

Supplementary table 1. Capture–recapture analysis of serogroup B meningococcal invasive disease reported to the SDR and MRS stratified by different characteristics, Catalonia 2011–2015

	No. records in SDR	No. records in MRS	Matched records	Calculated unreported cases	Estimated total no. of cases (95% CI)	Sensitivity SDR (%) (95% CI)	Sensitivity MRS (%) (95% CI)	Difference in sensitivities (%)	p-value
All cases	164	153	114	17	220 (209, 232)	74.6 (68.8, 80.3)	69.6 (63.5, 75.6)	5.0	<0.001
Age group									
<15 years	110	110	78	13	155 (146, 165)	71.0 (63.8, 78.1)	71.0 (63.8, 78.1)	0.0	0.656
≥15 years	53	42	35	4	64 (59, 69)	83.5 (74.3, 92.6)	66.1 (54.5, 77.8)	17.3	
Sex									
Male	86	76	62	6	106 (100, 112)	81.7 (74.3, 89.1)	72.2 (63.6, 80.7)	9.5	0.099
Female	78	77	52	13	116 (106, 126)	67.7 (59.1, 76.2)	66.8 (58.2, 75.4)	0.9	
Year of report									
2011–2013	95	91	60	18	144 (132, 157)	66.1 (58.3, 73.8)	63.3 (55.4, 71.2)	2.8	0.002
2014–2015	69	62	54	3	80 (76, 83)	87.1 (79.7, 94.5)	78.3 (69.2, 87.4)	8.8	
Size of municipality									
<10,000 people	22	24	20	1	27 (26, 28)	83.3 (69.1, 97.6)	90.9 (79.9, 100.0)	-7.6	0.059
≥10,000 people	137	114	91	12	172 (163, 181)	79.9 (73.9, 85.9)	66.5 (59.4, 73.5)	13.4	
Country of birth									
Spain	152	144	107	16	205 (194, 215)	74.4 (68.4, 80.4)	70.4 (64.2, 76.7)	3.9	0.631
Other countries	12	9	7	2	16 (13, 19)	78.9 (58.4, 99.5)	59.2 (34.5, 83.9)	19.7	
Number of hospital beds									
<200	49	52	33	9	77 (69, 86)	63.7 (53.0, 74.5)	67.6 (57.2, 78.1)	-3.9	0.095

>=200	113	101	81	8	141 (134, 148)	80.3 (73.7, 86.8)	71.7 (64.3, 79.2)	8.5	
Clinical form									
Meningitis	91	100	70	9	130 (122, 138)	70.1 (62.2, 77.9)	77.0 (69.7, 84.2)	-6.9	0.972
Septicaemia	66	51	43	5	79 (73, 84)	84.4 (76.4, 92.4)	65.2 (54.7, 75.8)	19.2	
Type of reporting centre									
Private	14	1	1	0	14 (14, 14)	100 (100, 100)	7.1 (-6.4, 20.6)	92.9	0.004
Public	149	152	113	13	201 (192, 210)	74.4 (68.4, 80.4)	75.9 (70, 81.8)	-1.5	

SDR: Statutory disease reporting; MDR: Microbiological reporting system

Supplementary table 2. Capture–recapture analysis of serogroup C meningococcal invasive disease reported to the SDR and MRS stratified by different characteristics, Catalonia 2011-2015

	No. records in SDR	No. records in MRS	Matched records	Calculated unreported cases	Estimated total no. of cases (95% CI)	Sensitivity SDR (%) (95% CI)	Sensitivity MRS (%) (95% CI)	Difference in sensitivities (%)	p-value
All cases	26	21	16	3	34 (30, 39)	76.7 (62.5, 90.9)	62.0 (45.6, 78.3)	14.8	0.035
Age group									
<15 years	4	4	4	0	4 (4, 4)	100.0 (100.0, 100.0)	100.0 (100.0, 100.0)	0.0	0.992
≥15 years	22	17	12	4	31 (25, 37)	71.4 (55.5, 87.4)	55.2 (37.6, 72.8)	16.2	
Sex									
Male	13	11	7	3	20 (15, 26)	65.0 (44.1, 85.9)	55.0 (33.2, 76.8)	10.0	0.368
Female	13	10	9	1	15 (13, 16)	90.3 (75.0, 100.0)	69.4 (45.7, 93.2)	20.8	
Year of report									
2011-2013	12	10	6	4	20 (14, 26)	61.9 (40.2, 83.5)	51.6 (29.3, 73.8)	10.3	0.110
2014-2015	14	11	10	1	16 (14, 17)	90.9 (76.6, 100.0)	71.4 (48.9, 94.0)	19.5	
Size of municipality									
<10,000 people	3	2	2	0	3 (3, 3)	100.0 (100.0, 100.0)	66.7 (13.3, 100.0)	33.3	0.591
≥10,000 people	21	15	12	3	27 (23, 30)	80.5 (65.3, 95.7)	57.5 (38.5, 76.4)	23.0	
Country of birth									
Spain	22	19	14	3	30 (26, 35)	74.1 (58.3, 89.8)	64.0 (46.7, 81.2)	10.1	0.945
Other countries	4	2	2	0	4 (4, 4)	100.0 (100.0, 100.0)	50.0 (1.0, 99.0)	50.0	
Number of hospital beds									

