

Table 1. Epidemiological situation, week 40 - 52

95% of suspect cases reported in the MenAfriNet database had a lumbar puncture, 18% of whom were classified as probable bacterial meningitis. 5% of cases with a specimen collected tested positive for meningococcal meningitis. Vaccination status was complete (yes or no) for 49% 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†	37 (53)	8 (80)	14 (88)	1 (25)	2 (100)	62 (61)
Weekly suspect cases	281	37	25	0	0	343
MenAfriNet suspected cases	174	34	138	47	24	371
Deaths	3 (2)	0 (0)	0 (0)	0 (0)	2 (8)	5 (2)
Age (years)						
<1	17 (10)	7 (25)	12 (9)	0 (0)	0 (0)	36 (10)
1-4	88 (51)	9 (32)	32 (24)	0 (0)	2 (8)	131 (37)
5-9	26 (15)	4 (14)	29 (22)	0 (0)	5 (21)	64 (18)
10-14	18 (10)	2 (7)	16 (12)	1 (100)	4 (17)	41 (11)
15-29	11 (6)	2 (7)	19 (15)	0 (0)	4 (17)	36 (10)
≥30	13 (8)	4 (14)	23 (18)	0 (0)	9 (38)	49 (14)
Sex						
Male	89 (52)	21 (62)	80 (58)	0 (0)	11 (46)	201 (54)
Vaccination status known	159 (91)	0 (0)	0 (0)	1 (100)	21 (88)	181 (49)
MenAfriVac§	4 (3)	0 (0)	0 (0)	0 (0)	6 (29)	10 (6)
Laboratory††						
CSF collected	155 (89)	34 (100)	138 (100)	1 (100)	24 (100)	352 (95)
Appearance	92 (59)	18 (53)	47 (35)	0 (0)	24 (100)	181 (52)
Probable bacterial meningitis	41 (26)	0 (0)	8 (6)	0 (0)	10 (42)	59 (17)
Probable meningococcal meningitis	3 (2)	0 (0)	3 (2)	0 (0)	2 (8)	8 (2)
Confirmed bacterial meningitis	25 (20)	3 (11)	24 (17)	0 (0)	5 (23)	57 (18)
Confirmed meningococcal meningitis	2 (2)	0 (0)	11 (8)	0 (0)	3 (14)	16 (5)

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;

†Supported MenAfriNet districts submitting case-based data (denominator = Total number of supported MenAfriNet districts)

§Denominator = number of cases with known (yes or no) vaccination 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 40 - 52

94% of specimens collected in MenAfriNet countries were tested by culture, PCR, Latex or a rapid diagnostic test. *S. pneumoniae* was the predominant pathogen (10%).

