Coronavirus Disease 2019 (COVID-19) Investigation Guideline

Contents

COVID-19 DEFINITIONS (CURRENT AS OF 09/01/2020) .................................................. 1
Clinical Criteria .................................................................................................................. 1
Laboratory Criteria .......................................................................................................... 1
Epidemiologic Linkage ....................................................................................................... 1
Confirmed Case .................................................................................................................. 1
Probable Case ................................................................................................................... 1
Suspect Case ..................................................................................................................... 1
Vital Records Criteria ...................................................................................................... 1
Vaccine (COVID-19) Breakthrough Case Definition ......................................................... 2
Criteria to Distinguish a New Case from an Existing Case ............................................... 2
Previous Case Definitions .............................................................................................. 2
Multi-System Inflammatory Syndrome in Children (MIS-C) ............................................... 2

LABORATORY ANALYSIS ................................................................................................. 4

EPIDEMIOLOGY .................................................................................................................. 8

DISEASE OVERVIEW ....................................................................................................... 8
Period of Communicability ............................................................................................... 8
Susceptibility and Resistance ......................................................................................... 9

NOTIFICATION TO PUBLIC HEALTH AUTHORITIES ....................................................... 10

ADDITIONAL COMMUNICATIONS IN PUBLIC HEALTH .............................................. 10

PUBLIC COMMUNICATIONS .......................................................................................... 11

STANDARD CASE INVESTIGATION ................................................................................... 12
Person Under Investigation Information (PUI) .................................................................. 12
Case Investigation ............................................................................................................ 12
Contact Investigation ....................................................................................................... 14
Isolation Restrictions ....................................................................................................... 15
Quarantine Restrictions ................................................................................................... 16
Case Management ........................................................................................................... 20
Contact Management ...................................................................................................... 20
Education .......................................................................................................................... 22

DATA MANAGEMENT ..................................................................................................... 23
Managing Contacts in EpiTrax .......................................................................................... 24
Associated “Orphan Contacts” ....................................................................................... 24
Creating a Contact ............................................................................................................ 24
Entering Information on Contacts on Separate Contact Form ......................................... 25
Promoting a Symptomatic Contact to a Case ................................................................... 25
Identifying Cases in EpiTrax Needing Investigation ......................................................... 26
Managing Potential Reinfections in EpiTrax ..................................................................... 27

OUTBREAK DEFINITIONS ................................................................................................. 28

ADDITIONAL INFORMATION .......................................................................................... 30

ATTACHMENTS ................................................................................................................ 30
Releasing from Isolation and Quarantine .......................................................................... 31
Guide When Interviewing Confirmed Case or PUI to Determine Contacts ....................... 33
Scripts for Active Monitoring of close contacts of confirmed cases ................................ 34
<table>
<thead>
<tr>
<th>Date</th>
<th>Replaced</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>04/23/2020</td>
<td>-</td>
<td>Released</td>
</tr>
<tr>
<td>05/01/2020</td>
<td>04/2020</td>
<td>Updated period of communicability, isolation restrictions to reflect 10 days. Updated Notification section. Updated “Associating Orphan Contacts”.</td>
</tr>
<tr>
<td>06/10/2020</td>
<td>05/2020</td>
<td>Updated Laboratory Analysis Section with guidance on serology and antigen testing. Updated Notification of Test Results to Public Health section. Updated Contact Investigation and Contact Management with removal of “Exposure Risk Levels” guidance. Updated case investigation, communicable period, and contact investigation to consider asymptomatic contacts. Added information on pediatric multi-system inflammatory syndrome. Removed Triage of Reports Flowchart - if needed consider CDC guidance. 06/19/2020 Updated communicable period to include CDC language “Persons whose symptoms have resolved and who were previously determined to no longer be infectious by the will not be considered infectious again...”</td>
</tr>
<tr>
<td>07/31/2020</td>
<td>06/2020</td>
<td>Updated Laboratory Analysis section. Additional guidance for antigen tests and 95 kPa bags are only required if shipping by air, e.g. FedEx air. For vehicle transport, a zip-top biohazard bag is all that’s required. Added additional guidance under “Person Under Investigation” and updated the PUI definition. Quarantine section clarified that the critical infrastructure listing is a guideline.</td>
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<tr>
<td>09/04/2020</td>
<td>07/2020</td>
<td>Updated COVID Case Definitions. Updated Laboratory Analysis as related to new case definitions. Updated Susceptibility/Resistance section of Disease Overview. Updated Restrictions, adding guidance on severely immunocompromised/ICU cases and exemption from quarantine based on presumed immunity. Updated broken links.</td>
</tr>
<tr>
<td>11/03/2020</td>
<td>09/2020</td>
<td>Updated Laboratory Analysis: molecular testing and specimen submission to KHEL. Revised Disease Overview Communicability and Susceptibility sections; Notifications to Public Health: routing to other jurisdictions and symptomatic contacts; Case Investigations: recurrent infections, clarification on infectious period; Contact Investigations: new definition of close contact; Quarantine: clarification on day 0 and rearrangement of paragraphs; and Managing Contacts: handle contacts with multiple exposures. Added Outbreak Definitions.</td>
</tr>
<tr>
<td>11/18/2020</td>
<td>10/2020</td>
<td>Updated Isolation and Quarantine Graphic. Updated Contact Management for promoted probable cases that test negative. Added section on Managing Reinfections in EPITRAX. Updated notification section with reporting guidelines.</td>
</tr>
<tr>
<td>Date</td>
<td>Version</td>
<td>Changes</td>
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<tr>
<td>01/11/2021</td>
<td>12/2020</td>
<td>Disease Overview: resources for vaccine information added. Modified laboratory analysis section with antigen guidance and testing with shortened quarantine. Modifications to presumption of immunity after natural disease and added presumption of immunity after vaccine.</td>
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<tr>
<td>02/23/2021</td>
<td>01/2021</td>
<td>Updated Disease Overview and Quarantine Restrictions based on public health recommendation for vaccinated persons</td>
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<tr>
<td>03/10/2021</td>
<td>02/2021</td>
<td>Case definitions: addition of definition vaccine breakthrough, MIS-C case definition and reporting links. Laboratory Analysis: information on requesting rapid antigen testing, LabXchange, and sequencing. Disease overview: information on variants; clarified that persons with presumed immunity who develop symptoms or test positive should be evaluated as potential cases. Changed period of presumed immunity from 90 days to 6 months in Disease Overview and Quarantine Exemptions. Shortened Quarantine: recommendation to use 14-day after exposure to more infectious SARS-CoV-2 variants.</td>
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</table>
COVID-19 Disease Investigation Guidelines

COVID-19 DEFINITIONS (Current as of 09/01/2020)

Clinical Criteria
In the absence of a more likely diagnosis:
1) Any one of the following symptoms: cough, shortness of breath, or difficulty breathing, new olfactory disorder, or new taste disorder, OR
2) Severe respiratory illness with at least one of the following:
   o Clinical or radiographic evidence of pneumonia, or
   o Acute respiratory distress syndrome (ARDS), OR
3) With none of the other symptoms, at least two of the following: fever (measured or subjective), chills, rigors, myalgia, headache, sore throat, nausea or vomiting, diarrhea, fatigue, or congestion or runny nose.

Laboratory Criteria
Using a laboratory method approved or authorized by FDA or designated authority:

Confirmatory laboratory evidence:
- Detection of severe acute respiratory syndrome coronavirus 2 ribonucleic acid (SARS-CoV-2 RNA) in a clinical or autopsy specimen using a molecular amplification test

Presumptive laboratory evidence:
- Detection of SARS-CoV-2 by antigen test in a respiratory specimen

Supportive laboratory evidence:
- Detection of specific antibody in serum, plasma, or whole blood
- Detection of specific antigen by immunocytochemistry in an autopsy specimen

Epidemiologic Linkage
One or more of the following exposures in the 14 days:
- Close contact** with a confirmed or probable case of COVID-19 disease; or
- 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 a period of 10 minutes or having direct contact with infectious secretions of a COVID-19 case. However, it depends on the exposure level and setting. Data are insufficient to precisely define the duration of exposure.

Confirmed Case
- Meets confirmatory laboratory evidence.

Probable Case
- Meets clinical criteria AND epidemiologic linkage with no confirmatory laboratory testing performed for SARS-CoV-2.
- Meets presumptive laboratory evidence.
- Meets vital records criteria with no confirmatory lab evidence for SARS-CoV-2.

Suspect Case
- Supportive laboratory evidence with no history of being confirmed or probable case.

Vital Records Criteria
A person whose death certificate lists COVID-19 disease or SARS-CoV-2 as a cause of death or a significant condition contributing to death.
Vaccine (COVID-19) Breakthrough Case Definition

A person who has SARS-CoV-2 RNA or antigen detected on a respiratory specimen collected ≥14 days after completing the primary series of an FDA-authorized COVID-19 vaccine.

Criteria to Distinguish a New Case from an Existing Case

A repeat positive test for SARS-CoV-2 will not be enumerated as a new case for surveillance purposes.

