



Case reporting, case investigation, and contact tracing

COVID-19 case definitions are developed based on CSTE and CDC definitions. Current COVID-19 case definitions, outbreak definitions, and associated frequently asked questions can be found here:

<https://docs.google.com/document/d/1e-IWLtzJNCgl2gzPONGvEASGgse85WuBmcToc9ev-74/edit>

All COVID-19 cases are reportable to public health (CDPHE or local public health agencies). Many cases are reported by electronic lab reporting (ELR), some are reported through fax from testing labs. Some cases are detected through case interviews and outbreak investigation. All reported cases are recorded in the Colorado Electronic Disease Reporting System (CEDRS).

Case investigation, contact tracing, and monitoring activities are primarily conducted by local public health agencies (LPHAs) in Colorado. For COVID-19, CDPHE has hired and trained teams to support public health capacity for these activities. LPHAs can “opt in” for regular support from CDPHE case investigation/contact tracing (CI/CT) teams. Emergency and surge support activities are also available on an as needed basis. As CDPHE capacity for support increases, the activities available will increase. LPHAs can engage CDPHE support by emailing chris.grano@state.co.us.

If case investigation and contact tracing activities exceed CDPHE capacity, the jurisdiction will be notified and a prioritization process will be implemented. LPHAs will be asked to provide input on how they want their cases prioritized; otherwise, CDPHE will prioritize case and contact investigation based on risk factors for [adverse outcomes](#) or risk for increased transmission.

Confirmed and probable cases

When a case is reported to CDPHE it is entered into CEDRS and assigned to the county of residence for investigation. Cases are then transferred to Dr. Justina for LPHAs utilizing that platform for COVID data management. Some cases are entered by the LPHA into CEDRS or Dr. Justina when they are identified. All confirmed and probable cases should be investigated by public health following this protocol.

1. The case is assigned to a case interviewer either at the LPHA or at CDPHE according to agency investigation assignment protocols.
 - a. CDPHE will interview cases as requested by LPHAs for support as agreed upon with the CDPHE/CCRC Case Investigation and Contact Tracing (CI/CT) program.
 - b. CDPHE will investigate cases in state or federal correctional facilities and other state-run facilities.
2. The interviewer will attempt to contact the case by phone. The goal is to reach the case for an interview and to provide [isolation instructions](#) within 24 hours of assignment to the LPHA.
 - a. If the initial contact attempt is unsuccessful, the interviewer will leave an approved message or send a text message that does not disclose PHI with a call back number. A letter will be mailed (or emailed) to the primary address (or email address) with information about COVID-19, isolation instruction, and a request for a return call for an interview.
 - b. Additional contact attempts will be repeated at varying times of day and week. A minimum of three attempts will be made to reach the case by phone, including at least one evening and weekend attempt.
 - c. If contact is unsuccessful, the case is lost to followup. Information will be pulled from medical records to collect as much information for the case as possible to complete the surveillance form elements in CEDRS or a technology platform that communicates with CEDRS.
3. When a case is reached, the interviewer will confirm demographic and contact information for the case and complete the questions in the current case interview form
 - a. If the case’s first language is not English, the interviewer will use a language line or other certified interpreter to conduct the interview in the case’s primary language according to their agency protocol.
 - b. Interviewer will provide educational materials and isolation instruction to the case. For cases who are high risk of not complying with isolation, isolation orders should be considered.
 - c. Interviewer will ascertain close contacts that occurred during the case’s infectious period and record names, contact information, and exposure information for each individual.

