

2016
Quarter 2
Week
13 – 26
28 March 2016
—
26 June 2016

MenAfriNet Surveillance Annual Feedback Bulletin

Annual feedback bulletin on bacterial meningitis in MenAfriNet countries

Table 1: Epidemiological situation, Week: 14-26

95% of suspect cases reported in the MenAfriNet database had a lumbar puncture, 40% of whom were classified as probable bacterial meningitis. 7% of cases with a specimen collected tested positive for meningococcal meningitis. Vaccination status was complete (yes or no) for 26% of all suspect cases in MenAfriNet countries.

Characteristics	Burkina Faso	Mali	Niger	Tchad*	Togo	MenAfriNet
	N (%)					
Demographics						
Population**	19,034,397 (100)	3,823,714 (21)	6,854,881 (36)	677,783 (5)	415,487 (6)	30,806,262 (40)
MenAfriNet District†	61/70 (87)	7/10 (70)	12/16 (75)	2/4 (50)	2/2 (100)	84/102 (82)
Weekly suspect cases	626	174	285	36	19	1,140
MenAfriNet suspected cases	505	162	263	47	49	1,019
Deaths	1 (0)	4 (2)	9 (3)	0 (0)	3 (6)	17 (2)
Age (years)						
<1	114 (23)	75 (49)	25 (10)	28 (72)	10 (20)	252 (25)
1-4	132 (27)	37 (24)	65 (25)	5 (13)	9 (18)	248 (25)
5-9	87 (17)	17 (11)	53 (21)	2 (5)	4 (8)	163 (16)
10-14	68 (14)	12 (8)	47 (18)	2 (5)	8 (16)	137 (14)
15-29	49 (10)	9 (6)	48 (19)	1 (3)	4 (8)	111 (11)
≥30	48 (10)	4 (3)	19 (7)	1 (3)	14 (29)	86 (9)
Sex						
Male	288 (58)	100 (62)	141 (54)	23 (62)	26 (53)	578 (58)
Vaccination status known						
MenAfriVac§	0 (0)	0 (0)	6 (4)	0 (0)	11 (37)	18 (4)
Laboratory††						
CSF collected	480 (95)	162 (100)	242 (92)	40 (100)	49 (100)	973 (95)
Appearance	395 (82)	157 (97)	201 (83)	201 (83)	49 (100)	842 (87)
Probable bacterial meningitis	195 (41)	49 (30)	110 (45)	13 (33)	25 (51)	392 (40)
Probable meningococcal meningitis	29 (6)	0 (0)	0 (0)	0 (0)	10 (20)	39 (4)
Confirmed bacterial meningitis	160 (33)	46 (28)	16 (7)	7 (18)	7 (14)	236 (24)
Confirmed meningococcal meningitis	33 (7)	13 (8)	14 (6)	2 (5)	5 (10)	67 (7)

Abbreviation: CSF, cerebrospinal fluid;

*Chad data will be presented in Table 1 and 2. Performance indicators will not be presented as the country has not started implementing activities.

**Population of MenAfriNet supported districts—number of districts: Burkina Faso: 70; Mali: 10; Niger: 16; Tchad: 4; Togo: 2;

§Denominator = number of cases with known (yes or no) vaccine status

††Identification by culture, PCR, latex ou test de diagnostic rapide

Laboratory classification definitions (denominator = CSF collected):

1. Probable bacterial meningitis: cloudy appearance, or white blood cell count > 10 cells/mm³ or any positive Gram stain test result
2. Probable meningococcal meningitis: gram negative diplococci only
3. Confirmed bacterial meningitis]: cases confirmed, regardless of the germ
4. Confirmed meningococcal meningitis: laboratory confirmation of *N. meningitidis* serogroup A, C, W, Y or X

Table 2. Laboratory results, Week: 14-26

79% of specimens collected in MenAfriNet countries were tested by culture, PCR, Latex or a rapid diagnostic test. *S. pneumoniae* was the predominant pathogen (19%) followed by *N. meningitidis* serogroup W (4%).

