

Standard Operating Procedure for Case Investigation and Contact Tracing of COVID-19

Interim Version

Version 2.0
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Department of Health and Population
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Rationale

Case investigation (CI) and contact tracing (CT) are essential measures for timely containment of an outbreak.

Case investigation establishes the source/cause of infection as well as its possible spread, based on which measures to control and prevent outbreak are determined

Contact tracing is the identification and follow-up of persons who have been exposed to an infected person to determine whether they have been infected. It is the single most important activity to initiate interrupting the chain of transmission of COVID-19. One exposed contact developing into an undetected case has the potential to start an outbreak.

Objectives

1. Identify the potential source/cause of infection in cases of COVID-19 in Nepal
2. Rapidly identify, trace and interview all contacts of confirmed COVID-19 cases in Nepal and place them in quarantine as per existing policy.
3. Promptly refer contacts for isolation and treatment if they become symptomatic or are lab confirmed and follow the same sequence of case investigation, contact identification, tracing and follow-up for these contacts who become confirmed cases.
4. Prevent additional transmission from contacts to others, through promotion of preventive measures such as enhanced infection prevention and control and physical distancing including home, institutional or community quarantine as per existing policy.

Key principles

1. Laboratory confirmation should not delay the initiation of case investigation and contact identification whenever possible. It is expected that lab results of suspected cases should be available within 24 hours of sample receipt at the lab.
2. Trace the close and high-risk contacts of confirmed cases within 48 hours of lab confirmation and follow-up their health status for the requisite period.
3. Systematic management of contact tracing by assigning a set of contacts to designated named personnel for tracing and follow-up on daily basis is key to successful contact tracing.
4. Electronic data management can support when the number of contacts becomes difficult to manage
5. Contact tracing can only be meaningful with effective detection of cases, lab testing, quarantine and isolation capacity and effective patient care and management.
6. Investigation team should be thoroughly trained and socially skilled as first interaction with the case or contact and their family is critical. While initial case investigation and contact identification (including classification of contacts as close or casual etc.) needs persons with medical or senior level public health expertise, contact tracing and follow-up needs persons skilled in interpersonal communication and good knowledge of local community and local language skills.

Main steps involved

1. Case Investigation and contact Identification: Directly interview cases (or people close to him/her if direct interview with the case is not possible) face-to-face using appropriate PPE or through phone to identify his/her possible source of infection including events and contacts whom s/he may have infected.
2. Contact Tracing: Find/locate the identified contacts, make them aware of their contact status and inform them to be in quarantine, get information on their current health status. Take necessary actions (e.g. isolation etc.) if the person is suspected as COVID-19 case (because of symptoms or other reasons).
3. Contact Follow-Up: Closely monitor their health status for 14 days since their last exposure to the case for development of any COVID-19 related symptoms and initiate appropriate actions, as needed.
4. Frequency of follow-up: It is proposed that all identified close contacts will be followed up on days 1, 3, 7, 10, and 14, with instructions that person under follow-up contact the surveillance system immediately on development of any COVID-19 related symptoms. This periodicity of contact follow-up will be reviewed depending on intensity of transmission and national capacity for contact follow-up.

Definitions

Suspected case¹	A patient with fever or sign/symptoms of respiratory distress (cough or shortness of breath), AND a history of travel to or residence or close contact with a traveller from a location reporting community transmission of COVID-19 disease during 14 days prior to symptom onset; OR A patient with fever or sign/symptoms of respiratory distress (cough or shortness of breath), AND having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset; (see definition of contact below) OR A patient requiring hospitalization for Severe Acute Respiratory Illness (SARI) OR A healthcare worker who provides direct care to patients and has developed fever OR cough OR shortness of breath OR A patient with fever or sign/symptoms of respiratory distress (cough or shortness of breath) without alternative explanation/diagnosis to the person's symptoms/signs (such as congestive heart failure exacerbation, scrub typhus, malaria, Urinary Tract Infection, etc) OR A person strongly suspected by a clinician as having COVID-19
Probable case	A suspected case for whom the laboratory testing for COVID-19 is inconclusive.
Confirmed case	A patient with laboratory confirmation of COVID-19 infection, irrespective of