As of November 18, 2020, the last CSTE Standardized surveillance case definition and national notification for 2019 novel coronavirus disease (COVID-19), makes the following statement about criteria to distinguish a new case of disease or condition … as a new case for surveillance: N/A until more virologic data are available

Previous Case Definitions

Prior to 09/01/2020 the case definition approved by CSTE on April 5, 2020 was used:

- Coronavirus Disease 2019 (COVID-19) | 2020 Interim Case Definition, Approved April 5, 2020

Multi-System Inflammatory Syndrome in Children (MIS-C)

Summary:

- Characterized by persistent fever and features of Kawasaki disease and/or toxic shock syndrome; abdominal symptoms common, but respiratory symptoms were not present in all cases.
- Many have tested positive for SARS-CoV-2 infection by RT-PCR, serology, or had exposure to confirmed case with COVID-19.
- Healthcare providers who diagnose multi-system inflammatory syndrome in children (MIS-C) potentially associated with COVID-19 should immediately report them to the Kansas Department of Health and Environment, Infectious Disease Epidemiology and Response Section by calling 877-427-7317.

Case Definition for MIS-C:

- An individual aged <21 years presenting with fever*, laboratory evidence of inflammation**, and evidence of clinically severe illness requiring hospitalization, with multisystem (>2) organ involvement (cardiac, renal, respiratory, hematologic, gastrointestinal, dermatologic or neurological); AND
- No alternative plausible diagnoses; AND
- Positive for current or recent SARS-CoV-2 infection by RT-PCR, serology, or antigen test; or exposure to a suspected or confirmed COVID-19 case within the 4 weeks prior to the onset of symptoms. alternative etiology explains the clinical presentation. (note: patients should be reported regardless of SARS-CoV-2 PCR test results).

* Fever >38.0°C for ≥24 hours, or report of subjective fever lasting ≥24 hours
** Including, but not limited to, one or more of the following: an elevated C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), fibrinogen, procalcitonin, d-dimer, ferritin, lactic acid dehydrogenase (LDH), or interleukin 6 (IL-6), elevated neutrophils, reduced lymphocytes and low albumin
Additional comments:
- Some individuals may fulfill full or partial criteria for Kawasaki disease but should be reported if they meet the case definition for MIS-C.
- Consider MIS-C in any pediatric death with evidence of SARS-CoV-2 infection.

**Reporting:**
Immediately be reported to the Kansas Department of Health and Environment by calling the Epidemiology Hotline at 877-427-7317. Additional reporting information:
- Instructions for MIS-C Associated with COVID-19 Case Report Form
- Fillable MIS-C Associated with COVID-19 Case Report Form
- Printable MIS-C Associated with COVID-19 Case Report Form

**Testing:**
- Testing aimed at identifying laboratory evidence of inflammation as listed in the Case Definition section is warranted.
- Similarly, SARS-CoV-2 detection by RT-PCR or antigen test is indicated.
- Where feasible, SARS-CoV-2 serologic testing is suggested, even in the presence of positive results from RT-PCR or antigen testing. Any serologic testing should be performed prior to administering intravenous immunoglobulin (IVIG) or any other exogenous antibody treatments
- Other evaluations for cardiac involvement including, but not limited to: echocardiogram; electrocardiogram; cardiac enzyme or troponin testing; and B-type natriuretic peptide (BNP or NT-proBNP).

**Additional information:**
https://www.cdc.gov/mis-c/hcp/
LABORATORY ANALYSIS

To date, SARS-CoV-2 tests are only available under Emergency Use Authorization (EUA), which means the FDA has not thoroughly vetted the tests to grant full approval. There is limited information on the efficacy (sensitivity and specificity). An antigen test or a molecular test (polymerase chain reaction (PCR) or nucleic acid amplification test (NAAT)) are preferred for diagnosing acute infection. (Figure 1)

Even without testing evidence of SARS-CoV-2 infection, restrictions may still be needed based on clinical criteria or epi-links:

- Negative testing may provide evidence that COVID-19 isolation is not needed, but isolation may still be required for a symptomatic, person based on exclusion measures needed for the symptom (such as diarrhea or fever) or the potential non-COVID-19 etiological agent that is infectious.

- Isolation measures can be applied for symptomatic close contacts who are classified as probable cases without testing evidence or who test negative by antigen tests on specimens collected greater than 5 days from symptom onset.
  - If the negative result is an antigen test on a specimen collected within 5 days of symptom onset or negative PCR result on a specimen collected after symptom onset, the person is not considered a probable case and will require quarantine as a contact.

- CDC has released modified guidance allowing for shorter quarantine periods. Local public health may opt to use this guidance; but, to shorten quarantine through testing, the specimen must be collected on or after day 6 following exposure and the testing methodology must be molecular (PCR or NAAT).

Screening testing for SARS-CoV-2 is intended to identify infected persons who are asymptomatic with no known or suspected exposure to SARS-CoV-2. Screening testing is performed in certain at-risk populations to prevent transmission. With screening, false-positives may occur as pretest probability is low.

- Pretest probability is the likelihood that the person being tested has the infection. This likelihood is based on both the proportion of people in the test population or group who have the infection at a given time (prevalence) and the clinical presentation (including symptoms and known exposure) of the person being tested.

- PCR is preferable for the regular and repeated screening of unexposed and asymptomatic people, but antigen testing is acceptable.

Serologic testing (detecting SARS-CoV-2 antibodies in blood) has limitations:

- With a high potential for false negatives and false positives, SARS-CoV-2 serology tests cannot be used to definitively determine protective immunity.
  - Do not use SARS-CoV-2 serology testing to guide personal protective equipment (PPE) use, adherence to social distancing practices, or to alter quarantine orders.
- SARS-CoV-2 serology tests should not be used to diagnose or exclude the possibility of COVID-19.
  - Assume currently or recently symptomatic persons are potentially infected with SARS-CoV-2 unless appropriate viral testing is negative.
- Serological results do not require case investigation.
Figure 1. Characteristics of molecular and antigen tests for COVID testing.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>PCR, NAAT</th>
<th>Antigen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specimen type</td>
<td>Respiratory, Saliva</td>
<td>Respiratory</td>
</tr>
<tr>
<td>Method</td>
<td>Amplifies RNA</td>
<td>Detects viral antigens</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>Specificity</td>
<td>High</td>
<td>High *</td>
</tr>
<tr>
<td>Turn-around time</td>
<td>1 hour to days</td>
<td>15 minutes</td>
</tr>
<tr>
<td>Location performed</td>
<td>Laboratory</td>
<td>Laboratory and point-of-care</td>
</tr>
<tr>
<td>Indicates</td>
<td>Acute or recent infection</td>
<td>Acute infection</td>
</tr>
</tbody>
</table>

* When pretest probability is low, there is still a chance of a false positive with antigen tests.

<table>
<thead>
<tr>
<th>Diagnostic Testing Purpose</th>
<th>PCR</th>
<th>Antigen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptomatic people</td>
<td>Preferable</td>
<td>Preferable within the first 5 to 7 days from symptom onset</td>
</tr>
<tr>
<td>Asymptomatic people</td>
<td>Preferable</td>
<td>Acceptable in people with known exposure</td>
</tr>
<tr>
<td>Previous COVID-19 positive person with a new exposure followed by a new symptom onset (potential reinfection)</td>
<td>X</td>
<td>Preferable within the first 5 to 7 days from symptom onset</td>
</tr>
</tbody>
</table>

- Molecular (PCR or NAAT) tests:
  - Positive molecular tests are evidence of a confirmed case.
  - Positive molecular tests always require case investigation even if followed by a negative test.
  - Detecting viral RNA via molecular testing does not mean that infectious virus is present, but it is assumed until evidence is provided otherwise.
  - It is not recommended that a previously positive person be tested again by molecular testing within 90 days of initial recovery. This is based on studies that, although replication-competent virus was not isolated 3 weeks after symptom onset, recovered patients can continue to have SARS-CoV-2 RNA detected in their upper respiratory specimens for up to 12 weeks. (Korea CDC, 2020; Li et al., 2020; Xiao et al, 2020)
  - Two negative molecular tests collected 24 hours apart after a positive test may indicate isolation is no longer necessary for an asymptomatic person, but the method is not promoted as a routine way to remove restrictions.

- Antigen tests:
  - Less sensitive than molecular tests, but preferable if a specimen is collected within the first 5-7 days from a new symptom onset for a person previously diagnosed with COVID-19. (Figure 1)
  - Antigen levels for patients who have been symptomatic for more than five days may drop below the limit of detection of the antigen test.
  - Consider the need to **confirm negative antigen** results by PCR when the person is (1) symptomatic (*especially if longer than 7 days have passed since symptom onset*) or (2) asymptomatic but has had close contact with a person with COVID-19. (Figure 2)
  - Consider the need to **confirm positive antigen results** by PCR if the person is asymptomatic with no known exposure.
  - If an antigen test is positive, the patient is considered a probable case,
    o **Unless** a negative PCR result is obtained on an appropriate specimen collected after but within 48 hours of the antigen specimen collection, resulting in the patient considered not a case based on PCR results.
Figure 2. Antigen Testing Algorithm  
(Source: www.coronavirus.kdheks.gov/DocumentCenter/View/1695)

1 Asymptomatic but with single, multiple, or continuous known exposure to a person with COVID-19 within the last 14 days; perform NAAT first if short turnaround time is available, if person cannot be effectively and safely quarantined, or if there are barriers to possible confirmatory testing.

