

07

Infectious Disease Outbreaks

7. Outbreaks

Summary

Number of outbreaks: 379
 Number of IID outbreaks: 282
 Number of non-IID outbreaks: 97

During 2011, 379 outbreaks of infectious diseases were reported with 4,418 associated cases of illness, including 874 (19.8%) cases hospitalised and seven deaths. Regional variation in outbreaks was observed between HSE areas with the highest rates observed in HSE-M (12.4/100,000 population) and HSE-NW (10.1/100,000 population) while the lowest rate was observed in HSE-MW at 6.1 per 100,000 population. Table 1 details the regional distribution of all outbreaks of infectious disease, outbreaks of infectious intestinal disease (IID) and outbreaks of non-IID.

General outbreaks accounted for 66.2% (n= 251) of all outbreaks notified during 2011. The remaining outbreaks (33.8%, n= 128) were reported as family/ household outbreaks. Similar to previous years, person-to-person spread* was reported as the mode of transmission for the majority of outbreaks in 2011 (68.6%, n=260). Most of these outbreaks were due to norovirus, AIG, measles and VTEC.

Private houses were the most frequently reported outbreak location in 2011, accounting for 28.5% (n=108) of all outbreaks while hospitals were the second most common outbreak location, accounting for 17.4% (n=66) of all outbreaks. The highest numbers ill were reported from outbreaks in hospitals (n=1,174), residential institutions (n=874), hotels (n=696) and community hospital/long stay units (n=693). Table 2 details the number of IID and non-IID outbreaks and numbers ill by outbreak location for outbreaks reported during 2011.

Infectious intestinal disease (IID) outbreaks:

IID outbreaks accounted for 74.4% (n=282) of all outbreaks reported during 2011. This remains stable compared to the number of IID outbreaks reported during 2010 (n=286). Table 3 details the regional distribution of outbreaks of infectious intestinal disease (IID)

Norovirus/ suspected viral outbreaks, accounted for 57.4% of all IID outbreaks reported in 2011. Figure 1 compares norovirus/ suspected viral outbreaks with non-norovirus IID outbreaks by year from 2001 to 2011. Norovirus/ suspected norovirus was also responsible for the 10 largest outbreaks during 2011. Numbers ill ranged from two cases to 584 cases.

Table 1: Number of outbreaks by HSE area, 2011

HSE area	Number of outbreaks	Outbreak rate per 100,000	Number ill	Number hospitalised	Number of deaths	Number of IID outbreaks	Number of Non-IID outbreaks
HSE-E	129	8.0	2,447	519	5	71	58
HSE-M	35	12.4	287	15	0	29	6
HSE-MW	23	6.1	106	68	0	21	2
HSE-NE	29	6.6	226	93	0	25	4
HSE-NW	26	10.1	139	42	0	25	4
HSE-SE	39	7.8	426	16	1	20	6
HSE-S	54	8.1	537	27	0	33	6
HSE-W	43	9.7	244	91	1	42	12
HPSC	1	-	6	3	0	1	0
Total	379	8.3	4,418	874	7	282	97

* Including 79 outbreaks reported as person to person and airborne transmission and 4 person-to-person and animal contact

Table 2: Number of IID and non-IID outbreaks and number ill by outbreak location, 2011

Outbreak location	IID		Non-IID		Total outbreaks	
	Number of outbreaks	Number ill	Number of outbreaks	Number ill	Number of outbreaks	Number ill
Private house	84	198	24	77	108	275
Hospital	57	1,119	9	55	66	1,174
Comm. Hosp/ long-stay unit	48	664	1	29	49	693
Residential institution	45	852	3	22	48	874
Crèche	11	102	17	128	28	230
Hotel	9	696	0	0	9	696
Extended family	6	23	10	47	16	70
Community outbreak	5	53	8	67	13	120
Other	5	35	5	43	10	78
Travel related	4	16	2	7	6	23
School	2	10	13	84	15	94
Coach tour	1	6	0	0	1	6
University/ college	1	15	1	2	2	17
Restaurant / cafe	1	7	0	0	1	7
Workplace	1	30	1	2	2	32
Public house	0	0	1	3	1	3
Unknown	1	2	1	3	2	5
Not specified	1	13	1	8	2	21
Total	282	3,841	97	577	379	4,418

