

Announcements



Registration is required:

- REGISTER
 FY20 Epi-tech Training
- Register at: https://tiny.army.mil/r/EZY8/EpiTechFY20
- Log in with CAC, or follow prompts to Request access/Logon ID
- Contact your service surveillance hub to receive monthly updates and reminders

• Attendance:

- Please enter your full name/email/location into the DCS chat box to the right, or email your service hub
- An attendance confirmation will be sent to your email; if you do not receive this message within 3 days, please contact your service hub

Reminder:

- Mute your phones by pressing the mute button or pressing *6
- DO NOT press the "hold" button as the rest of the conference will hear the hold music





FY20 Epi-Tech Surveillance Training

Tuesday, October 1, 2019 - Wednesday, September 30, 2020 DCS, APG, MD

Provided By U.S. Army Medical Command

Activity ID	Course Director	CME Planner
2019-1389	John Ambrose	Mimi C. Eng

Accreditation Statement

The U.S. Army Medical Command is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Credit Designation

The U.S. Army Medical Command designates this Live Activity for a maximum of 5 AMA PRA Category 1 Credit(s)TM. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

This is a required handout. It must be disseminated to each learner prior to the start of the activity.





Statement of Need/Gap Analysis

The purpose of this CME activity is to address the identified gap(s):

- 1. Disease identification Verification of disease by established case definitions have been utilized by the local health departments, Centers for Disease Control and Prevention, World Health Organization, and the Department of Defense. With the every changing list of reportable medical events and new emerging infections, case definitions change rapidly. Army epidemiologist conduct verification studies that monitor the efficiency of reporting by local public health experts and have concluded that completeness percentages for reportable medical events range as low as 35% for select diseases.
- 2. Outbreak reporting Recent evidence have demonstrated that outbreak reporting and communication between public health agencies is poor. In fact, the Army failed to report six outbreaks in the DRSi between June 2016 and September 2016.
- 3. Surveillance techniques Surveillance of common communicable diseases continues to be a problem among local MTFs. In fact, cases of campylobacter were not investigated in 2015 for PACOM MTFS, while 2016 cases of salmonella were not investigated. Civilian public health agencies are required to conduct investigations into all reportable medical events. However, DoD facilities often do not take initiative to conduct this investigation.

Learning Objectives

1. Based on case presentation, enhance your ability to improve case finding and surveillance practices within your local MTF.

Target Audience / Scope of Practice

Target Audience: The intended audience for this educational activity includes preventive medicine physicians, community health nurses, public health nurses, and epidemiology technicians.

Scope of Practice: This activity will improve the performance of preventive medicine personnel who conduct surveillance activities in inpatient and outpatient settings.





Disclosure of Faculty/Committee Member Relationships

It is the policy of the U.S. Army Medical Command that all CME planning committee/faculty/authors disclose relationships with commercial entities upon invitation of participation. Disclosure documents are reviewed for potential conflicts of interest and, if identified, they are resolved prior to confirmation of participation.

Faculty Members

Bylsma, Victoria - No information to disclose.
Demarcus, Laurie - No information to disclose.
Kebisek, Julianna - No information to disclose.
Thervil, Jeffrey - No information to disclose.
Wolff, Gregg - No information to disclose.

Committee Members

Ambrose, John - No information to disclose. Bylsma, Victoria - No information to disclose. - No information to disclose. Constantino, Joycelyn Diaz, Rolando - No information to disclose. Eng, Mimi - No information to disclose. Gibson, Kelly - No information to disclose. Graham-Glover, Bria - No information to disclose. Kebisek, Julianna - No information to disclose. Riegodedios, Asha - No information to disclose. Rudiger, Courtney - No information to disclose.

Acknowledgement of Commercial Support

There is no commercial support associated with this educational activity.









COVID-19: Reporting Probable and Confirmed Cases

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US Air Force School of Aerospace Medicine (USAFSAM)

Epidemiology Consult Service (PHR)

28 Apr 2020





Objectives

- Understand what is reportable per the most recent COVID-19 Case Definition
- Describe what information to include in a COVID-19 DRSi medical event report (MER)
- Describe the importance of data validity in reporting

COVID-19 Case Definition as of 09 Apr

COVID-19

Background

Causative Agent Travel Risks Novel 2019 Coronavirus, SARS-CoV-2

Present worldwide

Clinical Description

A viral illness of the respiratory tract. Clinical presentation may range from no symptoms to moderate or severe symptoms.

Outpatient or telehealth setting:

- at least <u>TWO</u> of the following symptoms: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, new olfactory and taste disorder(s) or
- at least <u>ONE</u> of the following: cough, shortness of breath, or difficulty breathing

Inpatient setting:

- Severe respiratory illness including one or more of the following:
 - Clinical or radiographic evidence of pneumonia or
 - Acute respiratory distress syndrome (ARDS)

Case Classification

Probable:

A case with <u>ALL</u> of the following:

- Meets either clinical description as described above with no alternative more likely diagnosis and
- No confirmatory COVID-19 lab testing performed with no intent to test and
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*

OR

A case with the following:

- Meets either clinical description as described above with no alternative more likely diagnosis or
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*
 AND
- · Laboratory detection of either of the following:
 - Specific antigen in a clinical specimen[†] or
 - Specific antibody in serum, plasma, or whole blood indicative of a new or recent infection (example: positive IgM antibody or an increase in antibody titer between acute and convalescent sera)

OR

A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed

Confirmed:

A case with SARS-CoV-2 nucleic acid (RNA) detected by molecular amplification detection (example: PCR, sequencing, NAAT)

Critical Reporting Elements

hospital admission.

Specify if the case patient experienced symptoms of fever and/or lower respiratory symptoms.

Document if the case patient was hospitalized, including admission and discharge dates, and place of

Document if the patient died as a result of this illness, including the date of death.

Document relevant travel and deployment history occurring within the incubation period.

Document relevant traver and deployment history occurring within the incubation period

Document if the patient is epidemiologically linked to another case.

Document if the case patient works in, lives in, or attends a high transmission setting such as food

handling, day care, school, group living, healthcare, training center, or ship.

