North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch

North Carolina Public Health

ATTENTION HEALTH CARE PROVIDERS:
Please report relevant clinical findings about this disease event to the local health department.

Q FEVER
Confidential Communicable Disease Report—Part 2
NC DISEASE CODE: 32

ATTENTION Local Health Department Staff: There is no Part 2 Wizard for this disease. Enter all information from this form into the NC EDSS question packages.

If sending this form to the Health Care Provider, remember to attach a cover letter from your agency indicating the part(s) of the form the provider should complete.

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)* / /
						SSN

NC EDSS LAB RESULTS Verify if lab results for this event are in NC EDSS. If not present, enter results.

Specimen Date	Specimen #	Specimen Source	Type of Test	Test Result(s)	Description (comments)	Result Date	Lab Name—City/State
/ /						/ /	
/ /						/ /	
/ /						/ /	

CLINICAL FINDINGS

Is/was patient symptomatic for this disease? ☐Y ☐N ☐U
If yes, symptom onset date (mm/dd/yyyy): __/__/____
Fever ☐Y ☐N ☐U
☐Yes, subjective ☐No
☐Yes, measured ☐Unknown
Highest measured temperature_____
Fever onset date (mm/dd/yyyy): ____/____/____
Fatigue or malaise or weakness ☐Y ☐N ☐U
Sweats (diaphoresis) ☐Y ☐N ☐U
Night sweats ☐Y ☐N ☐U
Chills or rigors ☐Y ☐N ☐U
Altered mental status ☐Y ☐N ☐U
☐Confusion
Headache ☐Y ☐N ☐U
Was location behind the eyes (retrobulbar)? ☐Y ☐N ☐U
Encephalomyelitis/ meningoencephalitis ☐Y ☐N ☐U
Muscle aches/pains ☐Y ☐N ☐U
Skin rash ☐Y ☐N ☐U
Cough ☐Y ☐N ☐U
Shortness of breath/difficulty breathing/ respiratory distress ☐Y ☐N ☐U
Pneumonia ☐Y ☐N ☐U
Aneurysm ☐Y ☐N ☐U
Endocarditis ☐Y ☐N ☐U
Echocardiography performed ☐Y ☐N ☐U
Echocardiography abnormal ☐Y ☐N ☐U
Please describe:_____
Nausea ☐Y ☐N ☐U
Vomiting ☐Y ☐N ☐U
Abdominal pain or cramps ☐Y ☐N ☐U
Hepatitis ☐Y ☐N ☐U
Thrombocytopenia ☐Y ☐N ☐U
Leukocytosis ☐Y ☐N ☐U

PREDISPOSING CONDITIONS

Any immunosuppressive conditions? ☐Y ☐N ☐U
Specify _____
_____
Cardiovascular/heart disease ☐Y ☐N ☐U
Valvular heart disease or vascular graft ☐Y ☐N ☐U
Congenital heart disease ☐Y ☐N ☐U
Other cardiovascular/heart disease: _____
_____

PREGNANCY

Is the patient currently pregnant? ☐Y ☐N ☐U
Estimated delivery date (mm/dd/yyyy):____/____/____
Has the patient been pregnant in the past 12 months? ☐Y ☐N ☐U
Pregnancy outcome:
Where was the child born?
☐Hospital
☐Home
☐Other
☐Unknown
Hospital or facility where infant was born:
_____
Infant gestational age at birth:
☐Full term
☐Premature
☐Unknown
Number of weeks gestation _____
Vital status:
☐Born alive and still alive
☐Born alive and then died
☐Stillborn
☐Unknown
Date of infant death (mm/dd/yyyy):____/____/____
Give cause of death from death certificate:
Was an autopsy performed? ☐Y ☐N ☐U
If yes, give final pathological diagnosis:
Did patient experience onset of symptoms within 6 weeks of delivery? ☐Y ☐N ☐U

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)* / /
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CLINICAL OUTCOMES

Discharge/Final diagnosis:_____

_____

Survived? ☐Y ☐N ☐U
Died? ☐Y ☐N ☐U
Died from this illness? ☐Y ☐N ☐U
Date of death (mm/dd/yyyy):_____/_____/_____
Autopsy performed? ☐Y ☐N ☐U
Patient autopsied in NC? ☐Y ☐N ☐U
County of autopsy:_____
Autopsied outside NC, specify where:_____

Source of death information (select all that apply):
☐ Death certificate
☐ Autopsy report final conclusions
☐ Hospital/discharge physician summary
☐ Other

TREATMENT

Did the patient take an antibiotic for this illness? ☐Y ☐N ☐U
If yes, specify antibiotic name:

