

Mumps Epidemiological Summary, British Columbia 2016

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 2015, the number of reported cases ranged from 8 to 132 per year in BC. Summaries of mumps activity are available in published annual reports.¹

In 2016, there were more mumps cases in BC than in any other year in the past decade, mostly attributable to a multi-region outbreak that lasted 29 weeks.

Mumps in BC in 2016

In BC in 2016, 178 mumps cases were reported among residents: 148 confirmed; 21 probable; and 9 suspect, when applying the provincial case definition.² In addition, one probable and one suspect case were reported among visitors to BC. By regional health authority, the majority of confirmed cases (54%) were in Vancouver Coastal (VCH), followed by Fraser (FHA) (24%) and Vancouver Island (VIHA) (18%) health regions. There were 3 confirmed cases reported in Northern (NHA), and 2 in Interior Health (IHA) regions.

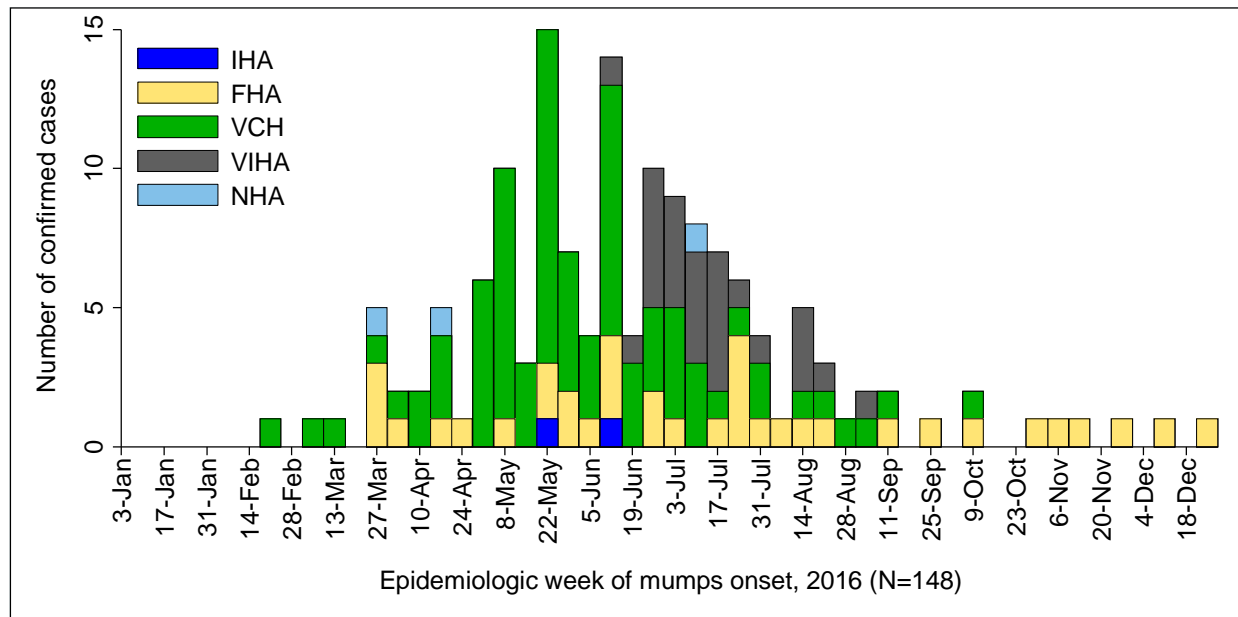


Figure 1: Number of confirmed cases of mumps by week of disease onset, British Columbia 2016

Outbreak summary

The majority of cases were associated with an outbreak with dates of onset ranging from epidemiologic weeks 13 through 41. The outbreak was first identified by the occurrence of a cluster of 6 co-primary cases with disease onset from March 31-April 3 among individuals who had attended the same mass

¹ British Columbia Centre For Disease Control. Annual Summaries of Reportable Diseases.

<http://www.bccdc.ca/health-professionals/data-reports/annual-summaries-of-reportable-diseases>

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

gathering sporting event in the lower mainland in mid-March, but were otherwise unrelated to one another, and had not been seated close to one another at the event. The source of infection at the event was not identified and is likely to have been a visitor from outside of BC. The virus was subsequently spread to Whistler, where community transmission occurred primarily among young adults. Immunization clinics were held in Whistler in May 2016, and community members were encouraged via VCH News Releases to ensure their mumps vaccinations were up to date and to self-isolate if they had mumps symptoms. Cases with the outbreak genotype or other epidemiologic links to the outbreak were reported from all regions of BC.

Demographic Summary

The following description describes the 148 confirmed cases.

The median age was 27.5 years, and the majority were among young adults: 27% aged 30-39, 23% aged 25-29 and 22% aged 20-24 (Table 1). Just over half (51%) were female. Sixty-one (41%) of confirmed cases reported having had contact with a known case of mumps.

Of the 148 confirmed cases, 113 (76%) were aged 21 to 46. This age group received their childhood immunizations during a period when guidelines recommended only 1 dose of mumps-containing vaccine.

Immunization Status of Confirmed Cases

Fourteen cases were unvaccinated against mumps, 35 cases reported having 1 dose of mumps-containing vaccine, 25 cases had two documented doses, 39 provided a verbal history of prior childhood immunization without documentation, and 35 cases had unknown mumps vaccination status (Table 1).

Hospital Care and Complications

Sixty-one (41%) confirmed cases reported visiting an emergency department; 1 case was hospitalized. No cases were reported with meningitis, encephalitis or permanent hearing loss.

Laboratory Testing

Of the 148 confirmed cases, 131 (89%) were laboratory-confirmed: 117 by PCR testing; 10 by IgM and 4 by IgG seroconversion. Seventeen (11%) met the confirmed case definition by clinical illness along with an epidemiological link to a laboratory-confirmed case.

Genotype data were available for 113 cases: 108 were genotype G, the endemic genotype in Canada. Of these 108, 95 were identified as genotype G related to the endemic MuVi/Sheffield.GBR/1.05 strain but formed a distinct cluster based on conserved variants in five nucleotides and were deemed outbreak associated (see above), originating with the initial transmission within BC during mid-March.

Five cases had other genotypes (1 C, 1 F, 1 H, and 2 K), four of which had travel histories compatible with exposure abroad or known contact with an imported case.

Table 1: Characteristics of confirmed mumps cases among residents of British Columbia (N=148), 2016

Characteristic	Mumps cases	
	n	(%)
Age group (years)		
Less than 1 year	0	
1 to 4 years	1	(1)
5 to 9 years	1	(1)
10 to 14 years	0	
15 to 19 years	11	(7)
20 to 24 years	33	(22)
25 to 29 years	34	(23)
30 to 39 years	40	(27)
40 to 49 years	17	(11)
50 to 59 years	7	(5)
60 and older	4	(3)
Sex		
Male	73	(49)
Female	75	(51)
Regional Health Authority		
Interior Health	2	(1)
Fraser Health	36	(24)
Vancouver Coastal	80	(54)
Island Health	27	(18)
Northern Health	3	(2)
Vaccination history		
0 doses	14	(9)
1 dose	35	(24)
2 doses	25	(17)
Undocumented childhood vaccines	39	(26)
Unknown	35	(24)

Acknowledgements

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