Document if the patient has any relevant comorbidities, underlying illnesses, or is otherwise

immunocompromised (e.g. via immunocompromising medications).

Document if the patient has any other diagnosis/etiology for their respiratory illness.

Comments

- * Epidemiologic links/exposures include the following in the 14 days before onset of symptoms:
 - Close contact[‡] with a confirmed or probable case of COVID-19 disease or
 - Close contact[†] with a person with:
 - o clinically compatible illness AND
 - linkage to a confirmed case of COVID-19 disease.
 - Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2.
 - . Member of a risk cohort as defined by public health authorities during an outbreak.

Individuals with pending labs should NOT be reported until lab confirmation of infection. Individuals under quarantine due to possible exposure to COVID-19 are NOT reportable.

Typically a rapid, point-of-care test.

[†]Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.



What's New?

- Clinical Description Updated
- Probable classification NEW
- Confirmed classification Updated (basically the same, new wording)

COVID-19

Background

Causative Agent Travel Risks Clinical Description

Novel 2019 Coronavirus, SARS-CoV-2

Present worldwide

A viral illness of the respiratory tract. Clinical presentation may range from no symptoms to moderate or severe symptoms.

Outpatient or telehealth setting:

- at least <u>TWO</u> of the following symptoms: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, new olfactory and taste disorder(s) or
- at least <u>ONE</u> of the following: cough, shortness of breath, or difficulty breathing

Inpatient setting:

- · Severe respiratory illness including one or more of the following:
 - Clinical or radiographic evidence of pneumonia or
 - Acute respiratory distress syndrome (ARDS)

Case Classification

Probable:

A case with ALL of the following:

- Meets either clinical description as described above with no alternative more likely diagnosis and
- . No confirmatory COVID-19 lab testing performed with no intent to test and
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*

OR

A case with the following:

- · Meets either clinical description as described above with no alternative more likely diagnosis or
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*

AND

- Laboratory detection of either of the following:
 - Specific antigen in a clinical specimen[†] or
 - Specific antibody in serum, plasma, or whole blood indicative of a new or recent infection (example: positive IgM antibody or an increase in antibody titer between acute and convalescent sera)

OR

A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed

Confirmed:

A case with SARS-CoV-2 nucleic acid (RNA) detected by molecular amplification detection (example: PCR, sequencing, NAAT)

THE AIR FORCE RESEARCH LABORATORY





What's New?

- Comments
 - Definition for epi-link/exposure NEW
 - Definition for close contact NEW
 - Who should NOT be reported Updated

Comments

- * Epidemiologic links/exposures include the following in the 14 days before onset of symptoms:
 - Close contact[†] with a confirmed or probable case of COVID-19 disease or
 - Close contact[†] with a person with:
 - clinically compatible illness AND
 - o linkage to a confirmed case of COVID-19 disease.
 - Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2.
 - Member of a risk cohort as defined by public health authorities during an outbreak.

[‡]Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.

Individuals with pending labs should NOT be reported until lab confirmation of infection. Individuals under quarantine due to possible exposure to COVID-19 are NOT reportable.

[†]Typically a rapid, point-of-care test.

COVID-19: What is reportable?



AFRL	Suspected	Not currently reportable – <u>DO NOT</u> use this case classification
Quick Reference		Three ways to meet the case definition: 1. A case with ALL of the following (a+b+c): a. Meets either clinical description* with no other more likely diagnosis and b. No confirmatory COVID-19 laboratory test (with no intent to test) and c. One or more epi-link/exposure†
Same case definition, just reorganized and slightly re-worded	Probable	 A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure[†]
NOTE: ALL MHS beneficiaries are reportable, regardless of where tested or diagnosed		c. Laboratory detection of either: i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera) OR 3. A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory

testing performed

1. Detection of SARS-CoV-2 nucleic acid (RNA) by PCR

 If you have identified a case, evaluate if it meets the case definition and report if it does!

*Clinical Description

Outpatient or telehealth setting:

- at least <u>TWO</u> of the following symptoms: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, new olfactory and taste disorder(s) or
- at least <u>ONE</u> of the following: cough, shortness of breath, or difficulty breathing

Inpatient setting:

Confirmed

- Severe respiratory illness including one or more of the following:
 - Clinical or radiographic evidence of pneumonia or
 - Acute respiratory distress syndrome (ARDS)

†Epi-Link/Exposure

One or more of the following in the 14 days before symptom onset:

- Close contact[‡] with a confirmed or probable case of COVID-19 disease or
- Close contact with a person with:
 - clinically compatible illness AND
 - linkage to a confirmed case of COVID-19 disease.
- Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2.
- Member of a risk cohort as defined by public health authorities during an outbreak.

[‡]Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.

Who NOT to report:

PUIs are not reportable.

Individuals with pending labs should NOT be reported until lab confirmation of infection. Individuals under quarantine due to possible exposure to COVID-19 are NOT reportable.

THE AIR FORCE RESEARCH LABORATORY



Confirmed Case Classification

Confirmed:

A case with SARS-CoV-2 nucleic acid (RNA) detected by molecular amplification detection (example: PCR, sequencing, NAAT)



Confirmed

Detection of SARS-CoV-2 nucleic acid (RNA) by PCR

Report individuals with positive COVID-19 PCR results as Confirmed

NOTE: Symptoms are NOT required



Confirmatory Labs - PCR

- PCR: Polymerase chain reaction
 - Common type of molecular amplification detection test
 - Amplifies and detects pathogen-specific RNA or DNA in a sample
 - Allows for earlier diagnosis of most diseases since it's looking for the pathogen
- Other types of molecular amplification include:
 - NAAT: Nucleic acid amplification test
 - RT-PCR: Reverse transcription PCR
 - LAMP: Loop mediated isothermal amplification

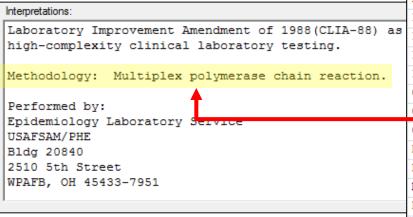
Good news: You are already familiar with these lab types!





