VIROLOGY ANNUAL REPORT 2011
(http://www.surv.esr.cri.nz/virology/virology_annual_report.php)

The virology annual report is compiled by ESR by collating the data from six virology laboratories: one public health virology laboratory (ESR) and five hospital virology laboratories in Auckland (ADHB and CMDHB laboratories), Waikato and Christchurch and Wellington. The virological surveillance is mainly a passive surveillance for hospital inpatients and outpatients during routine viral diagnosis.

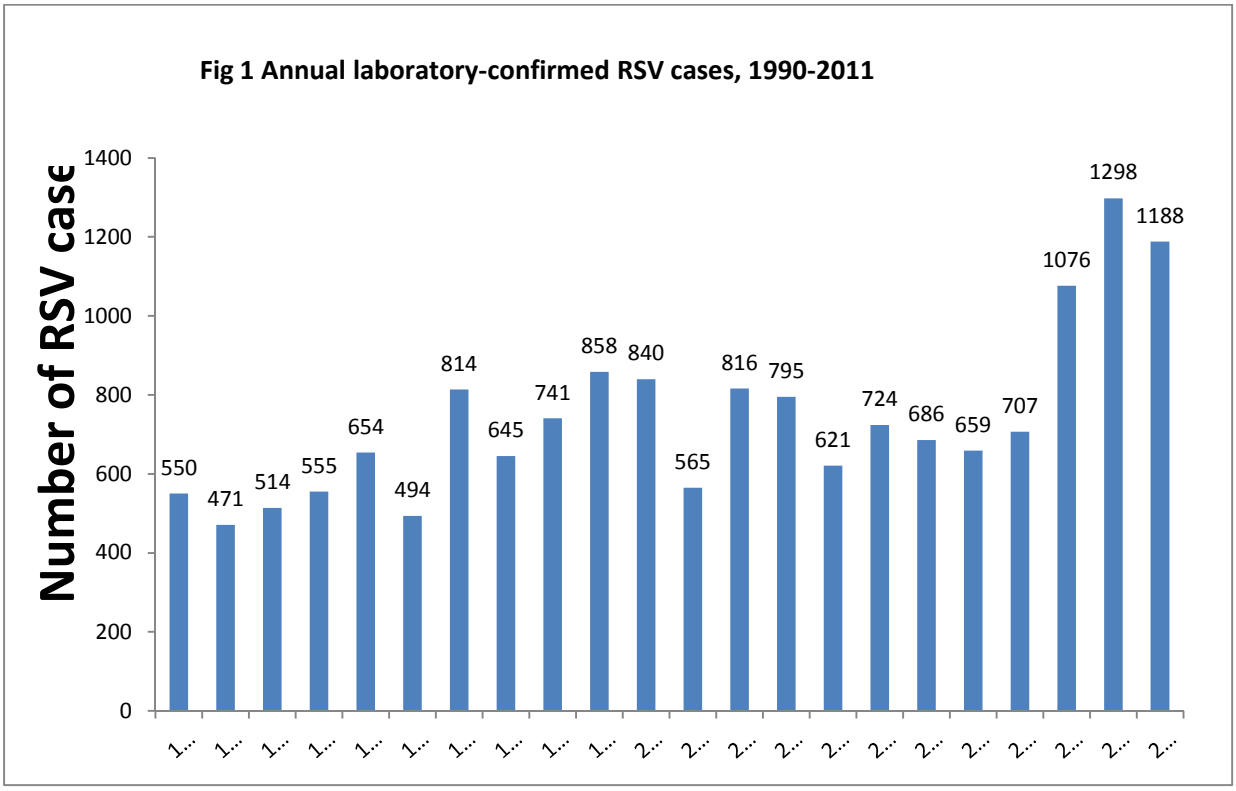
RESPIRATORY VIRUSES

Influenza

The influenza annual report in 2011 is available at the website:
http://www.surv.esr.cri.nz/virology/influenza_annual_report.php