2 Asymptomatic persons with no known exposure to a person with COVID-19 within the last 14 days are sometimes tested as part of screening programs.

3 If a symptomatic person has a low likelihood of SARS-CoV-2 infection, clinical discretion should determine if this negative antigen test result requires confirmatory testing. Per KDHE guidance, if unsure, default to confirmation with an FDA authorized NAAT.

4 In instances of higher pretest probability, such as high incidence of infection in the community, clinical discretion should determine if this positive antigen result requires confirmation. Per KDHE guidance, in these circumstances, a confirmatory NAAT test may not be necessary.

5 In certain settings, serial antigen testing could be considered for those with a negative antigen test result; serial testing may not require confirmation of negative results.

6 If prevalence of infection is not low in the community, clinical discretion should consider whether this negative antigen result requires confirmation. Per KDHE guidance, in these circumstances, a confirmatory NAAT test may not be necessary.

7 Nucleic acid amplification test; confirm within 48 hours using a NAAT, such as RT-PCR, that has been evaluated against FDA’s reference panel for analytical sensitivity.

8 Known exposure to a person with COVID-19 within the last 14 days, complete quarantine period. If unsure of exposure, clinical discretion should determine whether isolation is necessary.

Additional notes on point of care (POC) and rapid antigen testing for COVID-19:
- Rapid antigen kits are available from KDHE at no charge. Send requests through the county emergency managers.
- All negative and positive results must be reported to KDHE.
- KHEL can assist with the registering for LabXchange to allow result reporting.
  - Contact KDHE.KHEL_Help@ks.gov and include subject line: LabXchange
- CLIA certification questions can be sent to KDHE.CLIA2@ks.gov.
Kansas Health and Environmental Laboratories (KHEL) conducts molecular testing that is prioritized for public health purposes and urgent needs. Whole Genome Sequencing (WGS) should be considered for known cases of re-infection, potential vaccine breakthrough, and situations that are concerns for variants.

- Ordering provider must complete the KDHE COVID-19 Specimen Submission Form to send with the specimen.
- For guidance and to request whole genome sequencing, send an email to: KDHE_KHEL_INFO@ks.gov; Subject Line: ATTENTION SEQUENCING

Specimen Collection and Shipping instructions:

- REVIEW the following documents before submitting a specimen to KHEL:
  - KDHE COVID-19 Specimen Collection Kit
  - Instructions for Completing and Submitting KDHE COVID-19 Form
  - KDHE COVID-19 Specimen Submission Form
  - A listing of specimen type and priority can be found here.
- DO the following:
  - COMPLETE the KDHE COVID-19 Specimen Submission Form legibly.
  - Use appropriate PPE and precautions for specimen collection.
    - Review videos available in the KDHE resource center.
  - Label the specimen container with patient’s name and specimen type.
  - Use a synthetic fiber swab with plastic shaft (not wooden) to collect.
    - Place and keep swab in 2-3 mL of Viral Transport Media (VTM).
    - If VTM is not available, liquid Amies solution, sterile phosphate-buffered saline, or normal sterile saline is acceptable.
    - Shorten the length of the swab to allow specimen tube closure.
    - Do not send specimen tube without the swab.
  - Ensure the specimen tube is secure and will not leak.
  - Place each specimen tube into its own appropriate zip-top bag.
  - Ensure that sufficient absorbent material is present in the bag, but
    - Do not wrap the tube in the absorbent material.
  - Place KDHE COVID-19 Specimen Submission Form with the package, but not in the specimen bag.
    - Fold and place forms in the outside pouch of the zip-top bag containing the single specimen or use a double bag method. (The single specimen is in a primary zip-top bag and that primary bag is placed in a second zip-top bag which contains the testing form.)
  - Store specimens at 2-8°C and ship overnight on ice packs as a Category B infectious substance.
- Rapid shipping is important - specimens must be tested within 72 hours of specimen collection. Ship overnight. Use a weekend delivery option if shipping near the weekend, specifying Saturday Delivery for Saturdays.
- **Ship or deliver to:**
  
  Kansas Health and Environmental Laboratories  
  6810 SE Dwight St; Topeka, KS 66620

- Results from KHEL are sent to the submitting facility. Results are sent when available. The status of pending results is not provided by phone.
- To change report delivery preference: Laboratory Report Delivery Form
- For KHEL customer service: KDHE.KHEL_Help@ks.gov or 785-266-1620.
- Improperly collected or shipped specimens or missing or unreadable submission forms may result in specimens being rejected or results delayed.
EPIDEMIOLOGY
Coronavirus Disease 2019 (COVID-19) is an illness caused by SARS-CoV-2 and is spread from person-to-person. This virus was first identified during an outbreak in Wuhan, China at the end of 2019.  


DISEASE OVERVIEW
A. Agent:
SARS-CoV-2, a novel coronavirus identified in 2019.

B. Clinical Description:
Mild to severe respiratory illness with symptoms of fever, cough, and shortness of breath. Refer to CDC for further details on clinical course.

C. Reservoirs:
Likely from an animal source, but still under investigation.

D. Mode(s) of Transmission:
Mainly person-to-person.

E. Incubation Period:
Symptoms may appear 2-14 days after exposure.

F. Period of Communicability:
The transmission of SARS-CoV-2 is greater the longer an infected person is close to someone, the closer the persons are to each other, and when more than one infected person is around others. It also matters if the infected person is coughing, sneezing, singing, shouting, or doing anything else that could expel more respiratory droplets into the air. Available data indicate that it is much more common for SARS-CoV-2 to spread through close contact with a person who has COVID-19 than through other means of transmission. [CDC, October 5, 2020]

For investigation purposes:
- Symptomatic persons are considered infectious from 2 days prior to onset of any symptoms until the following conditions are met:
  a. 10 days* have passed since symptoms first appeared and
  b. 72 hours have passed since the fever has resolved (without use of antipyretic medications) and
  c. There has been a significant improvement in symptoms.
- Persons never experiencing symptoms will be considered infectious 2 days prior to until 10 days after the collection date of the first positive specimen**.
- Asymptomatic persons testing positive, whose symptoms resolved within the last 90 days and who were determined to no longer be infectious by the above criteria, will not be considered infectious based on their history of COVID-19.

* Persons admitted to ICU or who are severely immunocompromised are considered infectious for a minimum of 20 days.

**If symptoms appear after the positive specimen collection date, the onset date of symptoms should be used to determine the period of communicability.

G. Vaccine:
- ACIP Vaccine recommendations: https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/covid-19.html
H. Variants:
Viruses constantly change through mutation, and new variants of a virus are expected to occur over time. Multiple variants of SARS-CoV-2 have been documented throughout the pandemic. For up-to-date information: [www.cdc.gov/coronavirus/2019-ncov/cases-updates/variant-surveillance/variant-info.html](http://www.cdc.gov/coronavirus/2019-ncov/cases-updates/variant-surveillance/variant-info.html)

- Concerns for variants include:
  - Outbreaks with high attack rate in an outbreak or more cases than expected,
  - Testing with a drop in the S target (e.g. ORF1ab target detected, N target detected, and S target not detected) or marked differences in real-time RT PCR viral target(s) cycle threshold values
  - Breakthrough infection after vaccinations.
  - Concerning cases for possible variances due to clinical history.
  - Cases who received Monoclonal Antibody but failed to improve.
  - Cases with recent international travel (14 days from test date) or who is a close contact to someone who had a recent international travel.

I. Susceptibility and Resistance:
Current evidence suggests that reinfection is uncommon in the 90 days after natural infection and some studies have shown immunity to natural disease to persist for six months or more. Based on what was seen in the clinical trials and in antibody response studies, KDHE is assuming that the risk of infection after vaccine is comparable to after natural infection. Additional research and evaluation is ongoing.

For contact investigation purposes, immunity may be presumed for an asymptomatic person, during the 6 months after:

- Recovery* from a COVID-19 infection that was diagnosed by molecular or antigen testing, or
- A person is considered fully vaccinated which is >2 weeks after receipt of the last dose of an acceptable COVID-19 vaccination series that has been documented.

* Recovery date will be based on EPITRAX documentation of the date that symptoms resolved, or the date isolation measures were discontinued for asymptomatic cases. If neither of those dates are available, the date of the positive laboratory test result will be used.

Presumed immunity should not alter the need for the isolation of symptomatic (or recently SARS-CoV-2 positive) persons or to alter the use NPI’s to prevent disease, but presumed immunity may alter quarantine requirements. Refer to [Quarantine Restrictions](#) for further guidance.