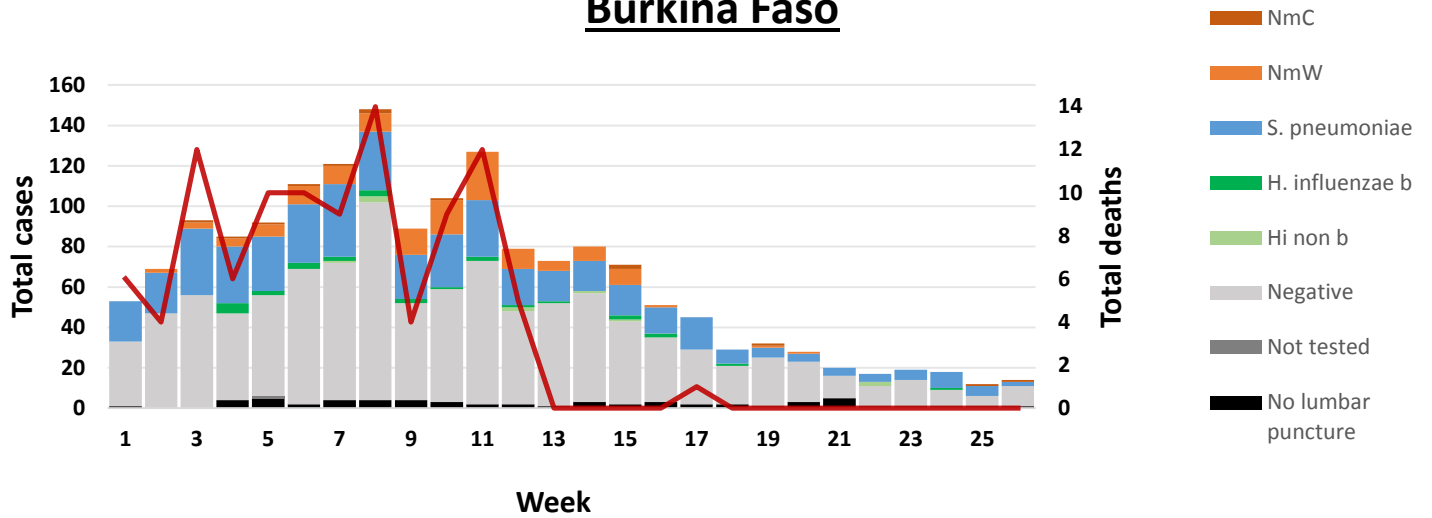
Results	Burkina Faso	Mali	Niger	Tchad	Togo	MenAfriNet
	N (%)					
CSF collected	480 (95)	162 (100)	242 (92)	40 (100)	49 (100)	973 (95)
Gram Stain	286 (60)	7 (4)	0 (0)	0 (0)	47 (96)	340 (35)
CSF received at the NRL	474 (99)	162 (100)	46 (19)	37 (93)	45 (92)	764 (79)
CSF analyzed by a confirmatory test	480 (100)	162 (100)	46 (19)	37 (93)	47 (96)	772 (79)
Culture	69 (14)	159 (98)	1 (2)	36 (97)	45 (96)	310 (40)
PCR†	471 (99)	156 (96)	44 (96)	21 (57)	25 (66)	717 (95)
Real-time PCR	466 (100)	155 (100)	43 (98)	21 (100)	0 (0)	685 (96)
Conventional	2 (0)	0 (0)	1 (2)	0 (0)	25 (100)	28 (4)
Latex	67 (14)	141 (87)	2 (4)	1 (3)	45 (96)	237 (33)
RDT	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Final result						
<i>N. meningitidis</i>						
<i>NmA</i>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<i>NmC</i>	4 (1)	0 (0)	12 (26)	0 (0)	0 (0)	16 (2)
<i>NmW</i>	21 (4)	1 (1)	0 (0)	1 (3)	5 (11)	28 (4)
<i>NmX</i>	6 (1)	12 (7)	2 (4)	1 (3)	0 (0)	21 (3)
<i>Nm ind</i>	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)
<i>S. pneumoniae</i>	116 (24)	21 (13)	1 (2)	4 (11)	2 (4)	144 (19)
<i>H. influenzae</i>						
<i>b</i>	7 (1)	2 (1)	1 (2)	1 (3)	0 (0)	11 (1)
Non- <i>b</i>	4 (1)	7 (4)	0 (0)	0 (0)	0 (0)	11 (2)
Other germs	0 (0)	3 (2)	0 (0)	0 (0)	0 (0)	3 (1)
Negative§	315 (66)	113 (70)	28 (61)	30 (81)	38 (84)	524 (68)

Abbreviation: CSF, cerebrospinal fluid; NRL, national reference laboratory; NP, Test not performed; *Nm Ind.*, *Nm indeterminate*; RDT, rapid diagnostic test;

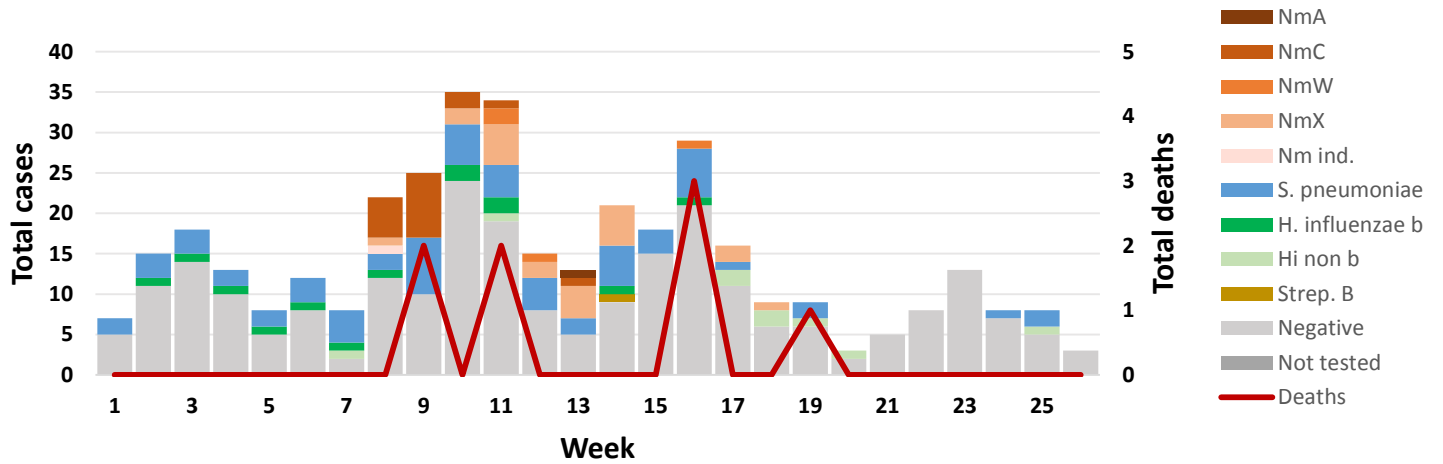
§ Tested negative for all pathogens and serogroups

