

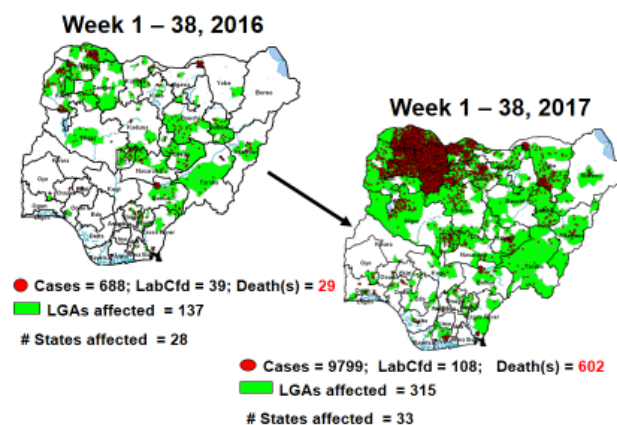
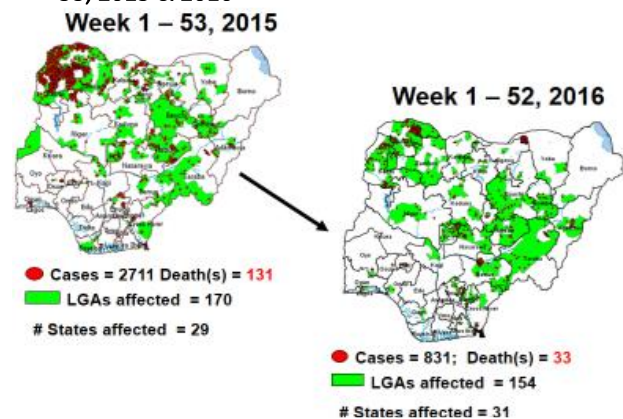


Figure 10: Nigeria: Dot maps of CSM cases, week 1 - 53, 2015 & 2016



- 5.10. Timeliness/completeness of CSM case-reporting from States to the National Level (2017 versus 2016): on average, 81.9% of the 26 endemic States sent CSM reports in a timely manner while 99.1% were complete in week 1 – 38, 2017 as against 85.8% timeliness and 99.9% completeness recorded within the same period in 2016
- 5.11. CSM preparedness checklist sent to 36 States and FCT ahead of 2017 meningitis season
- 5.12. Confirmed cases treated at identified treatment centres in affected States (Zamfara, Sokoto, Katsina, Kebbi, Niger, Kano, Yobe and Jigawa) and necessary supportive management also instituted
- 5.13. CSM National Emergency Operations Centre constituted at the Nigeria Centre for Disease Control
- 5.14. Onsite support provided to Zamfara, Sokoto, Katsina, Kebbi, Kano, Yobe and Niger States by NCDC and partners
- 5.15. Off-site support provided to other States
- 5.16. Intensive Surveillance in high risk States and NCDC in communication with States reporting suspected cases.
- 5.17. Reactive vaccination completed in Zamfara, Sokoto and Yobe States
- 5.18. Medical teams were trained and deployed to support case management in Sokoto and Zamfara States completed (from Friday 5th - 26th May, 2017).

- 5.19. Deployed mobile testing laboratory to Zamfara State to aid diagnosis
- 5.20. A Team was deployed by NCDC/WHO to support surveillance activities, laboratory data harmonization and monitoring of the implementation plan in Yobe state
- 5.21. NCDC attended the 14th Annual Meeting on Surveillance, Preparedness and Response to Meningitis Outbreaks in Africa, and 4th Annual MenAfriNet Partners' meeting held in Ouagadougou, Burkina Faso in preparation of 2017/2018 meningitis season from 12th to 15th September, 2017.
- 5.22. Ongoing finalisation of the National CSM Guidelines

6. GUINEA WORM DISEASE

- 6.7. In the reporting week, no rumour report of Guinea Worm disease was received from any State.
- 6.8. Nigeria has celebrated eight consecutive years of zero reporting of Guinea worm disease in the country. The Country has been officially certified free of Dracunculiasis transmission by the International Commission for the Certification of Dracunculiasis Eradication (ICCDE).