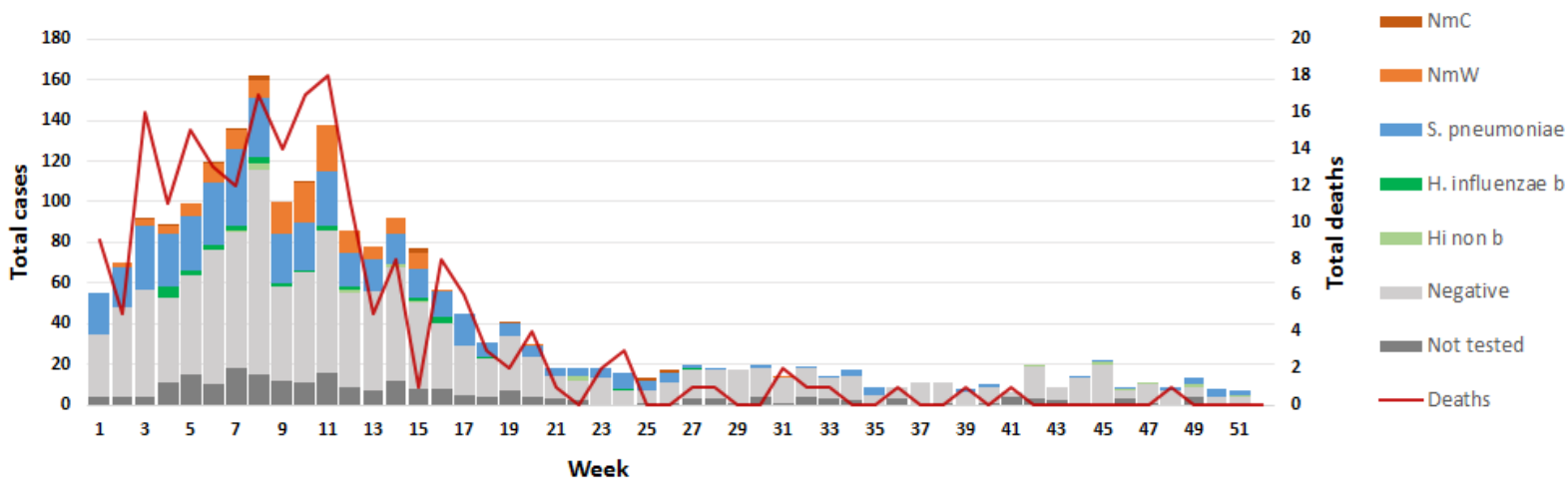
Results	Burkina Faso	Mali	Niger	Tchad	Togo	MenAfriNet
	N (%)					
CSF collected	155 (89)	34 (100)	138 (100)	1 (100)	24 (100)	352 (95)
Gram Stain	42 (27)	34 (100)	23 (17)	0 (0)	22 (92)	121 (34)
CSF received at the NRL	132 (85)	34 (100)	138 (100)	1 (100)	22 (92)	327 (93)
CSF analyzed by a confirmatory test	136 (88)	34 (100)	138 (100)	1 (100)	22 (92)	331 (94)
Culture	16 (12)	34 (100)	20 (14)	1 (100)	22 (100)	93 (28)
PCR	128 (98)	27 (79)	138 (100)	1 (100)	0 (0)	294 (90)
Real-time PCR	128 (98)	27 (79)	138 (100)	1 (100)	0 (0)	156 (100)
Conventional	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Latex	3 (2)	19 (56)	0 (0)	0 (0)	22 (100)	44 (23)
RDT	41 (30)	34 (100)	0 (0)	0 (0)	0 (0)	75 (23)
Final Result						
<i>N. meningitidis</i>						
<i>NmA</i>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<i>NmC</i>	0 (0)	0 (0)	10 (7)	0 (0)	0 (0)	10 (3)
<i>NmW</i>	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	1 (0)
<i>NmX</i>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<i>Nm ind</i>	2 (2)	0 (0)	0 (0)	0 (0)	3 (14)	5 (2)
<i>S. pneumoniae</i>	17 (13)	2 (7)	11 (8)	0 (0)	2 (9)	32 (10)
<i>H. influenzae</i>						
<i>b</i>	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Non- <i>b</i>	6 (5)	1 (4)	2 (1)	0 (0)	0 (0)	9 (3)
Other germs	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Negative§	103 (80)	24 (89)	113 (82)	1 (100)	17 (77)	258 (82)

Abbreviation: b, *H. influenzae* serotype b; CSF, cerebrospinal fluid; Hi, *H. influenzae*, *NmA*, *N. meningitidis* serogroup A; *NmC*, *N. meningitidis* serogroup C; *NmW*, *N. meningitidis* serogroup W; *NmX*, *N. meningitidis* serogroup X; non-B, *H. influenzae* serotype non-b; NRL, national reference laboratory; *Nm ind*, *N. meningitidis* indeterminate; *Sp*, *S. pneumoniae*; RDT, rapid diagnostic test;

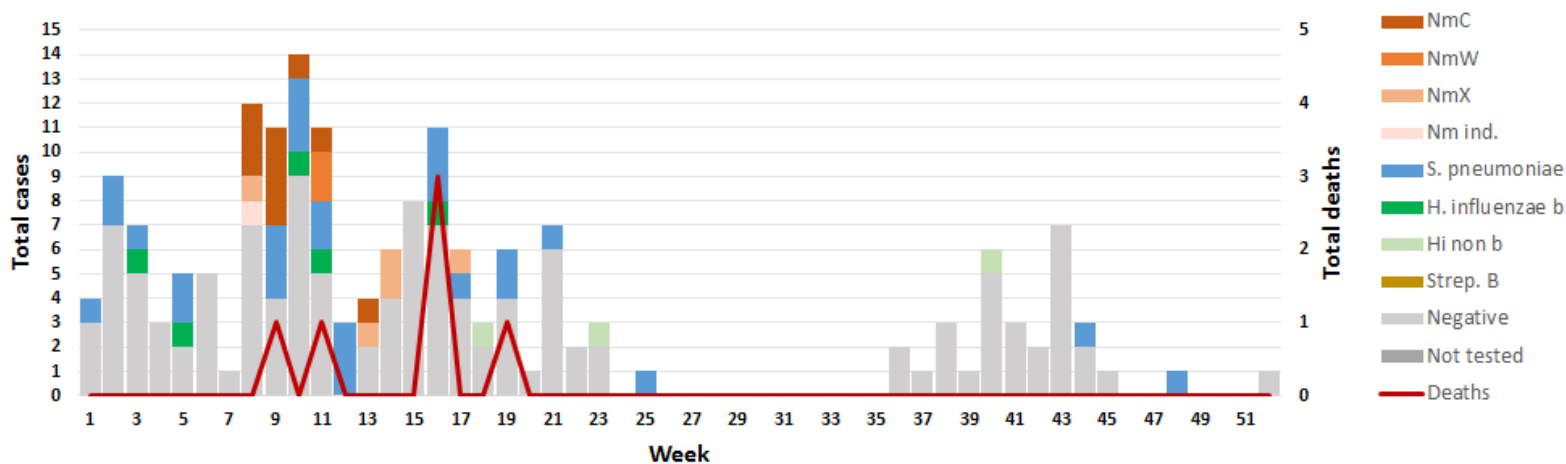
§ Tested negative for all pathogens and serogroups