Was antibiotic prophylaxis given prior to illness onset? ☐Y ☐N ☐U

HOSPITALIZATION INFORMATION

Was patient hospitalized for this illness >24 hours? ☐Y ☐N ☐U
Hospital name: _____
City, State:_____
Hospital contact name: _____
Telephone: (_____) _____ - _____
Admit date (mm/dd/yyyy): ____/____/____
Discharge date (mm/dd/yyyy):____/____/____

ISOLATION/QUARANTINE/CONTROL MEASURES

Did local health director or designee implement additional control measures? ☐Y ☐N
If yes, specify: _____
_____

TRAVEL/IMMIGRATION

The patient is:
☐ Resident of NC
☐ Resident of another state or US territory
☐ Foreign Visitor
☐ Refugee
☐ Recent Immigrant
☐ Foreign Adoptee
☐ None of the above

Did patient travel during the 21 days prior to onset of symptoms? ☐Y ☐N ☐U
List travel dates and destinations:
From _____/_____/_____ to _____/_____/_____
_____
_____

Does patient know anyone else with similar symptom(s) who had the same or similar travel history? ☐Y ☐N ☐U
List persons and contact information:
_____
_____
_____

Additional travel/residency information:

HEALTH CARE FACILITY AND BLOOD & BODY FLUID EXPOSURE RISKS

During the 21 days prior to onset of symptoms, did the patient work in a laboratory? ☐Y ☐N ☐U
If yes, specify and give details:

OUTDOOR EXPOSURE

During the 21 days prior to onset of symptoms, did the patient participate in any outdoor activities? ☐Y ☐N ☐U
If yes, specify and give details:

OTHER EXPOSURE INFORMATION

Does the patient know anyone else with similar symptoms? ☐Y ☐N ☐U
If yes, specify:

During the 21 days prior to onset of symptoms, did the patient serve in the U.S. military? ☐Y ☐N ☐U
Dates of service:
from ____/____/____ until ____/____/____

FOOD RISK AND EXPOSURE

During the 21 days prior to onset of symptoms, did the patient:
Drink unpasteurized milk? ☐Y ☐N ☐U
If yes, specify:

Eat any other unpasteurized dairy products? ☐Y ☐N ☐U
If yes, specify:

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ANIMAL EXPOSURE

During the 21 days prior to onset of symptoms, did the patient have exposure to animals (includes animal tissues, animal products, or animal excreta)**?** ☐Y ☐N ☐U
If yes, specify and give details:

Did patient own, work at, or visit a pet store, animal shelter, and/or animal breeder/wholesaler/ distributor? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient work with animal importation? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient / household contact work at, live on, or visit a farm, ranch, or dairy? ☐Y ☐N ☐U
If yes, specify and give details:

Was patient exposed to animals associated with agriculture or aviculture (domestic/semi-domestic animals)? ☐Y ☐N ☐U
If yes, specify and give details:

Was patient exposed to animal birthing or placenta/ placental products? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient work at or visit a slaughterhouse (abattoir), meat-packing plant, poultry or wild game processing facility? ☐Y ☐N ☐U
Visited or worked?
If yes, specify and give details:

Has patient otherwise slaughtered animals or been a butcher, meat cutter, or meat processor? ☐Y ☐N ☐U
If yes, specify and give details:

Did the patient work at or visit a fair with livestock or a petting zoo? ☐Y ☐N ☐U
If yes, specify and give details:

Did the patient work at or visit a zoo or zoological park? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient work in a veterinary practice or animal laboratory, animal research setting, biomedical laboratory, or an animal diagnostic laboratory? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient work with Q Fever vaccine? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient necropsy animals? ☐Y ☐N ☐U
If yes, specify and give details:

Did patient work with C. burnetti? ☐Y ☐N ☐U
If yes, specify and give details:

Notes:

CASE INTERVIEWS/INVESTIGATIONS

Was the patient interviewed? ☐Y ☐N ☐U
Date of interview (mm/dd/yyyy):_____/_____/_____
Were interviews conducted with others? ☐Y ☐N ☐U
Who was interviewed?

Were health care providers consulted? ☐Y ☐N ☐U
Who was consulted?

Medical records reviewed (including telephone review with provider/office staff)? ☐Y ☐N ☐U
Specify reason if medical records were not reviewed:

Notes on medical record verification:

VECTOR EXPOSURE

During the 21 days prior to onset of symptoms, did the patient have an opportunity for exposure to ticks? ☐Y ☐N ☐U
If yes, specify and give details:

VACCINE

Has patient/contact ever received Q Fever vaccine? ☐Y ☐N ☐U
If yes, provide the vaccine name, source of vaccine, date of vaccination, and source of vaccine information:

GEOGRAPHICAL SITE OF EXPOSURE

In what geographic location was the patient MOST LIKELY exposed?