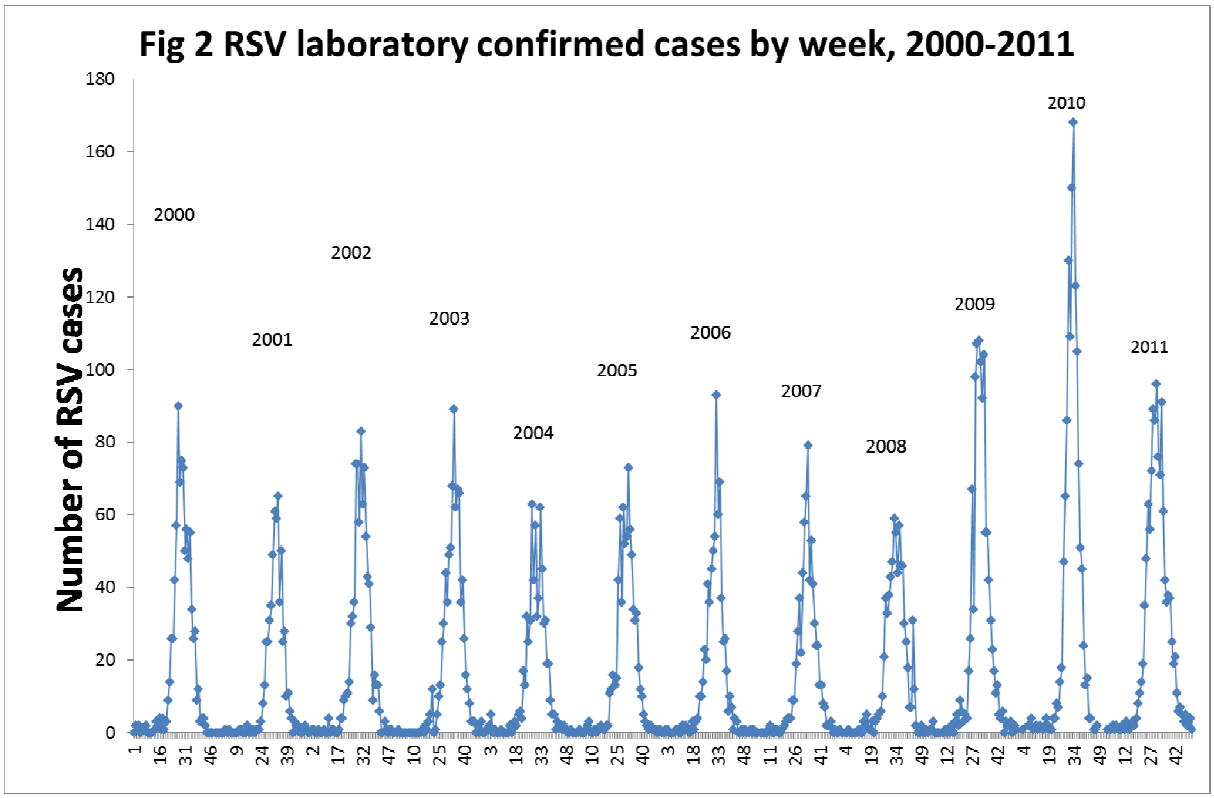
Respiratory Syncytial Virus (RSV)

Based on laboratory-confirmed RSV cases reported to ESR, the RSV activity in 2011 was lower than last year (Figure 1). During January to December 2011, a total of 1188 RSV infections were reported compared with 1298 cases reported during the same period in 2010.



In 2011, the RSV activity started to increase in July and peaked in Week 31 (beginning of August), 3 weeks earlier than the peak in 2010 (Figure 2). The RSV activity remained high

until Week 39 (early October). Since then, the number of RSV cases declined to a baseline level.



ENTEROVIRUSES AND ADENOVIRUSES

The New Zealand enterovirus and adenovirus laboratory network comprises five laboratories: one public health virology laboratory (ESR, Wellington) and four hospital virology laboratories in Auckland (ADHB and CMDHB laboratories), Waikato and Christchurch. These five virology laboratories cover 100% of the population and all geographical areas of the country. The enterovirus and adenovirus surveillance is a year-round routine diagnostic surveillance for hospital in-patients and out-patients. Hospital laboratories report all enterovirus and adenovirus detections and/or typing results weekly to ESR and this data is then available nationally. Untyped or untypable enteroviruses and adenoviruses are referred to ESR for further identification.

