

6.2 Viral Meningitis

Summary

Number of cases, 2015: 261
 Number of cases, 2014: 435
 Number of cases, 2013: 281
 Crude incidence rate, 2015: 5.7/100,000

Meningitis due to viruses not otherwise specified (NOS) are notifiable under the disease category 'viral meningitis'. Details of viral meningitis caused by other specified notifiable diseases (such as mumps and influenza viruses, if any) are presented in other chapters in this report.

The steady increase in annual notifications, which started back in 2007 and continued up until 2014, fell sharply in 2015 when 261 were reported (Figure 1). It should be noted that the very high number of cases reported in 2014 include the late notification of seven cases from 2013 (based on their specimen dates) reported during weeks 5 and 6 of 2014.

Since 1997, eight deaths have been reported with cases of viral meningitis (NOS), one of which was attributable to the infection itself. None were reported in 2015.

Of the 261 cases notified in 2015, 251 (96.2%) were classified as confirmed, seven (2.7%) as probable (1.6%) and three (1.1%) as possible. There were slightly more cases among males (n=139) than in females (n=117), giving a male to

female ratio of 1.18:1.0. Five cases were reported with unknown gender details in 2015.

The national crude incidence rate in 2015 was 5.7 (95% CI 5.0–8.4) cases per 100,000 population, a 40% decrease compared with the previous year when 435 cases were notified (9.5/100,000). The highest age specific incidence rate (ASIR) in 2015 was in infants <1 year of age (175.4/100,000; n=127), followed by the 25-34 year age group (5.2/100,000; n=39). The lowest ASIR was in the 65+ year age group (ASIR 0.7/100,000 (n=4)) (Table 1).

In 2015 the highest frequency of cases was in children aged 1 to 2 months (n=88) and in those aged between 15 to 39 years (n=83) with an overall median age of one year (range one week to 81 years) (Figure 2). Seventy percent of cases (n=183) occurred in those under 25 years of age (Figure 3, Table 1). One case had no date of birth recorded and therefore had an unknown age.

By HSE region, the highest rate was in HSE E at 7.3/100,000 (95%CI 5.8–8.6) and lowest in HSE S at 3.3/100,000 (95%CI 1.9-4.7), with the latter rate significantly below the national rate (Figure 4).

In 2015, enteroviruses were the most common pathogen associated with viral meningitis, accounting for 78.5% (n=205/261) of all notifications (Figure 3, Table 1). As a cause of viral meningitis, enteroviruses have accounted for 60% or

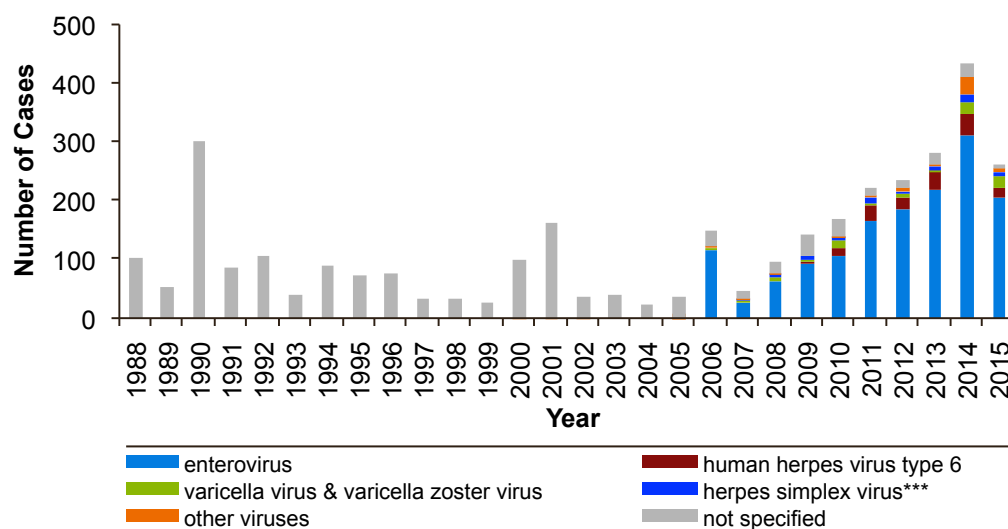


Figure 1. Number of viral meningitis (NOS) cases by organism type and year, Ireland, 1988-2015*
 * includes the late notification of seven cases in 2013 reported in early 2014

more of all cases each year since 2006. Enteroviruses are not routinely specified on CIDR, so it is not possible to attribute which type of enterovirus, of which there are many, account for the majority of reported viral meningitis cases in recent years. The enterovirus typing service, currently in place in the NVRL, will routinely ascertain which type is circulating in the population in future.