(For further information, contact Nigeria Guinea Worm Eradication Program / Neglected Tropical Diseases Division, Public Health Department/Federal Ministry of Health)

7. Update on national Influenza sentinel surveillance, Nigeria week 1 - 39, 2017

- 7.1. From week 1-39, a total of 103 suspected cases were reported, of which 95 were Influenza like-illness (ILI), 8 Severe Acute Respiratory Infection (SARI).
- 7.2. A total of 103 samples were received and all were processed. Of the processed samples, 95(92.2%) were ILI cases, 8(7.8%) were Severe Acute Respiratory Infection (SARI).
- 7.4. Of the 95 processed ILI samples, 1(1.05%) was positive for Influenza A; 2(2.1%) positive for Influenza B and 92(98.95%) were negative. Of the 8 processed SARI samples, none was positive for Influenza A and Influenza B.
- 7.5. AIn the reporting week 39, no samples were left unprocessed

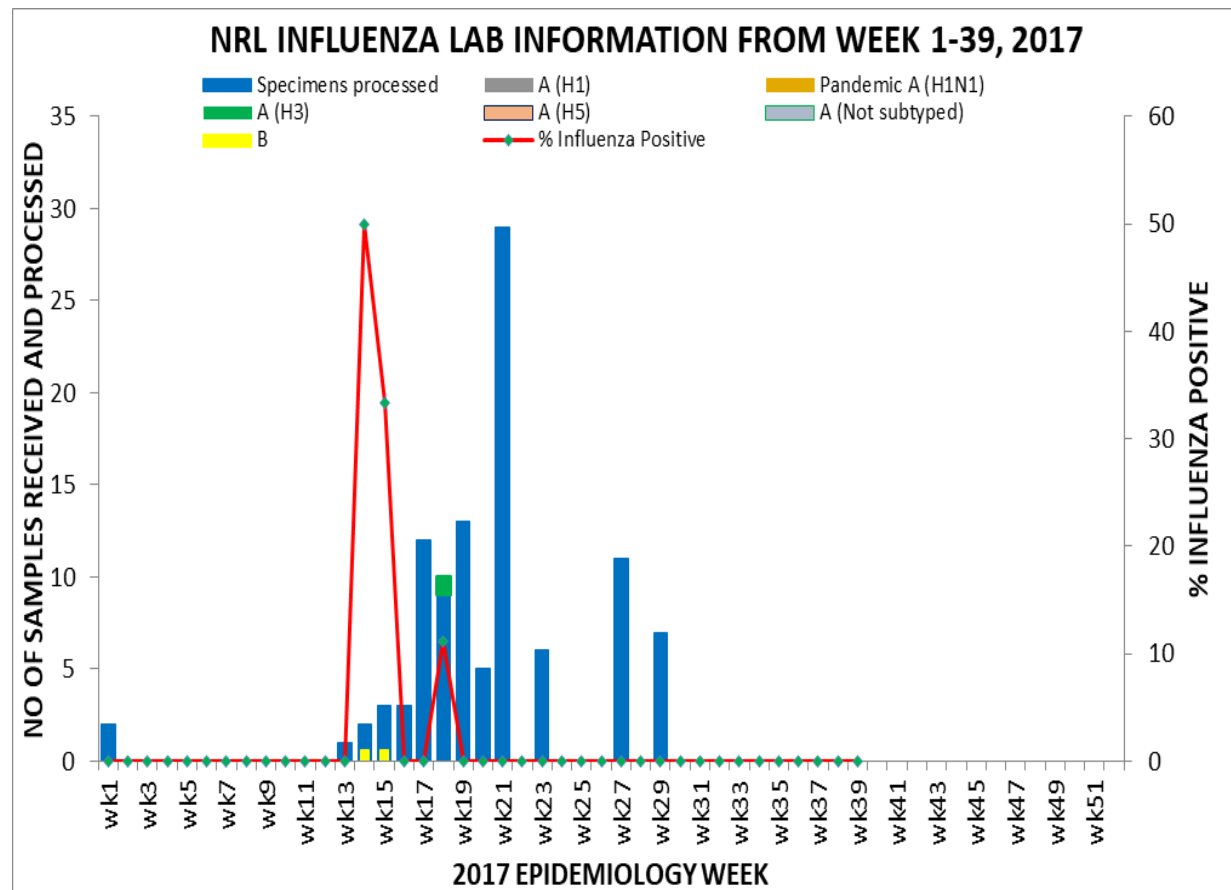


Figure 19: Number of Influenza Positive Specimens and Percent Positive by Epidemiological Week (Week 1- 39, 2017)

FOR MORE INFORMATION CONTACT

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Table 3: Status of Reporting by the State Epidemiologists, Nigeria, Weeks 1 - 37, 2017, as at 22th September, 2017

Table 4: Updates on Epidemics, Week 1- 38 (18th – 24th September 2017) as at 29th September, 2017

SNO	State	AP		CSM		Cholera		Measles		Lassa Fever		Guinea worm Disease		HPAI		Other Diseases/Events		Remarks	
		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3		Cumulative Data Wk/3			
		New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths	New	Cases/Lab/Out Deaths		
1	Abia	3394/82	7	3				2		13								4	
2	Adamawa	4216/55	1		25	5					6	2	333					11	1 00
