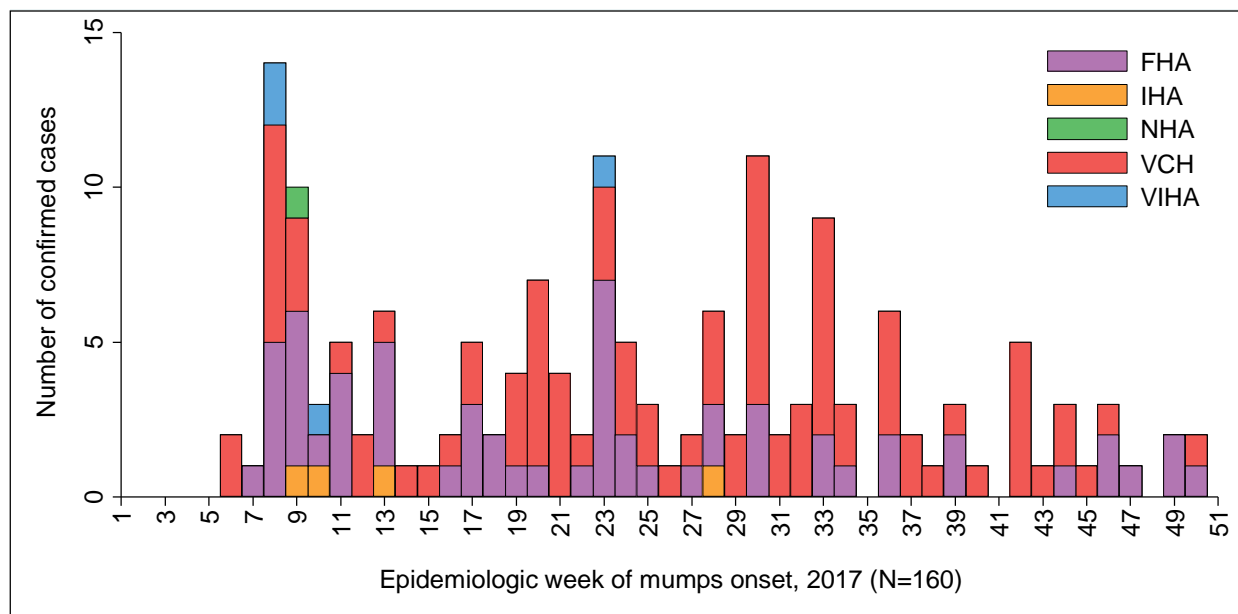


## Mumps Epidemiological Summary, British Columbia 2017

Mumps is endemic in British Columbia (BC). Since a resurgence of mumps activity in 2008, there have been both sporadic activity and periodic outbreaks. From 2009 to 2017, the number of cases reported annually has ranged from 8 to 210. Summaries of mumps activity are available in published annual reports.<sup>1</sup> In 2017, the number of mumps cases exceeded the 2016 numbers, with no specific outbreaks detected.

### Mumps in BC in 2017

In 2017, 187 mumps cases were reported among residents of British Columbia: 160 confirmed and 27 probable (see provincial case definition<sup>2</sup>). In addition, one probable case and five confirmed cases were reported among visitors to BC. By regional health authority, the majority of confirmed cases (58%) were in Vancouver Coastal (VCH), followed by Fraser (FHA) (37%). There were 4 confirmed cases reported on Vancouver Island (VIHA), 4 in Interior Health (IHA), and 1 in Northern Health (NHA).



**Figure 1:** Number of confirmed cases of mumps by week of disease onset and health authority, British Columbia 2017

<sup>1</sup> British Columbia Centre for Disease Control. Annual Summaries of Reportable Diseases, <http://www.bccdc.ca/health-professionals/data-reports/annual-summaries-of-reportable-diseases>  
Vaccine Preventable Diseases Section <http://www.bccdc.ca/health-professionals/data-reports/communicable-diseases>

<sup>2</sup> Mumps case definition can be found at <http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/mumps>

## Demographic Summary

For the 160 confirmed cases, the median age was 26 years (range of 2-67), and the majority were among young adults: 27% aged 20-24, 24% aged 25-29, and 19% aged 30-39 (Table 1). Sixty-eight percent (N=109) were aged 23 to 47 (born 1970 through 1994). This age group received their childhood immunizations during a period when guidelines recommended only 1 dose of mumps-containing vaccine.

