

National Health and Nutrition Examination Survey 2003-2004

Documentation, Codebook, and Frequencies

Surplus Specimen Laboratory Component:
Antibody to *Coxiella burnetii* (Q fever) (Surplus
Urine)

Survey Years:
2003 to 2004

SAS Export File:
SSQFEV_C.XPT



First Published: February 2008
Last Revised: N/A

NHANES 2003-2004 Data Documentation

Laboratory Assessment: Antibody to *Coxiella burnetii* (Q Fever) (NHANES Surplus Sera)

First Published: February 2008

Last Revised: N/A

Component Description

Q fever is a zoonotic disease with acute and chronic stages caused by the rickettsia-like organism *Coxiella burnetii*. The illness was first called "Query (Q) Fever" because its etiopathogenesis was not known. Since Q fever is not notifiable in many states and many human infections are inapparent, there is not reliable way of assessing how many cases of Q fever are actually occurring in the U.S Because of this, stored sera from NHANES 2003-2004 have been tested to establish baseline Q fever seroprevalence for the U.S.

Eligible Sample

All participants aged 20+ years from of NHANES 2003-2004 who gave consent for storage and future testing of their sera.

Description of Laboratory Methodology

An enzyme-linked immunosorbent assay (ELISA) will be used to initially screen all sera specimens for IgG Phase II antibody seropositivity, a marker of acute infection. The ELISA will be performed in a 96-well flat-bottomed polystyrene microtiter plates with sonicated purified antigens (Pan-Bio, Columbia, Md.) according to the kit protocol. Any sera samples positive by ELISA will then be tested by immunofluorescence antibody assay (IFA) in order to obtain end point titers for IgG to both phase I and phase II antigens. The IFA test will be performed by the method of Philip et al. and adapted to *C. burnetii* (purified phases I and II, strain Nine Mile; Rocky Mountain Laboratories, Hamilton, Mont.) as described elsewhere. Serial twofold dilutions of sera will be prepared in phosphate-buffered saline containing 1% bovine serum albumin and 1% normal goat serum. After incubation at 37°C for 30 minutes, the slides are washed with PBS and normal yolk sac and fluorescein isothiocyanate-conjugated goat anti-human IgG (gamma-chain specific) added at the optimal dilution. This is incubated and washed as before. The slides are counterstained using Eriochrome black T and coverslipped with an antifade mounting medium . The wells are examined under 400x magnification and any well with distinct fluorescence of the organisms is scored as positive.

Laboratory Quality Control and Monitoring

For ELISA testing, a random sample of positive samples will be retested to assure positional accuracy. Positive and negative control sera will be included in each test series.

Data Processing and Editing

Data was received after all the antibody testing was complete. The data were not edited.

Data Access: All data are publicly available.

Analytic Notes

There are four variables.

Elisa result:

- 1 = Positive
- 2 = Negative
- 3 = Equivocal

If the ELISA result was positive or equivocal, Phase 1 and Phase II IFA titers were performed. Titers are expressed as whole numbers (eg. 1:16 = 16, 1:32=32 etc.). Titers less than 1:16 have been re-coded to an 8 (1:8). Titers greater than 1:2048 were coded as 4096.

The final results of *C. burnetii* infection was determined if Phase I or Phase II IgG IFA titer was $\geq 1:16$.

IFA Final interpretation:

- 1 = Positive
- 2 = Negative

References

N/A

Locator Fields

Title: Antibody to *Coxiella burnetii* (Q Fever)

Contact Number: 1-866-441-NCHS

Years of Content: 2003–2004

First Published: March 2008

Revised: N/A

Access Constraints: None

Use Constraints: None

Geographic Coverage: National

Subject: Antibody to *Coxiella burnetii* (Q Fever)

Record Source: NHANES 2003–2004

Survey Methodology: NHANES 2003–2004 is a stratified multistage probability sample of the civilian non-institutionalized population of the U.S.

Medium: NHANES Web site; SAS transport files

**National Health and Nutrition Examination Survey
Codebook for Data Production (2003-2004)**

**Antibody to Coxiella burnetii (Q fever) (SSQFEV_C)
Person Level Data**

First Published: February 2008

Last Revised: N/A



SEQN	Target
	B(20 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	Respondent sequence number
English Text: Respondent sequence number.	
English Instructions:	

ELISA	Target
	B(20 Yrs. to 150 Yrs.)
Hard Edits	SAS Label
	ELISA result interpretation
English Text: ELISA result interpretation	
English Instructions:	

Code or Value	Description	Count	Cumulative	Skip to Item
1	Positive	163	163	
2	Negative	4236	4399	
3	Equivocal	38	4437	
.	Missing	0	4437	

PHASE1		Target		
		B(20 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Phase I IFA Titer IgG		
English Text: Phase I IFA Titer IgG				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
8 to 2048	Range of Values	201	201	
.	Missing	4236	4437	

PHASE2		Target		
		B(20 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Phase II IFA Titer IgG		
English Text: Phase II IFA Titer IgG				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
8 to 4096	Range of Values	201	201	
.	Missing	4236	4437	

SSQFEVER		Target		
		B(20 Yrs. to 150 Yrs.)		
Hard Edits		SAS Label		
		Antibody to Q fever		
English Text: Antibody to Q fever				
English Instructions:				
Code or Value	Description	Count	Cumulative	Skip to Item
1	Positive	180	180	
2	Negative	4257	4437	
.	Missing	0	4437	