Examples of PCR Results

- Biofire GI or Respiratory Panel
- G+C Panel



Test / Result Name	Site / Specimen	Collection Date /		
Respiratory Pathogen Panel	Site / Specimen	08 Apr 2020 1028		
Adenovirus DNA	NASOPHARYNGEAL SWAB	NOT DETECTED		
Influenza A PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Influenza B PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Resp Syncytial Virus A PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Resp Syncytial Virus B PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Parainfluenza Virus 1 PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Parainfluenza Virus 2 PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Parainfluenza Virus 3 PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Parainfluenza Virus 4 PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Coronavirus 229e	NASOPHARYNGEAL SWAB	NOT DETECTED		
Coronavirus OC43	NASOPHARYNGEAL SWAB	NOT DETECTED		
Coronavirus N163	NASOPHARYNGEAL SWAB	NOT DETECTED		
Human Coronavirus HKU1 RNA	NASOPHARYNGEAL SWAB	NOT DETECTED		
Rhinovirus/Enterovirus	NASOPHARYNGEAL SWAB	NOT DETECTED		
Metapneumovirus PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
Bocavirus DNA	NASOPHARYNGEAL SWAB	NOT DETECTED		
Chlamydophila Pneumoniae PCR	NASOPHARYNGEAL SWAB	NOT DETECTED		
M Pneumoniae DNA	NASOPHARYNGEAL SWAB	NOT DETECTED <i></i>		

Test / Result Name			Site /	Specimen	Collection	on Dat	e /	Results Va	lue	3	
Chlamydia+Gonococcus	DNA 1	Panel	NAAT	Site /	Specimen	03 Apr 20	020 17	19			
Chlamydia trachomatis	DNA			URINE		NEGATIVE	FOR C	. Т	RACHOMATIS		
Neisseria gonorrhoeae	DNA			URINE		POSITIVE	FOR N	. G	ONORRHOEAE	(H)	<i>></i>





COVID-19 PCR Results

Test / Result Name	Site / Specimen	Collection Date / Results Values
Coronavirus	Site / Specimen	08 Apr 2020 1029
Coronavirus PCR	NASOPHARYNX	POSITIVE 2019-NCOV (H) <i></i>

Interpretations:

Improvement Program (DoD CLIP) and the College of American Pathologists (CAP) to perform high complexity testing.

Methodology: Real-time reverse transcriptase polymerase chain reaction (rRT-PCR).

Performed by:

USAFSAM Epidemiology Laboratory Service

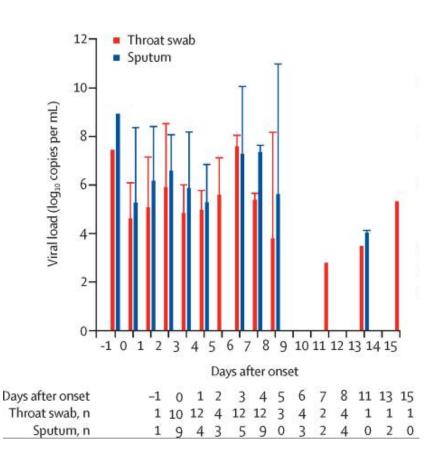
2510 Fifth Street

WPAFB, OH 45433-7951



COVID-19: Recent PCR Testing Insights

- Best time to test is early in the course of disease
 - In symptomatic patients, can detect -1 day to 7 days
 - Chance of detecting SARS-CoV-2 viral RNA after 10 days is low and does not represent infectious virus
- Symptoms of COVID-19 appear to last longer than detectable virus

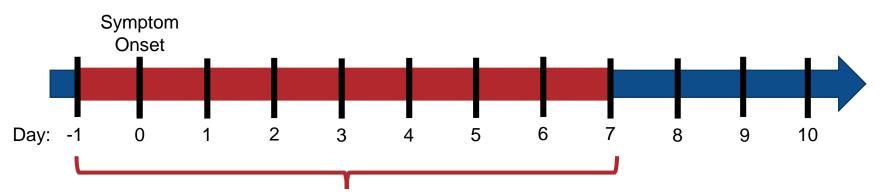


Sources:

- Zou L et al. SARS-CoV-2 Viral Load in Upper Respiratory Specimens of Infected Patients. N Engl J Med. 2020 Mar 19;382(12):1177-1179.
- Pan Y, Zhang D, Yang P, Poon LLM, Wang Q. Viral load of SARS-CoV-2 in clinical samples. Lancet Infect Dis. 2020 Apr;20(4):411-412
- Kim JY et al. Viral Load Kinetics of SARS-CoV-2 Infection in First Two Patients in Korea. J Korean Med Sci. 2020 Feb 24;35(7):e86.



COVID-19 PCR Testing Window



Negative PCR in this window means a case is NOT REPORTABLE

- Within this window, if there is:
 - A negative PCR, do not report at all
 - A negative PCR followed by a positive, report as <u>Confirmed</u>
- Outside this window, if there is:
 - A negative PCR, the case may meet the Probable classification (requires additional review)

Report ANY positive PCR result at any time as **Confirmed**



AFRL	Suspected	Not currently reportable – DO NO	use this case classification	
Quick Reference	Probable	Three ways to meet the case definition: 1. A case with ALL of the following (a+b+c): a. Meets either clinical description* with no other more likely diagnosis and b. No confirmatory COVID-19 laboratory test (with no intent to test) and c. One or more epi-link/exposure† OR 2. A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure† AND c. Laboratory detection of either: i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera) OR 3. A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed		
	Confirmed	1. Detection of SARS-CoV-2	nucleic acid (RNA) by PCR	
	Outpatient or tele at least TWG (measured of headache, so disorder(s) of at least ONE of breath, of the follow of	O of the following symptoms: fever or subjective), chills, rigors, myalgia, ore throat, new olfactory and taste or of the following: cough, shortness of difficulty breathing iratory illness including one or more wing: or radiographic evidence of onia or espiratory distress syndrome (ARDS)	tepi-Link/Exposure One or more of the following in the 14 days before symptom onset: Close contact* with a confirmed or probable case of COVID-19 disease or Close contact with a person with: clinically compatible illness AND linkage to a confirmed case of COVID-19 disease. Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2. Member of a risk cohort as defined by public health authorities during an outbreak. Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.	
THE AIR FORCE RESEARCH LABORATORY —	Who NOT to report:	Individuals with pending labs should NOT be reported until lab confirmation of infection.		

