

Case definitions example table

Pathogen	Case definition(s)	Context	Reference
<i>Botulism</i>	A patient with signs and symptoms of botulism, with onset between 1 August 2006 and 1 November 2006, who had consumed carrot juice during the 10 days before illness onset. Cases also had to meet 1 of 3 criteria for laboratory confirmation of botulism, as follows: (1) botulinum toxin identified in a clinical specimen obtained from the patient, (2) <i>C. botulinum</i> identified in a clinical specimen obtained from the patient, or (3) botulinum toxin identified in the same container of carrot juice that the patient had consumed during the 10 days before illness onset.	Outbreak associated with a specific product	Sheth, A.N., <i>et al.</i> 2008. International outbreak of severe botulism with prolonged toxemia caused by commercial carrot juice. <i>Clin Infect Dis.</i> 47(10):1245-1251. Available at: http://cid.oxfordjournals.org/content/47/10/1245.full
<i>Campylobacter</i>	<ul style="list-style-type: none"> • Confirmed case: Laboratory-confirmed <i>Campylobacter</i> infection with onset during January 2012–February 2012 in a person who had consumed the dairy's unpasteurized milk or was epidemiologically linked to a confirmed case. • Probable case: Diarrheal illness during the same period without laboratory confirmation in a person who had consumed the dairy's milk and was epidemiologically linked to a confirmed case. 	Outbreak associated with a specific product	Longenberger A.H., <i>et al.</i> 2013. <i>Campylobacter jejuni</i> infections associated with unpasteurized milk- multiple states, 2012. <i>Clin Infect Dis.</i> 57(2):263-266. Available at: http://cid.oxfordjournals.org/content/57/2/263.long
<i>Cyclospora</i>	<ul style="list-style-type: none"> • Laboratory-confirmed: Patients in whom typical oocysts were detected in at least one stool sample. • Clinical: Illness in persons who began to have at least one gastrointestinal symptom (diarrhea, flatulence, weight loss, nausea, abdominal cramps, or vomiting) 12 hours to 14 days after the event. 	Event-based outbreak	Döller P.C., <i>et al.</i> 2002. Cyclosporiasis outbreak in Germany associated with the consumption of salad. <i>Emerg Infect Dis</i> , 8(9): 992–994. Available at: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2732557/
<i>E. coli</i>	<ul style="list-style-type: none"> • Confirmed case: Any person living or working in the Region with laboratory confirmed <i>E. coli</i> O157:H7 infection, PFGE pattern ECXA1.1107, ECBNI.0186, and onset of diarrhea since 1 September 2004. • Secondary case: Any person who met the above criteria with reported contact with a confirmed case or a symptomatic person in the 2 to 10 days before symptom onset. 	Outbreak linked to a specific product	Currie, A., <i>et al.</i> 2007. Outbreak of <i>Escherichia coli</i> O157:H7 Infections Associated with Consumption of Beef Donair. <i>J Food Protect</i> , 70:1483-1488. Available at: file:///D:/user/data/Downloads/00b7d520b1da728f79000000.pdf
<i>Hepatitis A</i>	<ul style="list-style-type: none"> • Confirmed primary case: (1) immunoglobulin M (IgM) 	Community-	Heywood, P., <i>et al.</i> 2007. A community

