

Mumps Epidemiological Summary, British Columbia January 1 to December 7, 2013; Epidemiologic weeks 1 to 49

Mumps remains endemic in BC with a resurgence in the province since 2008 and ongoing activity including periodic outbreaks since that time. From 2003 to 2012 the number of reported cases has ranged from 1 to 132 per year in BC.

There have been 59 confirmed cases of mumps reported in BC to date in 2013 (Figure 1). FHA (12 cases) and VCH (9 cases) have reported sporadic mumps activity and VIHA has reported one case. No cases have been reported from FHA, VCH, or VIHA since late October.

There is ongoing mumps activity in IHA (11 cases in 2013) associated with sports teams. In NHA (26 cases in 2013) there is ongoing mumps activity in 2 communities.

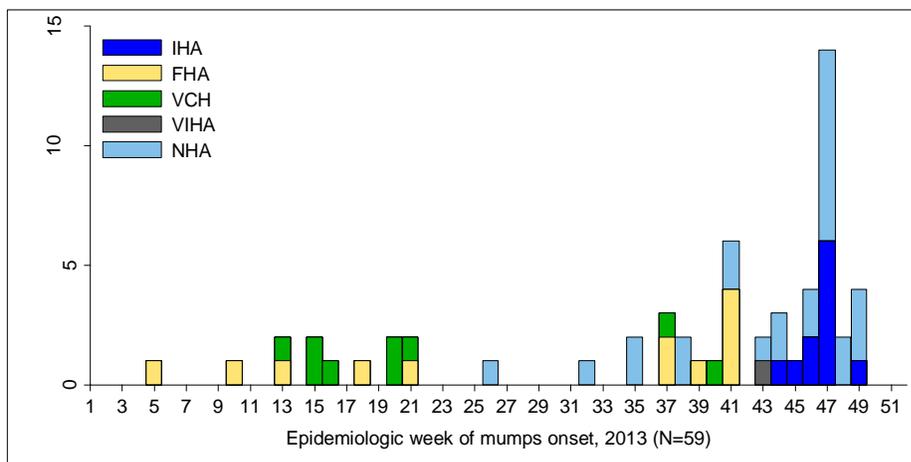


Figure 1: Number of confirmed cases of mumps in BC by week of mumps onset and health authority, January 1 to December 7, 2013

There was one hospitalization due to mumps but no long-term sequelae were reported. More cases were male (33 cases, 56%) than female (26 cases). The median age was 21 years with a range from 1 to 49 years (Figure 2). There has been 1 infant case, 5 cases aged 5 to 9 years, 19 cases aged 10 to 19 years, and 34 cases 20 years and older.

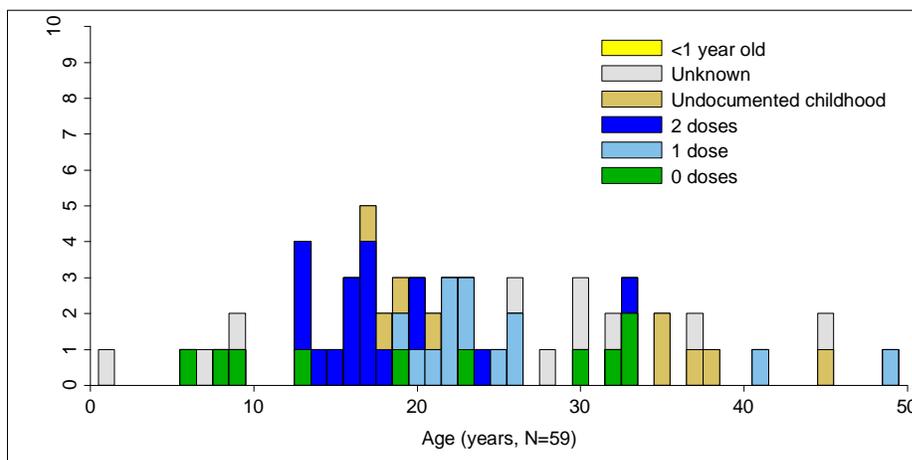


Figure 2: Number of confirmed cases of mumps in BC by age and vaccination history, January 1 to December 7, 2013

Seventeen cases (29%) had received two doses of MMR vaccine in the past, 13 cases (22%) had received one dose, 9 cases (15%) had undocumented childhood vaccines, 10 cases (17%) had an unknown vaccination history, and 10 cases (17%) were unvaccinated against mumps (Figure 2). None of the cases under 10 years had received any documented doses of MMR vaccine, most of the 10 to 19 year old cases had received 2 doses, most of the cases in their twenties had received 1 dose, and the vaccination history of cases 30 years and older was variable.

The genotype was identified for 18 cases, with 16 genotype G and 2 genotype C. Two genotype C case were travel-associated with the Indian subcontinent and occurred in the first quarter of 2013. Both genotype G and C were reported in Canada, the USA, and Europe from 2005 to 2011 (WHO LabNet). Genotype G was also reported in South East Asia, China, and Japan. Genotype C was also reported in India.

Mumps activity in FHA, VCH, and VIHA, 2013

There was sporadic mumps activity in FHA (12 cases) and VCH (9 cases) (Figure 1). Five cases had a travel history consistent with acquisition outside of Canada. The source of infection for the single mumps case reported in VIHA was unknown but the case had travelled to NHA, where there was ongoing mumps activity, during the exposure period.

Mumps activity in IHA, 2013

There is an ongoing mumps outbreak associated with sports teams in IHA, with 11 confirmed cases associated with the teams (Figure 1). The 2 co-primary cases had mumps onset in late October and early November, there were 8 secondary cases in mid-November, and 1 third generation case in early December. Four cases have a prior history of 2 doses of MMR vaccine, 5 have 1 dose, 1 case reported undocumented childhood vaccinations, and 1 case was unimmunized against mumps.

