



Infection report

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Invasive meningococcal disease (laboratory reports in England): 2013/2014 annual data by epidemiological year

This report presents data on laboratory-confirmed invasive meningococcal disease (IMD) for the last complete epidemiological year, 2013/2014 [1]. Epidemiological years run from week 27 in one year (beginning of July) to week 26 the following year (end of June). When most cases of a disease arise in the winter months, as for IMD, epidemiological year is the most consistent way to present the data when comparing years as the peak point will definitely be captured in an epidemiological year whereas it may fall across two calendar years or two seasonal peaks could be captured in a single calendar year.

In England, the national Public Health England (PHE) Meningococcal Reference Unit (MRU) confirmed 636 cases of IMD during 2013/2014. This was a 17% decrease from the 769 cases reported in 2012/2013 (figure 1). Twenty-nine cases of IMD were additionally reported in Wales. In England, there has been a year-on-year decline in confirmed IMD cases from 2,343 cases in 2000/01 to 1,384 cases reported in 2004/2005. The incidence of total IMD in England has decreased from 3 per 100,000 in 2004/2005 to 1 per 100,000 in 2013/2014 [2]. IMD cases have declined across all age groups, but the decline is most marked in infants (aged <1 year), toddlers (1-4 year-olds) and adolescents (15-24 year-olds) (figure 2).

In 2013/2014, infants accounted for 24% of all IMD cases with an incidence of 22 per 100,000, followed by toddlers (19%; 4/100,000) and adolescents (15%; 1/100,000). A third (33%; 211/636) of all cases in 2013/2014 were reported between January and March 2014 (Q1).

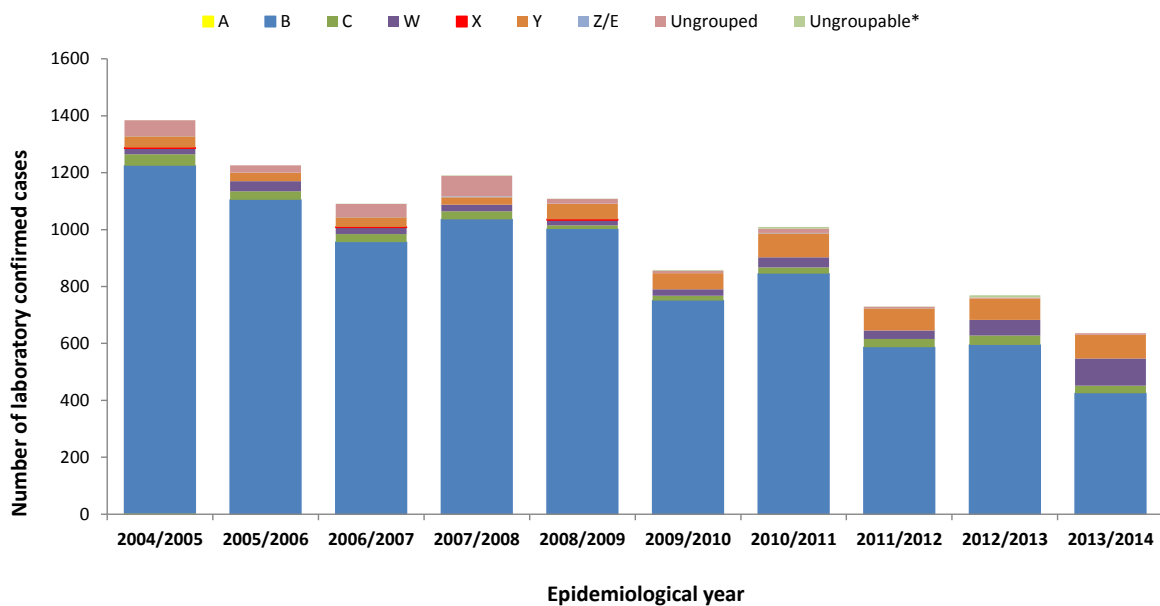
The distribution of capsular groups causing IMD by age group is summarised in table 1, with capsular group B (MenB) accounting for 67% (424/636) of all cases, followed by MenW (n=95, 15%), MenY (n=83, 13%), MenC (n=27, 4%) and one MenA case.

This compares with 77% (595/769), 7% (55/769), 10% (75/769) and 4% (33/769), respectively in 2012/13. The increase in MenW cases (from 55 to 95 cases) is the highest reported in the decade, while the increase in MenY from 75 to 83 cases is the second highest (84 cases were reported in 2010/2011).

In 2013/4, MenB was responsible for the majority of IMD cases in infants (85%) and toddlers (92%) but contributed to a lower proportion of cases in older age groups, where other capsular groups were more prevalent. Of the 27 MenC cases in 2013/14, 59% (16/27) were aged 25 years or older; there were only 3 MenC cases (11%) in infants and toddlers and one case in adolescents. MenW cases were more common in adults aged 25 years or older (57%; 54/95), although a substantial proportion were diagnosed in children younger than 5 years (18%) and in adolescents (23%). MenY cases were also more prevalent in adults aged 25 years and older (80%; 66/83)

The overall IMD case fatality ratio (CFR) in England was 6% (38/636) during 2013/2014 [3]. MenB was responsible for 45% (n=17) of all deaths (CFR, 4%). MenC had the highest CFR (15%, 4/27), followed by MenW (13%, 12/95) and MenY (6%, 5/83). More than half the deaths were in adults aged 25 years and over (61%; 23/38); there were only 5 deaths (13%) in children younger than 5 years. Five deaths were reported in Wales, four were due to MenB in children younger than 5 years and one death was caused by MenY in an adult.