**IMPORTANT:** Even with presumed immunity, persons with recently positive diagnostic tests for SARs-COV-2 or who develop COVID-19 like symptoms must still be evaluated for the possibility of reinfection. The need for a complete case and contact investigation will depend upon the review of available information (exposure to COVID-19, medical history, time from and type of initial test or vaccination, alternative diagnosis, and current symptoms).

J. Treatment:
For information on investigational and developing therapies refer to [CDC](#).
NOTIFICATION TO PUBLIC HEALTH AUTHORITIES

Use the online portal or LabXchange to notify the Kansas Department of Health and Environment (KDHE) of all viral antigen or molecular testing. For matters of urgent concern, outbreaks or high-risk settings, contact the EpiHotline at 1-877-427-7317.

Kansas Department of Health and Environment (KDHE)
Bureau of Epidemiology and Public Health Informatics (BEPHI)
COVID Disease Reporting: https://diseasereporting.kdhe.ks.gov/
Phone: 1-877-427-7317

All mandated reporters are instructed to review and follow the requirements outlined by KDHE at www.kdheks.gov/epi/covid_reporting.htm

The following topics are addressed in relation to when and how to report:
- Suspicion of disease
- Deaths due to COVID-19
- Screening test results
- Diagnostic testing
- Reference and In-Hospital Reporting Requirements
- Who is a mandated reporter?

ADDITIONAL COMMUNICATIONS IN PUBLIC HEALTH

1. KDHE-BEPHI will receive notifications of all testing results for SARs-CoV-2, except for antibody results that do not need to be reported.
   - Required data that must be reported by laboratories is described online.
   - Most reports are received via electronic laboratory reports (ELRs), including LabXchange.
   - Laboratories and point of care testing sites, including physicians’ offices, who are not set up to report by ELR will report laboratory results through diseasereporting.kdhe ks.gov/ or LabXchange.
     - Questions on bulk reporting of laboratory results though the disease portal should be directed to KDHE.epitraxadmin@ks.gov.
   - Those facilities that do not perform testing do not need to report results to KDHE; point of care (POC) or PCR testing should be reported by the laboratory conducting the SARS-CoV-2 test. All required data, as listed in the online document, must be included in the report.

2. Reports will be entered in EpiTrax and assigned to a local public health agency based on the case-patient’s address listed on the laboratory report, or the address of the diagnosing facility when patient address is not available.
   - For patients with out-of-state addresses treated at a Kansas facility, KDHE will classify the CMR as “Out-of-State” and transfer the case out-of-state.
   - The local public health agency with jurisdiction over the diagnosing facility must notify KDHE-BEPHI if access is needed to an out-of-state case.

3. To better coordinate with local partners, the local public health agency will:
   - Monitor EpiTrax for CMRs not accepted and assigned to an investigator, by reviewing for the following event types - those “Assigned to LHD,” “Reopened by state” and “Reopened by manager”
   - Form partnerships with local providers to acquire any missing
demographics and patient contact information.

- Reassign CMRs to another public health jurisdiction when it is required but using the following steps:
  ✓ Enter the new address for the case into the demographics tab.
  ✓ Remove the old address as the “Address at Diagnosis,” if needed.
  ✓ Choose the new address as the “Address of Diagnosis.”
  ✓ Use “Route to LHD” feature under Workflow Options to assign the CMR to the new health department jurisdiction.

**IMPORTANT**: If the address of diagnosis is not updated, the case will remain associated to the original jurisdiction in case counts, even if the case has been re-routed to a different investigating jurisdiction.

- If a lab report is not received by KDHE, but is received by the local public health agency, the local investigator should attach the laboratory report to the record in EPITRAX and notify kdhe.epitraxadmin@ks.gov requesting lab be entered into the system and the case classified.

- When a COVID-19 contact becomes symptomatic but is not tested, local public health will need to promote the contact to a case in EPITRAX and record the “yes” to exposure to COVID-19 case and “yes” to any symptoms on the EPITRAX investigation form for the case to be classified as “Probable” case.

PUBLIC COMMUNICATIONS

1) Do not refer the public or patients to the Epidemiology Hotline; it will delay the epidemiologists’ ability to assist healthcare providers and local public health.

2) For persons with general questions, refer to KDHE’s COVID-19 Resource Center online (www.kdheks.gov/coronavirus), by email (COVID-19@ks.gov), or by phone (1-866-534-3463 or 1-866-KDHEINF).

3) To coordinate press releases between local Public Information Officers and KDHE Office of Communications, call 785-296-1317 or 785-296-5795.
STANDARD CASE INVESTIGATION AND CONTROL METHODS

### Person Under Investigation Information (PUI)

1) If a symptomatic patient or a close contact of a COVID-19 case is being tested for COVID-19, they should be isolated with the assumption that they are infectious.
   - For **non-hospitalized** patients, local public health should coordinate with the provider or contact the PUI to ensure isolation requirements are understood.
     - The PUI must stay at home until results become available or until no longer considered infectious as described online in COVID-19 Isolation & Quarantine documents and the disease overview.
     - Household contacts of PUIs should be encouraged to stay home if lab results are expected to take longer than 72-hours, the PUI has a high risk of COVID-19, or at the discretion of the local health department.
     - Quarantine of non-household contacts is usually not required until positive results are received (refer to contact investigation section).

2) When test results are expected, but not received within 72 hours of submission:
   - Not all specimens are being tested by KHEL, even those with a KDHE COVID-19 Testing Form may have been sent to a commercial laboratory.
   - With a delay in results, verify where the specimen was shipped for testing by contacting the original submitter.
   - Work restrictions or quarantine measures if not yet enforced should be instituted if test results cannot be obtained for the PUI.

### Case Investigation

1) Contact the medical provider who ordered the testing that supports a COVID-19 or who is attending to the patient and obtain information to complete the COVID-19 Investigation Form (use paper form or direct entry into EpiTrax Investigation Tab).
   - Current patient status.
   - Hospitalization history: include dates, intensive care stay (ICU), ventilation or intubation use, extracorporeal membrane oxygenation (ECMO) use.
   - Clinical information on symptoms and onset date.
   - Pre-existing medical conditions or immunocompromised.
   - Respiratory diagnostic testing results.
   - Occupation of patient, note if patient is a health care worker or first responder.
   - Report associations to a learning institution, nursing home, residential care for those with disabilities, psychiatric treatment facility, group home, board and care home, homeless shelter, or any other congregate setting.
     - If the patient is known to be a resident of a facility with limited exposures, a shortened version of the COVID-19 Investigation Form can be used.
   - Vaccination status. **[Record information on vaccine doses on Clinical Tab.]**
     ***Important*** persons with current COVID-19 vaccinations should still be investigated to examine the possibility of vaccine break-through disease.

2) Examine symptom onset to determine next steps:
• Symptomatic or recently symptomatic within the last 14 days of the current diagnosis, continue investigation as normal.

• Recurrent symptoms after previous diagnosis with COVID-19:
  – > 90 days from COVID-19 recovery, continue with a new investigation.
  – < 90 days from the previous COVID-19 recovery, the possibility of reinfection and the need for a complete case and contact investigation will depend upon the review of available information (medical history, time from and type of initial test, alternative diagnosis, and current symptoms).

• Asymptomatic currently but reliable evidence provided of COVID-19 symptoms that resolved greater than 14 days prior to being diagnosed.
  – Report the information needed to classify and close the case;
  – If resources allow, follow-up if it is within 28 days of symptom resolution to ensure close contacts did not become symptomatic.
  – If evidence is not dependable that symptoms were COVID-19 related, treat person as an asymptomatic person, never experiencing symptoms.

• Asymptomatic and never experienced symptoms, continue investigation.

3) Without a known source of exposure, interview the case or proxy about activities 14 days prior to onset (or prior to positive collection date without symptoms). Use the COVID-19 Exposure Time Line to assist in your interview. Especially, note:

• Recent travel to areas of concern
• Exposures to household members, close contacts, or recent ill travelers.
• Case’s occupation and association to any congregate living situations.

4) Establish an infectious period for the case.

• For currently or recently symptomatic individuals, consider the 2 days before symptom onset (day 0) until date isolation precautions are discontinued.

• For asymptomatic individuals who never experienced symptoms,
  – If a specific day of exposure cannot be determined, use 2 days prior to positive specimen collection (day 0) until date isolation precautions are discontinued.
  – If a discrete day of exposure for the asymptomatic COVID person is known, consider the 2 days after the day of exposure (day 0) until date isolation precautions are discontinued.

Note: If onset does occur later after lab collection, use onset date as day 0.

5) Continue the interview with calculated infectious period and COVID-19 Exposure Time Line to examine patient’s occupations and activities while infectious.

• Use Guide When Interviewing Confirmed Case or PUI to Determine Contacts to assist your investigation.
6) Investigate epi-links among cases (clusters, household, co-workers, etc).
   - Unreported, highly suspected patients or exposed symptomatic contacts, should be investigated as a case and reported to KDHE-BEPHI.
   - Link “orphaned contacts” to previous cases as identified.

7) Follow-up as instructed in Case Management and ensure restrictions or isolation measures are in place.