Figure 1. Epidemic Curve, Week 40 - 52

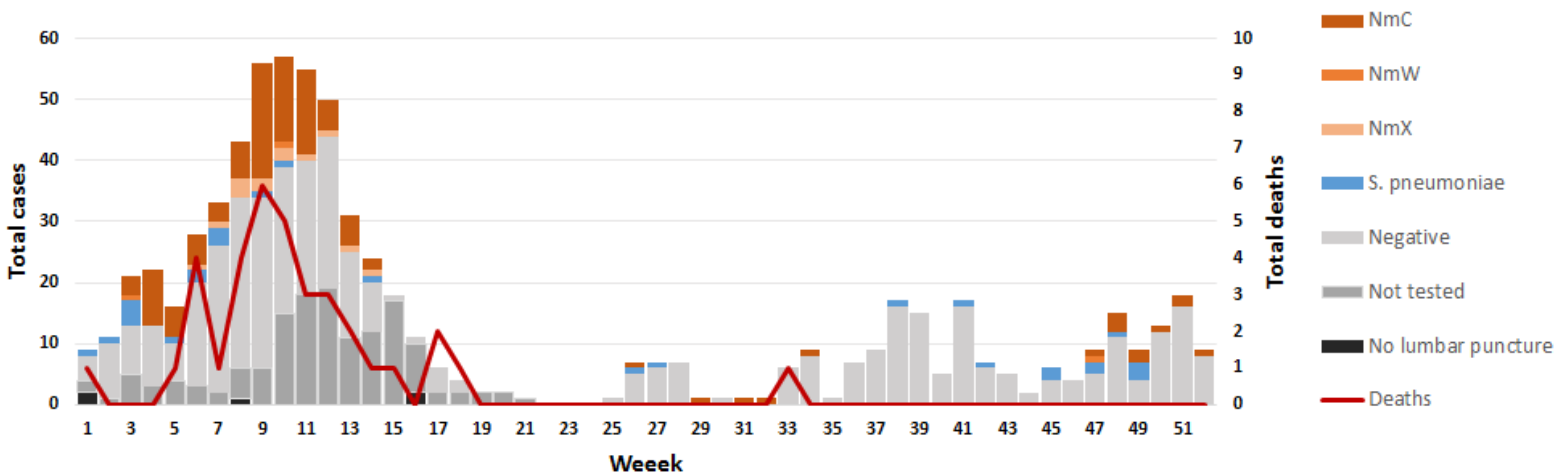
Burkina Faso



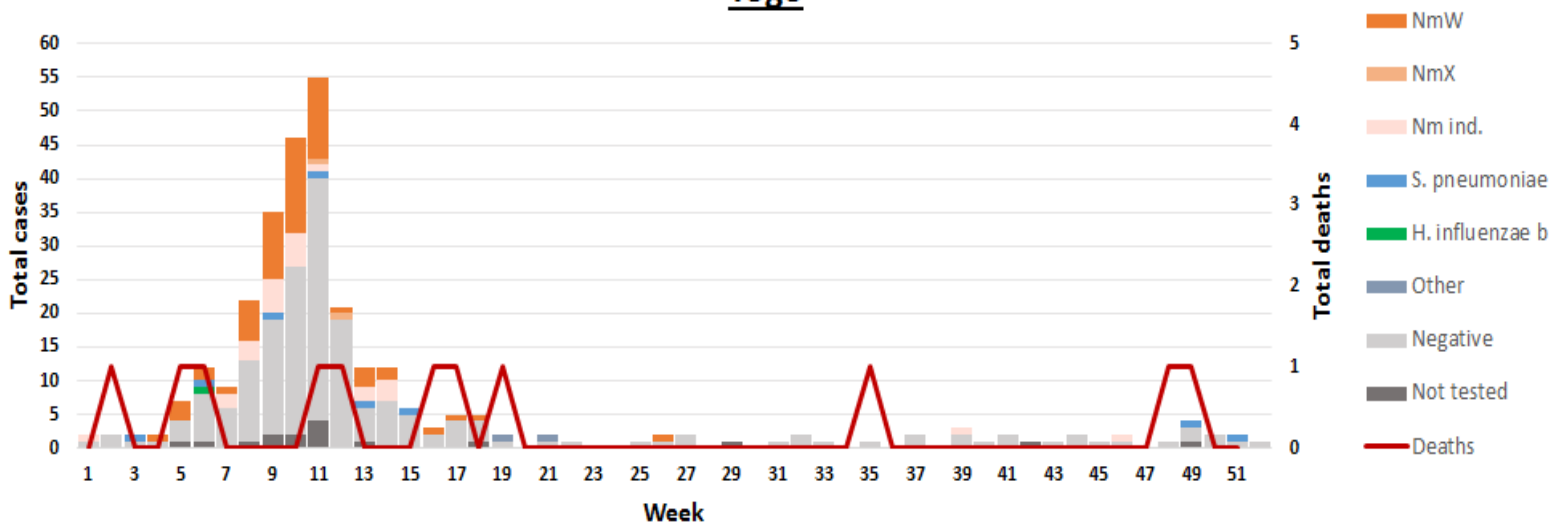