Figure 1: Epidemic curve, Week: 1-26

Burkina Faso



Mali



Niger

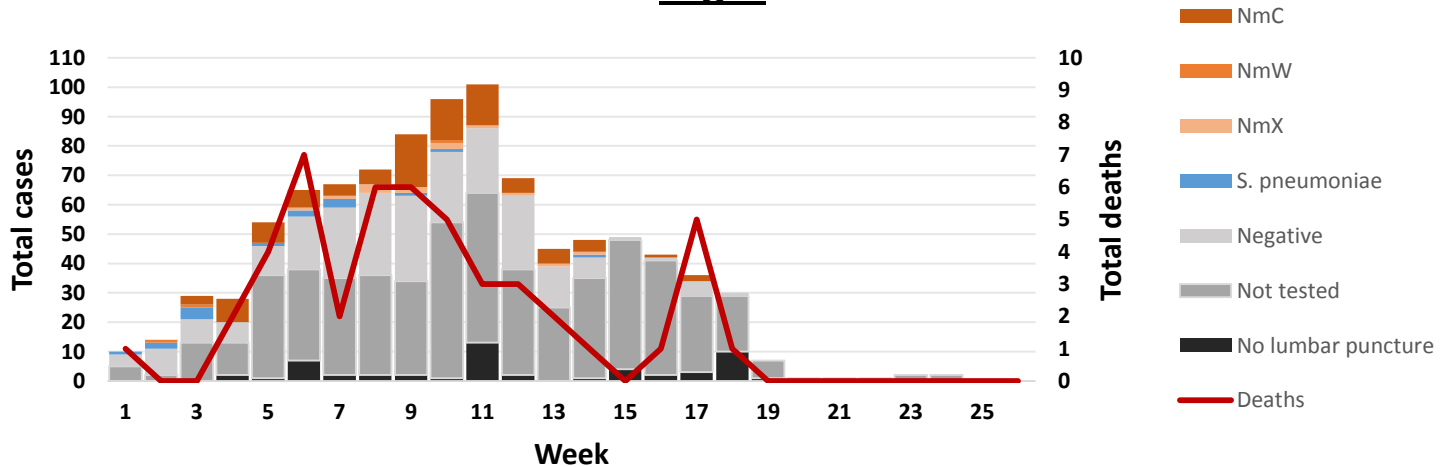
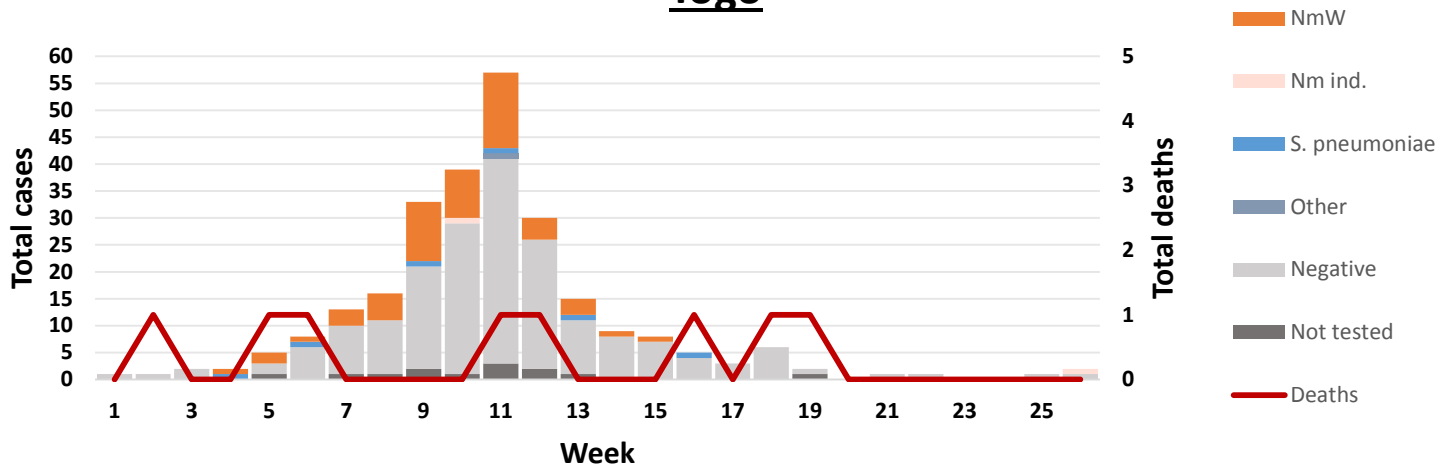


