

Notification Timeline:

From Lab/Practitioner to Public Health: Within 48 hours.

From Public Health to Ministry of Health: Within 2 weeks

Public Health Follow-up Timeline: Initiate within 24-48 hours.

Public Health Purpose for Notification of Campylobacteriosis (adapted from Massachusetts Department of Public Health, 2016)

- To identify whether the case may be a source of infection for other persons (e.g., a diapered child, child care attendee, or food handler), and if so, to prevent further transmission.
- To identify transmission sources of public health concern (e.g., a restaurant or a commercially distributed food product), and to stop transmission from such sources;
- To monitor the effectiveness of prevention and control measures;
- To make timely and evidence informed actions on outbreaks;
- To track trends of the epidemiology of campylobacteriosis in Saskatchewan including risk factors; and
- To inform the public and medical community about campylobacteriosis.

Information

Table 1. Surveillance Case Definition¹ (Saskatchewan-specific case definition, adapted from Public Health Agency of Canada [PHAC], December 2023)

Confirmed Case	Laboratory confirmation of infection with or without symptoms*: • isolation of <i>Campylobacter spp.</i> From an appropriate clinical specimen (e.g. stool, rectal swab, blood) OR • detection of <i>Campylobacter spp.</i> By nucleic acid amplification testing (NAAT) from an appropriate clinical specimen[§]
Probable Case	Clinical illness* in a person who is epidemiologically linked to a confirmed case.

*Clinical illness may be characterized by diarrhea (with blood or mucous), abdominal pain, malaise, fever, nausea

¹ Surveillance case definitions ensure uniform reporting to allow comparability of surveillance data. The definition is not intended to be used for clinical or laboratory diagnosis or management of cases.

and/or vomiting. The severity of illness may vary. While not considered clinical illness, asymptomatic infections may also occur.

⁵ Culture may be required for public health and clinical management. Thus culture should be performed on NAT-positive (NAT+) specimens to enable molecular typing (e.g., whole genome sequencing) for surveillance, outbreak detection and response, as per [Canadian Public Health Laboratory Network \(CPHLN\) guidance](#). An isolate may also be required for antimicrobial susceptibility testing (AST) and/or antimicrobial resistance (AMR) predictions to guide clinical treatment and/or for AMR surveillance.

Epidemiology and Occurrence

Global perspective

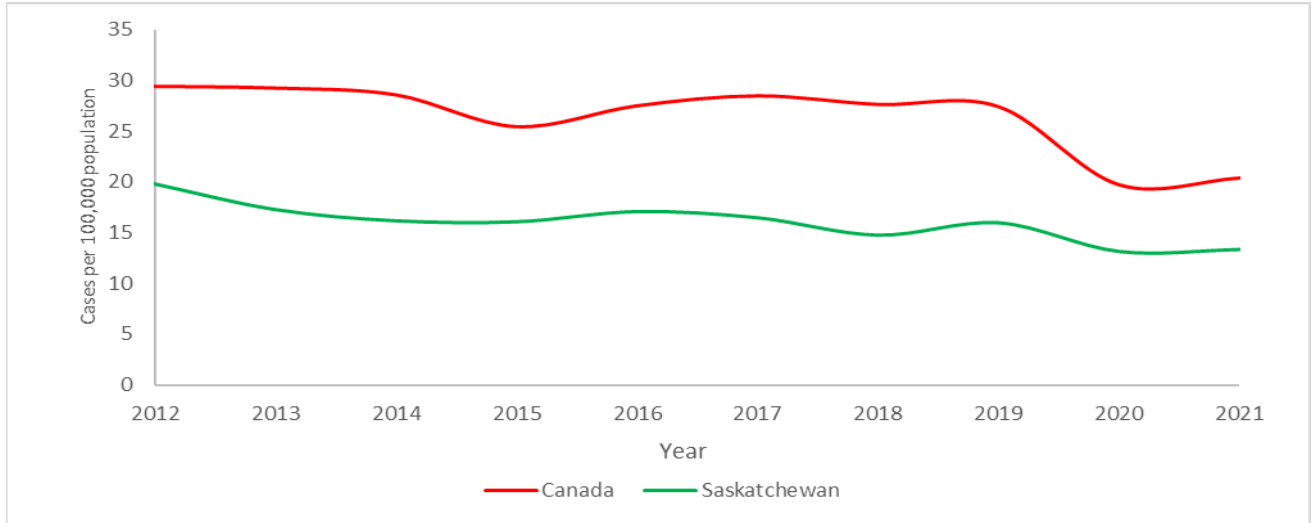
- Campylobacter is considered to be the most common bacterial cause of human gastroenteritis in the world (Nachamkin, 2000) with increase in global incidence and prevalence over the last 10 years (Kaakoush et al, 2015).
- In Europe, an average of about 200,000 Campylobacter infections were reported annually between 2017 and 2019 in about 30 European countries with overall notification rate of 64.9 cases per 100,000 population in 2017 (ECDC, 2019).
- About 1.5 million Campylobacter cases are reported in the US every year (CDC, 2021).