Mali



Niger



Togo



MenAfriNet

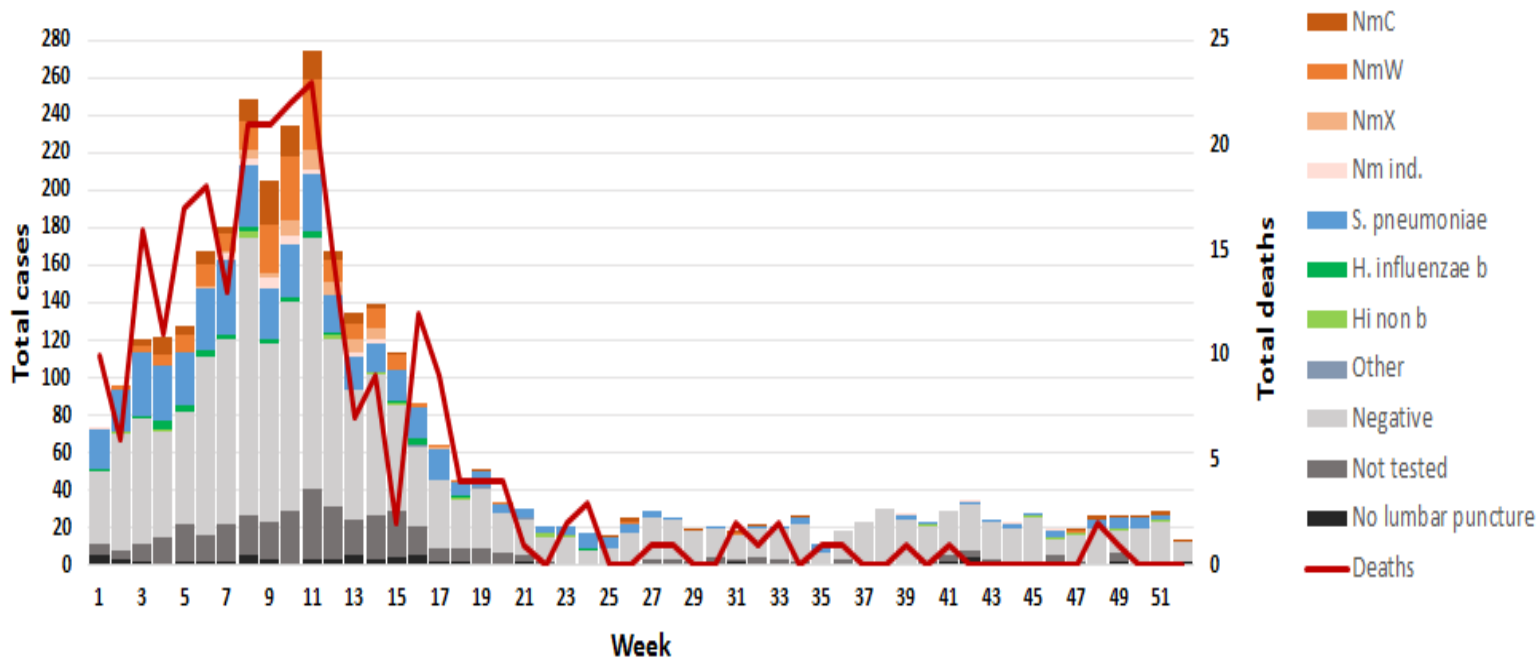
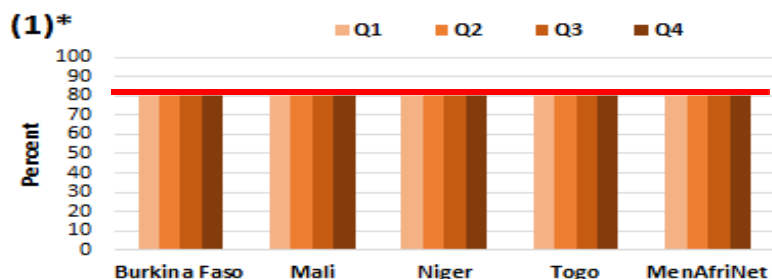