Figure 1: Epidemic curve, Week: 1-26

Togo



MenAfriNet

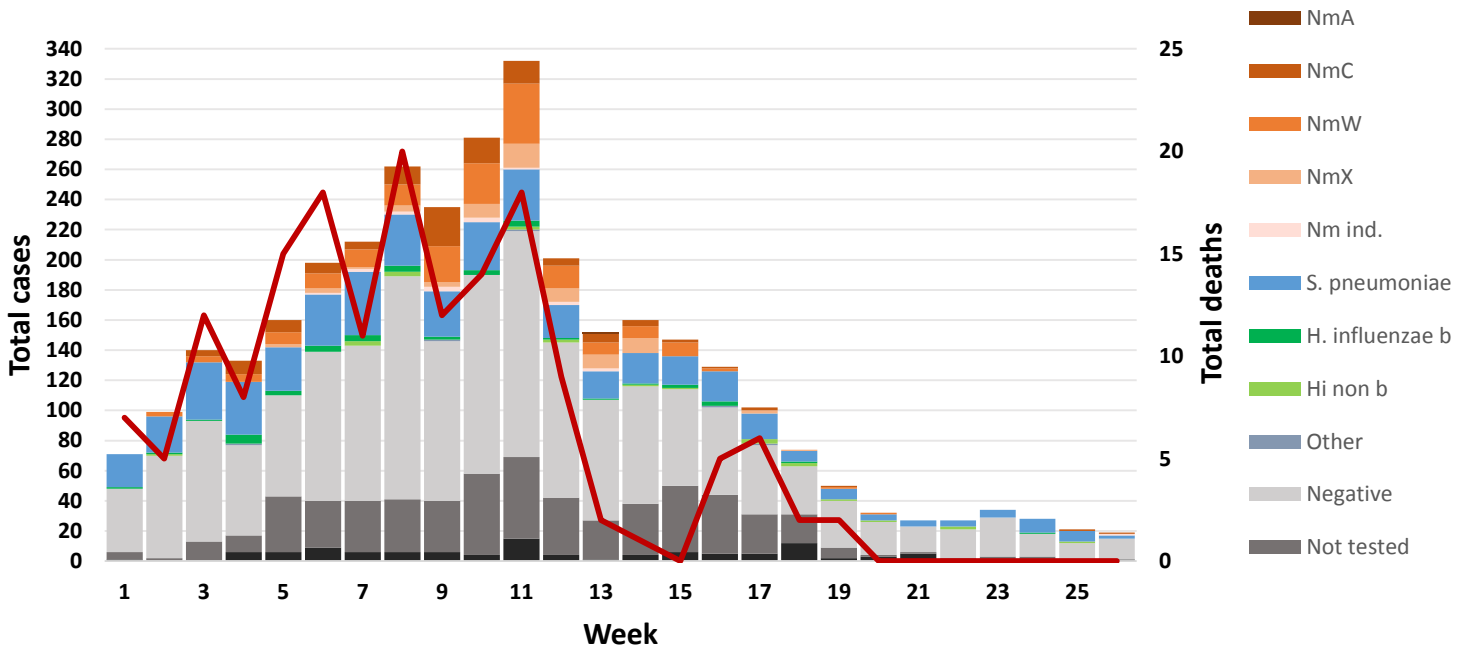
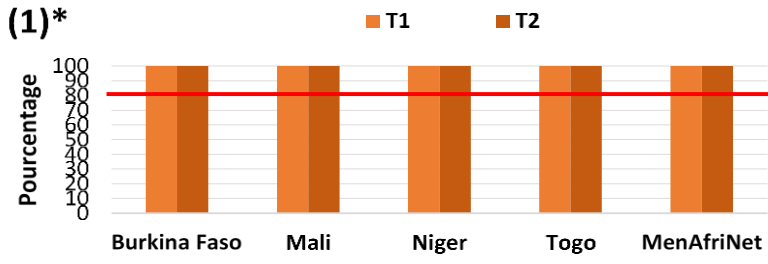
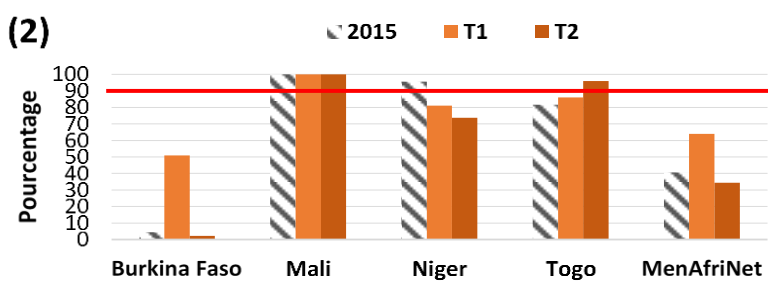


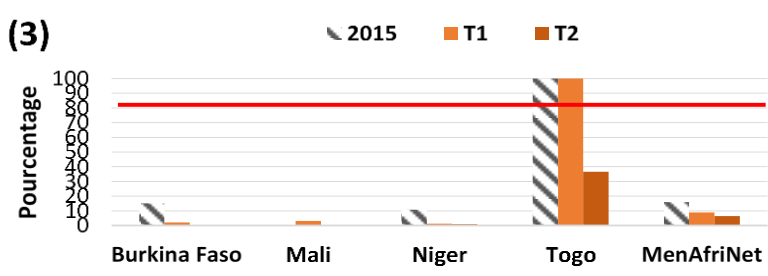
Figure 2. Annual and quarterly trends of surveillance and laboratory performance indicators, 2015 and quarter 1 and 2 of 2016