AFRL

Probable Case Classification



Probable:

A case with ALL of the following:

- Meets either clinical description as described above with no alternative more likely diagnosis and
- No confirmatory COVID-19 lab testing performed with no intent to test and
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*

OR

A case with the following:

- Meets either clinical description as described above with no alternative more likely diagnosis or
- One or more epidemiologic link/exposure in the 14 days before onset of symptoms*

AND

- Laboratory detection of either of the following:
 - Specific antigen in a clinical specimen[†] or
 - Specific antibody in serum, plasma, or whole blood indicative of a new or recent infection (example: positive IgM antibody or an increase in antibody titer between acute and convalescent sera)

OR

A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed

Three ways to meet the case definition:

- 1. A case with ALL of the following (a+b+c):
 - a. Meets either clinical description* with no other more likely diagnosis and
 - b. No confirmatory COVID-19 laboratory test (with no intent to test) and
 - c. One or more epi-link/exposure[†]

OR

Probable

- 2. A case with the following (either a+c or b+c):
 - a. Meets either clinical description* with no other more likely diagnosis or
 - b. One or more epi-link/exposure[†]

AND

- c. Laboratory detection of either:
 - Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or
 - Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera)

OR

 A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed





References to the clinical description* and the epi-link/exposure†

*Clinical Description

Outpatient or telehealth setting:

- at least <u>TWO</u> of the following symptoms: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, new olfactory and taste disorder(s) or
- at least <u>ONE</u> of the following: cough, shortness of breath, or difficulty breathing

Inpatient setting:

- Severe respiratory illness including one or more of the following:
 - Clinical or radiographic evidence of pneumonia or
 - o Acute respiratory distress syndrome (ARDS)

†Epi-Link/Exposure

One or more of the following in the 14 days before symptom onset:

- Close contact[‡] with a confirmed or probable case of COVID-19 disease or
- · Close contact with a person with:
 - o clinically compatible illness AND
 - linkage to a confirmed case of COVID-19 disease.
- Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2.
- Member of a risk cohort as defined by public health authorities during an outbreak.

[†]Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.



AFRL

Probable Case Classification #3

 A case with a death certificate that lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death and no confirmatory laboratory testing performed

Report individuals who have both of the following as Probable:

- COVID-19 is listed as a cause of or condition contributing to death
- No confirmatory lab testing performed



Three ways to meet the case definition:

- 1. A case with ALL of the following (a+b+c):
 - a. Meets either clinical description* with no other more likely diagnosis and
 - b. No confirmatory COVID-19 laboratory test (with no intent to test) and
 - c. One or more epi-link/exposure[†]

Report individuals who have ALL of the following as Probable:

a	b	С
A visitSymptomsNo other diagnosis	No PCR for COVID-19No pending PCR	One epi-link or exposure

*Clinical Description

Outpatient or telehealth setting:

- at least <u>TWO</u> of the following symptoms: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, new olfactory and taste disorder(s) or
- at least <u>ONE</u> of the following: cough, shortness of breath, or difficulty breathing

Inpatient setting:

- Severe respiratory illness including one or more of the following:
 - Clinical or radiographic evidence of pneumonia or
 - Acute respiratory distress syndrome (ARDS)

†Epi-Link/Exposure

One or more of the following in the 14 days before symptom onset:

- Close contact* with a confirmed or probable case of COVID-19 disease or
- Close contact with a person with:
 - o clinically compatible illness AND
 - linkage to a confirmed case of COVID-19 disease.
- Travel to or residence in an area with sustained, ongoing community transmission of SARS-CoV-2.
- Member of a risk cohort as defined by public health authorities during an outbreak.

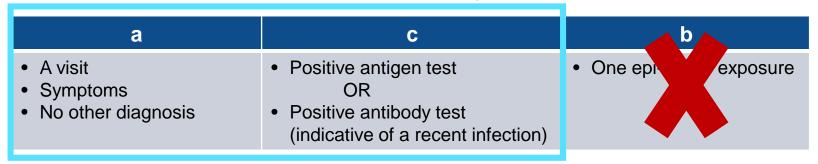
*Close contact is defined as being within 6 feet for at least 10 to 30 minutes. In healthcare settings, this may be defined as exposures of greater than a few minutes or more.



Probable	2. A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure AND
Probable	AND c. Laboratory detection of either:
	i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or
	ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer
	between acute and convalescent sera)

- There are two ways to meet this part of the case classification
 - a+c or b+c

Report individuals who have ALL of the following as Probable:

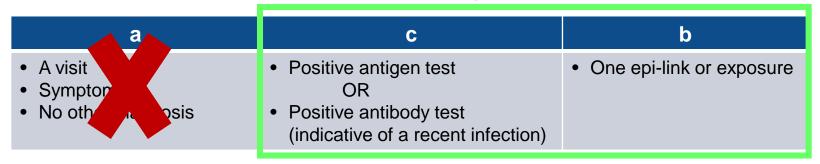




Probable	 A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure[†]
TTODUDIC	c. Laboratory detection of either: i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera)

- There are two ways to meet this part of the case classification
 - a+c or b+c

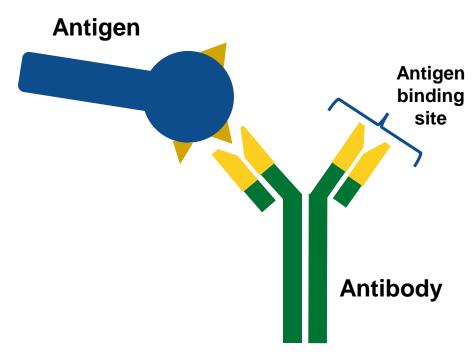
Report individuals who have ALL of the following as Probable:





Antigen and Antibody

- Antigen (Ag): A molecular structure capable of stimulating an immune response
 - With COVID-19, this is a structure on the surface of the virus
- Antibody (Ab): Y-shaped proteins produced by the immune system to neutralize a pathogen
 - Two common types of antibody: IgM and IgG