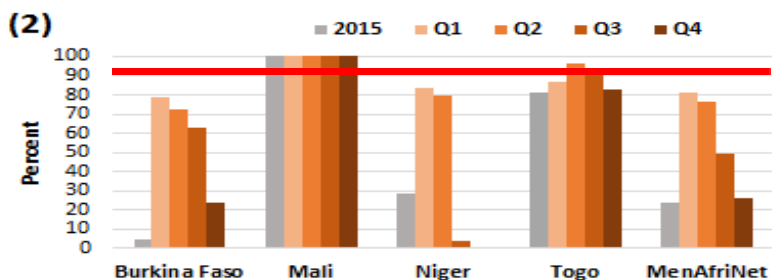
Figure 2. Annual and Quarterly Trends of Surveillance and Laboratory Performance Indicators, 2015 and Quarter 1, 2, 3 and 4 of 2016



(1)* — Percentage of months that data were submitted on time to WHO-IST/WA by the 7th day of each month

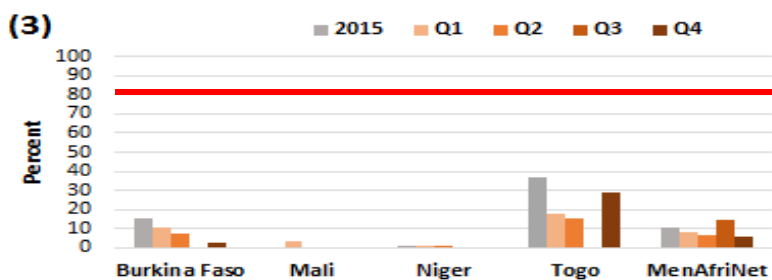
Threshold: > 80%

*Indicator was modified in 2016 to allow the project to evaluate the timely submission of data at the regional level



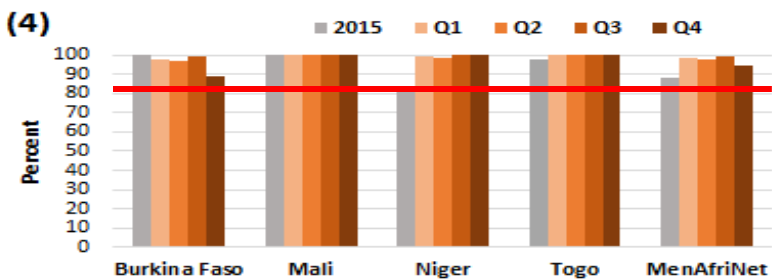
(2) — Percentage of cases with outcome known

Threshold: > 90%



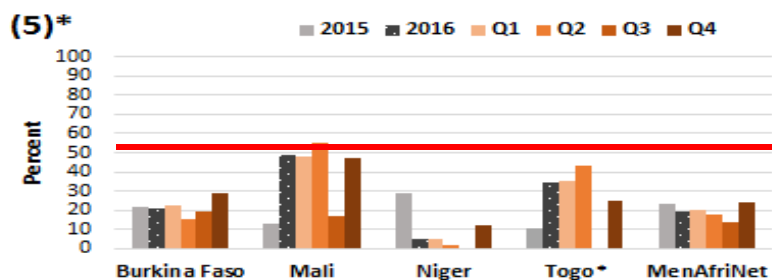
(3) — Percentage of cases vaccinated with MenAfriVac among those with known (yes or no) vaccine status

Threshold: > 80%



(4) — Percentage of cases with CSF collected

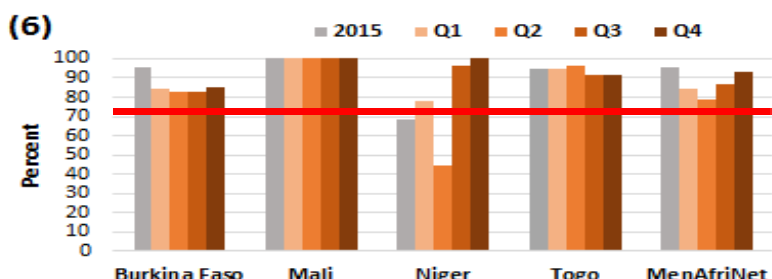
Threshold: > 80%



(5)* — Percentage of CSF specimen received at any lab in trans-isolate (T-I)