Contact Investigation

1) Review the COVID-19 Exposure Time Line to determine contacts.

2) **Close contacts are those exposed to a person with COVID-19, even if that person didn’t have symptoms, if any of the following situation happened:**
   - Living with the person or stayed overnight for at least one night in a house with the person; or
   - Within 6 feet of the person for 10 consecutive minutes or more; or
   - Direct contact with the infectious secretions of the person (for example, coughed or sneezed on; kissed; contact with a dirty tissue; shared a drinking glass, food, towels, or other personal items).

The chance of spreading the virus is greater the longer an infected person or persons are close to someone. It also matters if the infected person is coughing, sneezing, singing, shouting, or doing anything else that produces more respiratory droplets that contain virus or if there are exposures to more than one infected person. Under these higher risk situations, public health may want to consider a close contact someone who has been within 6 feet of an infectious person or persons for 10 cumulative minutes or more in a 24-hour period.

   - Situations that may increase the risk of transmission include practicing or playing contact sports, meaning sports involving more than occasional and fleeting contact, such as football, basketball, rugby, hockey, soccer, lacrosse, wrestling, boxing, and martial arts, with a COVID-19 case. Other sports may be included if social distancing, mask use, and other mitigation measures are not followed.

The final decision on what constitutes close contact is made at the discretion of public health.

3) Use the Contact Investigation Notes Form to create contact listings.

4) **Contacts of a COVID-19 case within healthcare facilities:**
   - Refer to CDC guidance in Potential Exposure at Work.
   - Coordinate with healthcare facility’s Infection Prevention and Control Practitioner (IP) to ensure exposed healthcare personnel (HCP) are identified, assessed, and work restrictions enforced if needed.
   - HCP contacts that are allowed modified quarantine while at work will need to quarantine outside of work.
   - Local public health must ensure adequate follow-up and reporting of data.
5) **Contacts of a COVID-19 case being managed by local public health:**

- Create **listings** of all potential close contacts: include date of exposure, phone numbers, email addresses, and county of residence of all potential contacts.
- Contact information for those persons who are live outside your jurisdiction can be shared with public health agencies that are responsible for jurisdiction of that contact’s residence. Do not share contact listings with other third parties.
- Contacts who are allowed modified restrictions at locations of occupation that are outside of their residential county must still follow quarantine measures put forth by their jurisdiction of residence when at home and not working.
- Interview potential close contacts.
  - Note any symptoms COVID-19.
  - Verify exposure details, date of first and last exposure, and if the person meets the definition of **close contact**.

6) If the contact’s exposure was within the last 14 days:

- Institute control measures as indicated under **Isolation...Restrictions**, and
- Follow-up with close contacts as recommended under **Contact Management**.

7) If the contact’s last exposure was not within the last 14 days and contact never developed symptoms, no contact management is required for that contact.

8) Educate on avoiding future exposures with **Caring for COVID-19 Infected People & Preventing Transmission in Homes (PDF)**.

### Isolation Restrictions

Non-hospitalized persons with a suspected or confirmed case of COVID-19, including suspected or confirmed vaccine breakthrough or reinfections with COVID-19, should remain in isolation until:

- At least 10 days have passed since symptoms first appeared; **AND**,
- At least 3 days (72 hours) have passed since recovery which is defined as resolution of fever without the use of antipyretic medications and improvement in symptoms.

**CASES**

Must be isolated for a minimum of 10 days after onset and can be released after afebrile and feeling well (without fever-reducing medication) for at least 72 hours, whichever is longer.

**Onset date**

Minimum 10 days

**Case released from isolation**

+ Afebrile and feeling well for at least 72 hours

**CASES**

Must be isolated for a minimum of 20 days after onset and can be released after afebrile and feeling well (without fever-reducing medication) for at least 72 hours, whichever is longer.

**Onset date**

Minimum 20 days

**Case released from isolation**

+ Afebrile and feeling well for at least 72 hours

Persons who require ICU care or who are severely immunocompromised should remain in isolation for a minimum of 20 days after onset and can be released after afebrile and feeling well (without fever-reducing medication) for at least 72 hours.

If a case refuses to stay in isolation, a legal order may be needed. The Community Disease Containment SOG is available at [www.kdheks.gov/cphp/operating_guides.htm](http://www.kdheks.gov/cphp/operating_guides.htm).
1) For hospitalized patients:
   - Hospitalized patients should be handled with Standard and Transmission-Based Precautions in accordance with CDC guidance.
     - HCP who enter the room with a known or suspected COVID-19 patient should use a respirator (or facemask if a respirator is not available), gown, gloves, and eye protection.
     - Cloth face coverings are NOT PPE and should not be worn for the care of patients with known or suspected COVID-19.
   - To discontinue Transmission-Based Precautions for hospitalized patients, refer to Discontinuing Transmission-Based Precautions for patients with COVID-19.
     - The decision to discontinue transmission-based precautions should be made on a case-by-case basis in consultation with clinicians, infection prevention specialists, and public health officials.

2) For patients not requiring hospitalization:
   - Refer to Coronavirus Disease 2019 (COVID-19 Caring for Patients at Home):
     - Considerations for care at home include whether:
       - Patient is stable enough to receive care at home.
       - Appropriate caregivers are available at home.
       - The caregiver, when possible, should not be someone who is at higher risk for severe illness from COVID-19.
       - A separate bedroom is available where the patient can recover without sharing immediate space with others.
       - Resources for access to food and other necessities are available.
       - The patient and other household members are capable of adhering to precautions recommended as part of home care or isolation.
   - If the patient is unable to meet the above criteria, the local public health agency will need to identify appropriate housing for infectious persons.

Quarantine Restrictions

Quarantine is used to keep someone who might have been exposed to COVID-19 away from others during the person’s potential incubation period. An individual is potentially infectious 2 days prior to symptom onset, and symptoms may appear at any time 2 days to 14 days after exposure to the virus.

The recommended quarantine is a period of 14 days, but there are options to shorten and modify quarantine based on local circumstances and resources. Local public health authorities may modify or shorten any quarantine based on type of exposure, the population that may be affected by future exposures, and availability of testing.

The following sections consider:
   - Presumed Immunity after Previous Infection
   - Presumed Immunity after Vaccine
   - Recommended Quarantine Overview
   - Shortened Quarantine Options and Considerations
   - Modified Quarantine After Exposure to a COVID-19 Case
   - Modified Quarantine for Travel Related Exposures
   - Cohorts and Modified Quarantine
   - Modifying Quarantine: Things to Consider

Version 03/2021

COVID-19, Page 16
**Quarantine exemption based on presumed immunity after viral testing:**  
Close contacts with evidence of previous infection supported by a positive PCR or antigen test may be exempt from quarantine after re-exposure if they remain asymptomatic. This is determined by the local health officer based on a possible 6-month period of presumed immunity. If an investigation was done documenting the date that symptoms resolved, or the date isolation measures were discontinued for asymptomatic patients, the 6-month period can start from that end date. If those dates are not available, then the period will start from the date of the positive laboratory test. A serology or antibody test may not be substituted for a laboratory report of a viral diagnostic test. If the contact becomes symptomatic during the 90 days after recovery, testing via an antigen test is preferred. The sample for the antigen test should be taken within the first 5 to 7 days from symptom onset (depending on the EUA for the test being used).

**Quarantine exemption based on presumed immunity after COVID-19 vaccine:**  
Two weeks after completion of a COVID-19 vaccination series, persons may be** exempt from quarantine after exposure or re-exposure to COVID-19 if all the following criteria are met:

- Person is fully vaccinated* with ≥2 weeks following last required dose of the vaccine series,
- Exposure was within 6 months (180 days) of receiving last dose in the series,
- Have remained asymptomatic since the current COVID-19 exposure

* Note: Day 0 is the day the last vaccine dose of the series is received; day 14 is the first day the person is considered fully vaccinated.

** As an exception to the above guidance, vaccinated inpatients and residents in healthcare settings should continue to quarantine following an exposure to someone with suspected or confirmed COVID-19; outpatients should be cared for using appropriate transmission-based precautions. This exception is due to the unknown vaccine effectiveness in this population, the higher risk of severe disease and death, and challenges with social distancing in healthcare settings.

Until more information becomes available on how much vaccines reduce transmission and how long protection lasts, vaccinated persons should still follow all current guidance to protect themselves and others.

If a person becomes symptomatic after a vaccine, they should be tested via PCR or antigen test. Receiving the vaccine does not affect the results of a PCR or antigen test, only an antibody test. If they had natural disease recently, meaning they had COVID-19 disease in the last few months, an antigen test within the first 5 to 7 days from symptom onset (depending on the EUA for the test they are using) is preferred.

**Recommended Quarantine**  
KDHE recommends quarantine until 14 days after last date of exposure to COVID-19. The last date of exposure is considered day 0; the last date of quarantine is day 14.

The date of last exposure will depend upon the type of interactions a person has with a COVID-19 case. Household contacts are assumed to have continuous exposure.
Shortened Quarantine Options
KDHE recommends a quarantine period of 14 days. However, based on local circumstances and resources, the following options are acceptable.