Enteroviruses

There were a total of 447 enteroviruses reported in 2011, compared with 283 in 2010. A total of 76 (17%) enterovirus viruses were identified by serotyping. Among serotyped enteroviruses (76), echovirus type 18 (9, 12%) and Enterovirus Enterovirus type 71 (9, 12%) were the most predominant serotype, while there were no Echovirus type 18 identified in 2010 and 8 enterovirus type 71 identified in 2010. There were 4 of enterovirus type 74 (EV74) (5%, 4/76), compared with none of EV74 detected in previous years. Also, one enterovirus type 109 (1.3%, 1/76) was identified and none in previous years.

EV74 had been identified in NZ for the first time in 2011. This virus was first isolated from a faecal sample from a 2-year old boy with Acute Flaccid Paralysis from Auckland. The isolate showed 84% homology to the reference enterovirus type 74. Overall, EV 74 has been

associated with patients with Acute Flaccid paralysis and a variety of illnesses, including respiratory tract infections, neonatal disease and unspecified central nervous system disease. EV74 was first isolated in 2004 from samples collected over 25 year period from five countries on three continents (North America, Europe and Asia).

Enterovirus 109 had also been identified in New Zealand in 2011 for the first time. This virus was isolated from a nasopharyngeal aspirate from a one year old male child admitted at Middlemore Hospital with wheezing and bronchiolitis. The sequencing result revealed 91.44% homology to an enterovirus 109 reference strain. Enterovirus 109 was first isolated from a three year old female patient in Nicaragua in 2008. Since then it has been identified further four times in Nicaragua and once in Congo. Patients presented with symptoms including fever, sore throat, cough headache, coryza, vomiting, lymphadenopathy and abdominal pain.

Adenoviruses

There were a total of 533 adenoviruses reported in 2011, higher than 510 in 2010. Of these, 316 (59%) adenoviruses were identified by serotyping. The predominant serotypes in 2011 were adenovirus type 3 (109, 34%), type 4 (52, 16%) and type 2 (48, 15%).

MEASLES, MUMPS AND RUBELLA(MMR)

The MMR annual report in 2011 is available in the report "Annual Surveillance Summary 2011" at
http://www.surv.esr.cri.nz/PDF_surveillance/AnnualRpt/AnnualSurv/2011/2011AnnualSurvRpt.pdf

In summary, viral and mycoplasma pneumoniae infections in New Zealand in 2011 are shown in Table 1. The information is based on weekly data collated from the virology laboratories of Auckland Healthcare, Healthcare Waikato, Canterbury Health, Capital Coast Health, Middlemore Hospital and ESR.

Table 1. Summary of viral and Mycoplasma pneumoniae infections in 2011 in New Zealand

