

Measles Epidemiological Summary, British Columbia 2015 Epidemiologic weeks 1 to 52

Measles is a highly contagious, acute viral illness preventable by measles vaccine. With adoption of the measles elimination goal for the Pan American Health Organization region, BC introduced a two dose measles vaccination program for children in 1996. Canada has been free of endemic measles (defined as an identifiable chain of transmission lasting over 12 months) since 1998 and measles was declared eliminated in the Americas in 2002. However, measles cases and outbreaks continue to occur in Canada due to periodic importation.

Measles trends in BC since 1987

BC experienced a large outbreak of measles in the first year following adoption of the measles elimination goal, with 255 confirmed measles cases reported in 1997 associated with an outbreak at Simon Fraser University (see Appendix, Figure 1). Since 1998, BC has experienced 2 substantial outbreaks. The first and smaller outbreak which resulted in province-wide transmission occurred in 2010 and was associated with two separate importations during the Winter Olympic Games held in Vancouver. The second and substantially larger outbreak occurred in 2014, during which year 343 confirmed measles cases were reported and most of these were associated with an outbreak in a religious community that objects to vaccination.¹

Measles in BC in 2015

In British Columbia (BC) in 2015, 11 confirmed measles cases were reported: 10 among BC residents, and 1 in a visitor to BC (Figure 1). The annual number of reported cases in the prior 5 years was: 343 in 2014, 17 in 2013, 2 in 2012, 10 in 2011, and 78 in 2010. From 2003 through 2009, there were 0 to 4 cases reported annually.

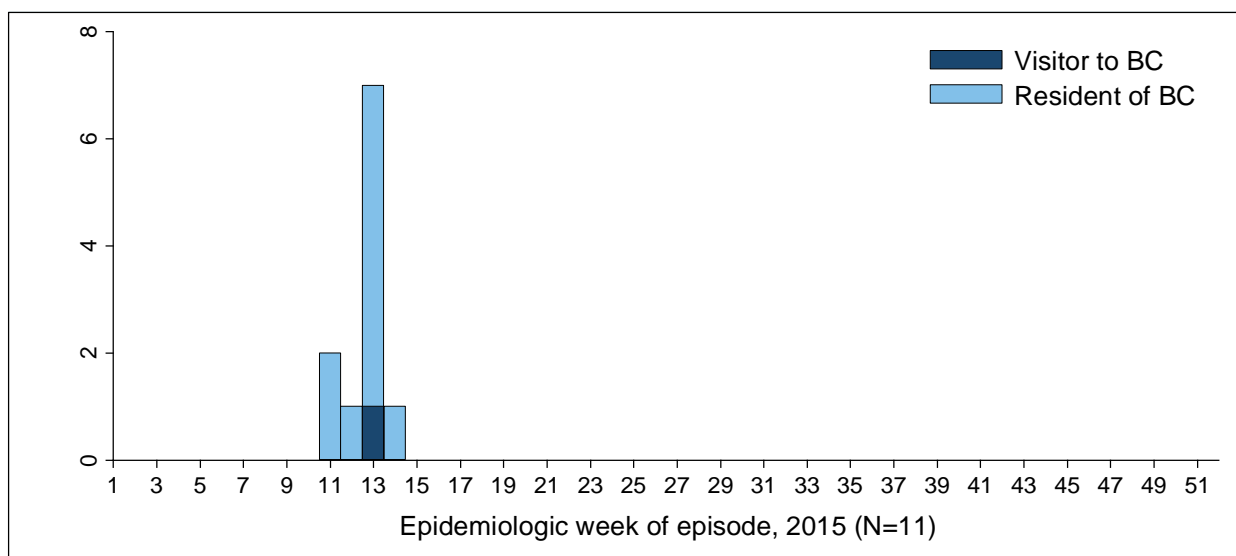


Figure 1: Number of confirmed cases of measles by week of rash onset, British Columbia 2015

Summary

All 11 measles cases in 2015 were linked to a single importation event. There were two co-primary cases infected in China. Seven secondary cases had onset of illness compatible with exposure either abroad or during a return flight shared with the two infectious cases. Two local transmissions occurred; one in a household setting and the other in a public setting.

All 11 cases were PCR confirmed and genotype H1, which is endemic in China. The virus was the MVs/Hong Kong.CHN/49.12 reference sequence variant. Nine of 11 cases were identical to the reference sequence variant and the other 2 cases had a 1 nucleotide difference.

The following description of cases excludes one visitor to BC, and describes the remaining 10 cases.

Eight cases were 10 to 19 years old and 2 were 20 years or older (Table 1). Half the cases were female. Seven cases were residents of Vancouver Coastal and 3 were residents of Fraser Health. Three cases were unvaccinated against measles, 1 case had one documented vaccination against measles, 3 cases had two documented vaccinations against measles, 2 cases provided a verbal history without documentation of prior childhood vaccinations, and 1 case had unknown measles vaccination status. Five of the cases reported visiting an Emergency Department but no hospitalizations or long-term sequelae were reported.

Table 1: Characteristics of measles cases, residents of British Columbia 2015

Characteristic	Measles cases	
	n	%
Age group (years)		
<10	0	-
10 to 19	8	80
20+	2	20
Sex		
Male	5	50
Female	5	50
Health Authority		
Interior Health	0	-
Fraser Health	3	30
Vancouver Coastal	7	70
Island Health	0	-
Northern Health	0	-
Vaccination history		
0 doses	3	30
1 dose documented	1	10
2 doses documented	3	30
Undocumented childhood vaccines	2	20
Unknown	1	10

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¹ Naus M, Puddicombe D, Murti M, Fung C, Stam R, Loadman S, Kraiden M, Tang P, Lem M. Outbreak of measles in an unvaccinated population, British Columbia, 2014. Canada Communicable Disease Report 2015;41(7):169-174 http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/15vol41/dr-rm41-07/assets/pdf/15vol41_07-eng.pdf