Considerations in the investigation of cases and clusters of COVID-19

Interim guidance
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World Health Organization

This document is an update to the interim guidance document titled 'Considerations in the investigation of cases and clusters of COVID-19.' This version provides updated recommendations, including a revision to Figure 1.

This document offers operational guidance to Member States for the rapid investigation of suspected COVID-19 cases. It is to be used by local, regional, or national health authorities as considerations for investigating cases and contact tracing of COVID-19. This should not be considered a comprehensive guide to outbreak investigation. Detailed outbreak investigation guidance has been developed for other respiratory pathogens, including MERS-CoV and influenza. Further information on outbreak investigation for COVID-19 can be found on the OpenWHO website

This guidance may be implemented in different countries with varying resources and epidemiological patterns and should be adapted accordingly. This document is intended to describe the specific components required to undertake an investigation.

This document is informed by current knowledge of the COVID-19 outbreak and similar considerations for other respiratory pathogens, including MERS-CoV and influenza viruses. WHO will continue to update these recommendations as new information becomes available.

Considerations in the investigation of COVID-19 cases

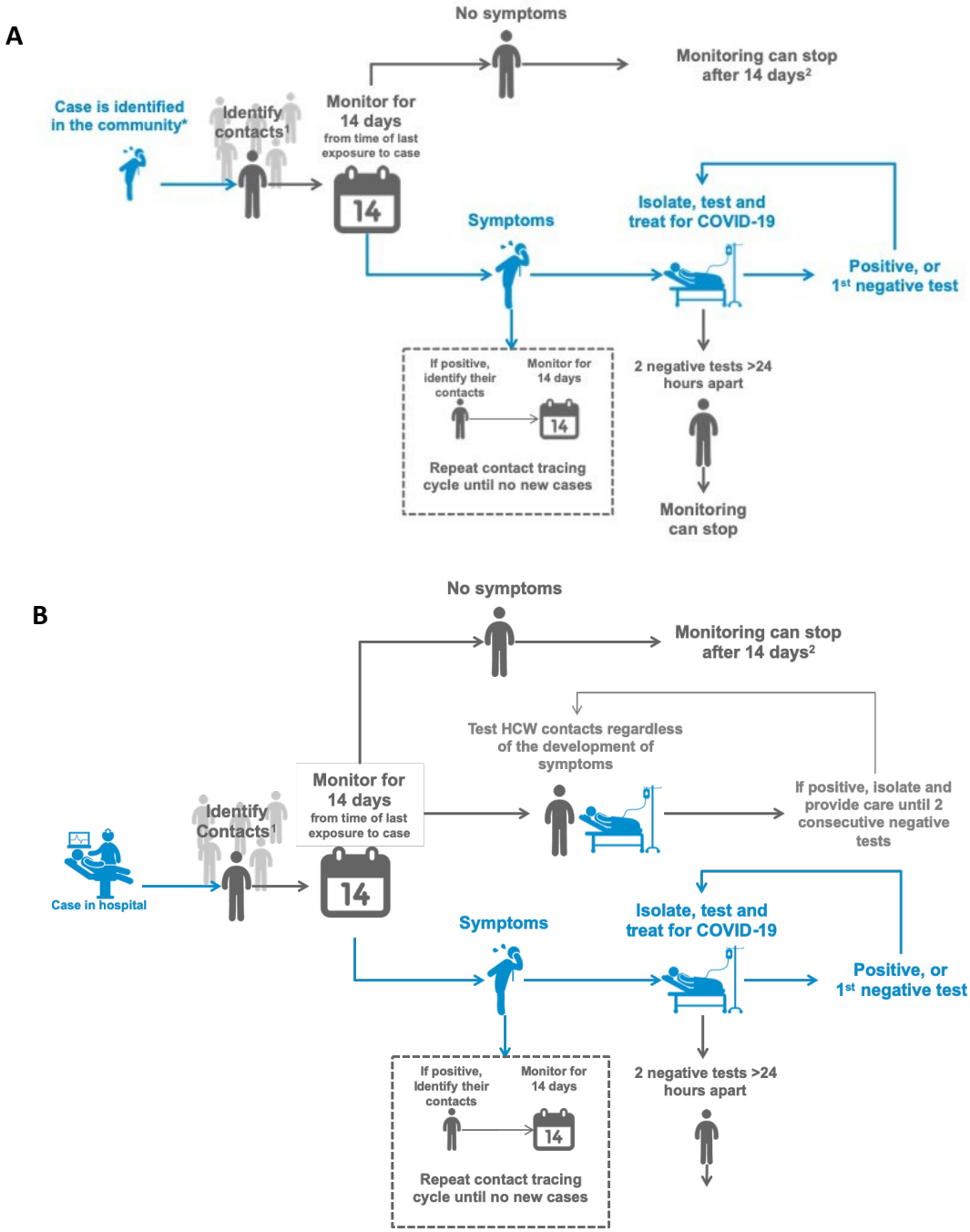
The table below serves as operational guidance for time-sensitive (within first few days of notification) priority actions after the signal of a COVID-19 case/cluster.