- i. Household contacts ascertained during the case interview can be addressed at the time of the case interview, providing quarantine instruction, testing information, and disease prevention education.
 - ii. If a case refuses to disclose contact information, the interviewer should follow their agency protocol regarding use of orders or other methods for ascertaining contact information.
 - iii. Colorado is implementing the Google Apple Exposure Notification system to supplement contact tracing efforts, particularly to aid in identification of unknown contacts. During case investigation, interviewers should evaluate whether the case has opted in to the system on their phone, and if so, should generate a text message (instructions to come) allowing the case to upload their diagnosis to the app, which in turn will anonymously notify close contacts who also have the system turned on.
 - d. Interviewer will ascertain any travel during the infectious period and complete appropriate reporting [forms for DGMQ](#) and return information to the Epi Team for their region immediately. CDPHE will coordinate reporting of traveler information to DGMQ.
 - e. Case interview data will be entered into CEDRS, Dr. Justina, or other technology platform reporting to CDPHE within 1 week of interview, completing all required fields.
4. Case monitoring during isolation should be considered for [cases at high risk of severe illness](#) and those who have identified barriers to completing isolation. Isolation monitoring should include (templates are provided for reference and are not required if other procedures are implemented by the LPHA)
- a. [Communication Plan](#) - describing how often and in what form monitoring will occur, a primary point of contact for public health, and emergency contact information for the case and
 - b. [Medical Care Plans](#) - describing the procedure if the case needs to seek routine or emergency medical care, including hospital contact information and public health contact information

Depending on the level of concern for the case, public health monitoring may be active daily, active periodically, or self monitoring.

- **Active daily monitoring** - for cases at high risk of severe illness and/or high risk for not complying with isolation instruction. All cases where isolation orders are issued should have active daily monitoring:
 - The case will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the case daily by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful isolation. The case will inform public health immediately according to the communication plan if medical care is required or the case needs to leave the home for any reason.
- **Active periodic monitoring** - for most cases:
 - The case will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the case at an agreed upon interval (every 3-5 days) by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful isolation. The case will inform public health immediately according to the communication plan if medical care is required or the case needs to leave the home for any reason.
- **Self monitoring** - for cases with low risk of severe illness and high likelihood of successful compliance with isolation:
 - The case will remain alert for changing/worsening symptoms or fever (measured or subjective). If symptoms worsen, medical care is necessary or the case needs to leave isolation for any reason they will notify public health immediately according to the communication plan. Public health will contact the case at the beginning of the isolation period and at the end of the isolation period by phone or other agreed upon method
- Each contact during isolation monitoring should assess the following minimum information:
 - Assessment of symptoms
 - Has the case required any medical care since last communication
 - Has the case followed isolation instruction since last communication
 - Does the case have any new contacts?
 - o If yes, record all relevant contact information

Resources for case investigation:

- Case investigation form
- Cultural navigation resources
- [Isolation letter templates](#) (English and Spanish)
- [Isolation order templates](#) (English and Spanish)

Contact tracing

Non-household [close contacts](#) of all confirmed and probable cases will be contacted with information about their exposure and quarantine instruction. Household close contacts may be notified and given quarantine instruction at the time of the case interview or in a separate interview.

[Close contacts](#) are those who spend time with a case during their infectious period. Generally, a close contact is someone spending time within 6 feet for 15 or more minutes with a case. Factors to consider when defining close contact include proximity, duration of exposure and whether the exposure was to a person with symptoms (e.g., coughing likely increases exposure risk). Determination of close contact should be made irrespective of whether the person with COVID-19 or the contact was wearing a cloth face covering. While research indicates cloth face covering may help prevent transmission, there is less information/consensus regarding whether they protect a contact exposed to a case.

[Traveler](#) and [healthcare worker](#) exposures require additional assessment.

When a close contact is reported to CDPHE it is entered into Dr. Justina for LPHAs utilizing that platform for COVID data management. LPHAs not using Dr. Justina will receive information about contacts identified in their jurisdiction through secure email. All close contacts should be investigated by public health following this protocol.