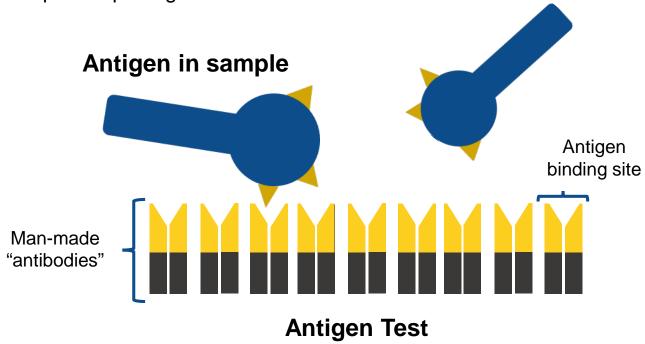






Antigen Testing

- Detects pathogen-specific antigen in a sample
 - Allows for earlier diagnosis since it's looking for the pathogen
- Typically thought of as point-of-care "rapid" tests
 - Influenza rapid antigen test
 - Rapid strep antigen test







Antigen Testing

Test / Result Name	Site / Specimen	Collection Date / Results Values
Influenza A+B Virus Ag Rapid	Site / Specimen	08 Apr 2020 1029
Influenza Virus A Ag	SWAB	NEGATIVE
Influenza Virus B <mark>Ag</mark>	SWAB	NEGATIVE <i></i>

Test / Result Name	Site / Specimen	Collection Date / Results Values
Streptococcus Group A Ag Rapid	Site / Specimen	08 Apr 2020 1029
Streptococcus pyogenes Ag Rapid Strep	PHARYNX	NEGATIVE

- Antigen testing is always looking directly for the pathogen, so the sample will be from a place where the pathogen IS
 - Depending on the infection this could be sputum, nasal swab, blood, stool, etc.
- Antigen tests are NOT as specific as PCR, which is why they are Probable



COVID-19 Antigen Testing

- No documented tests in the DoD yet
 - However, it's very likely they will look similar to the previous examples with "Ag" telling you that it is an antigen test

Test / Result Name	Site / Specimen	Collection Date / Results Values
Streptococcus Group A Ag Rapid	Site / Specimen	08 Apr 2020 1029
Streptococcus pyogenes Ag Rapid S	rep PHARYNX	NEGATIVE

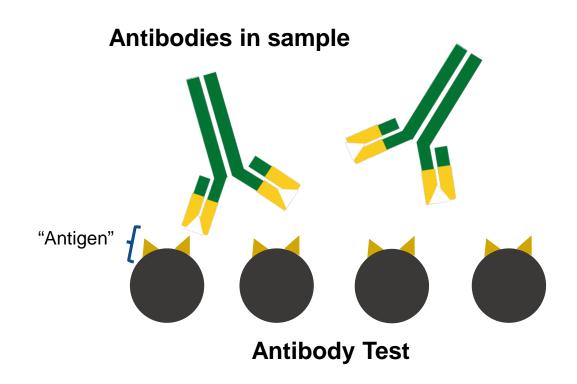
 At this time, any COVID-19-specific antigen test would meet this requirement in the Probable case classification (BUT you'd still need [a] or [b]!)

2. A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure AND c. Laboratory detection of either: i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera)



Antibody Testing

- Detects pathogen-specific antibodies to determine if a patient has developed immunity to the pathogen
 - It takes days to weeks to develop antibodies, so antibody testing only indicates recent or past infection

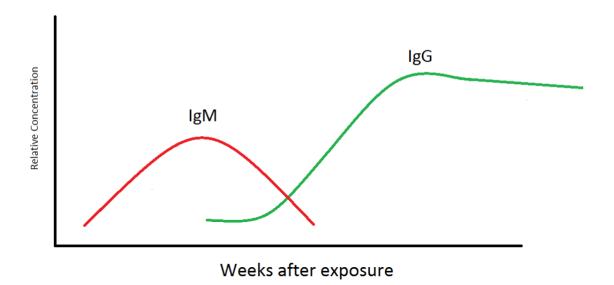




Antibody Testing

- Two types of antibodies are relevant to (most) infections:
 - IgM and IgG antibodies

IgM Antibody	IgG Antibody
 Produced first in response to infection Marker of current infection Detectable only early in infection 	Produced later in response to infectionMarker of long term immunity







Antibody Testing

Test / Result Name	Site/Specimen	Collection Date / Result Values	Units	Ref Rng
Rickettsial Disease Ab Panel	Site/Specimen	21 Jun 2018 0741 <o></o>	Units	Ref Rng
Rickettsia rickettsii Spotted Fever Group Ab IgM	SERUM	1:128 (H) <i></i>	Titer units	<1:64
Rickettsia Typhus Group Ab IgM	SERUM	<1:64 <i></i>	Titer units	<1:64
Rickettsia rickettsii Spotted Fever Group Ab IgG	SERUM	<1:64 <i></i>	Titer units	<1:64
Rickettsia Typhus Group Ab IgG	SERUM	<1:64 <i></i>	Titer units	<1:64

Test / Result Name Site/Specimen		Collection Date / Result Values
Hepatitis B Virus Profile	Site/Specimen	30 Jan 2018 0945
Hepatitis B Virus Core Ab IgM	SERUM	NEGATIVE <i></i>
Hepatitis B Virus Surface Ag	SERUM	POSITIVE <i></i>
Hepatitis B Virus Core Ab	SERUM	POSITIVE <i></i>
Hepatitis B Virus Surface Ab	SERUM	<3.1 <i>></i>

Test / Result Name	Site/Specimen	Collection Date / Result Values
Lyme Disease Ab Total Screen	Site/Specimen	24 Jul 2017 1220
Borrelia burgdorferi Ab	SERUM	SCREEN POSITIVE; CONFIRMATION TO FOLLOW (H) <i></i>

- Since antibody testing is looking for an immune response, samples are ALWAYS from <u>serum</u>, <u>plasma</u>, or <u>blood</u>
- Antibody tests are NOT as specific as PCR, which is why they are Probable



COVID-19 Antibody Testing

- Again, no documented tests in the DoD yet
 - However, not all antibody tests are reportable