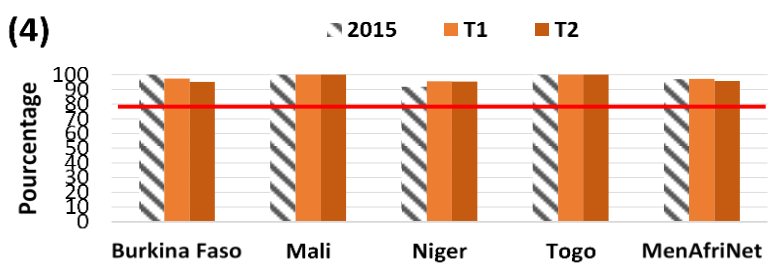
(1)* — Percentage of months that data were submitted on time to WHO-IST/WA by the 7th day of each month
 Threshold: >80%
 *Indicator was modified in 2016 to allow the project to evaluate the timely submission of data at the regional level



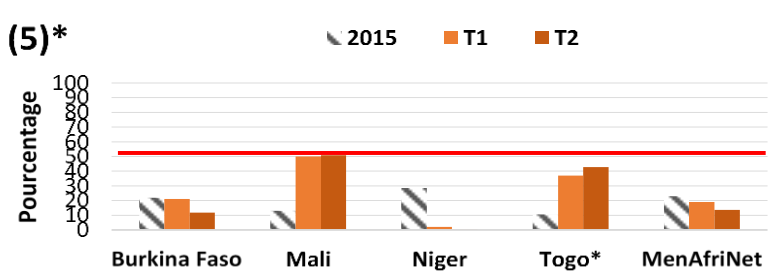
(2) — Percentage of cases with outcome known
 Threshold: > 90%



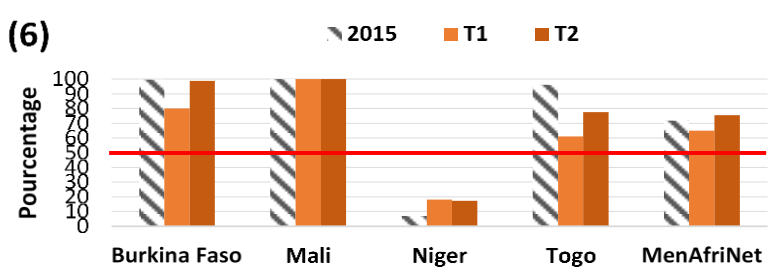
(3) — Percentage of cases vaccinated with MenAfriVac among those with known (yes or no) vaccine status
 Threshold: > 80%



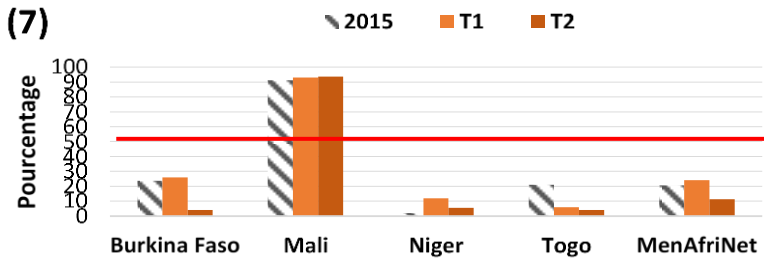
(4) — Percentage of cases with CSF collected
 Threshold: > 80%



(5)* — Percentage of CSF specimen received at any lab in trans-isolate (T-I)
 Threshold: > 50%
 *Togo: the protocol does not require the use of TI for 3 of the 4 hospitals because of their proximity to the lab.



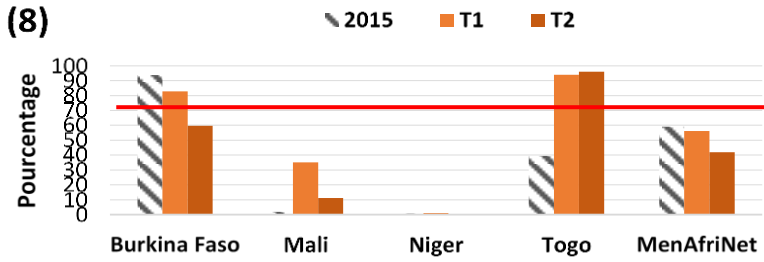
(6) — Percentage of CSF specimens received at the NRL
 Threshold: > 70%



(7) — Percentage of cases with a delay of <7 days between CSF collection date and date CSF received at NRL

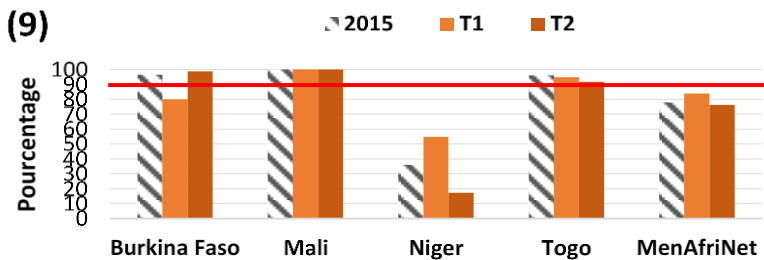
Threshold: > 50%

*Some delays were not calculated because date of collection and/or date of reception at NRL were missing: Burkina Faso—483 (96%); Niger—223 (85%); Togo—24 (49%); MenAfriNet—730 (72%)



