Case definition and European surveillance for COVID-19

Case definition

For EU level surveillance, ECDC requests EU/EEA countries and the UK to report laboratory confirmed cases of COVID-19 within 24 hours after identification. This should be done through the Early Warning and Response System (EWRS).

ECDC and the WHO Regional Office for Europe are coordinating the rapid reporting of data as requested in the WHO case reporting form in collaboration with their surveillance networks in Member States.

Case reporting forms will be collected using The European Surveillance System - TESSy.

Case definition for EU surveillance

Suspected case requiring diagnostic testing (not to be reported at European level)

Patients with acute respiratory infection (sudden onset of at least one of the following: cough, fever, shortness of breath) requiring hospitalisation or not

AND

In the 14 days prior to onset of symptoms, met at least one of the following epidemiological criteria:

- Were in close contact with a confirmed or probable case of COVID-19 infection

OR

- Having stayed in areas with presumed community transmission* (see below).

*Criteria to initiate laboratory testing of people with acute respiratory infection requiring hospitalisation or not and returning from areas with presumed localised or low level community transmission should include a case-by-case clinical judgement and be based on national recommendations.

Probable case

A suspected case for whom testing for virus causing COVID-19 is inconclusive (the result of the test reported by the laboratory) or for whom testing was positive on a pan-coronavirus assay.

Confirmed case

A person with laboratory confirmation of virus causing COVID-19 infection, irrespective of clinical signs and symptoms

Close contact

Close contact of a probable or confirmed case is defined as:

- a person living in the same household as a COVID-19 case;
- a person having had direct physical contact with a COVID-19 case (e.g. handshaking);
- a person having unprotected direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on, touching used tissues with a bare hand);
- a person having had face-to-face contact with a COVID-19 case within 2 m and > 15 min;
- a person who was in a closed environment (e.g. classroom, meeting room, hospital waiting room, etc.) with a COVID-19 case for 15 minutes or more and at a distance of less than 2 meters;
- a healthcare worker (HCW) or other person providing direct care for a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case without recommended PPE or with a possible breach of PPE;
- a contact in an aircraft sitting within two seats (in any direction) of the COVID-19 case, travel companions or persons providing care, and crew members serving in the section of the aircraft where the index case was seated (if severity of symptoms or movement of the case indicate more extensive exposure, passengers seated in the entire section or all passengers on the aircraft may be considered close contacts);

The epidemiological link may have occurred within a 14-day period before the onset of illness in the case under consideration.

Criteria to initiate testing for COVID-19 virus for active epidemiological case finding

Prompt case confirmation is necessary to ensure rapid and effective contact tracing, implementation of infection prevention and control measures according to national recommendations, and collection of relevant epidemiological and clinical information.

Any person fulfilling the criteria for a suspected case should be tested for COVID-19 virus, as part of active case finding.

Based on clinical judgement, clinicians should also consider including COVID-19 testing as differential diagnosis for patients with viral pneumonia or severe acute respiratory infection admitted to hospitals. COVID-19 should also be considered in clusters of patients with viral pneumonia of unknown aetiology.

The laboratory method is provided below. The laboratory test should be initiated immediately.

Types of specimens

Rapid collection of the following specimens should be considered:

When possible, specimens from both lower and upper respiratory tracts should be collected:

Lower respiratory tract:

- bronchoalveolar lavage (BAL)
- endotracheal aspirate (ETA)
- expectorated sputum

Upper respiratory tract:

- nasopharyngeal swab
- oropharyngeal swab
- nasopharyngeal aspirate or nasal wash

Additional specimens for later testing:

- when serological testing becomes available: serum, acute and convalescent (possibly 2-4 weeks after acute phase) specimen,
- other specimens to consider: blood, urine and faeces

Respiratory specimen collection from the upper and in particular lower respiratory tract, should be performed under heightened infection prevention and control measures (airborne precautions) according to WHO interim guidance on Infection prevention and control in healthcare settings when novel coronavirus (nCoV) infection is suspected.

Currently there is limited information about the best point in time for specimen collection. Similar to other viral respiratory infections, it is likely that respiratory specimens collected early after symptom' onset would yield higher virus concentrations. According to WHO interim guidance for clinical management of SARI, when nCoV infection is suspected, for hospitalised patients the frequency of specimen should be at least every 2 to 4 days until there are two consecutive negative results at least 24 hours apart.

Testing methodology

The specific tests currently recommended by WHO for the diagnosis and confirmation of virus causing COVID-19 are described in a dedicated WHO webpage, and on ECDC webpage Laboratory support (for primary/and or confirmatory testing) by Coronavirus specialised laboratories in the EU.

It is recommended that the specimens of the first five positive cases and first 10 negative cases meeting the COVID-19 case definition for testing should be shipped for confirmation to the national specialised laboratory for virus causing COVID-19 or in lack of national capacity to one of the specialised laboratories that offered international support (see list of laboratories below). After that time, the laboratories can test for virus causing COVID-19 independently but use the specialised laboratories to resolve confounding results.

A single positive test should be confirmed by a second RT-PCR assay targeting a different virus causing COVID-19 gene. A single negative COVID-19 test (especially if from upper respiratory tract specimen) or a positive test result for another respiratory pathogen result does not exclude COVID-19 infection. If there is a strong suspicion for COVID-19 infection, another specimen should be tested with the primary and secondary RT-PCR assays.

When possible, sequence information should be generated from positive specimens. ECDC encourages the timely sharing of sequence data. Publically available sequence database GISAID is accepting the upload of COVID-19 sequences.