Duahahla	2. A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure	
Probable	c. Laboratory detection of either: iSpecific antigen in a clinical specimen (usually a rapid, point-of-care test) or	
	ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera)	

- In addition to meeting (a) or (b), the antibody test must be:
 "indicative of new or recent infection in serum, plasma, or whole blood"
 - What is indicative of <u>recent</u> infection?
 - IgM antibodies
 - A change in antibody titer (IgM or IgG) between acute and convalescent sera
 - Sample must be serum, plasma, or whole blood



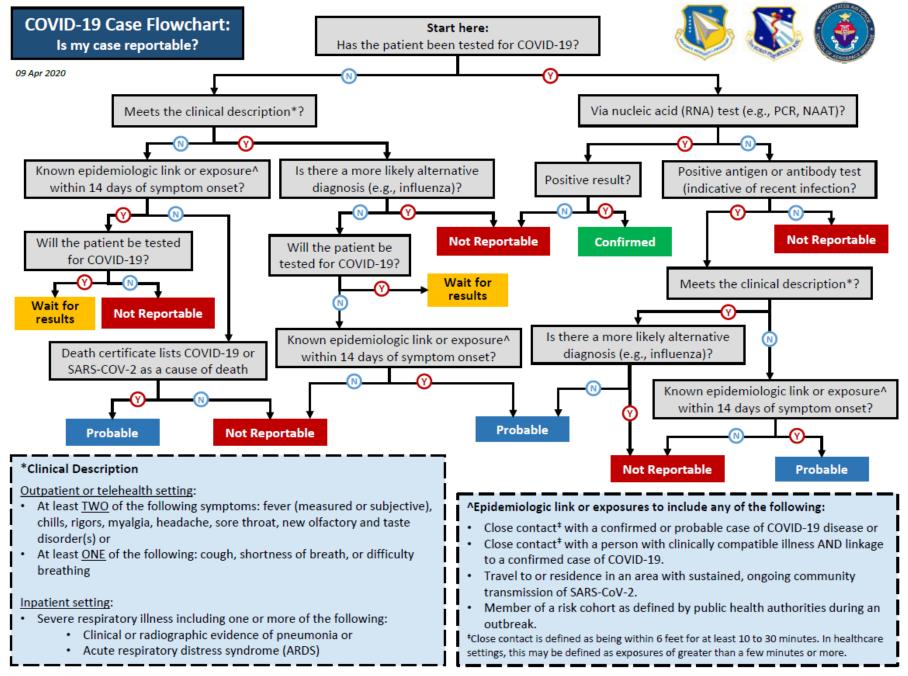
Probable	 A case with the following (either a+c or b+c): a. Meets either clinical description* with no other more likely diagnosis or b. One or more epi-link/exposure† AND
Flobable	c. Laboratory detection of either:
	i. Specific antigen in a clinical specimen (usually a rapid, point-of-care test) or
	ii. Specific antibody indicative of a new or recent infection in serum, plasma, or whole blood (e.g., IgM positive antibody, increase in antibody titer between acute and convalescent sera)

- There are two ways to meet this part of the case classification
 - a+c or b+c

Report individuals who have ALL of the following as Probable:

а	С	b
A visitSymptomsNo other diagnosis	 Positive antigen test	One epi-link or exposure





COVID-19: What is needed in a MER and why?



COVID-19 Medical Event Reports (MERs)

- What information should be included?
 - Differs by case classification, but it should indicate:
 - 1. That the case meets the definition
 - 2. The risk associated with the case
 - 3. Effects on readiness
- Why is this information needed?
 - COVID-19 data from DRSi is being used to inform DoD operational decisions

Because DRSi data is being used operationally, confidence in the data must be high

Detailed reports give us confidence in the data because they show that you have evaluated all components of the case definition and determined it is a case

(Your data is extremely critical right now!)



COVID-19 Medical Event Reports (MERs)

 Like the quick reference for the case definition, we have one for the DRSi report

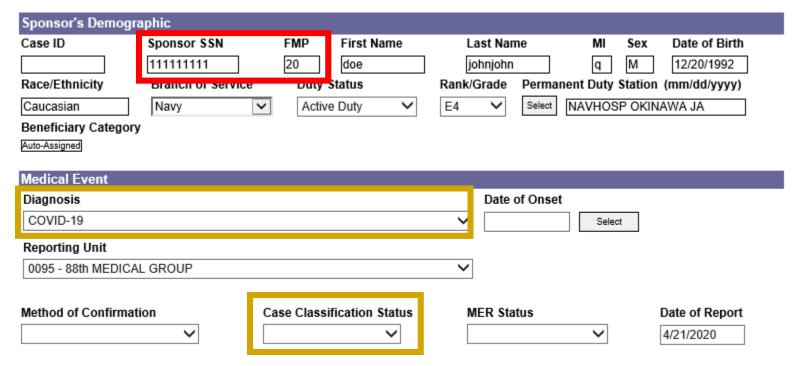
Suspected	Not currently reportable – DO NOT use this case classification
	ase and days also as a substitution of the sub
Probable	1. Case Classification Status: Probable
	2. Laboratory Tests:
	 a. Select the relevant antigen or antibody test if a positive result
	3. Event Related Questions:
	a. Does the patient have fever and/or symptoms?: YES
	b. Is the patient epidemiologically linked to a confirmed case?: YES if linked to
	another case OR if residence in an area with on-going transmission
	c. Did the patient travel in the 14 days before symptom onset?: YES if travel
	i. Select the country
	ii. List detailed travel history
	4. Comments: If epi-linked, include the DRSi Case ID OR the FMP/SSN of the case they
	are epi-linked to (the other case should also be reported)
	1. Case Classification Status: Confirmed
	2. Laboratory Tests:
Confirmed	a. COVID-19 nucleic acid (RNA): Positive
Commined	 Comments: If patient was tested outside of the MHS, indicate testing facility,
	positive result communicated to PH, and testing date
	a. Ex: Pt tested by Ohio Health Dept, WPAFB notified of POS result on 3/25
	For DOD level operational decision making, always complete the following fields:
For ALL Reports	Event Related Questions:
	Was patient hospitalized?: INDICATE Y/N
	Did the patient die ?: INDICATE Y/N
	 Does the patient work in a high risk setting? INDICATE the high risk setting
	and NAME THE SHIP if applicable
	If any patient becomes hospitalized or dies after the initial report, update the report to
	reflect the change in status ASAP.