3	Awelbun	5476/4	7	1														3	
4	Aradima	5372/15	7		8					7									
5	Bahli	6333/57	7	12			9	1	333	20								13	
6	Bereba	2287/93	7				8		103									8	
7	Bone	5370/21	1	4			2		234									1	
8	Bom	5793/37	7	10			1	100	37	15								119	
9	Cross-River	3944/98	7	3			1		270				2					54	8 100
10	Dafa	5157/24	7						144										
11	Ebony	2847/72	7				9	4	444									9	
12	Ebo	4203/82	7	12					157										
13	Ebo	3234/5	7	9					332									1	
14	Erop	4773/30	1	5					168										
15	FCT	3493/32	7	44			5		170									1	
16	Gombe	3223/32	1	9			3		785	15	19	2						6	
17	Imo	5391/70	7	7					209									1	
18	Jigawa	5707/28	1	5			7		327										
19	Kaduna	8153/32	7	4			118	4	333	11								13	
20	Kano	3280/93	7	21			23	24	21	15								147	
21	Kano	7794/70	7	11			2		33									533	21
22	Kebbi	4348/7	7	2			3		334										
23	Kogi	4400/12	7	6					262									39	
24	Kwara	3195/55	7				48	14	3	102									
25	Lagos	12337/4	7	3			5	5	6	107									
26	Nasarawa	2504/85	7	5					313										
27	Niger	5370/27	7	2					238									31	
28	Ogun	5158/10	7	7					426									34	9 100
29	Ondo	4624/40	1	11			7		283										
30	Oyo	4691/83	7	3					418										
31	Oyo	7315/1	7				2	1	418										
32	Peara	4148/16	7	13					407	20	2	103							
33	Rivers	7241/54	7	10					148										
34	Sokoto	4985/5	7	8					147										
35	Taraba	3105/53	7	6					132									8	2 250
36	Yobe	3274/33	7	11					633										
37	Zaria	4487/75	7				33	9	14	414								24	8 333
Total		39343/81744	24				7	994	100	600	614	117	2	1344	41	25	23	294	21 04

Please note that the reporting status in this table is from WHO State office

State: Nigeria Disease: Covid-19

Status of Report: Final, Latest, New Report