- Quarantine can end after Day 10 without testing and if no symptoms have been reported during daily monitoring.
- When diagnostic testing resources are sufficient and available, then quarantine can end after Day 7 if a specimen collected after Day 5 tests negative by PCR and if no symptoms were reported during daily monitoring.

Persons can discontinue quarantine at these times (shortened quarantine) only if:

- Persons are not residents of long-term care or assisted living or incarcerated.
- No clinical evidence or diagnostic testing evidence of COVID-19 is elicited by daily symptom monitoring (either self-monitored or active monitoring) during the entirety of quarantine up to the time at which quarantine is discontinued; and,
- Daily symptom monitoring continues through quarantine Day 14; and,
- Persons are counseled regarding the need to adhere through quarantine Day 14 to all recommended non-pharmaceutical interventions (NPIs) and advised that if any symptoms develop, they should immediately self-isolate and contact the local public health authority or their healthcare provider.
- Persons are not close contacts of cases infected with variants of SARS-CoV-2 virus that are known to be more infectious.

Modified Quarantine After Exposure to a COVID-19 Case
Most workers have a mandatory quarantine if determined by local public health to have been exposed to an infectious COVID-19 person.

For healthcare, public health, and law enforcement workers exposed to an infectious COVID-19 case, quarantine is still highly recommended. If these workers are critical to the response, with the approval of the local health officer and employer, it is acceptable that the quarantine be modified.

In certain situations, other critical infrastructure employees may be considered for
modified quarantine, for example beef, pork, and poultry processing. Workers that have not had the training offered to healthcare, public health, and law enforcement may represent a higher risk of exposing others to COVID-19 if they develop symptoms. This risk must be scrutinized when deciding to modify quarantine.

**Modified Quarantine After Travel Related Exposures**

The travel associated quarantine may not be mandatory for those who work in critical infrastructure sectors needed for continuity of operations required to sustain normal day-to-day services vital to the economy and way of life. Public health, hospitals, clinics, pharmaceutical, food supply, and first responders are always considered. Other critical infrastructure sectors are considered on a case-by-case basis based on local assessments. See below for modifying quarantine.

**Cohorts and modified quarantine:**

When situations occur where a well-defined group has been exposed together as a cohort that can be quarantined together in a facility while causing no risk to others, modifications to quarantine may occur. This type of quarantine can be used in a school environment: Guidance for Modified Quarantine in K-12 Schools

**Modifying Quarantine**

Any modification to quarantine (travel or after exposure to COVID-19) will always depend upon the situation and it may be waived following an assessment by the employer and public health:

1. Are the exposed person’s services critical to the response currently?
2. Is the population that the person serves or works with at higher risk of COVID-19 complications? If they are, can the person be reassigned to populations at lower risk of complications from COVID-19 or can special processes be put in place to lower the risk to clients and co-workers at risk of higher complications?
3. Can the person adhere to procedures set forth by the facility to ensure their health is appropriately monitored and immediately stop work if symptoms develop?

If the person is critical to the response and can work safely, not placing clients and other workers at risk, then the following should be applied for modified quarantine:

1. Exposed person should monitor for signs and symptoms of COVID-19, including checking for a fever of 100°F or higher at least twice per day and monitoring for lower respiratory symptoms including cough or shortness of breath. A symptoms log can be used for documentation.
2. If symptoms develop during the 14-day quarantine period, persons should stop work immediately and notify their employer and local public health.

For additional guidance, the latest quarantine recommendations are posted on-line refer to the following documents:

- Public Health Management of Exposed Persons
- Releasing from Isolation and Quarantine Graphic
- Frequently Asked Questions for guidance.
Case Management

1) Institute isolation measures as recommended by most current guidance.
   - For hospitalized patients: Standard and Transmission-Based Precautions
   - For non-hospitalized patients, ensure proper care and resources are available.
     - Caring for COVID-19 Patients at Home
     - Pets at Home: Managing COVID-19 Pet Owners in Home Isolation
   - For asymptomatic patients that test positive – the date of specimen collection will be considered the “onset date” for isolation measures.

2) Coordinate activities related to isolation with outside facilities.
   - Work with medical providers to track patients in isolation.
   - Notify medical providers of suspect cases who may need medical treatment.

3) Submit data requested on the COVID-19 Investigation Form as soon as possible to assist with the descriptive epidemiology of this disease in Kansas.

4) Cases should be monitored in EpiTrax until isolation period is over.
   - Report on any changes in patient status: discharge, death, recovery date
   - Date isolation ends must be 3 days after date of symptom resolution and 10 days after onset date as recorded on the EpiTrax Investigation tab.
     - Asymptomatic persons who never developed symptoms do not require a recorded onset date. Mark as “Asymptomatic” on the investigation tab.
     - Date of symptom resolution in asymptomatic cases can be consider 10 days after specimen collection which is the date isolation should end.
   - The date isolation ended can be recorded in LHD investigation completed date field on the EpiTrax Administrative tab.

Contact Management

1) Contact tracing will be conducted for close contacts of laboratory-confirmed or probable COVID-19 persons.
   - Local public health should make initial contact immediately upon notification.
     - Assess whether contact is symptomatic.
     - If contact is not symptomatic, determine contacts’ preferred monitoring method (text, email, phone call) and establish regular communication plan.
       - Prioritize the monitoring of contacts living, working, or visiting congregate living facilities; those working in high density workplaces; and those visiting or working in other settings or at events that have a high risk of extensive transmission.
       - If resources allow, contact should be made at least two days per week for 14 days since last exposure.
       - Household contacts may not require active monitoring by public health but should always self-monitor and report any symptoms to public health.
   - Use and modify sample scripts to assist with introductory call and monitoring.
2) All close contacts will be asked to monitor themselves daily for symptoms and contact the local health department or KDHE if symptoms develop.
   - **Symptoms Monitoring Log** may be used to assist with medium and low risk individuals who are self-monitoring.
   - For contacts that report they are experiencing symptoms.
     - If medical evaluation is needed, refer to appropriate medical care.
       - Pre-notification should occur to the receiving health care facility and EMS, if EMS transport indicated, and with all recommended **infection control precautions** in place.
       - Testing for COVID-19 should be considered as part the evaluation if the patient meets the most current recommendations for testing.
     - If symptoms are mild and medical care or testing is not needed, the person will remain in home **isolation** until no longer considered **infectious**.
       - In some cases, local health departments may be required to assist with specimen collection for COVID-19 testing of patients in home isolation that do not need medical care but are considered part of a potential cluster or outbreak investigation for the community.
       - Even without testing, if the **clinical criteria** are met for a close contact of a positive COVID-19 patient, the contact is promoted to a morbidity event in EpiTrax and is considered a probable case.
       - Recording “Yes” to exposure to a COVID-19 case and “Yes” to any symptoms on the EPITRAX investigation form results in the case being classified as a “Probable” case.
     - If a contact who was promoted to a probable case based on symptoms and epi-link is determined to be negative by appropriate viral testing (either antigen testing collected in the appropriate time frame or any molecular testing), the promoted case should be demoted back to a contact and quarantine continued.
     - **Case** and **contact** investigations and any necessary **control measures** will be carried out for all symptomatic contacts promoted to probable cases.

3) When quarantine measures are instituted:
   - Ensure adequate quarantine measures are in place.
   - Ensure proper care and resources are available to those in quarantine.
   - For quarantine and isolation orders, refer to **Annex C** of the Community Disease Containment SOG at [www.kdheks.gov/cphp/operating_guides.htm](http://www.kdheks.gov/cphp/operating_guides.htm).
**Education**

1) The following are non-pharmaceutical interventions (NPIs) should be addressed to mitigate the spread of disease especially when someone is being allowed a modified or shortened quarantine:
   - Correct and consistent mask use,
   - Social distancing,
   - Hand and cough hygiene,
   - Environmental cleaning and disinfection,
   - Avoiding crowds,
   - Ensuring adequate indoor ventilation, and
   - Self-monitoring for symptoms of COVID-19 illness.

2) For those being isolated or quarantined, instruct on the necessary NPIs and Restrictions.
   - Isolation and Quarantine – Frequently Asked Questions
   - Caring for COVID-19 Infected People & Preventing Transmission in Homes
   - KDHE Tips for Home Isolation

3) For those in quarantine, counsel contacts on NPIs and to watch for signs or symptoms within 14 days after their last exposure to a symptomatic COVID-19 case and how to seek medical attention only if needed.
   - KDHE Quarantine Guidelines
   - COVID Symptom Monitoring Log

4) Utilize templates to inform employees, employers, travelers and potential contacts of exposures and risks.

5) Additional resources:
   - Refer to frequently asked questions:
DATA MANAGEMENT AND REPORTING TO THE KDHE

A. Accept the case assigned to the LHD and record the date the LHD investigation was started on the [Administrative] tab.

