

Coronavirus Disease 2019 (COVID-19)

[MENU >](#)

Managing Investigations During an Outbreak

Updated May 26, 2020

[Print](#)

Table of Contents

[Overview](#)
[Scaling Up Staffing Roles](#)
[Training](#)
[When to Initiate](#)
[Investigating a COVID-19 Case](#)
[Contact Tracing for COVID-19](#)
[Outbreak Investigations](#)
[Special Considerations](#)
[Building Community Support](#)
[Data Management](#)
[Evaluating Success](#)
[Confidentiality and Consent](#)
[Support Services](#)
[Digital Contact Tracing Tools](#)
[Resources](#)
[Appendices](#)

Most jurisdictions will create a special investigation team to take over outbreaks as they require expertise and resources beyond typical case investigation and contact tracing efforts. CDC has developed specific guidance for investigating clients with COVID-19 in a number of settings. When relevant, the CDC guidance is highlighted below.

A COVID-19 outbreak indicates potentially extensive transmission within a setting or organization. An outbreak investigation involves several overlapping epidemiologic, case, and contact investigations, with a surge in the need for public health resources. More emphasis on active case finding is recommended, which can result in more contacts than usual needing testing and monitoring.

Definitions for COVID-19 outbreaks are relative to the local context. A working definition of “outbreak” is recommended for planning investigations. A recommended definition is a situation that is consistent with either of two sets of criteria:

- During (and because of) a case investigation and contact tracing, two or more contacts are identified as having active COVID-19, regardless of their assigned priority.

OR

- Two or more patients with COVID-19 are discovered to be linked, and the linkage is established outside of a case investigation and contact tracing (e.g., two patients who received a diagnosis of COVID-19 are found to work in the same office, and only one or neither of the them was listed as a contact to the other).

Typically, jurisdictions will require potential outbreaks to be investigated by a special team of experts. An outbreak increases the urgency of investigations and places greater demands on the health department. In an outbreak, contacts can be exposed to more than one patient diagnosed with COVID-19, and patients and contacts can be interrelated through multiple social connections, which complicate efforts to set priorities.

Congregate Settings

For congregate settings, the types of information for designating priorities are site-specific, and therefore a customized algorithm is required for each situation. The general concepts of patient characteristics, duration and proximity of exposure, environmental factors that affect transmission, and susceptibility of contacts to COVID-19 should be considered. These investigations are extremely complex and will require collaboration with multiple partners in order to assess risk for both facility residents, staff, and external contractors who provide services in those facilities. Symptom screening, testing, and isolation and quarantine recommended may vary based on the facility (e.g., healthcare facility versus others), the environmental constructs, and the number of patients with COVID-19 and contacts under consideration.

In some instances, case investigation and contact tracing conducted within facilities will need to be undertaken by specially trained staff (e.g., infection control practitioners, industrial hygienists) in collaboration with facility leadership, occupational health liaisons and other relevant SMEs. Interruption of transmission within the facilities will also require complementary community case investigation and contact tracing efforts, so planning for these activities should be a joint endeavor involving community leadership and other key stakeholders.

The information below provides a snapshot of areas for consideration and links to available CDC guidance.

Correctional Facilities

CDC has issued [guidance](#) on preventing and controlling COVID-19 in correctional facilities. Jails, prisons, and immigrant detention centers have reported COVID-19 outbreaks. Multiple factors can hinder contact tracing in correctional facilities. The best preparation for conducting case investigation and contact tracing in jails, prisons, and immigration centers is a preexisting formal collaboration between correctional and public health officials. Health department TB, HIV, and STD programs have long-standing relationships with correctional facilities and can be seen as a resource. If a collaboration has not been established prior to an outbreak, quickly developing relationships with correctional partners will be critical. Building trust with people held in the facilities will also be necessary to successfully investigate the outbreak.

Investigations in jails can be particularly challenging because of rapid turnover of inmates and crowding. The number of contacts in close proximity to a patient/inmate can be large. Contacts who are transferred, released, or paroled from a correctional facility before being evaluated for COVID-19 should be traced.

Workplaces

CDC has [resources](#) for businesses and workplaces, including [guidance](#) on how to prevent COVID-19 in the workplace. The Occupational Safety and Health Administration (OSHA) also provides COVID-19 prevention and control [guidance](#) [↗](#) for workers and employers. Duration and proximity of exposure can be greater than for other settings. Details regarding employment, hours, working conditions, and workplace contacts should be obtained during the initial interview with the patient, and the workplace should be toured after accounting for confidentiality and permission from workplace administrators or managers. If the employer has occupational health professionals/program, they should be included in the walkthrough and engaged throughout the investigative process.