	1. Case Classification Status: Probable
Probable	2. Laboratory Tests:
	a. Select the relevant antigen or antibody test if a positive result
	3. Event Related Questions:
	a. Does the patient have fever and/or symptoms?: YES
	b. Is the patient epidemiologically linked to a confirmed case?: YES if linked to
	another case OR if residence in an area with on-going transmission
	c. Did the patient travel in the 14 days before symptom onset?: YES if travel
	i. Select the country
	ii. List detailed travel history
	4. Comments: If epi-linked, include the DRSi Case ID OR the FMP/SSN of the case they
	are epi-linked to (the other case should also be reported)
	For DOD level operational decision making, always complete the following fields:
	Event Related Questions:
For ALL Reports	Was patient hospitalized?: INDICATE Y/N
	o Did the patient die ?: INDICATE Y/N
	 Does the patient work in a high risk setting? INDICATE the high risk setting
	and NAME THE SHIP if applicable
	If any patient becomes hospitalized or dies after the initial report, update the report to
	reflect the change in status ASAP.



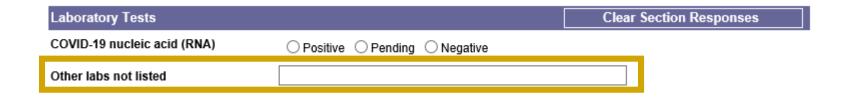
Probable case of COVID-19



Case Classification Status should be classified as suspect, probable or confirmed according to the current Armed Forces Reportable Medical Events Guidelines Armed Forces Reportable Medical Events Guidelines.

 Everything under this "Medical Event" section is required but the correctness of the indicated fields is very important



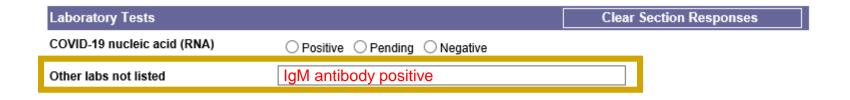


IF LAB POSITIVE*:

- At this time the DRSi page does NOT have the Antigen/Antibody testing
- Enter this into "Other labs not listed"; indicate the test type and result
 - Examples:
 - Antibody test IgM POSITIVE
 - AB test IgM POS
 - Antigen POSITIVE
 - AG positive
- If at some point Ag/Ab options get added, use those!

^{*}most probable cases will not be antigen or antibody positive right now





IF LAB POSITIVE*:

- At this time the DRSi page does NOT have the Antigen/Antibody testing
- Enter this into "Other labs not listed"; indicate the test type and result
 - Examples:
 - Antibody test IgM POSITIVE
 - AB test IgM POS
 - Antigen POSITIVE
 - AG positive
- If at some point Ag/Ab options get added, use those!

^{*}most probable cases will not be antigen or antibody positive right now



AFRI **Event Related Questions** Does the patient have fever and/or ○Yes ○No lower respiratory symptoms? Was the patient hospitalized, i.e. ○Yes ○No admitted to an inpatient ward? Hospitalization admission date Hospitalization discharge date Place of hospital admission Did the patient die? ○ Yes ○ No Date of death Did the patient travel in the 14 days ○Yes ○No before symptom onset? If so, please select the countries of Africa - XA travel. (use ctrl-key to click all that Albania - AL apply) Algeria - AG List detailed travel history, including cities and corresponding dates: Is the patient epidemiologically linked ○ Yes ○ No to a laboratory confirmed case of COVID-19? Please document if the patient works in, lives in, or attends a high risk transmission setting (food handling, daycare, school, healthcare, training center, ship, etc.)

Yellow boxes

indicate what is required for a **Probable case**

Red boxes

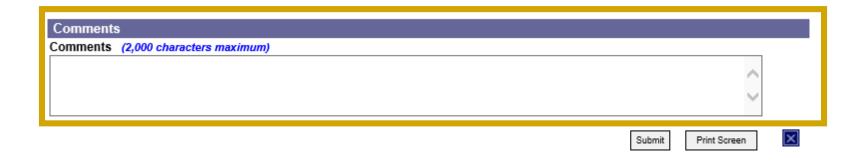
indicate what is required for **all** cases

Please enter the following in the comment box below:

- 1. If the patient has any relevant comorbidities or underlying illnesses or is otherwise immunosuppressed (e.g., via immunosuppressing medications)
- 2. If the patient has any other diagnosis/etiology for their respiratory illness
- 3. Any other relevant information/details about the case





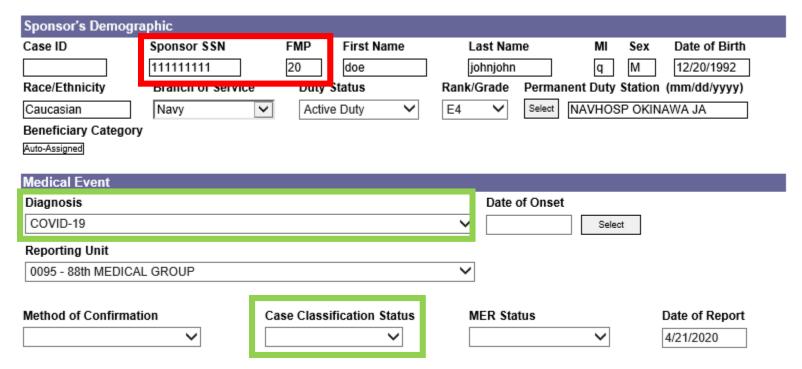


- If the patient was epi-linked to another case, include the details in the comment
 - Relationship of epi-link
 - Case ID of the other case or FMP/SSN (if the first case is an MHS beneficiary that was reported to DRSi)

Confirmed	1. Case Classification Status: Confirmed
	2. Laboratory Tests:
	a. COVID-19 nucleic acid (RNA): Positive
	Comments: If patient was tested outside of the MHS, indicate testing facility,
	positive result communicated to PH, and testing date
	a. Ex: Pt tested by Ohio Health Dept, WPAFB notified of POS result on 3/25
For ALL Reports	For DOD level operational decision making, always complete the following fields:
	Event Related Questions:
	Was patient hospitalized?: INDICATE Y/N
	Did the patient die ?: INDICATE Y/N
	 Does the patient work in a high risk setting? INDICATE the high risk setting and NAME THE SHIP if applicable
	If any patient becomes hospitalized or dies after the initial report, update the report to
	reflect the change in status ASAP.