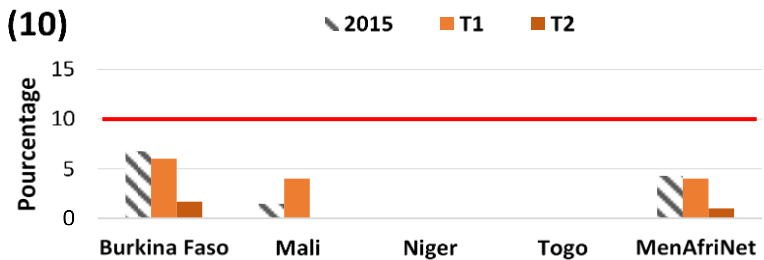
(8) —Percentage of CSF specimen tested at labs other than the NRL by a Gram stain test

Threshold: > 70%



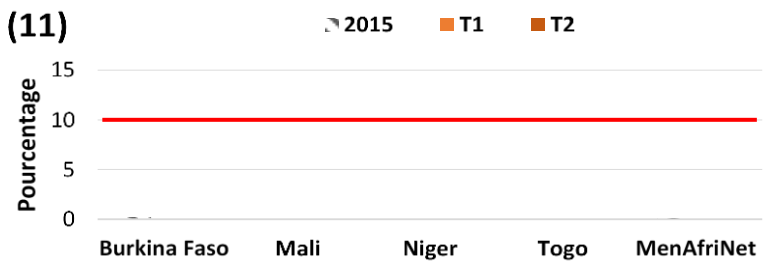
(9) —Percentage of CSF specimen received at the NRL and analyzed by a confirmatory test (culture, PCR, latex or rapid diagnostic test)

Threshold: > 90%



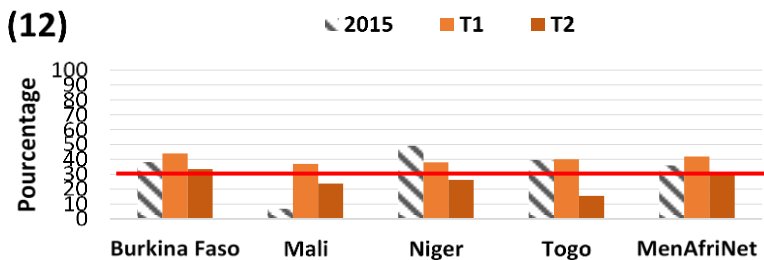
(10) —Percentage of CSF specimen contaminated for culture procedure at the NRL