1. Each close contact is assigned to a contact tracer at the LPHA or at CDPHE according to agency investigation assignment protocols.
 - a. CDPHE will interview contacts as requested by LPHAs for support as agreed upon with the CDPHE/CCRC Case Investigation and Contact Tracing (CI/CT) program
 - b. CDPHE will coordinate communication with other states and counties for out of jurisdiction close contacts
2. The interviewer will attempt to contact the close contact by phone. The goal is to reach the contact for an interview within 48 hours of identification during the case interview.
 - a. If the contact is unsuccessful, the interviewer will leave an approved message or text message that does not disclose PHI with a call back number. For contacts with a known address or email, a letter will be mailed (or emailed) to the primary address with information about COVID-19, quarantine instruction, and a request for a return call for an interview.
 - b. Additional contact attempts will be repeated at varying times of day and week. A minimum of three attempts will be made to reach the contact by phone, including at least one evening and weekend attempt.
 - c. If contact is unsuccessful, the contact is lost to followup.
3. When a contact is reached, the interviewer will describe the exposure without identifying the case (unless the case has granted permission for disclosure or disclosure is necessary for disease control and approved by agency management/supervisor), confirm demographic and contact information for the individual and complete the questions in the current contact interview form:
 - a. If the contact's first language is not English, the interviewer will use a language line or other certified interpreter to conduct the interview in the case's primary language.
 - b. Interviewer will provide educational materials, testing information, and quarantine instruction to the contact. For contacts who are high risk, quarantine orders should be considered.
 - i. For contacts who are asymptomatic, testing may be considered at approximately 7-10 days after exposure in response to outbreaks or other clusters of concern to public health. A negative test, however, does not release the contact from quarantine and medical insurance may not pay for asymptomatic testing not recommended by public health.
 - c. Contact who have developed symptoms will be considered probable cases and interviewed as cases.
 - d. Contact interview data will be entered into Dr. Justina or other technology platform reporting to CDPHE within 1 week of interview, completing all required fields.

4. Contact monitoring during quarantine should be considered for [contacts at high risk of severe illness](#) and those who have identified barriers to completing quarantine. Quarantine monitoring should include (templates are provided for reference and are not required if other procedures are implemented by the LPHA):
 - a. [Communication Plan](#) - describing how often and in what form monitoring will occur, a primary point of contact for public health, and emergency contact information for the case and
 - b. [Medical Care Plans](#) - describing the procedure if the case needs to seek routine or emergency medical care, including hospital contact information and public health contact information

Depending on the level of concern for the contact, public health monitoring may be active daily, active periodic, or self monitoring.

- **Active daily monitoring** - for contacts at high risk of severe illness and/or high risk for not complying with quarantine instruction. All contacts where quarantine orders are issued should have active daily monitoring:
 - The contact will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the individual daily by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful quarantine. The contact will inform public health immediately according to the communication plan if medical care is required or the contact needs to leave the home for any reason.
- **Active periodic monitoring** - for most contacts:
 - The contact will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the individual at an agreed upon interval (every 3-5 days) by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful quarantine. The contact will inform public health immediately according to the communication plan if medical care is required or the individual needs to leave the home for any reason.
- **Self monitoring** - for contacts with low risk of severe illness and high likelihood of successful compliance with quarantine:
 - The contact will remain alert for changing symptoms or fever (measured or subjective) during quarantine. If symptoms develop, medical care is necessary or the contact needs to leave quarantine for any reason they will notify public health immediately according to the communication plan. Public health will contact the individual at the beginning of the quarantine period and at the end of the quarantine period.
- Each contact during quarantine monitoring should assess the following minimum information:
 - Assessment of symptoms
 - Has the contact required any medical care since last communication
 - Has the contact followed quarantine instruction since last communication
 - Has the contact been tested for COVID-19 since last communication
 - o If yes, date and location of test and result if known

Resources for case investigation:

- Contact investigation form
- Cultural navigation resources
- [Quarantine letter templates](#) (English and Spanish)
- [Quarantine order templates](#) (English and Spanish)

Exposed traveler monitoring

CDC's Division of Global Migration and Quarantine (DGMO) notifies state health departments when individuals are identified as close contacts of a case due to [proximity during travel](#).

When a travel exposure is reported to CDPHE the traveler is entered into Dr. Justina for LPHAs utilizing that platform for COVID data management. LPHAs not using Dr. Justina will receive information about travelers identified in their jurisdiction through secure email. All exposed travelers should be investigated by public health following this protocol.