<200	7	5	5	0	7 (7, 7)	100.0 (100.0, 100.0)	71.4 (38.0, 104.9)	28.6	0.283
≥200	18	16	11	3	26 (22, 31)	69.5 (51.8, 87.2)	61.8 (43.1, 80.5)	7.7	
Clinical form									
Meningitis	16	16	11	3	24 (20, 27)	69.3 (50.4, 88.1)	69.3 (50.4, 88.1)	0.0	0.908
Septicaemia	8	4	4	0	8 (8, 8)	100.0 (100.0, 100.0)	50.0 (15.4, 84.7)	50.0	
Type of reporting centre									
Private	4	0	0	0	4 (4, 4)	100.0 (100.0, 100.0)	0 (0.0, 0.0)	100	0.992
Public	22	21	16	2	29 (26, 33)	76.4 (60.9, 91.9)	72.9 (56.7, 89.2)	3.5	

SDR: Statutory disease reporting; MDR: Microbiological reporting system

Supplementary table 3. Capture–recapture analysis of all deaths due to meningococcal invasive disease reported to the SDR and MRS stratified by different characteristics, Catalonia 2011-2015

	No. records in SDR	No. records in MRS	Matched records	Calculated unreported cases	Estimated total no. of cases (95% CI)	Sensitivity SDR (%) (95% CI)	Sensitivity MRS (%) (95% CI)	Difference in sensitivities (%)	p-value
All cases	22	11	11	0	22 (22, 22)	100.0 (100.0, 100.0)	50.0 (29.1, 70.9)	50.0	0.104
Age group									
<15 years	6	4	4	0	6 (6, 6)	100.0 (100.0, 100.0)	66.7 (28.9, 100.0)	33.3	0.346
≥15 years	16	7	7	0	16 (16, 16)	100.0 (100.0, 100.0)	43.8 (19.4, 68.1)	56.3	
Sex									
Male	16	7	7	0	16 (16, 16)	100.0 (100.0, 100.0)	43.8 (19.4, 68.1)	56.2	0.346
Female	6	4	4	0	6 (6, 6)	100.0 (100.0, 100.0)	66.7 (29.0, 100.0)	33.3	
Year of report									
2011-2013	16	6	6	0	16 (16, 16)	100.0 (100.0, 100.0)	31.3 (8.5, 54.0)	68.8	0.080
2014-2015	6	5	5	0	6 (6, 6)	100.0 (100.0, 100.0)	83.3 (53.5, 100.0)	16.7	
Size of municipality									
<10,000 people	3	3	3	0	3 (3, 3)	100.0 (100.0, 100.0)	100.0 (100.0, 100.0)	0.0	0.991
≥10,000 people	19	8	8	0	19 (19, 19)	100.0 (100.0, 100.0)	42.1 (19.9, 64.3)	57.9	
Country of birth									
Spain	20	10	10	0	20 (20, 20)	100.0 (100.0, 100.0)	50.0 (28.1, 71.9)	50.0	1.000
Other countries	2	1	1	0	2 (2, 2)	100.0 (100.0, 100.0)	50.0 (0.0, 100.0)	50.0	
Number of hospital beds									
<200	4	2	2	0	4 (4, 4)	100.0 (100.0, 100.0)	50.0 (1.0, 99.0)	50.0	0.822
≥200	16	9	9	0	16 (16, 16)	100.0 (100.0, 100.0)	56.3 (31.9, 80.6)	43.7	
Clinical form									
Meningitis	7	4	4	0	7 (7, 7)	100.0 (100.0, 100.0)	57.1 (20.5, 93.8)	42.9	0.648
Septicaemia	15	7	7	0	15 (15, 15)	100.0 (100.0, 100.0)	46.7 (21.4, 71.9)	53.3	

Type of reporting centre									
Private	2	0	0	0	2 (2, 2)	100.0 (100.0, 100.0)	0 (0.0, 0.0)	100	0.992
Public	20	11	11	0	20 (20, 20)	100.0 (100.0, 100.0)	55 (33.2, 76.8)	45	
Serogrup									
B	17	9	9	0	17 (17, 17)	100.0 (100.0, 100.0)	52.9 (29.2, 76.7)	47.1	0.332
C	4	1	1	0	4 (4, 4)	100.0 (100.0, 100.0)	25.0 (0.0, 67.4)	75.0	

SDR: Statutory disease reporting; MDR: Microbiological reporting system