Objectives of the investigation	The objectives of any investigation of a suspected COVID-19 case include: • Rapidly detect COVID-19 and any evidence of human-to-human transmission among contacts • Reduce human-to-human transmission, prevent outbreaks, and delay the spread of disease
Composition, protection of and tools for the investigative team	**Composition** Personnel with the capacity, knowledge, and authority to: • Interview persons with probable or confirmed COVID-19 and conduct contact tracing • Triage suspected COVID-19 cases and contacts for health care depending on clinical condition • Collect respiratory specimens from suspected COVID-19 cases • Recommend and implement measures to prevent further transmission **Protection** The COVID-19 virus is spread through contact, droplet, and fomites. To minimize risk of infection of the investigation team: • Optimize size of team to minimize contact with a suspected COVID-19 case • Ensure all those in the investigation team are trained in IPC measures specific to COVID-19[1] • Interview suspected cases and contacts over the phone, if feasible, or at a distance of more than 1 metre. **Tools** • Provide sufficient and appropriate PPE[2] • Gather biological specimen collection material, transport containers, viral transport media, labels, bags, coolers, and cold packs. • Gather copies of case investigation protocols, questionnaires, contact tracing and monitoring tools, and the national case definition.
Investigation case definition	• Adjust national/WHO case definitions[3] for the purpose of investigation (define time, person, place) for additional case finding and contact tracing (Figure 1).