Table 3: IID outbreak summary by HSE area 2011

HSE area	Number of outbreaks	Outbreak rate per 100,000	Number ill	Number hospitalised	Number of deaths
HSE-E	71	4.4	2,107	474	1
HSE-M	29	10.3	270	14	0
HSE-MW	21	5.5	99	66	0
HSE-NE	25	5.7	213	85	0
HSE-NW	20	7.7	107	38	0
HSE-SE	33	6.6	386	8	0
HSE-S	42	6.3	422	24	0
HSE-W	40	9.0	231	88	1
HPSC	1	-	6	3	0
Total	282	6.1	3,841	800	2

*Includes all norovirus outbreaks and AIG outbreaks where organism was suspected norovirus, suspected viral or not specified

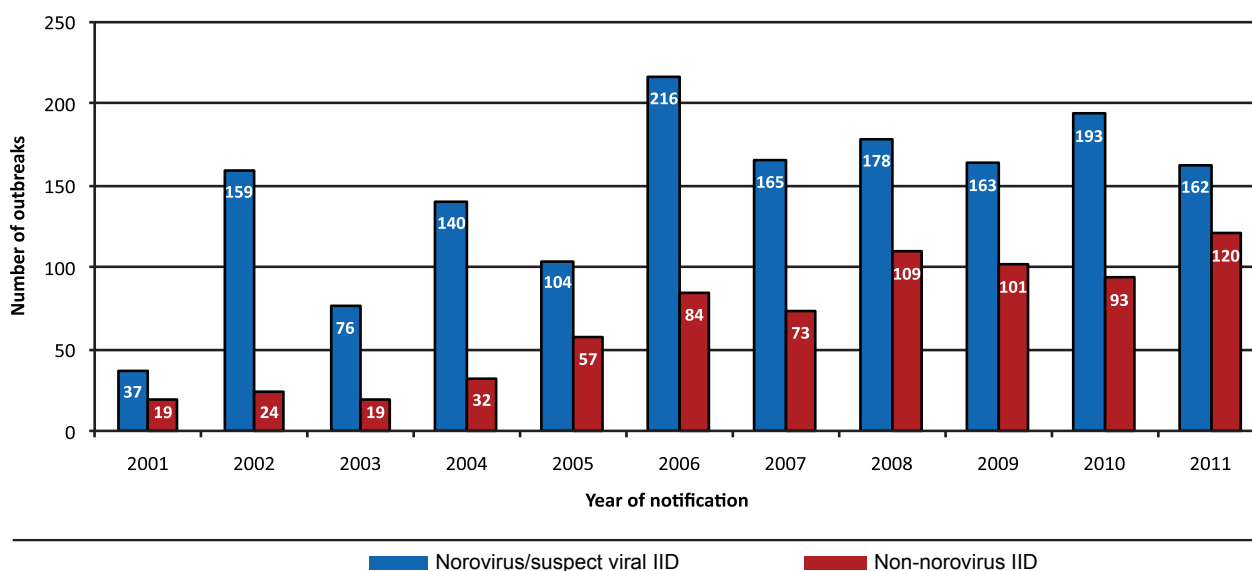


Figure 1: Number of norovirus/suspected viral outbreaks* and number of non-norovirus IID outbreaks by year, 2001-2011

After noroviral infection (n=103), the next most commonly reported IID outbreaks during 2011 were acute infectious gastroenteritis (not otherwise specified) (n=59), VTEC (n=51) and cryptosporidiosis (n=30). The number of general and family outbreaks of IID and numbers ill, are outlined in Table 4.

The most frequently reported locations for IID outbreaks were private houses (n=84), hospitals (n=57),

community hospital/long stay facilities (n=48) and residential institutions (n=45). The most commonly reported outbreak in hospitals was noroviral infection (n=45). In community hospital/long stay facilities the most commonly reported outbreaks were of AIG (n=24) and noroviral infection (n=22). In residential institutions the most commonly reported outbreaks were of norovirus (n=25) and AIG (n=18).