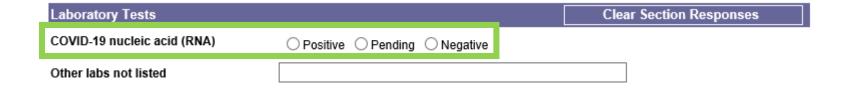


Case Classification Status should be classified as suspect, probable or confirmed according to the current Armed Forces Reportable Medical Events Guidelines Armed Forces Reportable Medical Events Guidelines.

• Everything under this "Medical Event" section is **required** but the correctness of the indicated fields is very important







- Confirmed cases MUST be positive for COVID-19 RNA
 - (Remember PCR amplifies RNA/DNA, so PCR positive means it detected COVID RNA!)



Event Related Questions Does the patient have fever and/or ○Yes ○No lower respiratory symptoms? Was the patient hospitalized, i.e. ○ Yes ○ No admitted to an inpatient ward? Hospitalization admission date Hospitalization discharge date Place of hospital admission Did the patient die? ○Yes ○No Date of death Did the patient travel in the 14 days ○Yes ○No before symptom onset? Afghanistan - AF If so, please select the countries of Africa - XA travel. (use ctrl-key to click all that Albania - AL apply) Algeria - AG List detailed travel history, including cities and corresponding dates: Is the patient epidemiologically linked ○Yes ○No to a laboratory confirmed case of COVID-19? Please document if the patient works in, lives in, or attends a high risk transmission setting (food handling, daycare, school, healthcare, training center, ship, etc.)

Green boxes

indicate what is required for a **Confirmed case**

Red boxes

indicate what is required for **all** cases

Please enter the following in the comment box below:

- 1. If the patient has any relevant comorbidities or underlying illnesses or is otherwise immunosuppressed (e.g., via immunosuppressing medications)
- 2. If the patient has any other diagnosis/etiology for their respiratory illness
- 3. Any other relevant information/details about the case



Event Related Questions Does the patient have fever and/or ○Yes ○No lower respiratory symptoms? Was the patient hospitalized, i.e. ○Yes ○No admitted to an inpatient ward? Hospitalization admission date Hospitalization discharge date Place of hospital admission Did the patient die? ○Yes ○No Date of death Did the patient travel in the 14 days ○Yes ○No before symptom onset? Afghanistan - AF If so, please select the countries of Africa - XA travel. (use ctrl-key to click all that Albania - AL apply) Algeria - AG List detailed travel history, including cities and corresponding dates: Is the patient epidemiologically linked ○Yes ○No to a laboratory confirmed case of COVID-19? Please document if the patient works in, lives in, or attends a high risk transmission setting (food handling, daycare, school, healthcare, training center, ship, etc.)

- 1. If the patient has any relevant comorbidities or underlying illnesses or is otherwise immunosuppressed (e.g., via immunosuppressing medications)
- 2. If the patient has any other diagnosis/etiology for their respiratory illness
- 3. Any other relevant information/details about the case

Please enter the following in the comment box below:

Green boxes

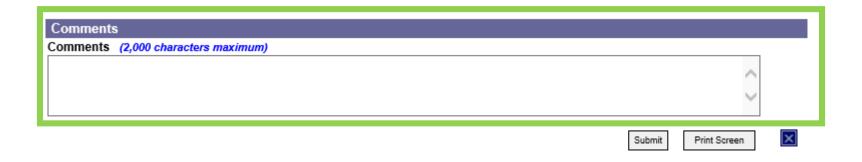
indicate what is required for a **Confirmed case**

Red boxes

indicate what is required for **all** cases







- If the patient was tested outside an MHS facility, add details to the comments
 - Facility tested at
 - Positive result was communicated
 - Test/result date
 - Example: Pt tested by Ohio Health Dept, WPAFB notified of POS result on 4/19



Data Validity

- Detailed reports assist with the surveillance hub's ability to validate cases
- What is case validation?
 - Slightly different by service, but the cases are reviewed to ensure they meet the case definition
- Why validate cases?
 - Provides confidence in our case count for DoD operational use
 - Enhances data quality
 - Provides opportunities to identify gaps in training
- Reporters are the most critical part of the COVID-19 infrastructure
 - Local SMEs



Contact Information





Army: APHC – Disease Epidemiology Program

Aberdeen Proving Ground - MD

COMM: (410) 436-7605 DSN: 584-7605

usarmy.apg.medcom-aphc.mbx.disease-epidemiologyprogram13@mail.mil

Navy: NMCPHC Preventive Medicine Programs and Policy Support Department

COMM: (757) 953-0700; DSN: (312) 377-0700

Email: usn.hampton-roads.navmcpubhlthcenpors.list.nmcphc-threatassess@mail.mil

Contact your cognizant NEPMU

NEPMU2: COMM: (757) 950-6600; DSN: (312) 377-6600

Email: usn.hampton-roads.navhospporsva.list.nepmu2norfolk- threatassess@mail.mil

NEPMU5: COMM: (619) 556-7070; DSN (312) 526-7070

Email: usn.san-diego.navenpvntmedufive.list.nepmu5-health-surveillance@mail.mil

NEPMU6: COMM: (808) 471-0237; DSN: (315) 471-0237 Email: usn.jbphh.navenpvntmedusixhi.list.nepmu6@mail.mil

NEPMU7: COMM (int): 011-34-956-82-2230 (local): 727-2230; DSN: 94-314-727-2230

Email: NEPMU7@eu.navy.mil

Air Force: Contact your MAJCOM PH or USAFSAM/PHR

USAFSAM / PHR / Epidemiology Consult Service

Wright-Patterson AFB, Ohio

COMM: (937) 938-3207 DSN: 798-3207

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