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England

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# Laboratory confirmed cases of invasive meningococcal infection (England): October to December 2017

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In England, the national Public Health England (PHE) Meningococcal Reference Unit (MRU) confirmed 172 cases of invasive meningococcal disease (IMD) between October and December 2017 [1]. IMD cases were 15% lower during these three months compared to 202 cases in the equivalent period in 2016 (table 1).

The age distribution of meningococcal capsular groups causing IMD is summarised in table 2, with capsular group B (MenB) accounting for 47% (80/172) of all cases, followed by MenW (n=53, 31%), MenY (n=25, 15%), MenC (n=13, 8%) and one ungrouped.

There were 80 MenB cases confirmed between October and December 2017, a decrease of 27% from 110 cases in the same period in 2016. Confirmed cases of MenW, MenY and MenC were similar to the number of cases confirmed in the equivalent period 2016 (table 1). There were no reported cases for capsular groups A, X, Z/E and ungroupable.

Between October and December 2017 MenB was responsible for the majority of IMD cases in children aged less than five years of age (29/44, 66%) but, as expected, contributed to a lower proportion of cases in older age groups (table 2). The introduction of a routine national MenB immunisation programme for infants was announced in June 2015 [2] with immunisation of infants starting from 1 September 2015. Preliminary vaccine coverage estimates for infant MenB immunisation are 95.0% for one dose, 92.9% for two doses and 87.4% for the booster dose by 18 months age (evaluated between August and December 2017) [3]. The two-dose infant MenB schedule has been shown to be highly effective in preventing MenB disease in infants [4].

Of the 53 MenW cases confirmed between October and December 2017, 43% (n=23) were aged 65 years or older followed by adults aged 45 to 64 years (n=11, 21%). The increase in MenW cases, which has been previously reported [5,6], led to the introduction of MenACWY conjugate vaccine to the national immunisation programme in England [7,8].

Targeted catch-up with MenACWY vaccine began in August 2015 at which time it also replaced the existing time-limited MenC 'freshers' vaccination programme. MenC vaccine was also directly substituted with MenACWY vaccine in the routine adolescent schools programme (school year 9 or 10) from Autumn 2015.

National cumulative MenACWY vaccine coverage to the end of November 2017 was 38.4% for the third GP based catch-up cohort (aged 18-19 years during the 2017/2018 academic year), higher than either of the two previous cohorts at the equivalent time point [9].

Coverage for the first cohorts to be routinely offered MenACWY vaccine in schools from September 2015 and evaluated up to the end August 2017 was 83.6% (Year 9 in 2016/2017), 82.5% (Year 10) 79.0% (Year 11) and 71.4% (Year 12) [10].

All teenage cohorts remain eligible for opportunistic MenACWY vaccination until their 25<sup>th</sup> birthday and it is important that these teenagers continue to be encouraged to be immunised, particularly if they are entering Higher Educations Institutions. A first assessment of the MenACWY vaccination impact in the 2015 school leaver cohort has been published [11].

The impact of the MenACWY teenage vaccination and the MenB infant programme continue to be monitored.

**Table 1. Invasive meningococcal disease in England by capsular group and laboratory testing method: October – December 2017**

Capsular groups~	CULTURE AND PCR		CULTURE ONLY		PCR ONLY		Total	
	2016	2017	2016	2017	2016	2017	2016	2017
	Q4	Q4	Q4	Q4	Q4	Q4	Q4	Q4
B	30	24	21	15	59	41	110	80
C	4	4	4	4	2	5	10	13
W	13	11	34	33	12	9	59	53
Y	3	7	14	12	3	6	20	25
Other*	0	0	0	0	3	1	3	1
Total	50	46	73	64	79	62	202	172

~No cases of groups A, X, Z/E or ungroupable were confirmed during the periods summarised in the table.

\* Other includes ungrouped (ungroupable refers to invasive clinical meningococcal isolates that were non-groupable, while ungrouped cases refers to culture-negative but PCR screen (ctrA) positive and negative for the four genogroups [B, C, W and Y] routinely tested for).

**Table 2. Invasive meningococcal disease in England by capsular group and age group at diagnosis: October – December 2017**

Age groups	Capsular Group~					Total	%
	B	C	W	Y	Other*		
<1 year	8	2	6	2	0	18	10.5
1-4 years	21	0	4	1	0	26	15.1
5-9 years	6	4	1	1	1	13	7.6
10-14 years	6	0	1	1	0	8	4.7
15-19 years	16	1	2	1	0	20	11.6
20-24 years	3	0	0	2	0	5	2.9
25-44 years	7	2	5	2	0	16	9.3
45-64 years	8	3	11	7	0	29	16.9
>=65 years	5	1	23	8	0	37	21.5
Total	80	13	53	25	1	172	

~No cases of groups A, X, Z/E or ungroupable were confirmed during the periods summarised in the table.

\* Other includes ungrouped (ungroupable refers to invasive clinical meningococcal isolates that were non-groupable, while ungrouped cases refers to culture-negative but PCR screen (ctrA) positive and negative for the four genogroups [B, C, W and Y] routinely tested for).

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