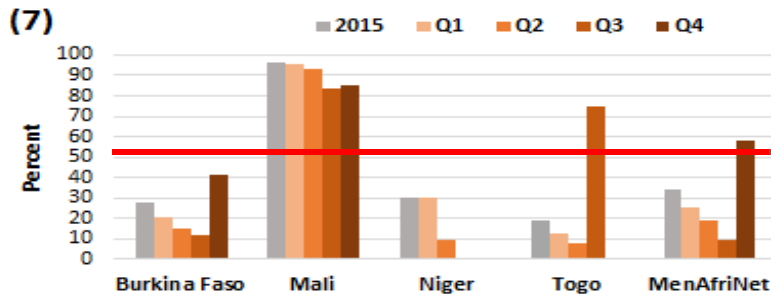
Threshold: > 50%

*Togo: the protocol does not require the use of TI for 3 of the 4 hospitals because of their proximity to the lab.

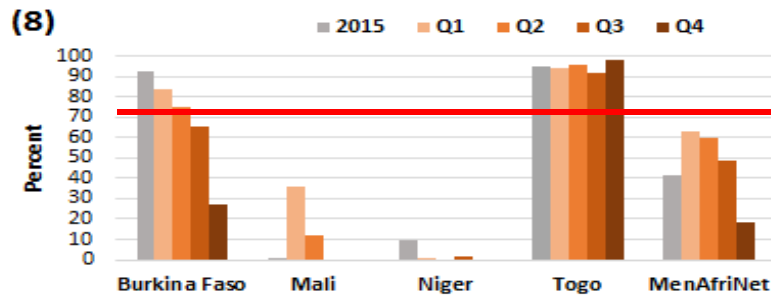


(6) — Percentage of CSF specimens received at the NRL

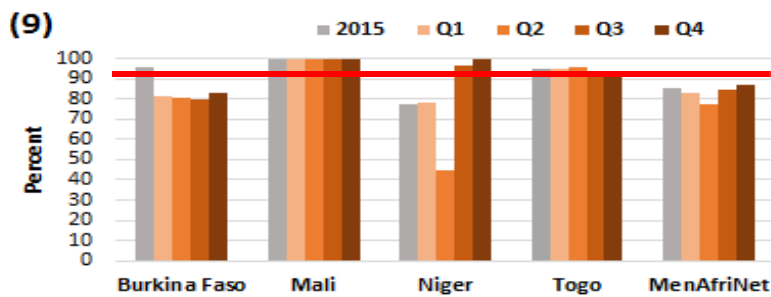
Threshold: > 70%



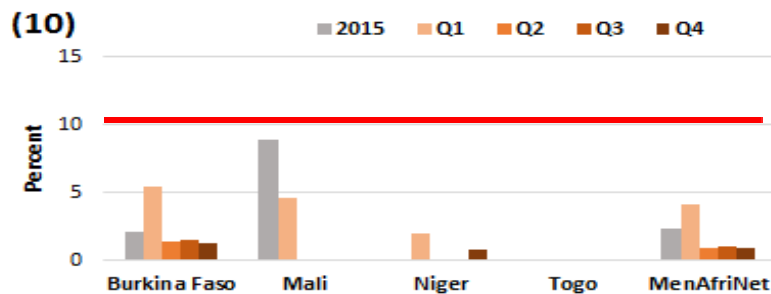
(7) — Percentage of cases with a delay of <7 days between CSF collection date and date CSF received at NRL
 Threshold: > 50%



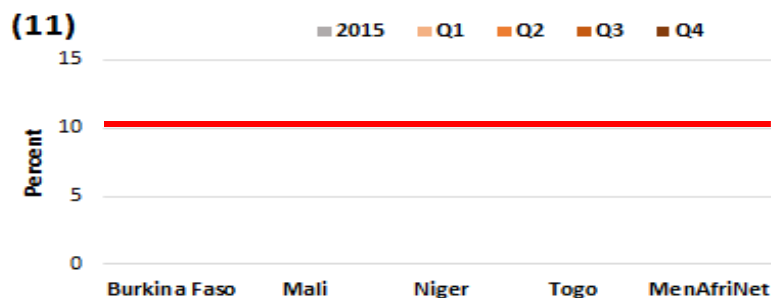
(8) — Percentage of CSF specimen tested at labs other than the NRL by a Gram stain test
 Threshold: > 70%