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	<p>antibodies to HAV (anti-HAV IgM, a marker of acute infection), (2) the onset of clinically compatible signs and (3) symptoms and having eaten foods prepared at the restaurant during the exposure period.</p> <ul style="list-style-type: none"> • Probable case: (1) clinical signs and symptoms compatible with hepatitis A and (2) exposure without laboratory confirmation. • Secondary case: Same criteria as a primary case but with exposure to a primary case rather than the restaurant. 	outbreak transmitted by an infected food handler	outbreak of travel-acquired Hepatitis A transmitted by an infected food handler. <i>CCDR</i> , 33(11):16-22. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/07vol33/dr3312b-eng.php
<i>Hepatitis A</i>	<ul style="list-style-type: none"> • Probable case: a person living in Denmark, Finland, Norway or Sweden with clinical illness compatible with HAV infection and positive for HAV IgM antibodies, no travel history outside of Nordic countries two to six weeks before onset of symptoms or having other known HAV risk factors, such as intravenous drug use, homelessness or male-to-male sexual contact and symptom onset on 1 October 2012 or later. • Confirmed case: a probable case typed with HAV genotype IB with a sequence that differs by no more than 2% from sequence KC876797. • Excluded: all patients with HAV genotypes other than IB, or patients with an HAV genotype IB sequence that differs by more than 2% from sequence KC876797, or patients with an untyped HAV from the household of an excluded patient with HAV infection. • Secondary case: a probable or confirmed case with close contact to a probable or confirmed case and having symptom onset two or more weeks after that of the primary case. 	Outbreak associated with an internationally distributed product	Gillesberg, L.S., <i>et al.</i> 2013. Ongoing multi-strain food-borne hepatitis A outbreak with frozen berries as suspected vehicle: four Nordic countries affected, October 2012 to April 2013. <i>Eurosurveillance</i> , 18(17): 20467. Available at: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20467
<i>Listeria</i>	Outbreak-related case: isolation of <i>L. monocytogenes</i> with the outbreak PFGE pattern from an anatomic site that is normally sterile (e.g., blood or cerebrospinal fluid), or from a product of conception, with an isolate upload date during May 20–June 28, 2013.	Outbreak associated with a specific product	Choi, M.J., <i>et al.</i> 2014. Multistate outbreak of listeriosis linked to soft-ripened cheese – United States, 2013. <i>MMWR</i> , 63(13): 294-295. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6313a5.htm
<i>Salmonella</i>	Outbreak cases: persons with: (i) laboratory-confirmed infection with fully antimicrobial-sensitive <i>S. Newport</i> exhibiting the	Outbreak associated	Byrne, L., <i>et al.</i> 2014. A multi-country outbreak of <i>Salmonella</i> Newport gastroenteritis in

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	outbreak PFGE profile designated as SNEWXB.0110 (defined by the watermelon isolate); (ii) symptoms including diarrhoea or any two or more of: vomiting, fever or abdominal pain; (iii) onset of illness between 31 October 2011 and 31 January 2012; and (iv) who was reported in any of the six countries.	with an internationally distributed product	Europe associated with watermelon from Brazil, confirmed by whole genome sequencing: October 2011 to January 2012. <i>Eurosurveillance</i> , 19(31) :6-13. Available at: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=20866
<i>Salmonella</i>	<ul style="list-style-type: none"> • Confirmed primary case: a person with laboratory-confirmed <i>S. Typhimurium</i> PT U302 reported in Ontario between 1 March and 31 May, 2005. • Confirmed secondary case: a person with laboratory-confirmed <i>S. Typhimurium</i> PT U302 with symptom onset occurring more than 72 hours (i.e. longest incubation period of <i>Salmonella</i>) after the onset of symptoms in a confirmed case in the same household. 	Case definition with phage type	Navarro, C., <i>et al.</i> 2006. Outbreak of <i>Salmonella</i> Typhimurium phage type U302 in Ontario, spring 2005. <i>CCDR</i> . 32(7): 87-94. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/06vol32/dr3207b-eng.php
<i>Salmonella</i>	The case definition for this outbreak was restricted to residents of or visitors to the Capital Health region (metro Edmonton, Alberta) with <i>Salmonella</i> Heidelberg of a PFGE pattern indistinguishable from pattern SheXAI 0.0001 (national designation) isolated in a clinical specimen collected on or between 1 June and 15 July, 2004.	Case definition with PFGE	Hornish, L. <i>et al.</i> 2005. Restaurant foodhandler-associated outbreak of <i>Salmonella</i> Heidelberg gastroenteritis identified by calls to a local telehealth service, Edmonton, Alberta, 2004. <i>CCDR</i> , 31(1): 105-110.. Available at: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/05vol31/dr3110a-eng.php
<i>Salmonella</i>	<i>S. Typhimurium</i> infection with illness onset on or after April 1, 2009, with 1) PFGE pattern indistinguishable from the cluster-defining pattern and 2) MLVA pattern either matching that of the main outbreak strain, or MLVA unknown.	Case definition using MLVA	2010. Multistate outbreak of human <i>Salmonella</i> Typhimurium infections associated with aquatic frogs—United States, 2009. <i>MMWR</i> . 58(51):1433-1436. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5851a1.htm
<i>Salmonella</i>	A person residing in Denmark, who became ill with symptoms of gastroenteritis (diarrhoea and/or vomiting) after 1 April 2010, whose culture results yielded the outbreak strain and who had not travelled abroad between 25 March and 14 June. The outbreak strain was defined as <i>S. Typhimurium</i> having MLVA profile 3-14-12-NA-211.	Case definition using MLVA	Kuhn, K., <i>et al.</i> 2011. An outbreak of <i>Salmonella</i> Typhimurium traced back to salami, Denmark, April to June 2010. <i>Eurosurveillance</i> . 16(19):19863. Available at: http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19863