Threshold: < 10 %



(11) —Percentage of CSF specimen contaminated for PCR procedure at the NRL

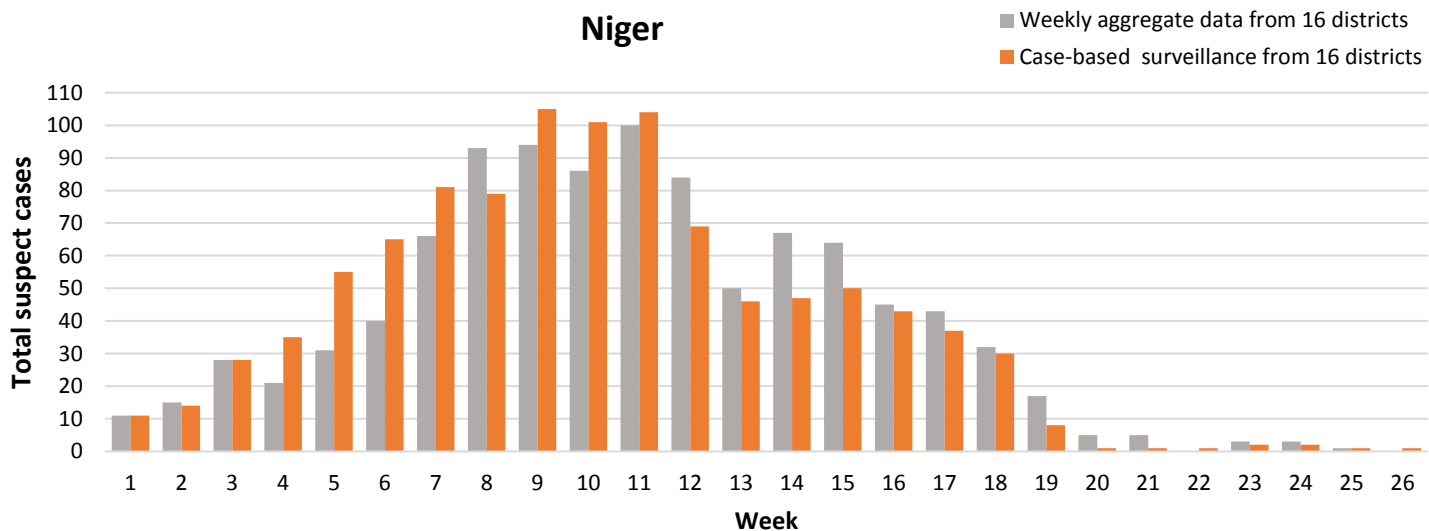
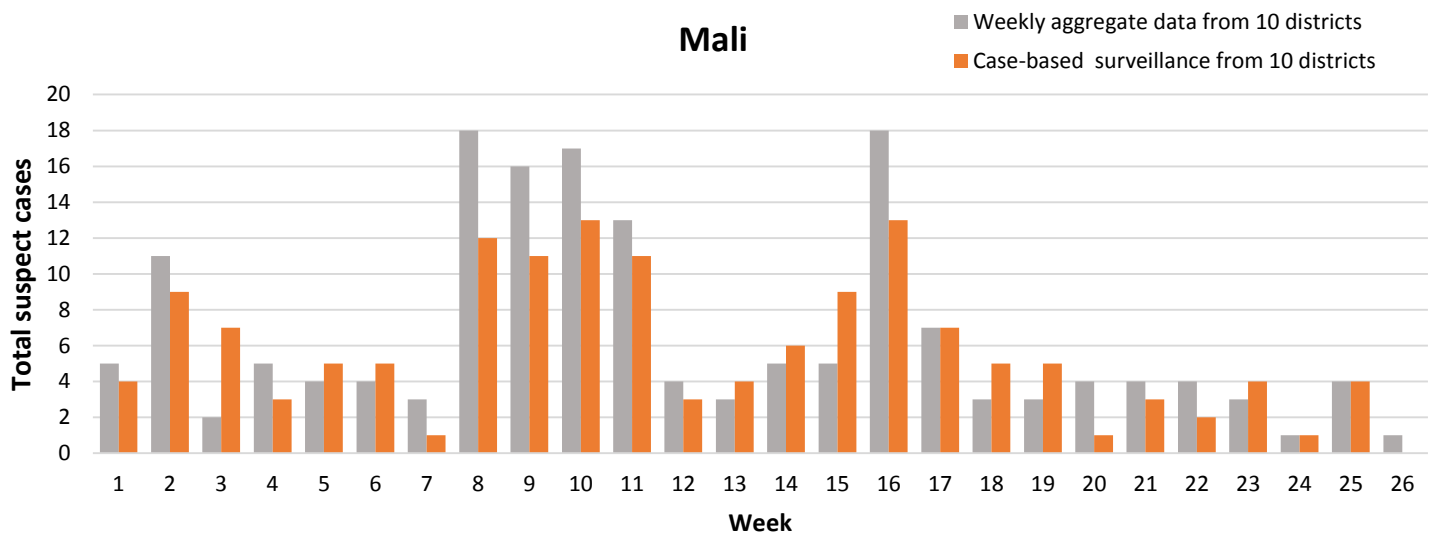
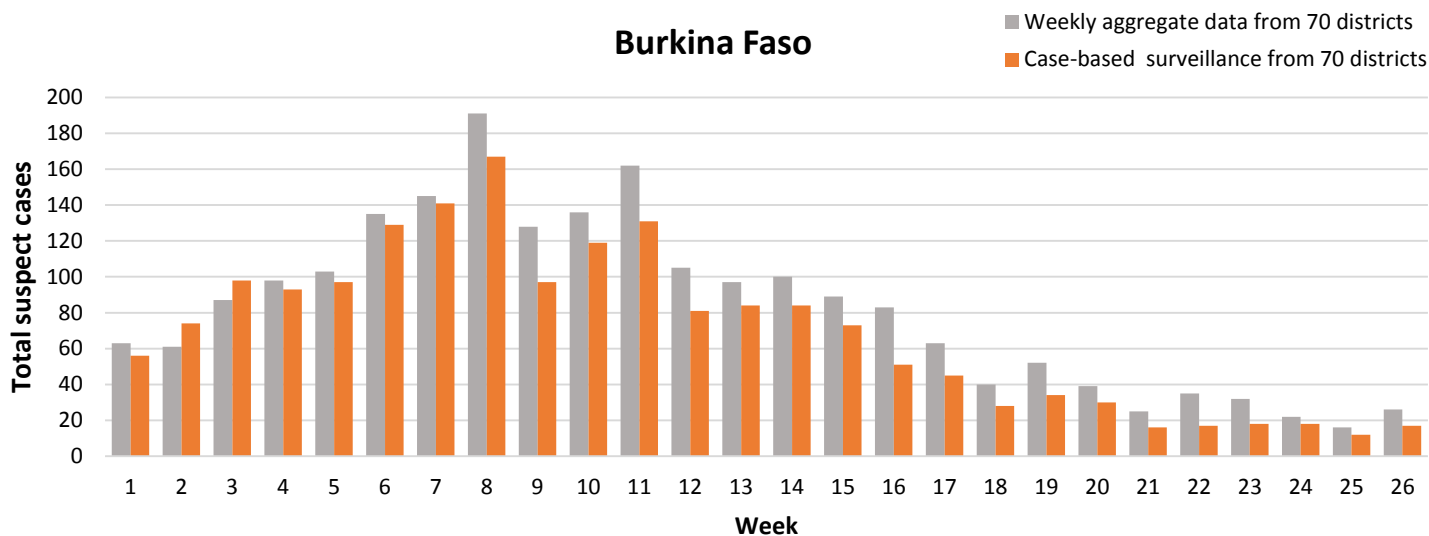
Threshold: < 10 %