Canada

- In Canada, the incidence of campylobacteriosis has consistently been greater than 25 cases per 100,000 population since 2012 until in 2020 when the rate dropped to about 20 cases per 100,000 population.

Saskatchewan situation

- Campylobacteriosis is the most common bacterial enteric bacterial pathogen reported in Saskatchewan with average incidence rate of 16 cases per 100,000 population.
- Campylobacteriosis incidence rate across Saskatchewan since 2012 dropped to less 20 cases per 100,000 population with most of the cases associated with international travel.



Additional Background Information

Causative Agent

- *Campylobacter jejuni* and *C. coli* are the most common. Other *Campylobacter* species include *C. fetus*, *C. lari*, *C. upsaliensis* and *C. hyointestinalis*. Subtyping can be useful in epidemiological investigations.
- *Campylobacter* species are motile, comma-shaped, gram-negative bacilli (American Academy of Pediatrics [AAP], 2018).
- Infection with *Campylobacter* confers lasting immunity to that strain (Heymann, 2022).

Symptoms

- Many infections are asymptomatic and most are self-limited.
- Severity of symptoms vary.
- Symptoms include diarrhea, abdominal pain, fever, nausea, vomiting, malaise, and frequently, bloody stool.
- Mild infections may last 1-2 days, resembling viral gastroenteritis (AAP, 2018).
- May mimic acute appendicitis or inflammatory bowel disease (Heymann, 2022).
- Bacteremia, although uncommon, may occur in children and neonates. Less common is typhoid-like syndrome, febrile convulsions or a meningitis (AAP, 2015).
- Prolonged illness and/or relapses may occur in those who are immunocompromised.

-
-
- Post-infectious complications, though rare, include reactive arthritis (approximately 1% of cases), myocarditis, pericarditis, erythema nodosum, febrile convulsions or Guillain-Barré syndrome (approximately 0.1% of cases) (Heymann, 2022; AAP, 2018).

Reservoir/Source (Heymann, 2022)

- Feces of an infected animal, most commonly poultry and cattle. Puppies, kittens, rodents, pigs, sheep, birds, and other domestic animals can also be a reservoir.
- Raw poultry or meat, often contaminated through the slaughter process, and unpasteurized milk are frequently identified as sources of infection.

Incubation Period

Usually 2-5 days, ranges from 1-10 days, depending on dose ingested (Heymann, 2022). A standardized case investigation including timeline of inquiry is outlined in the [User Defined Form](#).

Period of Communicability

Usually ends 2-3 days after administration of antibiotics (AAP, 2018). Individuals not treated with antibiotics may excrete organisms for 2-7 weeks, however person to person transmission is uncommon (Heymann, 2022).

Mode of Transmission (Heymann, 2022)

- Ingestion of organisms in improperly cooked food, unpasteurized milk, or other contaminated food or drinking water.
- Direct contact with fecal material from infected animals or persons, especially young children, and young pets (puppies and kittens).
- Most raw chicken is contaminated with *C. jejuni*. Cross-contamination may occur from improperly cleaned counters or equipment (for example, knives and cutting boards) that have been exposed to contaminated meat or poultry products.
- Person-to-person transmission with *C. jejuni* appears uncommon.
- The infective dose is often low, typically fewer than 500 organisms.

Risk Factors

Risk factors are associated with individual susceptibility for severe disease and settings that create opportunities for acquisition or transmission to others. Risk factors for campylobacteriosis include:

- children younger than 5
- people 65 years and older
- people who are immunocompromised
- those who are pregnant (PHAC, 2018)
- those with low stomach acidity (Heymann, 2022)
- animal exposures, including farm animals, petting zoos, work in slaughter/meat processing facility
- individuals practicing sexual activities that increases risk for fecal-oral transmission (Kuhn, et al., 2021; Miller & Banning, 2024)

Specimen Collection and Transport

- Refer to the Roy Romanow Provincial Laboratory Compendium of Tests² for additional details.

Lab Reports and Interpretation

- The final interpretation of a test result and how it aligns with the case definition must take into account the type of test and the clinical presentation.
- PCR is more sensitive the culture, so culture negative and PCR positive cases should be interpreted in light of patients' presentation and epidemiological link.
- *Campylobacter* spp. are labile in transport and some species require specialized media in order to grow. These factors may also impact *Campylobacter* recovery by culture.
- Some species (e.g. *Campylobacter fetus*) are less common causes of gastroenteritis and will sometimes grow in blood culture.

Table 2. Interpretation of Test Results

Type of Specimen	Type of test	Result	Interpretation as per Case Definition (in conjunction with clinical presentation)	Test Details
Stool, blood, or	Culture	Positive for <i>Campylobacter</i>	Confirmed	

² <https://rrpl-testviewer.ehealthsask.ca/>

other appropriate clinical specimen		<i>spp.</i>		
Stool	PCR	<i>Campylobacter spp. (e.g. jejuni and coli)</i> detected by PCR	Confirmed	PCR will be reflexed to culture for sensitivity testing and typing.