Table 4: Number of general and family IID outbreaks by disease, 2011

Outbreak disease/pathogen	Family outbreak		General outbreak		Total IID outbreaks	
	Number of outbreaks	Number ill	Number of outbreaks	Number ill	Number of outbreaks	Number ill
Acute infectious gastroenteritis (unspecified)	1	9	58	800	59	809
<i>Campylobacter</i> infection	7	16	0	0	7	16
<i>Clostridium difficile</i> infection	0		8	35	8	35
Cryptosporidiosis	27	71	3	23	30	94
Enterohaemorrhagic <i>Escherichia coli</i> (VT negative)	1	0	0	0	1	0
Giardiasis	3	8	0	0	3	8
Noroviral infection	1	4	102	2617	103	2621
Rotavirus infection	3	6	2	19	5	25
Salmonellosis	8	22	5	27	13	49
Shigellosis	1	3	1	3	2	6
Verotoxigenic <i>Escherichia coli</i> infection	39	82	12	96	51	178
Total	91	221	191	3620	282	3841

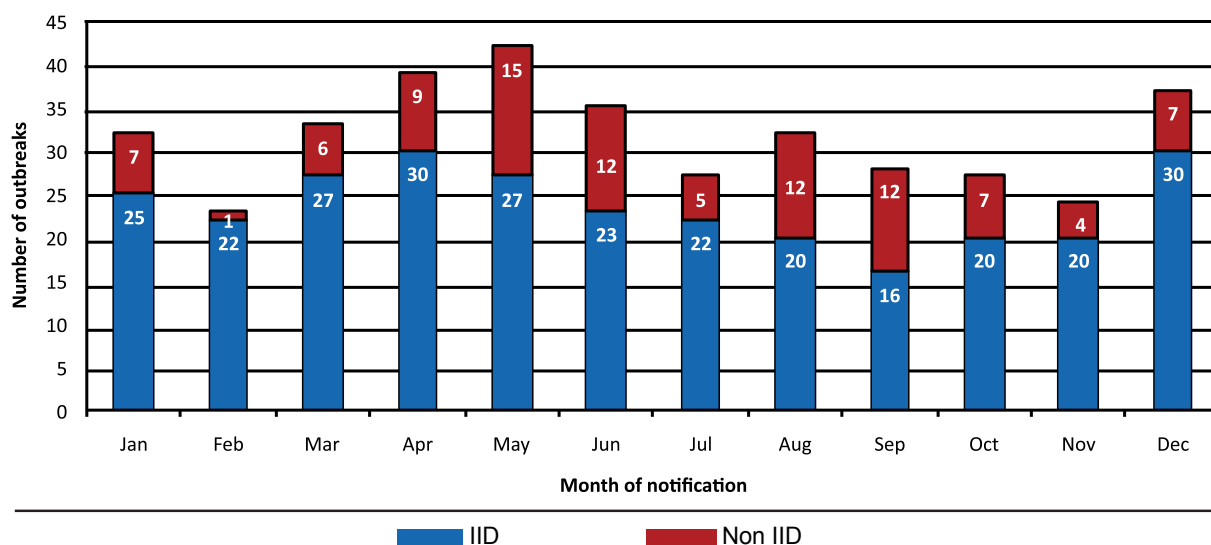


Figure 2: Number of IID and non-IID outbreaks by month of notification, 2011

Table 5: Non-IID outbreak summary by HSE area, 2011

HSE area	Number of outbreaks	Outbreak rate per 100,000	Number ill	Number hospitalised	Number of deaths
HSE-E	58	3.6	340	45	4
HSE-M	6	2.1	17	1	0
HSE-MW	2	0.5	7	2	0
HSE-NE	4	0.0	13	8	0
HSE-NW	6	2.3	32	4	0
HSE-SE	6	1.2	40	8	1
HSE-S	12	1.8	115	3	0
HSE-W	3	0.7	13	3	0
Total	97	2.1	577	74	5

[†] Including 53 IID outbreaks reported as person to person and airborne transmission and 4 reported as person-to-person and animal transmission

[§] Includes all norovirus outbreaks and AIG outbreaks where organism was suspected norovirus, suspected viral or not specified

Person-to-person (P-P) spread[†] was the most frequently reported mode of transmission implicated in IID outbreaks during 2011 (65.2%, n=184).