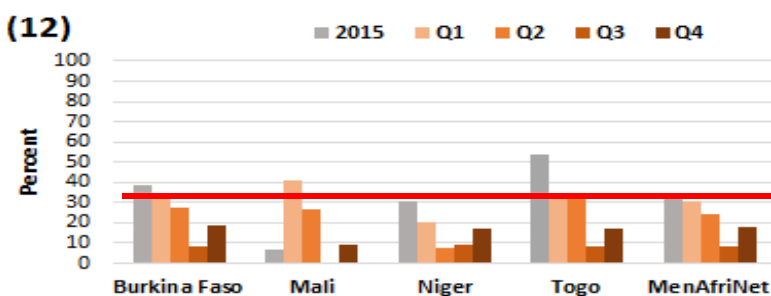
(9) — Percentage of CSF specimen received at the NRL and analyzed by a confirmatory test (culture, PCR, latex or rapid diagnostic test)
 Threshold: > 90%



(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%

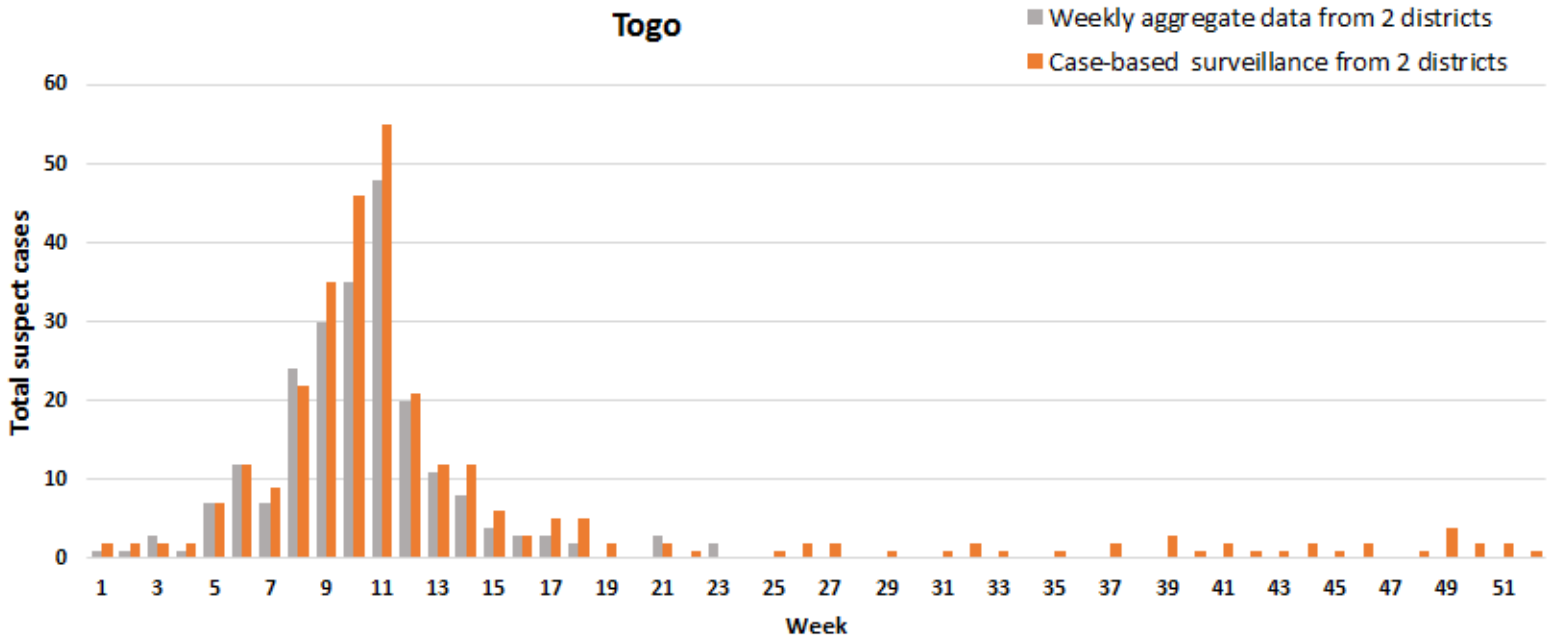


(12) — Percentage of CSF confirmed at the NRL for Hi, Sp and Nm and other pathogens
 Threshold: > 30%