Employee lists are helpful for identifying contacts, but certain employees might have left the workplace and thus been omitted from current employee lists. Also consider contractual personnel who may not be on workplace rosters but could also be exposed (e.g., housekeeping, cafeteria, business associates for meetings/conference, etc.). Investigators need to be aware of the sensitivities surrounding the immigration status of workers and how this can be a barrier to case investigation and contact tracing activities.

Workplace administrators or managers are likely to express concern regarding liability, lost productivity, sick leave policies, responsibility for testing and screening, and media coverage. In addition, there should be efforts to protect patient confidentiality. Many of these issues can be addressed during planning. For example, the assistance of the health department's media relations specialist can be offered to the workplace. For questions of liability and requirements under law, discussions between the health department's and the workplace's legal counsels are recommended. Unions may also be engaged and have concerns about worker safety and other issues.

Multiple outbreaks of COVID-19 among meat and poultry processing facility workers have occurred in the United States. CDC and OSHA provide [guidance](#) for meat and poultry processing workers and employers.

Hospitals and Other Healthcare Settings

Nearly every type of healthcare setting has been impacted by transmission of SARS-CoV-2, and [guidance](#) on preventing transmission has been provided by CDC and by [OSHA](#). State governments have different degrees of regulatory authority over healthcare settings. Personnel collaborating with hospitals and other healthcare entities should have knowledge of applicable legal requirements.

Nursing homes and other long-term care facilities (LTCF) have been especially vulnerable to COVID-19 outbreaks. Recent [experience with outbreaks in nursing homes](#) has also reinforced that residents with COVID-19 may not be willing or able to report typical symptoms such as fever or respiratory symptoms; some may not report any symptoms. CDC has [guidance](#) on how LTCF and nursing homes can be prepared to prevent COVID-19. The Centers for Medicare and Medicaid Services (CMS) also provides [guidance](#) for nursing homes.

Infection control practitioners may or may not be familiar with COVID-19 case investigations and contact tracing. An investigation should be planned jointly as a collaboration between the facility and the health department, including the facility's occupational health services and infection protection and control staff. Initial discussions should cover data sharing and division of responsibilities.

In healthcare settings, there may be unique concerns about liability, confidentiality, media coverage, and occupational hazards. [OSHA](#) has guidance to assist employers in understanding the agency's requirements. OSHA's regulations might require hospital administrators to report when employees have been diagnosed with COVID-19 from occupational exposure. Note: Twenty-two states operate [individual plans](#) covering both private sector and state and local government workers. Public health officials should consider inviting legal counsel to the initial planning sessions with healthcare administrators.

Schools and Child Care Settings

This category includes childcare centers, preschools, primary through secondary schools, vocational schools that replace or immediately follow secondary school, and colleges and universities. CDC issued [guidance](#) for administrators of public and private child care programs and K-12 schools, as well as [guidance](#) for administrators of public and private institutions of higher education (IHE) and [guidance](#) for child care programs that remain open.

During an outbreak in these settings, a coordinated investigation that includes communication and collaborative decision making with education agencies and parents can increase the efficiency and success of the process. Consent, assent, and disclosure of information are more complex for non-emancipated minors than for adults. Each interaction with a minor is also a potential interaction with the family. The health department typically has limited alternatives for evaluating a minor if permission is not granted. Anticipatory legal consultation is recommended.

The presence of COVID-19 in schools often generates publicity. Ideally, the health department should transparently communicate with the school and parents/guardians. Public health officials should anticipate media coverage and plan a collaborative strategy.

Public health officials should consider whether extramural activities add other exposure sites and contacts. Clubs, sports, and certain classes require the case investigator to obtain additional information when interviewing the client, the client's parents/guardians, and school personnel. For clients with COVID-19 who ride school buses, a bus company might keep a roster of riders with addresses.

The strategy for case investigation and contact tracing in child care centers, preschools, and primary schools depends on whether the person diagnosed with COVID-19 is a child or an adult (e.g., a teacher or caregiver). In a case investigation of a child aged <5 years who has COVID-19 and who attends preschool or child care, all adults in these settings should be included if the source of the child's infection has not been located in the family or household. Certain home-based child care centers include adults who do not provide child care but still share space or interact with the children.

School breaks, vacations, graduations, and transfers can disrupt the case investigation and contact tracing. In collaboration with school officials, the health department can notify students and other contacts who will be unavailable at the school. These contacts should be referred for testing.

Shelters and Other Settings Providing Services for People Experiencing Homelessness

CDC has [guidance](#) on how to investigate potential cases of COVID-19 among people living in a homeless shelter or living in an unsheltered situation. In addition, CDC has provided [guidance](#) for homeless service providers to plan and respond to COVID-19.

Last Updated May 26, 2020