Public health action in IHA included letters sent to the sports team organizers, to the players and parents of the affected teams, and to the school principal, staff, and parents of classmates of one student case. A physician newsletter was distributed highlighting the ongoing mumps activity.

Mumps activity in NHA, 2013

Since late June, 9 mumps cases were reported in a Northern Interior community in adults aged 20 to 39 years. One case was epidemiologically linked to another case; the others had no recognized mumps exposures. The most recent such case had parotitis onset on November 23rd (Figure 3).

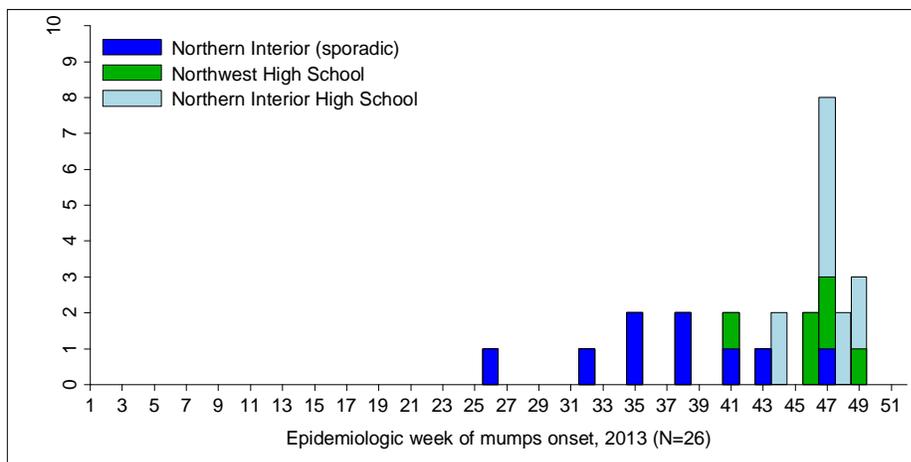


Figure 3: Number of confirmed cases of mumps in NHA by cluster, January 1 to December 7, 2013

Beginning in week 44, this outbreak expanded to two high schools and a university setting with 11 confirmed cases to date, 7 of whom attend the same school, 1 attending a different high school and 1 at university (Figure 3). Two co-primary cases had mumps onset in the last week of October and first week of November. Neither case had a recognized mumps exposure. Nine subsequent cases have been reported, spanning second and third generations. Three cases are household contacts of students. The most recent case onset was on December 4th. Seven (64%) of these cases have previously received two doses of MMR vaccine, 3 (27%) reported undocumented childhood vaccinations, and 1 (9%) had unknown vaccination history.

A second NHA community located in the Northwest HSDA is experiencing a mumps outbreak associated with a high school (Figure 3). There have been 6 cases to date, 5 of whom attend the same school. The primary case was an adult (30 to 39 years) with parotitis onset in early October, and linked through sporting events with at least two of the subsequent cases. There were likely unreported secondary cases. Four cases who attend the high school had parotitis onset from November 15 to 21 compatible with a third generation of cases. The most recent case had parotitis onset on December 2, compatible with a fourth generation. Four (67%) of these 6 cases had previously received 2 doses of MMR vaccine and 2 (33%) cases were unvaccinated against mumps.

Public health action in NHA related to these two mumps outbreaks has included newsletters to students and teachers of the affected schools, which described mumps illness, provided immunization recommendations, and provided contact information for the local public health unit for additional information and immunization services. A physician newsletter was also distributed which highlighted the ongoing mumps activity and described testing and reporting procedures for mumps.

Case definition

All categories of the surveillance case definition below are reportable.

Case status	Criteria
Confirmed case	<p><u>Laboratory confirmed:</u> Mumps-compatible illness^{①②} and laboratory confirmation of infection in the absence of recent immunization with mumps-containing vaccine (i.e., within the previous 28 days) by:</p> <ul style="list-style-type: none"> • isolation of mumps virus from an appropriate clinical specimen; or • detection of mumps virus RNA; or • seroconversion or a significant rise (e.g., fourfold or greater) in mumps IgG titre by any standard serologic assay between acute and convalescent sera; or • Detection of mumps IgM antibody^③ in a person who is either epidemiologically linked to a laboratory-confirmed case or has recently travelled to an area of known mumps activity; <p>or</p> <p><u>Epidemiologically-linked:</u> Mumps-compatible illness^② in a person with an epidemiologic link to a laboratory-confirmed case.</p>
Clinical / Probable case	Mumps-compatible illness ^② in the absence of laboratory confirmation of infection and not epidemiologically linked to a laboratory-confirmed case.
Suspect case	Illness that could be mumps ^④ but without parotitis or orchitis, in a person who is a contact of a confirmed or clinical mumps case.

① A laboratory-confirmed case may be subclinical and not meet the clinical illness description.

② Mumps-compatible illness is characterized by acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, or orchitis, lasting ≥ 2 days, and without other evident cause.

③ IgM serology has the potential for false positive and false negative findings. If the clinical presentation is inconsistent with a diagnosis of mumps or in the absence of recent travel/exposure history, IgM results must be confirmed by the other listed confirmatory methods. In a mumps case that had been previously immunized, the IgM class antibody response may not be detectable.

④ Illness that could be mumps may include myalgia, anorexia, malaise, headache, low-grade fever, or non-specific respiratory symptoms.

Note: only confirmed cases were included in this summary.

Acknowledgements

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Prepared by:

Immunization Programs and Vaccine Preventable Diseases Service
BC Centre for Disease Control
655 West 12th Avenue, Vancouver, BC Canada V5Z 4R4
www.bccdc.ca
www.immunizebc.ca