Treatment/Supportive Therapy

Treatment for clinical management is at the discretion of the primary care provider. The following serves as a reference for the public health investigator:

- *Supportive therapy includes oral rehydration solution to replace fluids and electrolytes.*
- *In most cases, infection is self-limited and treatment with antibiotics is not indicated (Heymann, 2022).*
- *Antibiotic resistance is increasing. Antibiotic treatment, if indicated (e.g., those with severe or prolonged illness), should be based on antimicrobial susceptibility testing (PHAC, 2018). The public health practitioner should direct any questions regarding the current treatment protocols to the primary care provider.*
- *C. jejuni or C. coli are susceptible to many antimicrobial agents. Taking antibiotics will shorten the period of excretion and communicability (AAP, 2018).*
- *Antibiotics shorten the duration of illness and prevent relapse when given early during gastrointestinal tract infection.*

Public Health Investigation

I. Case

Refer to [Attachment – Campylobacteriosis Data Collection Worksheet](#) to assist.

History

- Onset of illness - to determine incubation period and period of communicability, which helps to identify the possible source and contacts to be followed.
- Chronic medical condition that increases risk of acquisition. See Risk Factors.

-
-
- In the ten days prior to onset of illness inquire about:
 - Exposure to animals including pets with recent illness, farm animals, young animals or recently acquired puppies or kittens. Refer to [Reservoir/Source](#);
 - Ingestion of potentially contaminated foods such as undercooked poultry, ground beef products, or unpasteurized milk (complete the [User Defined Form](#));
 - Contact with individuals with similar symptoms or to a confirmed case See [Contact Definition](#);
 - History of travel outside of Saskatchewan, especially to areas with inadequate sanitation, water and sewage treatment;
 - Assess for safe food handling procedures (e.g., handwashing, temperature control, possible cross-contamination such as shared food surfaces and equipment);
 - Assess for history of similar symptoms in visitors or other members of the household.
 - Determine history of child care, institution, communal living (i.e. camps, dorms) or hospital exposure;
 - Identify exposure to contaminated drinking and recreational water sources;
 - Determine history of high-risk sexual practices, particularly activities that result in contact with feces.
 - Occupational exposure (e.g., animal or meat handling).
 - Assess for health conditions that may render the individual more susceptible to invasive disease (e.g. immunocompromising conditions).
 - Identify others who may have been exposed to the same source, including travel companions.
 - Occupational considerations for transmission exist for food handlers, health care and child care workers.

Public Health Interventions

Assessment

- Assess for [contacts](#) paying particular attention to individuals that have had exposure to the same source, are a risk for further transmission, or are symptomatic. This is of importance in detecting outbreaks.

Communication

- The case individual can inform contacts of the exposure, to [monitor for symptoms](#), and to call HealthLine 811 if symptoms develop. A letter from Public Health that also includes when to seek medical attention can also be used (see Sample letter).
- Letters can also be used when exclusion from school or work settings are required as a public health intervention.

Education

- All cases should be provided information on prevention and control measures including safe food handling and handwashing. See [Appendix F](#).
- Provide all cases guidance to seek medical attention if experiencing severe illness (i.e., more than 6 diarrheal episodes per day; bloody diarrhea; persistent diarrhea [more than 1 week], with or without fever), prolonged illness, or is immunocompromised (Alberta Health Services, 2023; PHAC, 2018).

Environmental Health

- In the case of an ill food handler, follow up with the food facility may be warranted as part of the case investigation and to review/educate on safe food handling requirements.

Exclusion

Exclusion is warranted for cases as follows:

- Food handler, health care worker, childcare, or other staff involved with personal care and children below the age of five years in childcare: exclude until diarrhea has resolved³ (AAP, 2018).
- Individuals unable to maintain adequate standards of personal hygiene (i.e., have mental or physical disabilities): exclude until diarrhea has resolved³. If the individual is living in an institution, follow contact precautions for same time period.
- Exclusion may be warranted where transmission from the infected individual to others via contamination of food/water is demonstrated or considered very likely in other occupational settings. This may be evaluated on a case-by-case basis by the Medical Health Officer (MHO).

³ Diarrhea is considered resolved when stools have been normal for that individual for 48 hours and antibiotics and/or antidiarrheal medication has stopped for at least 48 hours (if treatment provided).

Public Health Orders

- If necessary, the case should be excluded through a public health order.

Referral

- Depending on the suspected source and information from the source investigation, involvement of public health inspection, local MHO, Ministry of Health, PHAC, Ministry of Agriculture, and/or Canadian Food Inspection Agency (CFIA) may be necessary.

Testing

- Testing is not routinely required for lifting exclusion requirements.

II. Contacts/Contact Investigation

Contact Definition

Contacts include :

- persons living in the same household;
- children and childcare workers in the same child care facility/day home;
- persons who have eaten food prepared by the case during the period of communicability;
- persons who have attended events where food was shared with the case (e.g., potluck);
- individuals exposed to the same source, including animal exposures (if it is identified); and
- individuals practicing sexual activities that increases risk for fecal-oral transmission.