Figure 1. Invasive meningococcal disease in England by capsular group: 2004/2005 to 2013/2014



* 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.

Figure 2. Incidence of invasive meningococcal disease in England: 2004/2005 to 2013/2014

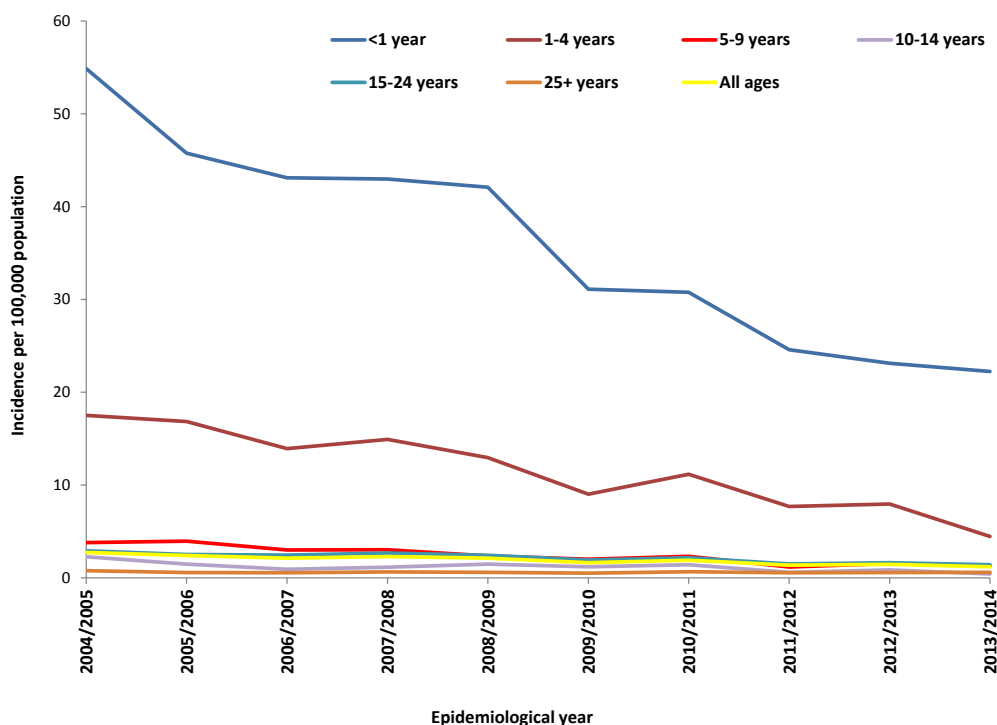


Table 1. Invasive meningococcal disease in England by capsular group and age group at diagnosis: 2013/2014

Age groups	Capsular Group						Annual total					
	B		C		W		Y		Other*			
	Total	%	Total	%	Total	%	Total	%	Total	%		
<1 year	129	(30)	1	(4)	12	(13)	6	(7)	3	(43)	151	(24)
1-4 years	109	(26)	2	(7)	5	(5)	0	-	2	(29)	118	(19)
5-9 years	29	(7)	5	(19)	1	(1)	2	(2)	1	(14)	38	(6)
10-14 years	10	(2)	2	(7)	1	(1)	0	-	0	-	13	(2)
15-19 years	40	(9)	0	-	13	(14)	4	(5)	0	-	57	(9)
20-24 years	25	(6)	1	(4)	9	(9)	5	(6)	1	(14)	41	(6)
25+ years	82	(19)	16	(59)	54	(57)	66	(80)	0	-	218	(34)
Total	424		27		95		83		7		636	

*Other includes capsular group A and Ungrouped.

Table 2. Invasive meningococcal disease in England by capsular group and laboratory testing method: 2012/2013 and 2013/2014

Capsular groups	CULTURE AND PCR		CULTURE ONLY		PCR ONLY		Annual total	
	2012/2013	2013/2014	2012/2013	2013/2014	2012/2013	2013/2014	2012/2013	2013/2014
	A	0	0	0	0	0	1	0
B	144	86	120	106	331	232	595	424
C	15	7	12	13	6	7	33	27
W	6	14	41	70	8	11	55	95
X	0	0	0	0	0	0	0	0
Y	13	13	54	57	8	13	75	83
Z/E	0	0	0	0	0	0	0	0
Ungrouped	0	0	0	0	3	6	3	6
Ungroupable*	3	0	5	0	0	0	8	0
Total	181	120	232	246	356	270	769	636

* 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.

References

1. Data source: PHE Meningococcal Reference Unit, Manchester
2. Office of National Statistics 2011 population estimates:
<http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Population+Estimates>
3. Death data from the Office of National Statistics includes all deaths coded to meningitis or meningococcal infection as a cause of death and linked to a laboratory-confirmed case.