In 2011, the number of IID outbreaks peaked during March, April and May with a second peak during December. The first peak was mainly due to high numbers of norovirus/ suspected norovirus outbreaks, with 19 norovirus/ suspected norovirus outbreaks reported during March, 14 during April and 16 during May. The second peak in December was also mainly due to norovirus/ suspected norovirus outbreaks (n=17) but also included eight VTEC outbreaks. Figure 2 illustrates the number of IID and non-IID outbreaks by month of notification during 2011.

Non-IID outbreaks:

During 2011, 97 outbreaks of non-IID diseases were reported, representing 25.6% of all outbreaks notified nationally. The most common non-IID outbreak diseases were measles (26.8%, n=26), pertussis (22.7%, n=22) and hand, foot and mouth disease/suspected HFMD (11.3%, n=11). Table 5 details the regional distribution of non-IID outbreaks while the number of general and family outbreaks of non-IID disease and numbers ill are outlined in Table 6.

The number of non-IID outbreaks also peaked during May and June and was due to high numbers of hand, foot and mouth disease (HFMD)/ suspected HFMD outbreaks, measles and pertussis outbreaks reported. A smaller secondary peak was also observed in August and September which was due to measles and pertussis (figure 2).

The most frequently reported locations for non-IID outbreaks were private houses (n=24), crèches (n=17) and schools (n=13) as shown in table 2. Non-IID outbreaks in these locations were most frequently caused by pertussis, measles and hand, foot and mouth disease (HFMD)/ suspected HFMD.

Person-to-person (P-P) spread[§] was the most frequently reported mode of transmission implicated in non-IID outbreaks during 2011 (78.4%, n=76).

The information gathered from outbreaks reported is used to inform public health professionals on the causes and factors contributing to outbreaks, to target prevention strategies and to monitor the effectiveness of prevention programmes.

For further information on disease specific outbreaks, please refer to the individual disease chapter.

Table 6: Number of family and general non-IID outbreaks by disease, 2011

Outbreak disease/pathogen	Family outbreak		General outbreak		Total Non-IID outbreaks	
	Number outbreaks	Number ill	Number outbreaks	Number ill	Number outbreaks	Number ill
Measles	9	38	17	114	26	152
Pertussis	18	69	4	21	22	90
Hand, foot and mouth disease/ suspected HFMD	0	0	11	83	11	83
Tuberculosis	2	8	3	19	5	27
Influenza	1	3	3	25	4	28
Influenza-like illness	0	0	4	46	4	46
Enterovirus/ suspected enterovirus	0	0	4	19	4	19
Mumps	2	4	1	3	3	7
Varicella/ suspected varicella	1	2	2	7	3	9
Carbapenem resistant Enterobacteriaceae (CRE)	0	0	2	10	2	10
Scabies/ suspected scabies	0	0	2	49	2	49
Legionellosis	1	2	0	0	1	2
Viral meningitis	1	2	0	0	1	2
Malaria	1	5	0	0	1	5
Meningococcal disease	1	2	0	0	1	2
Staphylococcus aureus infection	0	0	1	10	1	10
Vancomycin Resistant Enterococci (VRE)	0	0	1	3	1	3
Suspected Coxsackie 16	0	0	1	15	1	15
Human metapneumovirus	0	0	1	11	1	11
Scarlet Fever	0	0	1	2	1	2
Klebsiella pneumoniae KPC	0	0	1	2	1	2
MRSA	0	0	1	3	1	3
Total	37	135	60	442	97	577

[†] Including 53 IID outbreaks reported as person to person and airborne transmission and 4 reported as person-to-person and animal transmission

[§]Including 26 non-IID outbreaks reported as person to person and airborne transmission