Year 2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Influenza A	0	3	1	3	1	18	41	79	76	58	11	0	291
Influenza A H1N1 swl	3	12	4	6	1	2	6	26	19	9	0	1	89
Influenza A H3N2	4	2	0	1	1	20	28	58	109	67	7	0	297
Influenza B	0	2	2	4	9	66	192	155	107	51	2	0	590
Metapneumovirus	2	0	1	5	2	26	37	69	69	66	17	12	306
Mycoplasma Pneumoniae	9	10	7	5	8	18	15	24	12	22	10	12	152
Parainfluenza 1	0	0	0	0	0	1	0	2	1	3	5	0	12
Parainfluenza 2	1	1	3	0	2	10	12	7	5	4	0	1	46
Parainfluenza 3	9	7	3	3	10	41	76	70	43	29	12	11	314
Parvovirus	0	0	0	1	1	15	10	11	17	13	6	6	80
Respiratory Syncytial Virus (RSV)	2	5	8	6	25	179	303	334	177	113	21	15	1188
Rhinovirus	13	14	29	27	41	38	37	21	38	66	26	26	376
Rotavirus	18	20	24	8	12	41	25	55	134	176	90	82	685
Varicella Zoster Virus (VZV)	68	65	71	50	60	80	56	61	75	87	62	57	792
Adenovirus	38	57	30	46	35	32	49	54	39	56	50	47	533
Adenovirus Type 1	7	7	1	1	0	4	1	2	2	6	4	6	41
Adenovirus Type 2	1	4	0	2	5	5	7	1	1	11	3	8	48
Adenovirus Type 3	16	31	19	11	10	7	4	4	1	4	0	2	109
Adenovirus Type 4	3	11	6	7	4	2	2	3	1	4	1	8	52
Adenovirus Type 5	0	0	0	1	1	2	0	0	0	2	0	2	8
Adenovirus Type 6	0	0	0	0	0	0	0	0	0	0	1	0	1
Adenovirus Type 7	0	0	0	0	0	0	0	1	1	0	0	0	2
Adenovirus Type 8	3	5	5	3	7	1	5	4	3	2	0	2	40
Adenovirus Type 9	0	0	0	0	1	0	0	0	0	0	0	0	1
Adenovirus Type 11/35	0	1	0	0	0	0	1	0	0	0	0	0	2
Adenovirus Type 14	0	0	4	0	0	0	0	0	1	3	1	0	9
Adenovirus Type 19	1	0	0	0	0	0	0	0	0	0	0	0	1
Adenovirus Type 37	0	0	0	0	1	0	1	0	0	0	0	0	2
Enterovirus	41	31	23	16	29	24	29	23	32	56	69	74	447
Enterovirus Coxsackievirus Group A type 2	0	0	0	0	0	1	0	0	0	0	0	0	1
Enterovirus Coxsackievirus Group A type 4	0	0	0	0	0	1	0	0	1	0	0	0	2
Enterovirus Coxsackievirus Group A type 6	0	0	0	0	0	0	0	0	2	0	5	0	7
Enterovirus Coxsackievirus Group A type 16	0	0	0	0	0	0	2	0	0	0	0	0	2
Enterovirus Coxsackievirus Group A type 21	0	0	0	0	0	0	0	0	0	1	1	0	2
Enterovirus Coxsackievirus Group A type 24	0	1	0	0	0	0	0	0	0	0	0	0	1
Enterovirus Coxsackievirus Group B type 1	0	0	0	0	0	1	0	0	0	0	0	0	1
Enterovirus Coxsackievirus Group B type 2	0	2	1	0	1	1	1	0	0	0	2	0	8
Enterovirus Coxsackievirus Group B type 4	0	0	0	0	0	0	0	1	0	0	1	1	3
Enterovirus Coxsackievirus Group B type 5	1	1	0	0	1	0	0	0	0	2	1	0	6
Enterovirus Echovirus type 4	0	1	1	0	0	0	0	0	0	0	0	0	2
Enterovirus Echovirus type 6	0	0	0	1	0	0	0	0	0	0	1	0	2
Enterovirus Echovirus type 9	0	3	0	1	1	0	1	0	0	0	0	0	6
Enterovirus Echovirus type 15	1	0	0	0	0	0	0	0	0	0	0	0	1
Enterovirus Echovirus type 16	0	0	0	0	1	0	0	0	0	0	0	0	1
Enterovirus Echovirus type 18	0	0	0	0	0	0	1	0	0	2	4	2	9
Enterovirus Echovirus type 19	0	0	0	0	0	0	0	0	1	0	0	0	1
Enterovirus Echovirus type 25	1	2	0	0	0	0	0	0	0	0	0	0	3
Enterovirus Echovirus type 30	0	1	0	0	0	0	0	0	0	1	0	0	2
Enterovirus Echovirus type 31	1	0	0	0	0	0	0	0	0	0	0	0	1
Enterovirus Echovirus type 33	0	0	0	0	0	0	0	1	0	0	0	0	1
Enterovirus Enterovirus type 71	1	1	2	0	2	1	2	0	0	0	0	0	9
Enterovirus Enterovirus type 74	0	0	3	0	1	0	0	0	0	0	0	0	4
Enterovirus Enterovirus type 109	0	0	0	0	0	0	0	0	0	0	1	0	1
Bocavirus	5	0	0	0	0	0	0	0	0	0	0	0	5
Measles	8	15	12	9	3	47	50	40	70	113	114	61	542
Measles genotype A	0	1	1	0	0	1	0	0	1	0	0	0	4
Measles genotype D4	0	0	0	0	0	7	6	7	5	6	0	6	37
Measles genotype D8	0	0	1	1	2	0	0	0	1	0	0	0	5
Measles genotype D9	0	9	4	3	0	0	0	0	0	0	0	0	16
Rubella	0	0	0	0	0	7	0	4	1	0	1	1	14
Mumps	3	0	0	0	0	5	3	2	0	0	2	1	16

*Note: Viruses designated with an asterisk were reported based on the specimen taken date, whereas other viruses were based on the lab reporting date.