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Laboratory confirmed cases of invasive meningococcal infection (England): January to March 2019

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In England, the national Public Health England (PHE) Meningococcal Reference Unit (MRU) confirmed 170 cases of invasive meningococcal disease (IMD) between January and March 2019 [1]. IMD cases were 41% lower during these three months compared to 288 cases in the equivalent period in 2018 (table 1). This relatively low level of confirmed cases was observed across all capsular groups.

The age distribution of meningococcal capsular groups causing IMD is summarised in table 2, with capsular group B (MenB) accounting for 59% (101/170) of all cases, followed by MenW (n=38, 22%), MenY (n=20, 12%) and MenC (n=11, 7%).

There were 101 MenB cases confirmed between January and March 2019, 32% lower than the equivalent period in 2018 (149 cases). In this quarter, the number of cases confirmed with MenW disease was 49% lower (38 cases) in 2019 than the equivalent period in 2018 (74 cases) and similarly MenY and MenC cases were both 50% lower than the number of cases confirmed in the same time period in 2018 (table 1). There were no reported cases for capsular groups A, X and Z/E.

Between January and March 2019, MenB was responsible for the majority of IMD cases in children aged less than five years of age (33/37, 89%) followed by MenW (8%, n=3) and one case confirmed with MenC. MenB also accounted for two-third of cases in individuals aged between 5 and 64 years (65%) but only accounted for 20% of cases in adults aged 65 years or more (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. Vaccine coverage estimates for infant MenB immunisation across England was 92.0% for two doses at 12 months of age and 88.4% for the booster dose by 24 months of age (evaluated between January to March 2019 [3]. The two-dose infant MenB schedule has been shown to be highly effective in preventing MenB disease in infants [4].

Of the 38 MenW cases confirmed between January and March 2019, most (53%, 20 cases) were aged 65 years or older followed by adults aged between 25-44 years and 45-64 years (5 cases each). Three MenW cases were confirmed in children aged less than 5 years old.

The earlier increase in MenW cases, which has been previously reported [5], led to the introduction of MenACWY conjugate vaccine to the national immunisation programme in England [6,7]. 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 March 2018 was 39.8% for the third GP based catch-up cohort (aged 18-19 years during the 2017/2018 academic year), higher (6.8%) than the second GP based catch-up at the same point in the previous year (33.0%) [8].

Coverage for the first cohorts to be routinely offered MenACWY vaccine in schools from September 2015 and evaluated up to the end August 2018 was 86.2% (Year 9 in 2017/2018) and 84.6% (Year 10) [9].

In October 2018 the Joint Committee on Vaccination and Immunisation (JCVI) released a statement advising that the Department of Health and Social Care, Public Health England and the Chief Medical Officer will be supporting efforts to improve MenACWY vaccine coverage in young adults aged 18 to less than 25 years who are eligible for vaccination. It is anticipated that efforts to improve MenACWY vaccine coverage in this age group will lead to a reduction in cases of MenC and further reductions in MenW disease across the population [10]

The impact of the MenACWY teenage and the MenB infant vaccination programmes continues to be monitored. Early assessment of the infant MenB programme [11] and MenACWY vaccination in the 2015 school leaver cohort have been published [12].

All teenage cohorts remain eligible for opportunistic MenACWY vaccination until their 25th birthday and it is important that these teenagers continue to be encouraged to be immunised, particularly if they are entering Higher Educations Institutions.

Table 1: Invasive meningococcal disease in England by capsular group and laboratory testing method: January to March 2018 and 2019

Capsular groups~	CULTURE AND PCR		CULTURE ONLY		PCR ONLY		Total	
	2018	2019	2018	2019	2018	2019	2018	2019
B	32	25	42	24	75	52	149	101
C	4	4	7	5	11	2	22	11
W	13	7	46	26	15	5	74	38
Y	1	3	29	15	10	2	40	20
Other*	0	0	2	0	1	0	3	0
Total	50	39	126	70	112	61	288	170

~No cases of group A, X and Z/E were confirmed during the periods summarised in the table.
* Other includes ungrouped and ungroupable (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: January – March 2019

Age groups	Capsular Group~					
	B	C	W	Y	Total	%
<1 year	13	0	2	0	15	8.8
1-4 years	20	1	1	0	22	12.9
5-9 years	9	0	3	0	12	7.1
10-14 years	5	3	1	1	10	5.9
15-19 years	11	0	1	0	12	7.1
20-24 years	9	1	0	0	10	5.9
25-44 years	9	1	5	3	18	10.6
45-64 years	17	3	5	5	30	17.6
>=65 years	8	2	20	11	41	24.1
Total	101	11	38	20	170	

~No cases of group A, X, Z/E, ungrouped and ungroupable were confirmed during the period summarised in the table. 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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References

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Health Protection Report is a national public health bulletin for England and Wales, published by Public Health England. It is PHE's principal channel for the dissemination of laboratory data relating to pathogens and infections/communicable diseases of public health significance and of reports on outbreaks, incidents and ongoing investigations.

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