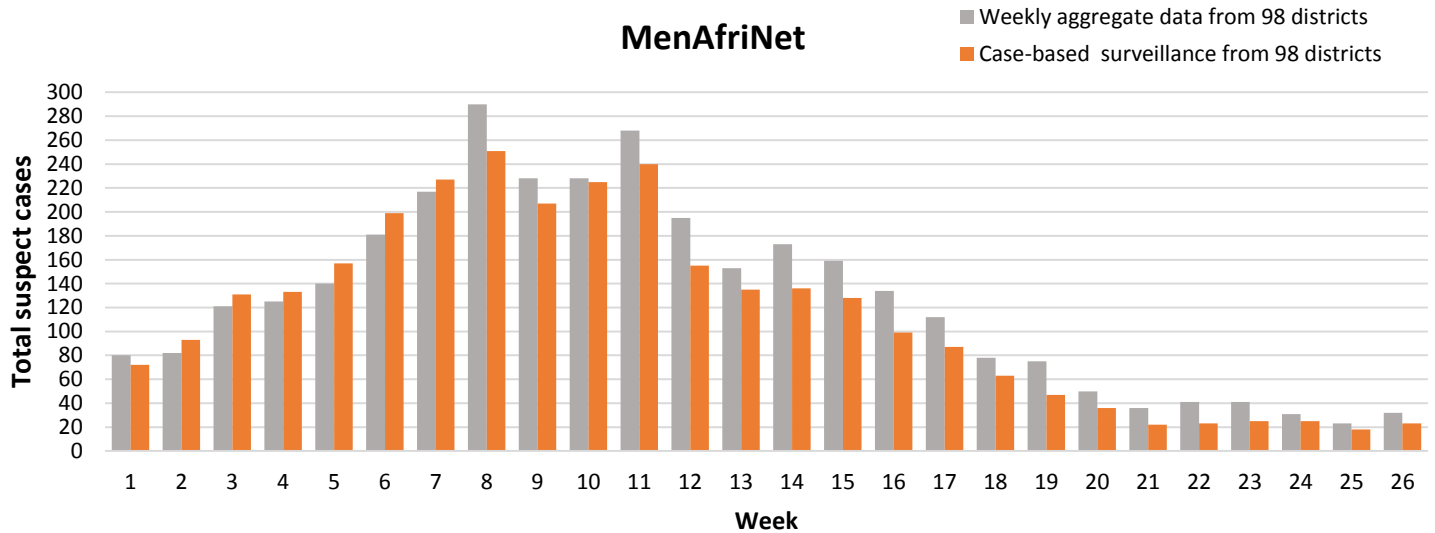
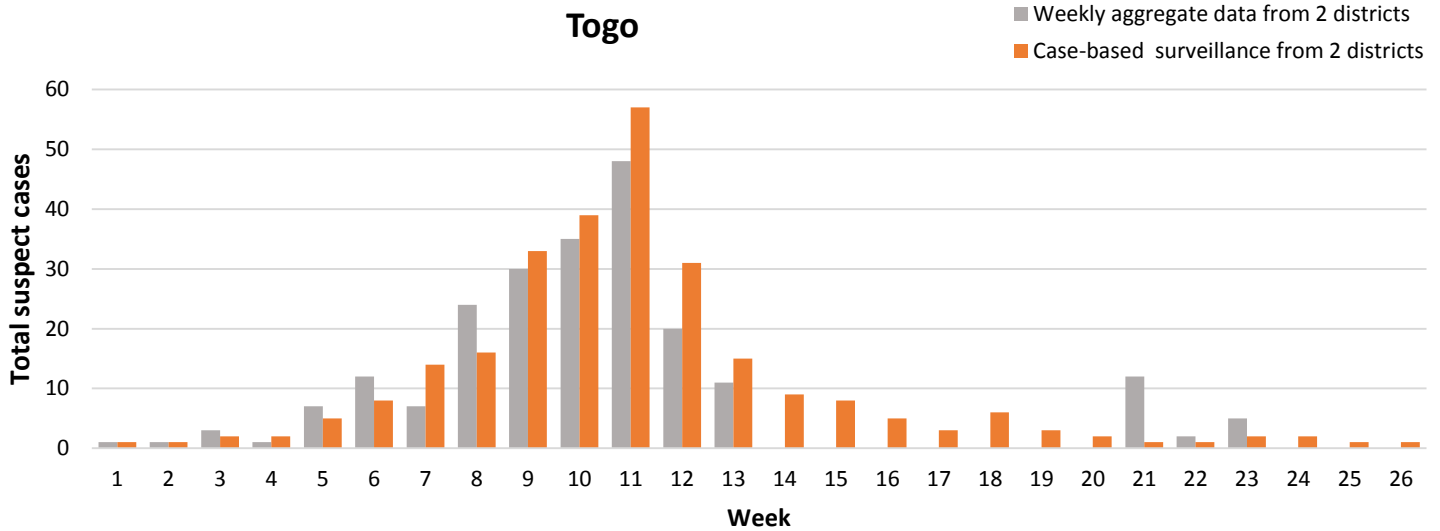


(12) —Percentage of CSF confirmed at the NRL for Hi, Sp and Nm and other pathogens

Threshold: > 30%

Table 3. Comparison of cumulative weekly suspect cases with total suspect cases of the case-based surveillance data from MenAfriNet supported districts (Week: 1-26)





MenAfriNet is a partnership between the CDC, WHO, Agence de Médecine Préventive and other international partners in collaboration with the Ministries of Health of Burkina Faso, Chad, Mali, Niger and Togo to strengthen case-based meningitis surveillance and laboratory capacity confirm cases of meningitis. 2016 is MenAfriNet's first year of implementation.

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