1. Each traveler is assigned to a contact tracer at the LPHA or at CDPHE according to agency investigation assignment protocols.
 - a. CDPHE will interview contacts as requested by LPHAs for support as agreed upon with the CDPHE/CCRC Case Investigation and Contact Tracing (CI/CT) program
2. The interviewer will attempt to contact the traveler by phone. The goal is to reach the traveler for an interview within 48 hours of assignment.
 - a. If the contact is unsuccessful, the interviewer will leave an approved voicemail or text message that does not disclose PHI with a call back number. A letter will be mailed (or emailed) to the primary address with information about COVID-19, quarantine instruction, and a request for a return call for an interview.
 - b. Additional contact attempts will be repeated at varying times of day and week. A minimum of three attempts will be made to reach the contact by phone, including at least one evening and weekend attempt.
 - c. If contact is unsuccessful, the contact is lost to followup.
3. When a traveler is reached, the interviewer will confirm demographic and contact information for the individual and complete the questions in the current contact interview form and [DGMQ form](#):
 - a. If the traveler's first language is not English, the interviewer will use a language line or other certified interpreter to conduct the interview in the traveler's primary language.
 - b. Interviewer will provide educational materials and quarantine instruction to the traveler. For travelers who are high risk, quarantine orders should be considered.
 - i. For travelers who are asymptomatic, testing may be considered at approximately 7-10 days after exposure as part of outbreak response as recommended by public health. A negative test, however, does not release the traveler from quarantine. Medical insurance may not cover asymptomatic testing not recommended by public health.
 - c. Travelers who have developed symptoms will be considered probable cases, interviewed as cases and entered into CEDRS.
 - d. Traveler interview data will be entered into Dr. Justina or other technology platform reporting to CDPHE within 1 week of interview, completing all required fields.
 - e. [Completed DGMQ](#) forms will be returned to CDPHE for reporting to CDC.
 - i. Email completed forms to anna.shaum@state.co.us, copying your Epi Team
4. Traveler monitoring is required during quarantine for travelers. Quarantine monitoring should include (templates are provided for reference and are not required if other procedures are implemented by the LPHA):
 - a. [Communication Plan](#) - describing how often and in what form monitoring will occur, a primary point of contact for public health, and emergency contact information for the traveler and
 - b. [Medical Care Plans](#) - describing the procedure if the traveler needs to seek routine or emergency medical care, including hospital contact information and public health contact information

Depending on the level of concern for the traveler, public health monitoring may be active daily or active periodic monitoring.

- **Active daily monitoring** - for travelers at high risk of severe illness and/or high risk for not complying with quarantine instruction. All travelers where quarantine orders are issued should have active daily monitoring:
 - The traveler will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the traveler daily by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful quarantine. The traveler will inform public health immediately according to the communication plan if medical care is required or the traveler needs to leave the home for any reason.
- **Active periodic monitoring** - for most travelers:
 - The traveler will actively monitor their symptoms, recording temperature at least twice daily (optional), noting other symptoms and severity, recording the results either electronically or on paper. The interviewer will contact the individual at an agreed upon interval (every 3-5 days) by phone or other agreed upon method at the agreed upon time to review symptoms and needs related to successful quarantine. The traveler will inform public health immediately according to the communication plan if medical care is required or the traveler needs to leave the home for any reason.

- **Self monitoring** - for travelers with low risk of severe illness and high likelihood of successful compliance with quarantine:
 - The traveler will remain alert for changing symptoms or fever (measured or subjective) during quarantine. If symptoms develop, medical care is necessary or the traveler needs to leave quarantine for any reason they will notify public health immediately according to the communication plan. Public health will contact the individual at the beginning of the quarantine period and at the end of the quarantine period.
- Each contact during quarantine monitoring should assess the following minimum information:
 - Assessment of symptoms
 - Has the traveler required any medical care since last communication
 - Has the traveler followed quarantine instruction since last communication
 - Has the traveler been tested for COVID-19 since last communication
 - If yes, date and location of test and result if known

Resources for traveler monitoring:

- Contact investigation form
- [DGMQ form](#)
- [Quarantine letter templates](#) (English and Spanish)
- [Quarantine order templates](#) (English and Spanish)

Other exposure notification

If exposure to individuals outside of close contacts are suspected for a case due to crowding at an event, workplace or other setting, notification to patrons/attendees should be provided. Template letters can be found here:

<https://drive.google.com/drive/u/1/folders/1PueNVHiiiovWjnN7kC6IPfdDMRK8xatBo>