

# *Escherichia coli* O121 outbreak associated with raw milk Gouda-like cheese in British Columbia, Canada, 2018

Eva Boyd<sup>1\*</sup>, Aljosa Trmcic<sup>1</sup>, Marsha Taylor<sup>1</sup>, Sion Shyng<sup>1</sup>, Paul Hasselback<sup>2</sup>, Stephanie Man<sup>3</sup>, Christine Tchao<sup>3</sup>, Jason Stone<sup>4</sup>, Loretta Janz<sup>3</sup>, Linda Hoang<sup>1,3,5</sup>, Eleni Galanis<sup>1,6</sup>

## Abstract

**Background:** In 2018, a Shiga toxin–producing *Escherichia coli* O121 outbreak that affected seven individuals was associated with raw milk Gouda-like cheese produced in British Columbia, Canada.

**Objectives:** To describe the *E. coli* O121 outbreak investigation and recommend greater control measures for raw milk Gouda-like cheese.

**Methods:** Cases of *E. coli* O121 were identified through laboratory testing results and epidemiologic surveillance data. The cases were interviewed on exposures of interest, which were analyzed against *Foodbook Report* values for British Columbia. Environmental inspection of the dairy plant and the cheese products was conducted to ascertain a source of contamination. Whole genome multi-locus sequence typing (wgMLST) was performed on all positive *E. coli* O121 clinical and food isolates at the provincial laboratory.

**Results:** Four out of the seven cases consumed the same raw milk Gouda-like cheese between August and October 2018. The implicated cheese was aged longer than the required minimum of 60 days, and no production deficiencies were noted. One sample of the implicated cheese tested positive for *E. coli* O121. The seven clinical isolates and one cheese isolate matched by wgMLST within 6.5 alleles.

**Conclusion:** Raw milk Gouda and Gouda-like cheese has been implicated in three previous Shiga toxin–producing *E. coli* outbreaks in North America. It was recommended product labelling to increase consumer awareness and thermization of milk to decrease the risk of illness associated with raw milk Gouda and Gouda-like cheese.

## Affiliations

1 British Columbia Centre for Disease Control, Vancouver, BC 2 Island Health Authority, Victoria, BC 3 British Columbia Centre for Disease Control Public Health Laboratories, Vancouver, BC 4 Fraser Health Authority, Surrey, BC 5 Department of Pathology and Laboratory Medicine, University of British Columbia, Vancouver, BC 6 School of Population and Public Health, University of British Columbia, Vancouver, BC \*Correspondence:

[evaweingartl@gmail.com](mailto:evaweingartl@gmail.com)

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