Enterovirus was also the most common pathogen in infants under one year of age with viral meningitis (NOS) in 2015; 106 out of a total of 127 cases in that age group (83.5%) were reported to have this virus. Between 2007 and 2015 enteroviruses accounted for 73.4% (n=1,389/1,884) of all viral meningitis (NOS) cases, with typical summer peaks observed each year (Figure 5). The large number of enterovirus-related viral meningitis cases observed in recent years is likely due in part to improved notification and investigation with laboratory confirmation.

In 2015, varicella/herpes zoster virus (VZV) was the causative pathogen for 7.3% (n=19) notifications, human herpes virus

(type 6) (HHV 6) for 6.9% (n=18), parechovirus and herpes simplex virus (HSV) each for 1.9% (n=5), and echovirus type 6 accounting for 1.5% (n=4) of all cases (Figure 3, Table 1). There were 1.5% (n=4) cases with no viral pathogen specified. Caution is recommended regarding the detection of HHV 6 DNA in cerebral spinal fluid (CSF) specimens, especially in those cases aged less than 3 months (n=7/18; 38.9%) as HHV 6 DNA can be chromosomally integrated. When this occurs the HHV 6 DNA can be inherited through the germ line and therefore when it is detected, it may not be clinically relevant.

The figures presented in this report are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 8th August, 2016. These figures may differ from those published previously due to on-going updating of notification data in CIDR.

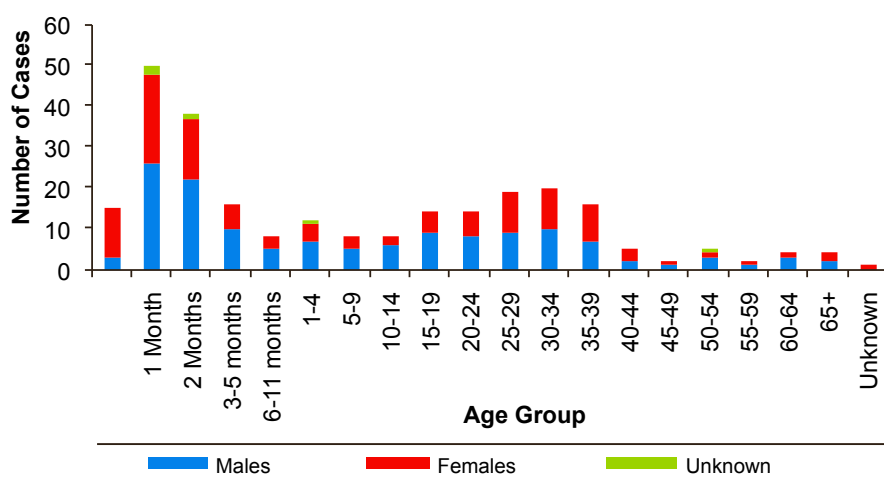


Figure 2. Number of viral meningitis (NOS) cases by age group and sex, Ireland, 2015

Table 1. Number, age-specific incidence rates and proportion of viral meningitis (NOS) notifications by age group and causative pathogen, Ireland, 2015

Age Group	Causative pathogen						not specified	Total	ASIR
	entero-virus	varicella / herpes zoster virus	human herpes virus	herpes simplex virus type 6	parecho-virus	echo-virus type 6			
<1	106	3	13	0	4	0	1	127	175.4
1-4	6	1	3	0	1	0	1	12	4.2
5-9	7	0	0	0	0	1	0	8	2.5
10-14	7	0	1	0	0	0	0	8	2.6
15-19	10	2	0	0	0	1	1	14	4.9
20-24	11	1	0	0	0	1	1	14	4.7
25-34	34	3	0	0	0	1	1	39	5.2
35-44	19	0	0	2	0	0	0	21	3.0
45-54	2	3	1	1	0	0	0	7	1.2
55-64	2	3	0	1	0	0	0	6	1.3
65+	0	3	0	1	0	0	0	4	0.7
All Ages	205	19	18	5	5	4	5	261	5.7
% Total	78.5	7.3	6.9	1.9	1.9	1.5	1.9	100.0	