Public Health Interventions

- Individual follow up with contacts is generally not recommended, with the exception of a symptomatic contact as reported by the case or in the context of a group exposure, cluster or outbreak.

Assessment

- Assess for symptoms. Symptomatic contacts should be investigated and managed as cases. Refer to [Case Investigation](#).

- Assess for outbreak criteria. Refer to [Outbreak or Epidemic Measures](#).

Communication

- Individual follow-up of contacts in larger child care facilities, classrooms, schools, teams, workplaces, etc., is generally not recommended.
- The case individual can inform contacts of the exposure, to [monitor for symptoms](#), and to call HealthLine 811 if symptoms develop. A letter from Public Health that includes when to seek medical attention can also be used (see Sample letter).

Education

- All contacts should be provided information on prevention and control measures including safe food handling and handwashing. See [Prevention Measures](#).

Environmental Health

- If a common exposure is identified through the case and contact investigations, environmental health assessments may be required. See [Outbreak and Epidemic Measures](#).

Exclusion

- Symptomatic contacts should be excluded as a case. Refer to [Case Investigation-Exclusion](#).
- Asymptomatic contacts are not excluded from work or child care.

Referral

- Depending on the suspected source, investigation/management may involve local Medical Health Officer, Ministry of Health, PHAC, Ministry of Agriculture, and/or CFIA.

Symptom Monitoring

- Contacts should be asked to [monitor for symptoms](#) during the incubation period and be advised regarding testing and exclusion should symptoms develop.

Testing

- Symptomatic contacts should be assessed by a physician.

III. Environment

Child Care Centre Control Measures

- Refer to the Saskatchewan Ministry of Health Infection Control Manual for Child Care Facilities.⁴ A Public Health Inspector should inspect the facility to ensure adequate infection control measures are implemented.
- Isolated cases are managed as per case and contact management above.
- Two or more cases: If there are epidemiologically linked cases in attendees or employees, staff, attendees and food handlers should be assessed for illness. Testing is not required. See [Outbreak or Epidemic Measures](#).
- Symptomatic individuals should be excluded as cases (see [Case Exclusion](#)).
- Educate parents and staff about campylobacteriosis and proper handwashing.
- Instruct parents and staff to watch for symptoms of diarrhea.

Health Facility Control Measures

- For infection control measures refer to your Health Authority Infection Control Manual and supporting resources (e.g., transmission-based precautions guidelines).
- Isolated cases are managed as per case and contact management above.
- Two or more cases: If there are epidemiologically linked cases of campylobacteriosis in the institution's residents or employees, staff with direct contact and food handlers should be assessed for illness. Stool cultures may be done to identify additional cases. Investigate as an outbreak in consultation with the MHO. Refer to [Outbreak or Epidemic Measures](#).

Other Communal Living or Similar Environment with Higher Risk of Transmission

- This may include facilities where care may or may not be provided but the communal living and shared facilities increase risk of transmission such as group homes, private seniors residences, work camps, dormitories, etc.
- Isolated cases are managed as per case and contact management above.
- Two or more cases: Refer to [Outbreak and Epidemic Measures](#).
- Residential care facilities should follow the [Outbreak Management](#)⁵ toolkit
- The Health Authority Infection Control Manual and Residential Care Outbreak Management toolkit can be used to guide infection control measures in other settings.

⁴ <http://publications.gov.sk.ca/documents/11/96181-infection-control-manual-child-care-centres.pdf>

⁵ https://www.saswh.ca/wp-content/uploads/2023/01/Outbreak_Toolkit_December_2022-compressed-1.pdf

IV. Outbreak or Epidemic Measures

When cases occur among a group of individuals that are known to each other, searching for possible common exposures such as travel or shared food sources. A history of food handling errors, use of unsafe raw ingredients, inadequate cooking, time-temperature abuses and cross-contamination may be the likely source.

See Saskatchewan FIOIP for protocol related to foodborne illness outbreaks in Saskatchewan (expected to be available in spring 2024).

When laboratories identify interprovincial or international linkages, a multi-jurisdictional Outbreak Incident Command Center may be activated to coordinate investigation. The CFIA would become involved with the goal to identify the implicated source and implement appropriate interventions such as product recalls to reduce further spread. See the national [FIORP](#) for foodborne illness outbreaks involving multiple provinces/territories.

Prevention Measures

Refer to the [Enteric Introduction and General Considerations](#) and [Appendix F](#) that highlight topics for client education that should be considered as well as provides information on high-risk groups and activities.

Education

- Educate the public about the importance of personal hygiene including handwashing, safe food handling and safe drinking water.
- Provide prevention and education to case or caregiver, child care or institution about personal hygiene and hand hygiene.
- Avoid using dirty or cracked eggs, thoroughly cook all food derived from animal sources, particularly poultry and eggs. Wash fruits and vegetables prior to peeling and/or consuming. Clean and sanitize work surfaces thoroughly before and after preparing raw meat, poultry and other foods. Emphasize that poultry carcasses are often contaminated with *Campylobacter*.
- Educate eating establishment operators regarding safe food handling and management and cleaning of equipment and to monitor practice within their

establishments frequently. Ensure employees stay home when sick (workplace policy recommended).