Contact tracing	Systematically identify all social, familial/household, work, health care, and any other contacts who have had contact[8] with a probable or confirmed case from 2 days before symptom onset of the case and up to 14 days after their symptom onset (or in the case of asymptomatic cases, 2 days before through 14 days after the sample was taken which led to the confirmation of COVID-19 infection). Create a line list, including demographic information, date of first and last common exposure or date of contact with the confirmed or probable case, and date of onset if fever or respiratory symptoms develop. The common exposures and type of contact with the confirmed or probable case should be thoroughly documented for any contacts who become infected with COVID-19.
Management of case(s) and contacts	**COVID-19 case(s)** • WHO recommends that all probable and laboratory-confirmed cases be isolated and cared for in a health care facility. • In situations in which isolation in a health care facility is not possible, WHO emphasises the prioritization of those with the highest probability of poor outcomes: patients with severe and critical illness and those with mild disease and risk for poor outcome (age >60 years, underlying medical conditions). Emergency treatment should be started based on disease severity.[4] • Those presenting with mild illness may need to be isolated in non-traditional facilities, such as re-purposed hotels, stadiums or gymnasiums where they can remain until their symptoms resolve and laboratory tests for COVID-19 are negative. Alternatively, asymptomatic cases and patients with mild diseases and no risk factors can be managed at home, with strict adherence to IPC measures and precautions regarding when to seek care.[5] **Contacts** • For contacts of a suspected COVID-19 case, at a minimum, health authorities need to encourage respiratory and hand hygiene and may encourage, depending on the epidemiological context and resources available, self-monitoring for symptoms, social distancing, or quarantine. • For contacts of a probable or laboratory-confirmed COVID-19 case, WHO recommends that such persons be quarantined for 14 days from the last time they were exposed to the case.[6]
Collection and testing of specimens	From all suspect cases, a respiratory sample should be collected and tested as soon as possible. For contacts, samples should be collected if they have symptoms.[7] If feasible, respiratory samples from quarantined persons, irrespective of whether they develop symptoms, should be sent for laboratory testing at the end of the quarantine period. Ensure that all those involved in collection and transportation of specimens be trained in safe handling practices and spill decontamination procedures.[6] For laboratory-confirmed cases, 2 negative specimens at least 1 day apart indicate recovery from infection. Based on initial data, this is estimated to be 14 days after the end of illness for mild cases.
Risk communication	Encourage cases and contacts to adopt protective behaviours: frequent hand hygiene and good respiratory etiquette, avoiding people with respiratory symptoms. Encourage cases and contacts to call hotline (if available) or their health care provider if they have concerns/questions or develop symptoms. Discourage use of medical masks, unless one of the following exists: • Individuals with respiratory symptoms • Health care workers • Individuals in close contact (within 1 metre) of a patient with respiratory symptoms
Reporting	Case investigations undertaken by non-government entities should be done in close consultation with relevant local authorities, and results reported immediately. National authorities need to report probable and confirmed cases of COVID-19 to WHO within 48 hours of identification, as per the WHO global surveillance guidance.[8] Report using the Individual Case Reporting Form and consider transitioning to the aggregate Daily/Weekly Reporting Form if the number of cases increases and resources are no longer available for individual case reporting.[8]
Further investigations	Standardised epidemiological protocols have been developed for COVID-19 and are available on the WHO website.[9] These may be initiated in addition to the public health investigation, but should not replace the investigation: • First few cases and contacts transmission investigation protocol, which evaluates extent of infection among cases and their contacts.

	• Household transmission investigation protocol, which evaluates extent of infection within the household setting. • Assessment of risk factors for COVID-19 among health care workers working in a health care setting in which a confirmed COVID-19 patient is receiving care. • Surface sampling of COVID-19 virus: A practical 'how to' protocol for health care and public health professionals to assess surface contamination and the role of environmental contamination in transmission. • Population-based age-stratified seroepidemiological investigation protocol for COVID-19 which evaluates extent of infection in the population. • Global COVID-19 Clinical Characterization Case Record Form and data platform for anonymized COVID-19 clinical data to collect clinical data to better understand the natural history of disease and describe clinical phenotypes and treatment interventions.

Examples of contact tracing in the community (A) and in health care settings (B)



[1]Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19): https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(covid-19)

[2]If feasible, respiratory samples from quarantined persons, irrespective of whether they develop symptoms, should be sent for laboratory testing at the end of the quarantine period. To be released from isolation, confirmed cases must test negative using PCR testing twice from samples collected at least 24 hours apart. Where testing is not possible (including for probable cases on which no initial testing was done), WHO recommends that patients remain isolated for an additional two weeks after symptoms resolve. For asymptomatic confirmed cases, WHO recommends they remain isolated for 14 days after the sample was taken which led to the confirmation of COVID-19 infection

References

1. World Health Organization. Infection prevention and control
2. World Health Organization. Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19)
3. World Health Organization. Global Surveillance for human infection with coronavirus disease (COVID-19)
4. World Health Organization. Clinical management of severe acute respiratory infection when COVID-19 is suspected
5. World Health Organization. Home care for patients with COVID-19 presenting with mild symptoms and management of their contacts
6. World Health Organization. Considerations for quarantine of individuals in the context of containment for coronavirus disease (COVID-19)
7. World Health Organization. Laboratory testing for 2019 novel coronavirus (2019-nCoV) in suspected human cases
8. World Health Organization. Coronavirus disease (COVID-19) technical guidance: Surveillance and case definitions
9. World Health Organization. Coronavirus disease (COVID-19) technical guidance: Early investigation protocols

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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