

Appendix B: Provincial Case Definitions for Diseases of Public Health Significance

Disease: Q Fever

Effective: February 2019

Q Fever

1.0 Provincial Reporting

Confirmed and probable cases of disease

2.0 Type of Surveillance

Case-by-case

3.0 Case Classification

3.1 Confirmed Case

Laboratory confirmation of infection with clinically compatible signs and symptoms:

- A significant (*i.e.* four fold or higher) rise in specific IgG antibody titer to *Coxiella burnetii* (*C. burnetii*) phase II antigen
OR
- Isolation of *C. burnetii* from a clinical specimen
OR
- Detection of *C. burnetii* DNA from a clinical specimen by nucleic acid amplification test (NAAT)

3.2 Probable Case

Clinically compatible signs and symptoms in a person with:

- An epidemiologic link to a laboratory-confirmed case.
OR
- An asymptomatic individual with positive laboratory evidence and with an epidemiologic link to a confirmed source (*i.e.*, human, animal or environment).
OR
- Single convalescent serum sample (IgG phase II $\geq 1: 256$) from a patient who has been ill > 1 week.

4.0 Laboratory Evidence

4.1 Laboratory Confirmation

The following will constitute a confirmed case of Q fever:

- Isolation of *C. burnetii* from a clinical specimen
- A four-fold or higher rise in IgG antibodies to phase II antigen

4.2 Approved/Validated Tests

- Complement Fixation
- IgG immunofluorescence assay (IFA) for the detection and semi quantification to phase I and phase II *C. burnetii* antigens and as an aid in the diagnosis of Q fever

4.3 Indications and Limitations

- IgM antibodies have lower specificity than IgG antibodies. IgM antibodies may cross react with other bacteria and rickettsia (*i.e.*, *Bartonella*, *Legionella*, etc.).
- Low levels of phase II IgG only antibody (<1:256) may be considered non-specific.
- During acute infection, phase II antibodies appear first and are higher than phase I antibodies.
- The results obtained should be used in conjunction with the clinical information available to the physician.
- Serologic responses are time dependent. Specimens obtained too early in the infection may not contain detectable antibody levels. If Q fever is suspected, obtain a second specimen 3 to 6 weeks after onset of symptoms.

5.0 Clinical Evidence

An acute febrile disease; onset may include sudden chills, myalgia, weakness, malaise, headache and sweats.

6.0 ICD 10 Code(s)

A78 Q fever

7.0 Sources

Acha P, Szyfres B. Zoonoses and Communicable Diseases Common to Man and Animals. Vol. 2. 3 ed. Washington, DC: Pan American Health Organization; 2003.

Centers for Disease Control and Prevention. National Notifiable Disease Surveillance System: Q Fever (*Coxiella burnetii*) - 2009 Case Definition [Internet]. Atlanta, GA: U.S. Department of Health & Human Services; 2009 [cited June 26, 2014]. Available from: <https://wwwn.cdc.gov/nndss/conditions/q-fever/case-definition/2009/>

Centers for Disease Control and Prevention. Diagnosis and Management of Q Fever — United States, 2013: Recommendations from CDC and the Q Fever Working Group. Morbidity and Mortality Weekly Report: Recommendations and Reports. 2013;62(3):1-28.

Heymann DL, editor. Control of Communicable Diseases Manual. 20 ed. Washington, D.C: American Public Health Association; 2015.

8.0 Document History

Table 1: History of Revisions

Revision Date	Document Section	Description of Revisions
December 2014	General	New template. Title of Section 8.0 changed from “References” to “Sources”. Section 9.0 Document History added.
December 2014	3.1 Confirmed Case	“A significant (i.e., fourfold or greater) rise in specific antibodies to <i>Coxiella burnetii</i> ” changed to “A significant (i.e. four fold or higher rise in specific IgG antibody titer to C.burnetii phase II antigen”. “from blood” changed to “from clinical specimen”. Addition of “OR Detection of <i>C. Burnetii</i> DNA from a clinical specimen by NAAT testing”.
December 2014	3.2 Probable Case	Entire section revised.
December 2014	4.1 Laboratory Confirmation	Entire section revised.
December 2014	4.2 Approved/Validated Tests	Addition of “IgM”.
December 2014	4.3 Indications and Limitations	Entire section revised.
December 2014	8.0 Sources	Updated.
February 2019	General	Minor revisions were made to support the regulation change to Diseases of Public Health Significance.