- Pasteurize or boil milk.
- Ensure water is sourced from supplies that are appropriate and properly treated (i.e. municipal water, properly treated private water, etc.).
- Wash hands thoroughly after handling animals, animal treats, toys, and food and after cleaning animal enclosures and handling animal waste (especially chickens).
- Consider pets with diarrhea as a possible source of *Campylobacter*.
- Educate about the risk of sexual practices that permit fecal-oral contact.

Immunization

Not applicable.

Revisions

Date	Change
June 2024	• Epidemiology and Occurrence- added section • Symptoms- added myocarditis and pericarditis as complications • Reservoir/Source- clarified most commonly poultry and cattle. Added pigs, sheep and birds. • Risk Factors- added section. • Specimen Collection and Transport- replaced section with link to RRPL Compendium of Tests. • Case History- added chronic medical condition that increase risk of acquisition; added history of high-risk sexual practices, particularly that result in contact with feces. • Case Communication- added case can inform contacts of exposure; added to call HealthLine 811 if symptoms develop. • Case Education- added guidance on when to seek medical attention. • Case Environmental Health- revised wording to follow up with the food facility (previously food handler). • Case Exclusion- added bullet on exclusion from other occupational settings. Added to definition of resolved diarrhea: "... and antibiotics and/or antidiarrheal medication has stopped for at least 48 hours (if treatment provided)." • Case Public Health Order- revised wording to be applicable to all

	cases not just food handlers. • Referral- revised wording to align with other enteric illness chapters. • Contact Definition- added persons who have eaten food prepared by the case, who have attended events where food was shared with the case, and individuals practicing sexual activities that increases risk for fecal-oral transmission. • Contact Public Health Interventions- added bullets to reflect individual follow up with contacts is generally not recommended and case can inform contacts of exposure. • Contact Assessment- added symptomatic contacts should be investigated and managed as cases and to assess for outbreak criteria. • Contact Communication- revised to call HealthLine 811 if symptoms developed (previously was to see physician). • Contact Referral- aligned wording with Case Referral revisions. • Contact Symptom Monitoring and Testing- added sections. • Environment- revised wording for clarity. Added section on Other Communal Living or Similar Environment with Higher Risk of Transmission. • Outbreak or Epidemic Measures- expanded information, including referencing national FIORP and provincial FIOIP. • Education- added more detailed information.
April 2024	• Minor wording updates in case definitions. • Added Lab Reports and Interpretation section, including Table 2 Interpretation of Test Results.
September 2018	• Clarified the purpose for notification of cases to public health • Updated case definition to include PCR and NAAT tests. • Incorporated standardized Campylobacteriosis Data Collection Worksheet and User Defined Form. • Clarified the exclusion and removed reference to completion of antibiotics. • Rearranged and updated the style into the new format of the Manual to align with Panorama. • References reaffirmed or updated as necessary.

References

- Alberta Health Services. (2023). *Bugs and Drugs: Campylobacter coli, campylobacter jejuni*. Retrieved December, 2023 from <https://www.bugsanddrugs.org/CFF1EDAF-526D-4B32-852A-25E3E7F1872E>.
- American Academy of Pediatrics. (2018). *Red book: 2015 report of the Committee on Infectious Diseases* (31st ed.). Elk Grove Village, IL: Author.
- Centers for Disease Control and Prevention. (2023). *Campylobacter (Campylobacteriosis): Information for health professionals*. Retrieved January, 2024 from <https://www.cdc.gov/campylobacter/technical.html>.
- CDC (2021). Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Foodborne, Waterborne, and Environmental Diseases (DFWED)
- European Centre for Disease Prevention and Control. Campylobacteriosis. In: ECDC. Annual epidemiological report for 2017. Stockholm: ECDC; 2019
- Heymann, D. L. (Ed.). (2022). *Control of communicable diseases manual* (21st ed.). Washington, DC: American Public Health Association.
- Kaakoush NO, Castaño-Rodríguez N, Mitchell HM, Man SM. Global Epidemiology of Campylobacter Infection. Clin Microbiol Rev. 2015 Jul;28(3):687-720. doi: 10.1128/CMR.00006-15. PMID: 26062576; PMCID: PMC4462680.
- Massachusetts Department of Public Health (2016). Guide to surveillance reporting and control: Campylobacteriosis. Retrieved December, 2023 from <https://www.mass.gov/handbook/guide-to-surveillance-reporting-and-control>.
- Public Health Agency of Canada. (2018). *For health professionals treating campylobacteriosis (Campylobacter)*. Retrieved December 2023, from <https://www.canada.ca/en/public-health/services/diseases/campylobacteriosis-campylobacter/for-health-professionals.html>.