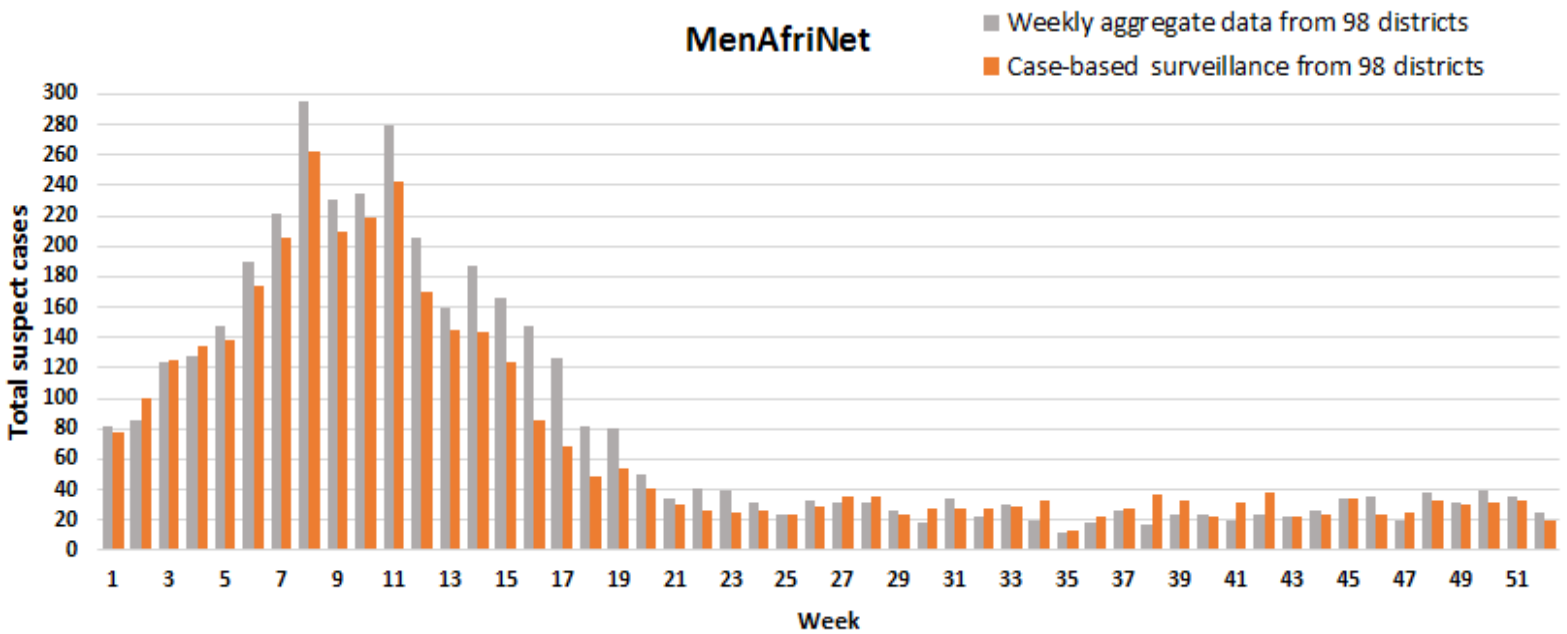
Figure 3. Comparison between aggregate reporting and case-based surveillance data from MenAfriNet supported districts



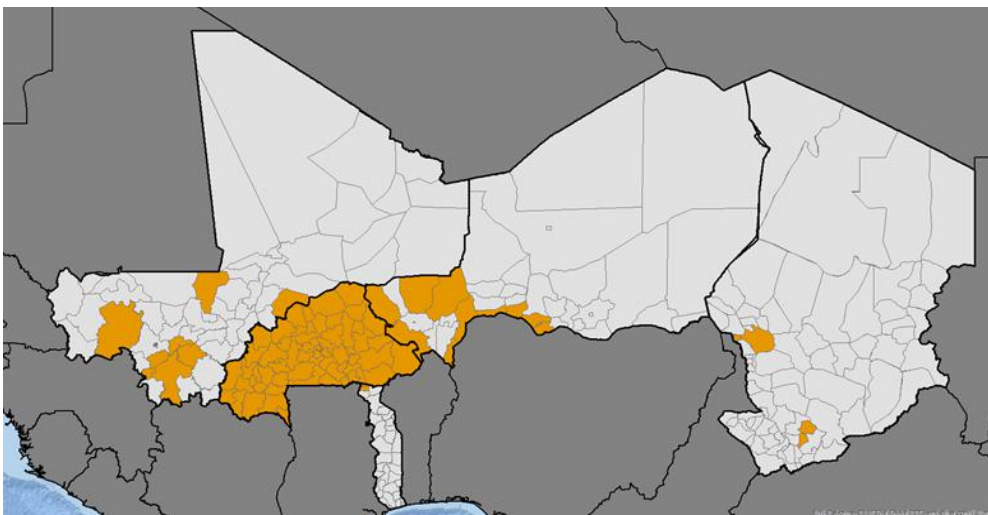
Togo



MenAfriNet



MenAfriNet Supported Districts 2016



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. 2015 is MenAfriNet's first year of implementation.