BRUCELLOSIS **NON- IMMEDIATE NOTIFICATION** **EPIDEMIOLOGY PROGRAM**

Event Name:	BRU
Event Time Period:	1 year
Clinical Description (CDC 2024):	An illness characterized by acute or insidious onset of fever, AND Two or more of the following signs and symptoms: • Night sweats • Arthralgia • Headache • Fatigue • Anorexia • Myalgia • Weight loss • Arthritis • Spondylitis • Meningitis, encephalitis, or other neurologic abnormalities • Discitis or osteomyelitis • Abscesses • Focal organ involvement (including, but not limited to: endocarditis, orchitis/epididymitis, hepatomegaly, splenomegaly).
Epidemiologic Linkage Criteria (CDC 2024):	Direct contact with body fluids or tissue from a confirmed human case of brucellosis, OR Veterinary occupational exposure to *Brucella* vaccine (i.e., needle stick, mucous membrance exposure), OR Laboratory exposure to Brucellosis-causing *Brucella* species (BBS), OR Direct contact to an animal diagnosed with a *Brucella* infection (or their fluids), as determined by a state or federal animal health official, including potential aerosol exposure, OR Shared one of the following exposures with a confirmed human case of brucellosis: • Consumption of dairy products from a common source that were unpasteurized or of unknown pasteurization, particularly from countries lacking domestic animal health programs, OR • Consumption or handling of undercooked meat or carcass of an animal from a herd of of a species with a known or suspected history of *Brucella*, OR • Slaughtering, dressing, butchering, or having other direct contact with animals or animal tissues possibly infected with *Brucella*.
Vital Records Criteria (CDC 2024):	Death certificate lists brucellosis as a cause of death or a significant condition contributing to death.

CDC Event Classification (2024):	*Confirmed*	Meets confirmatory laboratory evidence category 1, OR meets clinical criteria AND confirmatory laboratory evidence category 2:
		
		• Category 1:
		  ○ Identification of a *Brucella* isolate as a brucellosis-causing *Brucella* species (BBS) by methods specific for BBS (i.e., PCR assay with documented specificity for BBS and/or biochemical tests and/or whole genome sequencing of *Brucella* isolate).
		
		• Category 2:
		  ○ Evidence of fourfold or greater rise in *Brucella* antibody titer between acute and convalescent serum specimens obtained at least 2 weeks apart.

	Probable	Meets clinical criteria AND meets epidemiologic linage criteria, OR meets clinical criteria AND presumptive laboratory evidence: • *Brucella* total antibody titer $\geq$ 1:160 by standard tube agglutination (SAT) or *Brucella* microagglutination test in one or more serum samples obtained after onset of symptoms.
	Suspect	Meets vital records criteria, OR meets confirmatory laboratory evidence category 2, OR meets presumptive laboratory evidence, OR meets supportive laboratory evidence: • Detection of *Brucella* IgG antibodies by ELISA in a sample collected at least 2 weeks after onset of symptoms.
Massachusetts Event Classification:	Follows the CDC event classification	

BRUCELLOSIS (continued)

Report Type	Test Type	Source	Result	New event or beyond report period?	Data Entry
Laboratory Report	Culture	Clinical specimen	*Brucella* species	Yes	New event SUSPECT
				No	Same event
Select for general culture:	Microorganism : PrId : Pt : xxx : Nom : Culture				
Select for culture with sub-types:	Microorganism : PrId : Pt : Islt : Nom : Bacterial subtyping				
Laboratory Report	EIA IgG or IgM	Serum	Positive	Yes	New event SUSPECT
				No	Same event
Select (IgM-specific):	Brucella sp Ab.**IgM** : ACnc : Pt : Ser : Ord : EIA				
Select (IgG-specific):	Brucella sp Ab.**IgG** : ACnc : Pt : Ser : Ord : EIA				
Laboratory Report	DNA	Serum	Positive	Yes	New event SUSPECT
				No	Same event
Select:	Brucella sp DNA : ACnc : Pt : XXX : Ord : Probe.amp.tar				
Laboratory Report	Serum agglutination test	Serum	Positive	Yes	New event SUSPECT
				No	Same event
Select (total or not IgM/IgG specific):	Brucella sp Ab : Titr : Pt : Ser : Qn : Aggl				
Select (IgM-specific):	Brucella sp Ab.IgM :ACnc :Pt :Ser :Qn :Aggl				
Select (IgG-specific):	Brucella sp Ab.IgG :ACnc :Pt :Ser :Qn :Aggl				

Data entry notes

Focus labs and Quest perform a test called "Brucella antibodies (IgG, IgM), EIA with Reflex to Agglutination". The results listed below this test are the EIA results. If an IgM is > 1.10, Quest will perform a confirmatory agglutination assay automatically (by "reflex") and results will be reported separately. Sometimes, particularly on Quest – Chantilly results, there will be no interpretive criteria given. The interpretive criteria for Quest/Focus for the "Brucella antibodies (IgG, IgM), EIA with Reflex to Agglutination" is:

<0.80 Negative
0.80-1.09 Equivocal
=> 1.10 Positive

Agglutination results may or may not come in with the results from the "Brucella antibodies (IgG, IgM), EIA with Reflex to Agglutination". When they are received, the test name will be "Brucella antibody, Agglutination".