Public Health Agency of Canada. (2018). *Risks of campylobacteriosis (Campylobacter)*. Retrieved January 2024, from <https://www.canada.ca/en/public-health/services/diseases/campylobacteriosis-campylobacter/risks.html>.

Public Health Agency of Canada. (December 2023). *National Case definition: Campylobacteriosis*. Retrieved February, 2024 from <https://www.canada.ca/en/public-health/services/diseases/campylobacteriosis-campylobacter/for-health-professionals/national-case-definition.html>.

United States Food and Drug Administration, Center for Food Safety and Applied Nutrition. (2012). *Bad bug book: Foodborne pathogenic microorganisms and natural toxins handbook*. McLean, VA: International Medical Publishing, Inc.

Campylobacteriosis Data Collection Worksheet

Panorama QA complete: ☐ Yes ☐ No

Please complete all sections

Panorama Client ID: _____

Panorama Investigation ID: _____

Initials: _____

A) CLIENT INFORMATION

LHN -> SUBJECT -> CLIENT DETAILS -> PERSONAL INFORMATION

Last Name:	First Name: and Middle Name:	Alternate Name (Goes by):
DOB: YYYY / MM / DD Age: _____	Health Card Province: _____ Health Card Number (PHN): _____	Preferred Communication Method: (specify - i.e. home phone, text): Email Address: ☐ Work ☐ Personal
Phone #: ☐ Primary Home: ☐ Mobile contact: ☐ Workplace:		
Place of Employment/School:	Gender: ☐ Male ☐ Female ☐ Other ☐ Unknown	
Alternate Contact: _____ Relationship: _____ Alt. Contact phone: _____	Address Type: ☐ No fixed ☐ Postal Address ☐ Primary Home ☐ Temporary ☐ Legal Land Description Mailing (Postal address): Street Address or FN Community (Primary Home): Address at time of infection if not same:	

B) INVESTIGATION INFORMATION

LHN-> SUBJECT SUMMARY-> ENTERIC ENCOUNTER GROUP->CREATE INVESTIGATION

Disease Summary Classification:	Date	Classification:	Date	LAB TEST INFORMATION:
CASE		CONTACT		<i>Date specimen collected:</i>
☐ Confirmed	YYYY / MM / DD	☐ Contact	YYYY / MM / DD	YYYY / MM / DD
☐ Does Not Meet Case	YYYY / MM / DD	☐ Not a Contact	YYYY / MM / DD	<i>Specimen type:</i>
☐ Person Under Investigation	YYYY / MM / DD	☐ Person Under Investigation	YYYY / MM / DD	☐ Blood
☐ Probable	YYYY / MM / DD			☐ Urine
				☐ Stool

Disposition:
FOLLOW UP:
☐ In progress YYYY / MM / DD ☐ Complete YYYY / MM / DD
☐ Incomplete – Declined YYYY / MM / DD ☐ Not required YYYY / MM / DD
☐ Incomplete – Lost contact YYYY / MM / DD ☐ Referred – Out of province YYYY / MM / DD
☐ Incomplete – Unable to locate YYYY / MM / DD (specify where)

REPORTING NOTIFICATION Name of Attending Physician or Nurse:	Location:
Physician/Nurse Phone number:	Date Received (Public Health): YYYY / MM / DD

Type of Reporting Source: ☐ Health Care Facility ☐ Lab Report ☐ Nurse Practitioner ☐ Physician ☐ Other _____

Campylobacteriosis Data Collection Worksheet

Please complete all sections

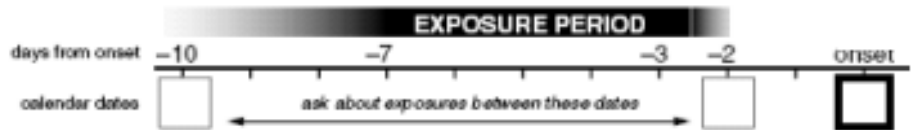
Panorama Client ID: _____
Panorama Investigation ID: _____

C) SIGNS & SYMPTOMS

INVESTIGATION->SIGNS & SYMPTOMS

Description	Yes Date of onset	Date of recovery	Description	Yes Date of onset	Date of recovery
Asymptomatic	YYYY / MM / DD	YYYY / MM / DD	Nausea	YYYY / MM / DD	YYYY / MM / DD
Diarrhea - bloody	YYYY / MM / DD	YYYY / MM / DD	Pain – abdominal	YYYY / MM / DD	YYYY / MM / DD
Diarrhea - mucousy	YYYY / MM / DD	YYYY / MM / DD	Sepsis (e.g. bactremia, septicemia, etc.)	YYYY / MM / DD	YYYY / MM / DD
Diarrhea - watery	YYYY / MM / DD	YYYY / MM / DD	Stool - bloody	YYYY / MM / DD	YYYY / MM / DD
Headache	YYYY / MM / DD	YYYY / MM / DD	Vomiting	YYYY / MM / DD	YYYY / MM / DD
Malaise	YYYY / MM / DD	YYYY / MM / DD	Cardiac- myocarditis	YYYY / MM / DD	YYYY / MM / DD
Arthritis	YYYY / MM / DD	YYYY / MM / DD	Cardiac-pericarditis	YYYY / MM / DD	YYYY / MM / DD
Guillain-Barre Syndrome	YYYY / MM / DD	YYYY / MM / DD			
Other Signs & Symptoms if applicable					

Enter onset date in heavy box.
Count back to figure the
probable exposure period.



