

## 6.2 Viral Meningitis

### Summary

Number of cases, 2009: 142  
 Number of cases, 2008: 97  
 Number of cases, 2007: 45  
 Crude incidence rate, 2009: 3.3/100,000

Not all viral infections are notifiable, but many can and do cause meningitis. In this chapter, the focus is on those viral pathogens that cause meningitis, but are not notifiable in their own right (apart from one exception, herpes simplex virus).

In 2009, 142 cases (3.3/100,000 total population) of viral meningitis were notified in Ireland. Most of the cases were classified as confirmed (74.6%, n=106) with another 36 (25.4%) where the case classification was not specified because the causative organism details were unavailable. The numbers of cases in both sexes were different with more cases in males (n=80) than in females (n=61), giving a ratio of 1.31:1.0. Gender was not reported for one case.

Cases ranged in age from three weeks to 83 years with a median age of 19 years. Seventy-seven percent (n=109/142) of all cases were <35 years of age. Children <1 year of age had the highest incidence rate: 67.1 per 100,000, followed by those in the 15-19 year group, 4.1/100,000 (table 1).

In 2009 the overall incidence of viral meningitis in Ireland was equally highest in both the HSE-NE and HSE-W areas (4.3/100,000) followed by the HSE-E area (3.7/100,000) (table 2).

Of the 142 cases notified in 2009 the causative agent was reported as enterovirus (n=91; 64.1%), herpes simplex virus (n=11; 7.8%), varicella zoster virus (n=4; 2.8%) and unknown (n=36; 25.4%) (table 1).

In Ireland, viral meningitis activity tends to be highest in the second half of the year. In 2009 the numbers of cases peaked in July (n=35) and August (n=22) with an average of 14.7 cases per month (total n=88) between July and December. In contrast, viral meningitis was lower during the first six months of the year with a monthly average of nine cases (total n=54).

Table 1. Number and age specific incidence rates per 100,000 population of viral meningitis notifications by causative organism, 2009

Age Group	enterovirus	herpes simplex virus	varicella zoster virus	unknown	Total	ASIR
<1	29	5	0	7	41	67.1
1-4	2	1	0	2	5	2.1
5-9	7	0	0	3	10	3.5
10-14	3	0	0	1	4	1.5
15-19	8	0	0	4	12	4.1
20-24	6	1	0	6	13	3.8
25-34	16	2	2	4	24	3.3
35-44	17	1	0	5	23	3.7
45-54	2	0	1	2	5	1.0
55-64	0	1	0	2	3	0.7
65+	1	0	1	0	2	0.4
<b>Total</b>	<b>91</b>	<b>11</b>	<b>4</b>	<b>36</b>	<b>142</b>	<b>3.3</b>

ASIR, age specific incidence rate

Although the number of viral meningitis cases fluctuates from year to year, the number of cases notified in 2009 (n=142) exceeded the yearly average (n=70.4) between 1997 and 2009 (range 23-161) (figure 1).

High numbers of cases occurred in 2000 (n=98), 2001 (n=161) and 2006 (n=148). These upsurges in notifications coincided with an increase in reports by the National Virus Reference Laboratory (NVRL) of laboratory confirmed non-polio enterovirus isolates. Towards the end of 2005 NVRL introduced PCR testing of CSF samples for enteroviral nucleic acid. This was in addition to the routine method of viral isolation from stool samples.

2009 was a high incidence year for viral meningitis with numbers similar to 2001 and 2006 when 161 and 148 cases were reported, respectively. The majority of cases in both 2006 and 2009 were attributable to enterovirus.

One viral meningitis associated death (a confirmed case) was reported in 2009 with herpes simplex type 6 being identified as the causative organism. Only one other death from viral meningitis (a probable case) has ever been notified since 1997; it occurred in 1997 and the causative organism of which was not reported.

The figures presented in this summary are based on data extracted from the Computerised Infectious Disease Reporting (CIDR) system on 17<sup>th</sup> August 2010. These figures may differ from those published previously due to ongoing updating of notification data on CIDR.

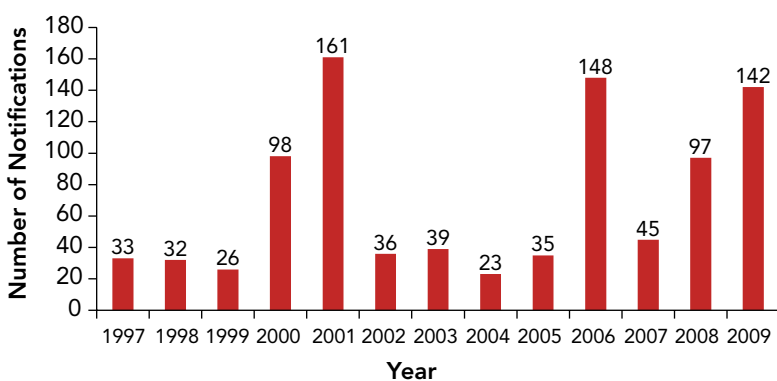


Figure 1. Annual number of viral meningitis notifications, 1997-2009

Table 2. Age specific incidence rates per 100,000 population of viral meningitis notifications by HSE area, 2009

HSE Area	<1	1-4	5-9	10-14	15-19	20-24	25+	Total
E	79.5	4.8	6.3	3.4	3.0	0.7	2.3	3.7
M	0.0	0.0	0.0	0.0	5.7	5.5	1.9	2.0
MW	19.6	0.0	4.0	0.0	0.0	3.5	1.3	1.7
NE	173.0	3.9	0.0	0.0	7.4	0.0	1.2	4.3
NW	0.0	0.0	0.0	0.0	0.0	6.2	2.6	2.1
SE	59.3	0.0	0.0	3.1	6.2	6.2	2.0	3.3
S	69.9	0.0	7.2	0.0	2.4	2.1	2.2	3.2
W	34.7	0.0	0.0	0.0	10.2	18.6	2.6	4.3
Ireland	67.1	2.1	3.5	1.5	4.1	3.8	2.1	3.3