Over half (64%) were male. Fifty-eight (36%) of confirmed cases reported prior contact with a known case of mumps.

## Immunization Status of Confirmed Cases

Eight (42%) of the 19 cases aged 7 to 19 years of age, the age group which should have received 2 doses of mumps vaccine, were fully vaccinated with 2 doses of MMR. The vaccination histories of the 11 remaining cases in this age group were as follows: one received 1 documented dose, four provided verbal history of undocumented 'prior childhood vaccines', four had unknown mumps vaccine history, and two reported no doses of the MMR vaccine.

In cases 20 years of age and older, 44% had an undocumented (verbal) history of vaccination, 38% had an unknown history of vaccination, 3% had 2 documented doses, 10% had 1 documented dose, and 5% reported being unimmunized.

## Hospital Care and Complications

Nine (6%) confirmed cases reported visiting an emergency department; eight (5%) cases were hospitalized. No cases were reported with meningitis, encephalitis or permanent hearing loss.

## Laboratory Testing

Of the 160 confirmed cases, 150 (94%) were laboratory-confirmed: 138 by PCR; 10 by IgM and 2 by IgG seroconversion. Ten (6%) met the confirmed case definition by clinical illness and an epidemiological link to a laboratory-confirmed case; in addition four of these ten epidemiologically-linked cases tested positive by IgM laboratory methods.

Genotype data were available for 132 cases (122 were genomically sequenced), of which all were genotype G, the endemic genotype in Canada. Similar to 2016, the main strain was the MuVi/Sheffield.GBR/1.05 which has been the predominant strain in Canada, with a new strain identified in 2017 designated as MuVs/BritishColumbia/CAN/14.17/2. The MuVi/Sheffield.GBR/1.05 (both identical and with 1 nucleotide difference) and the MuVs/BritishColumbia/CAN/14.17/2 strains accounted for 93% of all genomically sequenced cases.

**Table 1:** Characteristics of confirmed mumps cases among residents of British Columbia (N=160), 2017

Characteristic	Mumps cases	
	n	(%)
<b>Age group (years)</b>		
Less than 1 year	0	
1 to 4 years	2	(1)
5 to 9 years	4	(2)
10 to 14 years	2	(1)
15 to 19 years	16	(10)
20 to 24 years	43	(27)
25 to 29 years	38	(24)
30 to 39 years	31	(19)
40 to 49 years	15	(10)
50 to 59 years	6	(4)
60 and older	3	(2)
<b>Sex</b>		
Male	103	(64)
Female	57	(36)
<b>Regional Health Authority</b>		
Fraser Health	59	(37)
Interior Health	4	(2)
Northern Health	1	(1)
Vancouver Coastal	91	(58)
Vancouver Island Health	4	(2)
<b>Vaccination history</b>		
0 doses	12	(8)
1 dose	16	(10)
2 doses	12	(8)
Undocumented childhood vaccines	64	(39)
Unknown	56	(35)

### Acknowledgements

We thank BC health authority staff for their efforts in timely and complete reporting of mumps cases. Laboratory testing and analyses were conducted by the BC Public Health Laboratory (PHL) and genotyping was conducted by the National Microbiology Laboratory, Infectious Disease Prevention and Control Branch, Public Health Agency of Canada in Winnipeg.

### Prepared by:

Immunization Programs and Vaccine Preventable Diseases Service  
 BC Centre for Disease Control, 655 West 12th Avenue, Vancouver, BC Canada V5Z 4R4  
[vpd.epi@bccdc.ca](mailto:vpd.epi@bccdc.ca) | Phone: 604-707-2519