B. Organize and collect data.
   - Forms provided to assist the investigator include:

<table>
<thead>
<tr>
<th>Forms and Worksheets for Reporting and Investigation</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>COVID-19 Exposure Time Line</td>
<td>Used to record case-patient’s activities during exposure and infectious period.</td>
</tr>
<tr>
<td>Contact Investigation Notes Form</td>
<td>Used to record and manage contacts of a case patient.</td>
</tr>
<tr>
<td>COVID-19 Investigation Form</td>
<td>Used by local investigator to collect data that will be reported in the Kansas EpiTrax System.</td>
</tr>
<tr>
<td>COVID-19 Recurrent Presentation Form</td>
<td>Electronic form manually loaded into a EpiTrax CMR when symptoms reoccur ≥30 days after symptoms initially resolved.</td>
</tr>
</tbody>
</table>

- Investigators can collect and enter all required information directly into EpiTrax [Investigation], [Clinical], [Demographics], [Contact] tabs without using the paper forms.
- During outbreak investigations, refer to guidance from a KDHE epidemiologist for appropriate collection tools.

C. Report data collected during the investigation into the EpiTrax system
   - Verify that all data requested in Step 1 and on the COVID-2019 Investigation Form has been recorded on an appropriate EpiTrax [tab], or that actions are completed for a case lost to follow-up as outlined below.
   - Some data that cannot be reported on an EpiTrax [tab] may need to be recorded in [Notes] or scanned and attached to the record.
   - Refer to the following page for managing contacts.

D. If a case is lost to follow-up, after the appropriate attempts:
   - Indicate ‘lost to follow-up’ on the [Administration] tab with the number of attempts to contact the case recorded.
   - Record at least the information that was collected from the medical records.
   - Record a reason for ‘lost to follow-up’ in [Notes].

E. After the case investigation and isolation period for the case-patient has ended, record the date in the “LHD investigation completed” field located on the [Administrative] tab.
   - Record the date even if the local investigator’s Contact Management for the contact is not “Complete”.

F. Once the entire investigation is completed, the LHD investigator will click the “Complete” button on the [Administrative] tab. This will trigger an alert to the LHD Administrator, so they can review the case before sending to the state.
   - The LHD Administrator will then “Approve” or “Reject” the CMR.
   - Once a case is “Approved” by the LHD Administrator, BEPHI staff will review the case to ensure completion before closing the case.
Managing Contacts in EpiTrax

- Associating Orphan Contacts
- Contact Associated to Multiple cases
- Creating a Contact
- Entering Information About Contacts
- Promoting / Demoting a Contact

Associating “Orphan Contacts”

Orphan contacts are contacts who were “removed” from a previous parent-patient or are new cases who were identified as being exposed to a previously reported case-patient but never associated to the “older” case in EPITRAX as a contact. These “orphan” cases/contacts can be associated to a parent-patient by:

1. Open the CMR for the case that caused the exposure, use “Edit” mode (i.e. open the old case or case with earliest onset).
2. Click on the “Contacts” tab.
3. Enter the CMR for the case (newer case) or orphan contact that you want to associate to this opened case that was the source of exposure in the “Link to an orphan contact…” field.
4. Save and Continue.

What to do when a contact has been associated to more than one case?
- Associate the contact with the person causing the most recent exposure.
- If the contact is already associated to an older case but has not completed the quarantine period, remove the contact from the current parent patient (older case) and assign the contact to the newer case.
- If a contact has been associated to an older case and has completed that quarantine period, create a new contact record. One person can have multiple contact records but be certain the previous contact record is marked “Complete” in the disposition field.

Creating a Contact

1. Click on the “Contacts” tab.
2. Click + New
3. Enter person’s Last name and First name, DOB (if known), and phone number.
4. Click + Add
5. Select appropriate choice for contact type (usually going to be ‘other,’ ‘household ’or ‘healthcare/healthcare worker’).
6. For disposition, leave blank until quarantine over – then mark “Completed”
7. Enter disposition date as last date patient was exposed to COVID-19.
8. Save and Continue.
**Entering Information on Contacts on Separate Contact Form**

1. Add and save the contact on the case’s (parent patient’s) “Contacts” tab.
2. After the contact is saved, click ‘Options’ and ‘Edit Event’ beside the contact on the listing to enter any further details on the contact.

**Promoting a Symptomatic Contact to a Case**

If a contact becomes symptomatic and meets the “Probable Case Definition”, they should be promoted to a case and classified as “Probable”.

1. Open the contact’s record in edit mode.
2. Click ‘Options’ and ‘Promote’.
3. Click ‘OK’ to the question “Promote this event to a morbidity event?”

If a promoted contact is later determined not to meet the “Probable Case Definition” (i.e. test negative for COVID-19 or diagnosed with another cause for their illness), the record can be “demoted” using the same process.

**Notice:** Contacts, not participating in workflow, will be assigned to the Investigating Jurisdiction of the parent patient after promotion. If the contact is promoted to a case needing to be investigated by a different county, the “Workflow Options” must be used to assign the contact to the appropriate Investigating Jurisdiction prior to or after promotion.
Identifying Cases in EpiTrax Needing Investigation

The following guidance uses the “Advanced Search Feature” in EpiTrax to locate those cases that have been newly assigned to the local health department.

For new cases that have never been accepted by the local agency. The following choices can be made:

- County* = your county
- Condition = Coronavirus Disease 2019 (COVID-19)
- Event type = morbidity
- Investigation status = assigned to LHD
- State case status = confirmed and probable

To identify newly assigned cases with specimens collected the last 14-days include a lab collected date range with the selections listed above.

Avoid using the “Event date range”.

- County* = your county
- Condition = Coronavirus Disease 2019 (COVID-19)
- Event type = morbidity
- Investigation status = assigned to LHD
- Lab collected date range = 14 days prior to current day
- State case status = confirmed and probable

* For cases, assigned to your jurisdiction that do not have a county in the address of diagnosis, use “Investigating Agency” in place of “County”.
Managing Potential Reinfecions in EpiTrax

Using the current CSTE standardized surveillance case definition and national notification for 2019 novel coronavirus disease (COVID-19), there is not enough virologic data to indicate when to classify a possible reinfection as a new case of COVID-19.

CDC does have a protocol for investigation of suspected SARS-CoV reinfection in the United States. To be considered for part of the study population requires paired respiratory specimens from each infection episodes.

At this time, we are not creating new cases in EPITRAX for persons suspected of having a reinfection; but, when an individual is suspected of reinfection and a positive viral antigen test for SARS-CoV-2 was collected after COVID-19 symptoms reappeared, a COVID-19 Reinfection Form will be added to the initial case in EPITRAX to allow the investigator to record new information about the current disease episode.

The investigator will need to select the COVID-19 Reinfection Form to enter the most recent findings. The data previously reported on the 2019-nCoV form during the original infection should not be erased or deleted.
OUTBREAK DEFINITIONS

Healthcare, Long-Term Care Facilities, and Long-Term Acute Care Care Hospitals

Outbreak Definition
- ≥2 cases of COVID-19 in a patient/resident, 7 or more days’ after admission for a non-COVID condition, with epi-linkage†;
- ≥2 cases of COVID-19 in HCP* or other staff with epi-linkage‡ who do not share a household and are not listed as a close contact of each other outside of the workplace during standard case investigation or contact tracing.

† If a case is transferred from one facility to another facility and develops COVID-19 less than 7 days later, the case is associated to the first facility’s potential outbreak. If the case becomes the source of an outbreak at the second facility, a notation is made in the first facility’s outbreak record of the secondary outbreak at the second facility. This notation is made on the Administration tab’s description field of the outbreak record.

‡ Epi-linkage among HCP: Defined as having the potential to be within 6 feet for 10 minutes or more while working in the facility during the 14 days prior to the onset of symptoms. For example, worked on the same unit during the same shift.

Outbreak-Associated Cases
- Individual confirmed and probable cases among patient/resident, HCP or other staff in a healthcare, LTCF or LTAC setting meeting the outbreak definition should be classified as outbreak-associated and included in outbreak case count.
- Any individual confirmed and probable cases resulting from secondary transmission from an outbreak-associated case in a family member or close contact of a patient/resident, HCP or other staff who is not employed by the setting should be classified as outbreak-associated and included in outbreak case count.

Outbreak Resolution
- No new symptomatic/asymptomatic probable or confirmed COVID-19 cases after 28 days (two incubation periods) have passed since the last case’s onset date or specimen collection date.
All Other Settings

Outbreak Definition
• ≥2 COVID-19 cases among people at a setting with onset of illness within a 14-day period, who are epidemiologically linked**, do not share a household, and are not listed as a close contact†† of each other outside of the setting during standard case investigation or contact tracing.

** To the best extent possible, verify that cases were present in the same setting during the same time-period, that the timing fits with likely timing of exposure, and that there is no other more likely source of exposure for identified cases.
†† Defined as being within 6 feet for 10 minutes or more or having direct contact with secretions (e.g. being coughed or sneezed on).