Specify location:

☐ In NC
City _____
County_____

☐ Outside NC, but within US
City _____
State _____
County_____

☐ Outside US
City _____
Country _____

☐ Unknown

Is the patient part of an outbreak of this disease? ☐Y ☐N

Notes:

Q Fever
2009 Case Definition
Acute Q Fever
Clinical presentation
Acute fever usually accompanied by rigors, myalgia, malaise, and a severe retrobulbar headache. Fatigue, night-sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, and chest pain have also been reported. Severe disease can include acute hepatitis, atypical pneumonia with abnormal radiograph, and meningoencephalitis. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings may include elevated liver enzyme levels, leukocytosis, and thrombocytopenia. Asymptomatic infections may also occur.
Note: Serologic profiles of pregnant women infected with acute Q fever during gestation may progress frequently and rapidly to those characteristic of chronic infection.
Clinical evidence
Acute fever and one or more of the following: rigors, severe retrobulbar headache, acute hepatitis, pneumonia, or elevated liver enzyme levels.
Laboratory evidence
Laboratory confirmed:

- Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer to *C. burnetii* phase II antigen by indirect immunofluorescence assay (IFA) between paired serum samples, (CDC suggests one taken during the first week of illness and a second 3-6 weeks later, antibody titers to phase I antigen may be elevated or rise as well), **or**
- Detection of *C. burnetii* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, **or**
- Demonstration of *C. burnetii* in a clinical specimen by immunohistochemical methods (IHC), **or**
- Isolation of *C. burnetii* from a clinical specimen by culture.

Laboratory supportive:

- Has a single supportive IFA IgG titer of ≥1:128 to phase II antigen (phase I titers may be elevated as well).
- Has serologic evidence of elevated IgG or IgM antibody reactive with *C. burnetii* antigen by enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination.

Note: For acute testing, CDC uses in-house IFA IgG testing (cutoff of ≥1:128), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.
Case Classification
Confirmed acute Q fever: A laboratory confirmed case that either meets clinical case criteria or is epidemiologically linked to a lab confirmed case.
Probable acute Q fever: A clinically compatible case of acute illness (meets clinical evidence criteria for acute Q fever illness) that has laboratory supportive results for past or present acute disease (antibody to Phase II antigen) but is not laboratory confirmed.
Chronic Q Fever
Clinical presentation
Infection that persists for more than 6 months. Potentially fatal endocarditis may evolve months to years after acute infection, particularly in persons with underlying valvular disease. Infections of aneurysms and vascular prostheses have been reported. Immunocompromised individuals are particularl y susceptible. Rare cases of chronic hepatitis without endocarditis, osteomyelitis, osteoarthritis, and pneumonitis have been described.
Clinical evidence
Newly recognized, culture-negative endocarditis, particularly in a patient with previous valvulopathy or compromised immune system, suspected infection of a vascular aneurysm or vascular prosthesis, or chronic hepatitis, osteomyelitis, osteoarthritis, or pneumonitis in the absence of other known etiology.
Laboratory evidence
Laboratory confirmed:

- Serological evidence of IgG antibody to *C. burnetii* phase I antigen ≥ 1:800 by IFA (while phase II IgG titer will be elevated as well; phase I titer is higher than the phase II titer), **or**
- Detection of *C. burnetii* DNA in a clinical specimen via amplification of a specific target by PCR assay, **or**
- Demonstration of *C. burnetii* antigen in a clinical specimen by IHC, **or**
- Isolation of *C. burnetii* from a clinical specimen by culture.

Laboratory supportive:

- Has an antibody titer to *C. burnetii* phase I IgG antigen ≥1:128 and < 1:800 by IFA.

Note: Samples from suspected chronic patients should be evaluated for IgG titers to both phase I and phase II antigens. Current commercially available ELISA tests (which test only for phase 2) are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent. Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used.
Serologic test results must be interpreted with caution, because baseline antibodies acquired as a result of historical exposure to Q fever may exist, especially in rural and farming areas.
Case Classification
Confirmed chronic Q fever: A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that is laboratory confirmed for chronic infection.
Probable chronic Q fever: A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that has laboratory supportive results for past or present chronic infection (antibody to Phase I antigen).
Exposure:
Exposure is usually via aerosol, is broadly interpreted, and may be unknown (especially for chronic infection), but often includes the presence of goats, sheep, or other livestock, especially during periods of parturition. Direct contact with animals is not required, and variable incubation periods may be dose dependent.