D) INCUBATION AND COMMUNICABILITY

LHN-> INVESTIGATION->INCUBATION & COMMUNICABILITY

Incubation for Case (period for acquisition): Earliest Possible Exposure Date: YYYY / MM / DD		Latest Possible Exposure Date: YYYY / MM / DD
Exposure Calculation details:		
Communicability for Case (period for transmission): Earliest Possible Communicability Date: YYYY / MM / DD		Latest Possible Communicability Date: YYYY / MM / DD
Communicability Calculation Details:		

E) RISK FACTORS

N – NO, NA – Not Asked, U – Unknown

LHN-> SUBJECT->RISK FACTORS

DESCRIPTION	Yes	N, NA, U	Add'l Info
Animal Exposure – Farms (Add'l Info)			
Animal Exposure – Other (Add'l Info)			
Animal Exposure – Pet treats and raw food (Add'l Info)			
Animal Exposure – Pets (including reptiles) (Add'l Info)			
Animal Exposure – Rodents/rodent excreta			
Animal Exposure – Wild animals (other than rodents) (Add'l Info)			
Behaviour – Camping/hiking	YYYY / MM/DD		
Contact – Persons with diarrhea/vomiting	YYYY / MM/DD		
Contact to a known case (Add'l Info)	YYYY / MM/DD		
Immunocompromised – Related to underlying disease or treatment			
Occupation – Child Care Worker	TE		
Occupation – Farmer			
Occupation – Food Handler	TE		

Campylobacteriosis Data Collection Worksheet

Please complete all sections

Panorama Client ID: _____
Panorama Investigation ID: _____

DESCRIPTION	Yes	N, NA, U	Add'l Info
Occupation – Health Care Worker – IOM Risk Factor	TE		
Occupation – Veterinarian or related worker			
Travel – Outside of Canada (Add'l Info)	YYYY / MM/DD AE		
Travel – Outside of Saskatchewan, but within Canada (Add'l Info)	YYYY / MM/DD AE		
Water – Bottled water (Add'l Info)			
Water – Private well or system (Add'l Info)			
Water – Public water system (Add'l Info)			
Water – Untreated water (Add'l Info)	AE		
Water (Recreational) – Pond, stream, lake, river, ocean (Add'l Info)	AE		
Water (Recreational) – Private (swimming pool/whirl pool)	TE		
Water (Recreational) – Public (swimming/paddling pool/whirl pool)			
Other risk factor (Add'l Info)			

F) USER DEFINED FORM (SEE ATTACHED) LHN-> INVESTIGATION-> INVESTIGATION DETAILS -> LINKS AND ATTACHMENTS -> CAMPYLOBACTERIOSIS FORM

G) TREATMENT LHN-> INVESTIGATION-> MEDICATIONS->MEDICATIONS SUMMARY

Medication (<i>to intercept transmission</i>)Panorama = Other Meds) : _____	
Prescribed by: _____	Started on: YYYY / MM / DD

H) INTERVENTIONS LHN-> INVESTIGATION->TREATMENT & INTERVENTIONS->INTERVENTION SUMMARY

Intervention Type and Sub Type:				
Assessment: ☐ Assessed for contacts YYYY/ MM / DD Investigator name		Exclusion (recommended): Investigator name ☐ Daycare YYYY/ MM / DD ☐ Preschool YYYY/ MM / DD ☐ School YYYY/ MM / DD ☐ Work YYYY/ MM / DD		
General: Investigator name ☐ Disease-Info/Prev-Control YYYY/ MM / DD ☐ Disease-Info/Prev-Cont/Assess'd for Contacts YYYY/ MM / DD		Public Health Order: ☐ Other (specify) YYYY/ MM / DD Investigator name		
Communication: ☐ Other communication (See Investigator Notes) YYYY/ MM / DD Investigator name ☐ Letter See Document Management YYYY/ MM / DD Investigator name		Referral: Investigator name ☐ Canadian Food Inspection Agency YYYY/ MM / DD ☐ Primary Care Provider YYYY/ MM / DD ☐ Saskatchewan Water Security Agency YYYY/ MM / DD		
Education/counselling: Investigator name ☐ Prevention/Control measures YYYY/ MM / DD ☐ Disease information provided YYYY/ MM / DD		Other Investigation Findings: ☐ Investigator Notes ☐ Document Management		
Environmental health: YYYY/ MM / DD ☐ Restaurant Inspection ☐ Facility Inspection Investigator name				
Date	Intervention subtype	Comments	Next follow-up Date	Initials
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	
YYYY / MM / DD			YYYY / MM / DD	