Outbreak-Associated Cases
• Confirmed and probable cases associated with the setting meeting the outbreak definition should be classified as outbreak-associated and included in outbreak case count.
• Any confirmed and probable cases resulting from secondary transmission from an outbreak-associated case in a family member or close contact of the case who is not associated with the setting should be classified as outbreak-associated and included in outbreak case count.

Outbreak Resolution
• No new symptomatic/asymptomatic probable or confirmed COVID-19 cases after 28 days (two incubation periods) have passed since the last case’s onset date or specimen collection date.
ADDITIONAL INFORMATION / REFERENCES

A. Quarantine and Isolation: Kansas Community Containment Isolation/ Quarantine Toolbox Section III, Guidelines and Sample Legal Orders
   www.kdheks.gov/cphp/operating_guides.htm

B. KDHE COVID-19 Information:
   • Resource Center: https://www.coronavirus.kdheks.gov/

C. Additional Information (CDC):
   • www.cdc.gov/coronavirus/2019-nCoV/index.html
   • Case and Contact tracing resources:

ATTACHMENTS

To view attachments in the electronic version:
1. Go to <View>; <Show/Hide>; <Navigation Pane>; <Attachments> – OR – Click on the “Paper Clip” icon at the left.
   a. If the icon or attachments are not visible in your browser. Save the document and reopen with Adobe.
2. Double click on the document to open.
RELEASING CASES FROM ISOLATION

MILD to MODERATE CASES

Requiring little to no hospitalization

Must be isolated for a minimum of 10 days after onset of symptoms, or sample collection if asymptomatic, and can be released after afebrile (without fever-reducing medication) for at least 72 hours and improvement in other symptoms, whichever is longer.

Note: Lingering cough, headache, fatigue, and loss of taste or smell may persist for weeks or months and should not delay the end of isolation.

Examples:
- A case that starts to feel well on day 2, and remains afebrile and feeling well for 72 hours, can be released from isolation after day 10 (returning to normal activities on day 11).
- A case that starts to feel well on day 7, and remains afebrile and feeling well for 72 hours, can be released from isolation after day 10 (returning to normal activities on day 11).
- A case that starts to feel well on day 14, and remains afebrile and feeling well for 72 hours, can be released from isolation after day 16 (returning to normal activities on day 17).

SEVERE CASES

Requiring ICU care or are severely immunocompromised

Must be isolated for a minimum of 20 days after onset of symptoms and can be released after afebrile (without fever-reducing medication) for at least 72 hours and improvement in other symptoms, whichever is longer.

Note: Lingering cough, headache, fatigue, and loss of taste or smell may persist for weeks or months and should not delay the end of isolation.

Examples:
- A case that started to feel well on day 12, and remained afebrile and feeling well for 72 hours, can be released from isolation after day 20 (returning to normal activities on day 21).
- A case that started to feel well on day 17, and remained afebrile and feeling well for 72 hours, can be released from isolation after day 20 (returning to normal activities on day 21).
- A case that started to feel well on day 19, and remained afebrile and feeling well for 72 hours, can be released from isolation after day 21 (returning to normal activities on day 22).
HOUSEHOLD CONTACTS

Recommend quarantine for 14 days after the case has been released from home isolation (because exposure is considered ongoing within the house)**.

If you are not able to stay home for 14 additional days and you do not have symptoms, you may leave home earlier:

- After 10 days without testing; or
- After 7 days with a negative PCR test performed on or after day 6 (must remain in quarantine until results are received)

**If you are able to have complete separation from the person in your house with COVID-19 (this means no contact, no time together in the same room, no sharing of any spaces, such as the same bedroom or bathroom), then follow the time frame for non-household contacts.

This means that household contacts may need to remain at home longer than the case.

Examples:
- A case that started to feel well 7 days after onset required isolation until day 10;
  - Household contact that is symptom free must remain quarantined through day 24 (returning to regular activities on day 25) OR
  - Household contact that is symptom free must remain quarantined through day 20 without testing (returning to regular activities on day 21) OR
  - Household contact that is symptom free must remain quarantined through day 17 if a PCR test was performed on or after day 16 and was negative (returning to regular activities on day 18)
- A case that started to feel well 14 days after onset required isolation through day 16;
  - Household contact that is symptom free must remain quarantined through day 30 (returning to regular activities on day 31) OR
  - Household contact that is symptom free must remain quarantined through day 26 without testing (returning to regular activities on day 27) OR
  - Household contact that is symptom free must remain quarantined through day 23 if a PCR test was performed on or after day 22 and was negative (returning to regular activities on day 24)

NON-HOUSEHOLD CONTACTS

Recommend quarantine for 14 days after the date of last exposure with the person infected with COVID-19.

If you are not able to stay home for 14 additional days and you do not have symptoms, you may leave home earlier:

- After 10 days without testing; or
- After 7 days with a negative PCR test performed on or after day 6 (must remain in quarantine until results are received).
Guide When Interviewing Confirmed Case or PUI to Determine Contacts

Use this guide with confirmed cases or PUIs to develop a list of close contacts who may have been exposed during the infectious period.

A. Date of symptom onset (Day 0):

B. Date of infectious period (-2 days before onset):

C. Date of isolation or estimated infectious period end (if never isolated, Day 10 or 3 days after feeling afebrile and well, whichever is long):

Suggested script:
"I'm going to ask you to think back over each day while you've been sick (and even a couple days before you felt sick) to remember what you did each day. This will help us figure out who you may have been around, and who else might get sick. If you're having a hard time remembering, sometimes it is helpful to look back at a calendar, or on your phone for messages sent on each day, or even at your credit card receipts. We are happy to give you time to consult other information to be sure that we understand your activities while you were ill as completely as possible."

For the interviewer:
Elicit all major activities and potential close contacts from the Case for every day from Day 0 (A in the list above) to Date of isolation/Day 10 (B in the list above). Suggested questions for each day are below.

- Where did you wake up this morning?
- Was anyone else staying in the same place as you?
- Where did you have breakfast? Did anyone dine with you?
- Did you go to work or school this day?
  - What is that environment like? Do you sit with other people?
  - What did your work day look like? Any meetings outside your office or normal workplace?
- Where did you eat lunch? Did anyone dine with you?
- Did you run any errands or go shopping?
- Where did you eat dinner? Did anyone dine with you?
- Did you go to the doctor?
- Any other outings or social gatherings?
- For any outings (school/work/doctor/shopping/etc): How did you get there? Did you share a ride with anyone? Did you interact with anyone there for >10 minutes?
- How did you feel this day?

For the interviewer: Record responses to the questions above, make sure to note the names and contact information (phone number, address) if possible re: any close contacts for each day. When you've completed the interview for all days, then proceed.

Now that we've gone through each day.... Think back over the whole time since you've been ill. Have you been to any big social gatherings that we haven't already discussed? Family reunion? Party? Concert? Work Meeting? Conference?
Scripts for Active Monitoring of close contacts of confirmed cases

Introduction script

Hello, I am ____________ with the ______________ Health Department. We are working with the CDC and Kansas Department of Health on an investigation of a case of the COVID-19, and the information we’ve gathered indicates that you’ve possibly been exposed to the COVID-19.

Out of an abundance of caution, we need to monitor your health for the next _____ days [14 days after last possible exposure]. I will be your contact, and I will call you once a day to check-in and review any symptoms you may have.

Do you have any questions for me about that information?

*you cannot tell them case information, nor can you explicitly state where they were exposed as this could lead them to ID the case. Some people will be able to deduce, and if they speculate who and where, just say that you can’t confirm any information

Only ask these during the first call.

I have some initial questions for you if you have a few minutes right now.

What is your occupation and where do you work?

Are you currently pregnant?

I need to get your contact information; can you provide your address and a secondary phone number?

How would you describe your race/ethnicity, and what is your primary language?

*If not English, ask if they will need a translator.

What is your date of birth?

How many adults and children live in your home, including you, and what type of housing is it (apartment, dorm, single-family, etc.)? We need to note the number of children and adults separately.

Do you own the property where you live?

Symptom review/call script

Hi, ____________, this is ____________ with the Health Department. How are you feeling today (well/unwell)?

Let’s run down the symptom checklist:

Fever, what was your highest temperature in the last 24 hours?
Any chills? Sever shivering?
Muscle or body aches? Headache?
Sore throat?
Any cough? Shortness of breath? Difficulty breathing?
Fatigue or malaise (extreme lack of energy, tired)?
Any lack of appetite? Loss of smell or taste disorder?
Diarrhea, or vomiting?

Do you know any other people who are experiencing symptoms like the ones we just discussed?

*Get their names if so.

*If the contact says yes to any symptom, confirm the date and time of onset. Recommend the contact self-isolate immediately and let them know we will be in touch shortly with further instructions for testing and visiting a medical provider. Coordinate with your local leadership on next steps. Call 877-427-7317 for a consult. Those with minor symptoms may be asked to remain home and isolate without testing depending on the current status of your county cases.
Ending the conversation

Do you have any questions or need to tell me anything else?

If you develop symptoms before our next call, please call me immediately and isolate yourself. We will go from there. If you need to call or text me to schedule a time to call next, feel free to do so and I can work with your schedule.