ASIR, age specific incidence rate per 100,000 population of total cases

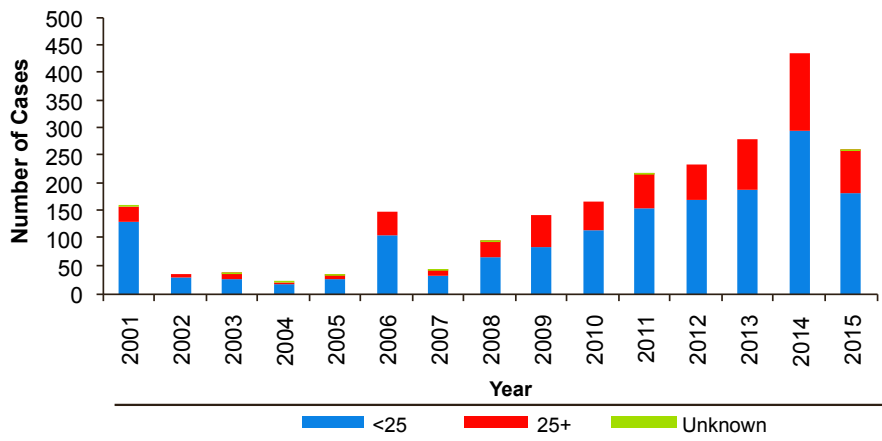


Figure 3. Number of viral meningitis (NOS) cases by age group (<25, >25 years of age) and year, Ireland, 2001-2015*

* includes the late notification of seven cases in 2013 reported in early 2014

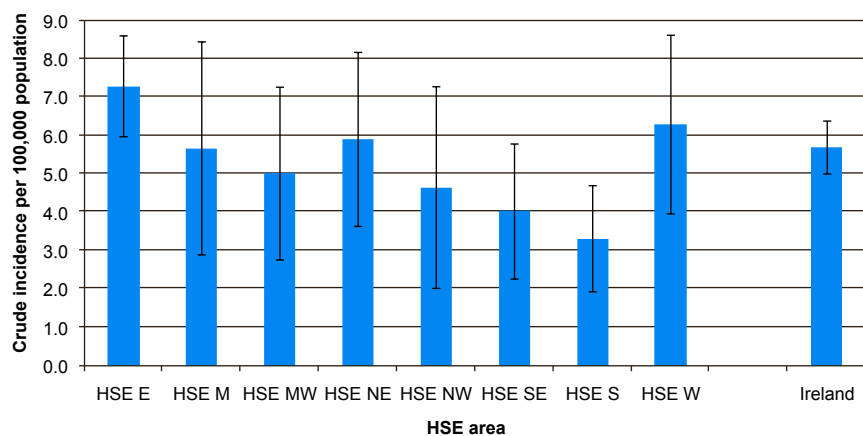


Figure 4. Crude incidence rates per 100,000 population with 95% confidence intervals for viral meningitis (NOS) cases by HSE area, Ireland, 2015

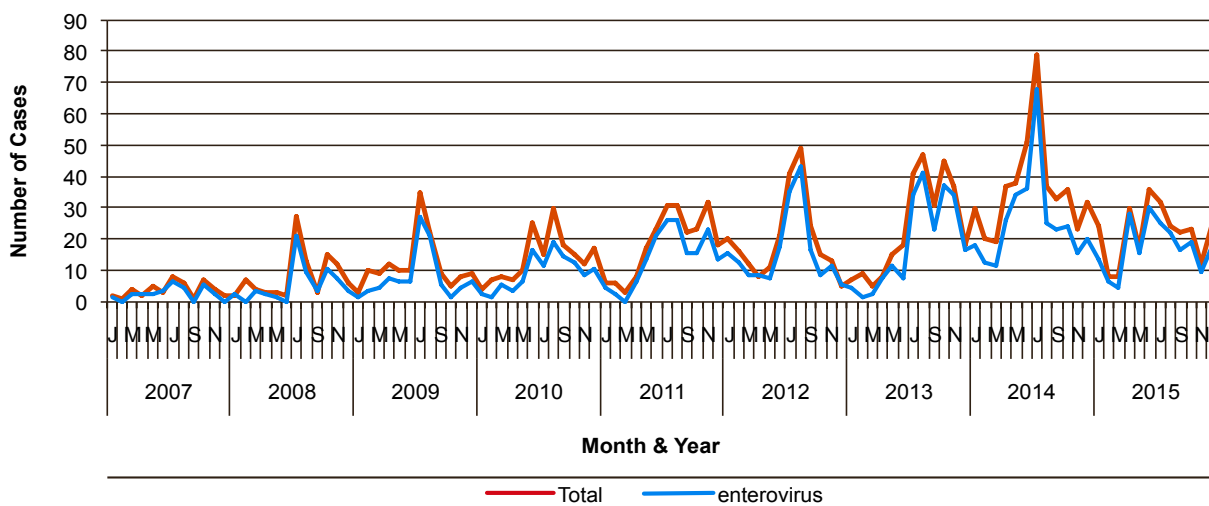


Figure 5. Monthly number of viral meningitis, NOS and enterovirus-related meningitis notifications, 2007-2015*

* includes the late notification of seven cases in 2013 reported in early 2014