Campylobacteriosis Data Collection Worksheet

Please complete all sections

Panorama Client ID: _____
Panorama Investigation ID: _____

YYYY / MM / DD			YYYY / MM / DD	
----------------	--	--	----------------	--

I) OUTCOMES

LHN-> INVESTIGATION-> OUTCOMES

☐ Not yet recovered/recovering	YYYY / MM / DD	☐ ICU/intensive medical care	YYYY / MM / DD	☐ Hospitalization	YYYY / MM / DD
☐ Recovered	YYYY / MM / DD	☐ Intubation /ventilation	YYYY / MM / DD	☐ Unknown	YYYY / MM / DD
☐ Fatal	YYYY / MM / DD	☐ Other _____	YYYY / MM / DD		
Cause of Death: (if Fatal was selected) _____					

J) EXPOSURES

Acquisition Event

LHN-> INVESTIGATION-> EXPOSURE SUMMARY-> ACQUISITION QUICK ENTRY

Acquisition Event ID: _____

Exposure Name: _____		
Acquisition Start YYYY / MM / DD to Acquisition End: YYYY / MM / DD		
Location Name: _____		
Setting Type		
☐ Travel	☐ Exposure or consumption of potentially contaminated food or water	☐ Most likely source

Transmission Events

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> QUICK ENTRY

Transmission Event ID	Exposure Name	Setting type	Date/Time	# of contacts
		☐ Food service establishment ☐ Health Care setting ☐ Public facilities ☐ Household Exposure		
		☐ Food service establishment ☐ Health Care setting ☐ Public facilities ☐ Household Exposure		
		☐ Food service establishment ☐ Health Care setting ☐ Public facilities ☐ Household Exposure		
		☐ Food service establishment ☐ Health Care setting ☐ Public facilities ☐ Household Exposure		
	Campy Contacts – Inv ID# _____	☐ Multiple Settings	YYYY / MM / DD to YYYY / MM / DD	

K) TOTAL NUMBER OF CONTACTS

LHN -> INVESTIGATION-> EXPOSURE SUMMARY -> TRANSMISSION EVENT SUMMARY -> TE HYPERLINK -> UNKNOWN/ANONYMOUS CONTACTS

Anonymous contacts: _____ (total number of individuals exposed)

Initial Report completed by:		Date initial report completed: YYYY / MM / DD
------------------------------	--	--



Campylobacteriosis Food Exposure Questionnaire



Loading...

Record type: Investigation

Record ID: 146

Record Name: UDF Investigation

In this form the answers (Yes, Probably, No, and Don't know) are from the perspective of the person being interviewed. "Probably" can be used if the client thinks he/she may have eaten this food or usually eats this food, but is unsure if it was eaten during the period in question.

Diet and Allergies

[Show/Hide](#)

Are you a vegetarian?

- ☐ Yes
☐ No
☐ Don't know
☐ Not asked

Do you have any food Allergies / avoidances / special diet?

- ☐ Yes
☐ No
☐ Don't know
☐ Not asked

If yes, specify details

Food Exposures

[Show/Hide](#)

In the 10 days prior to onset did you eat...

Any chicken meat?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, was the chicken undercooked?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

Any eggs or food contain eggs (from any bird species)?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)



Any pork?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

Any beef?

If yes, specify details (E.g., where consumed, type, brand, location)

Any fish?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

Any raw vegetables?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

Any raw fruits?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know
☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

Any Unpasteurized dairy (e.g. milk, cheese)?

- ☐ Yes
☐ Probably
☐ No
☐ Don't know



☐ None of the Above

If yes, specify details (E.g., where consumed, type, brand, location)

Social Functions

[Show/Hide](#)

In the 10 days prior to onset did you attend any social functions (e.g. parties, weddings, showers, potlucks, community events)?

- ☐ Yes
☐ No
☐ Don't know
☐ Not asked

Click the Add button to add social event/function details

Add

Restaurants

[Show/Hide](#)

In the 10 days prior to onset did you attend any restaurants (including take-out, cafeteria, bakery, deli, kiosk)?

- ☐ Yes
☐ No
☐ Don't know
☐ Not asked

Click the Add button to add restaurant details

Add

Grocery Stores

[Show/Hide](#)

In the 10 days prior to onset did you attend any grocery stores for food consumed during the incubation period?

- ☐ Yes
☐ No
☐ Don't know
☐ Not asked

Click the Add button to add grocery store details

Add

Loyalty card/store issued card (for outbreak investigation only)

[Show/Hide](#)

This section is only for use in some specific outbreak situations, with client consent. It is not a routine question for sporadic cases.

Has the client given consent (written or verbal)?

- ☐ Yes
☐ No
☐ Not applicable

Loyalty card details (names and numbers)

**Interviewer Details and Notes**[Show/Hide](#)

Interviewer Name

Interview date

8/22/2018

Any special notes regarding this interview

[Save as Draft](#)[Submit](#)[Clear](#)

Orbeon Forms Orbeon Forms 4.9.0.201505052329 CE