

NCP: Epidemiological Investigation Protocol

This protocol is developed to gather epidemiological information such as the incidence, exposure history, and contact history of novel coronavirus pneumonia cases, screen close contacts and prevent the spread and transmission of the outbreak.

1. Purpose of investigation

- 1) To investigate the onset and treatment of patients, clinical characteristics, risk factors and exposure history;
- 2) To detect and manage close contacts.

2. Targets of investigation

Novel coronavirus pneumonia suspect cases, confirmed cases, asymptomatic infected persons and clustered cases.

3. Investigation contents and methods

1) Case investigation

County/district level CDCs, upon receiving report of novel coronavirus pneumonia cases, should complete the epidemiological investigation within 24 hours. The investigation can be carried out by reviewing documents, inquiring the patient, informants and the attending doctors. If the medical condition of the patient permits, investigators should first inquire the patient before moving on to the physician, family members and informants.

For suspect cases, the investigation includes basic information and information of close contacts. Only information such as ID number, name, gender, etc. needs to be filled in the Case Investigation Questionnaire, and information about close contacts in the Registration Form for Close Contacts of Novel Coronavirus Pneumonia Cases in *the NCP: close contact management protocol*.

For confirmed cases and asymptomatic infected persons, the investigation includes: basic information, diagnosis and treatment, risk factors and exposure history, laboratory findings and information of close contacts (See Appendix). Assessment and management of close contacts shall be carried out in accordance with *the NCP: close contact management protocol*.

2) Cluster investigation

Based on online direct report information and case investigation findings, the county/district CDC shall conduct investigation immediately after detecting a cluster of cases according to the definition in the *NCP: Case Surveillance Protocol*. Investigations should include information such as source of infection of all cases and close contacts, and focus on epidemiological links among cases and chain of transmission. For the cluster investigation results, fill in basic information, initial, progress and conclusion reports in accordance with the requirements of the *National Standards for Reporting Public Health Emergency Related Information (Trial)*. For the investigation and analysis method, please refer to the *Cluster Investigation Technical Guideline for the 2019 Novel Coronavirus Pneumonia (NCP), China* on the official website of the Chinese Center for Disease Control and Prevention, and attach the key information of the case clusters to the close report.

4. Organization and implementation

In accordance with the principle of “localized management”, the county/district health authority of the area where the case seeks medical care shall organize the CDC to carry out the epidemiological investigation of the case. The investigation unit shall promptly set up a field investigation team, follow the investigation plan, specify the purpose of investigation, and determine team members and their respective duties and tasks. During the investigation, investigators should take proper personal protection. The city, provincial and national CDCs can go to the field whenever necessary to join team already there to conduct a joint field epidemiological investigation.

5. Reporting and analysis of information

Once the investigation of confirmed cases, asymptomatic infected persons and case clusters is completed, the county/district CDC should, within two hours, submit the case investigation form or investigation report through the online reporting system while submitting the epidemiological investigation analysis report to the health authority at the same level and the CDC at the higher level.

Appendix: Case Investigation Questionnaire for Novel Coronavirus Pneumonia Cases

Appendix

Case Investigation Questionnaire for Novel Coronavirus Pneumonia Cases

Questionnaire number: _____ ID number: _____

I. Basic information

1. Name: _____

2. Sex: Male Female

II. Onset and care seeking

3. Date of onset: _____ month _____ day _____ year

4. Symptoms and signs:

Fever: maximum temperature _____ °C

chills dry cough sputum nasal congestion sore throat

headache fatigue muscle soreness arthralgia

shortness of breath breathing difficulty chest tightness chest pain conjunctival hyperemia

nausea vomiting diarrhea abdominal pain other

5. Blood routine test time: _____ month _____ day _____ year (If multiple testers, fill in the first test result)

Test result: WBC (white blood cell count) _____ $\times 10^9$ / L; L (lymphocyte count) _____ $\times 10^9$ / L

L (lymphocyte percentage) _____ %; N (Neutrophils percentage): _____ %;

6. Are there any complications? Yes No

If yes, please select (multiple choices): meningitis encephalitis bacteremia/sepsis

myocarditis acute lung injury /ARDS acute kidney injury epilepsy

secondary bacterial pneumonia other _____

7. Chest x-ray/CT test taken showing pneumonia imaging features: Not taken No Yes

III. Risk factors and exposure history

8. Does the patient come from a specific professional group: medical staff pathogenic microorganism detection staff personnel with wildlife contact poultry and livestock farming staff other _____

If yes for medical staff, please select: doctor nurse onsite staff for disease control and prevention laboratory tester other _____

9. Whether the patient is pregnant: Yes, pregnant for ____ weeks No

10. Past medical history (multiple choices): none hypertension diabetes cardiovascular and cerebrovascular diseases pulmonary diseases (such as asthma, pulmonary heart disease, pulmonary fibrosis, silicosis, etc.) chronic kidney disease chronic liver disease immunodeficiency diseases other

Have you had the following exposure history within 14 days before the onset of illness or being tested positive:

11. Was the case discovered as a close contact during the isolation period? Yes No

12. Is there a history of travel or residence in Wuhan and surrounding areas, or other communities with reported case:

travel history residential history No

13. Have you come in contact with a person who has fever or respiratory symptoms from Wuhan and surrounding areas, or from a community with a reported case/cases : Yes No

14. Have you had any contact with anyone with a history of travel or residence in Wuhan and surrounding areas, or other communities with a reported case/cases: Yes No

15. Is there a history of exposure to confirmed cases or asymptomatic infections: Yes No

16. Does the patient have a cluster outbreak in the same family, workplace, kindergarten or nursery or school? Yes No Unclear

IV. Laboratory testing

17. Specimen collection and detection of new coronavirus (multiple choices)

| Specimen type | Sampling time (year-month-day) | Test results (+/- /to be tested) |
|-----------------------|--------------------------------|----------------------------------|
| Throat swab | | |
| Nasal swab | | |
| Nasopharyngeal swab | | |
| Sputum | | |
| Tracheal aspirate | | |
| Alveolar lavage fluid | | |

| | | |
|---|--|--|
| Blood specimen | | |
| Stool | | |
| Other (fill in specimen name) | | |
| Not collected (do not fill in the sampling time or results) | | |

Investigation organization: _____ Investigator signature: _____

Investigation date: ___ month ___ day ___ year

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