¹ Case definitions subjective to change, please refer to the latest one from the link: <http://www.edcd.gov.np/>

	clinical signs and symptoms.
Contact	<p>Any person who had following types of contact with a probable/confirmed case is a contact:</p> <p>a. Close contacts including high risk close contacts</p> <p>b. Casual contacts</p>
Close Contact	<p>A close contact is a person involved in any of the following exposures during the 2 days before and the 14 days after the onset of symptoms of a probable/confirmed case:</p> <ol style="list-style-type: none"> 1. Close contact (within 2 meter) with a probable/confirmed case for more than 15 minutes; 2. Household contacts, i.e. any person who has resided in the same household as the probable/confirmed case 3. Direct physical contact with a probable/confirmed case; 4. Direct care for a patient who is a probable /confirmed case without using proper personal protective equipment; 5. For a conveyance, sitting within two rows of a probable/confirmed case, including the row of index case, in a conveyance (see Annex 1) <p>Note: for confirmed but asymptomatic cases, the period of contact is measured as the 4 weeks before through the 14 days after the date on which the sample was taken which led to confirmation.</p>
High-risk close contact	Close contacts that are pregnant, or with diabetes or hypertension or other chronic disease conditions and/or who are older than 60 years.
Casual contacts	Contacts that do not meet definition of the close contact but are considered to be at some risk of the infection due to their exposure to the case

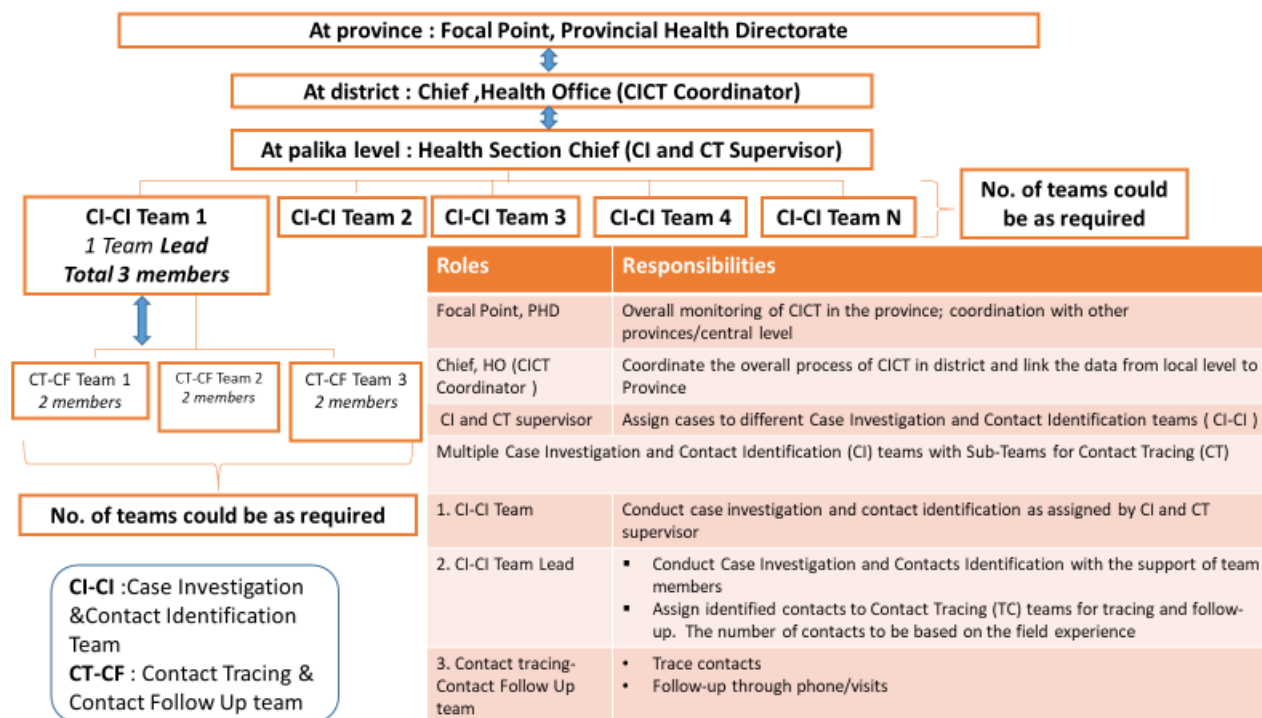
Key Performance Indicators

ID	Indicator	Target
KPI 1	% of cases interviewed or a lab sample collected within 24 hours of identification	≥80%
KPI 2	% contacts interviewed within 48 hours of their identification	80%
KPI 3	% laboratory results for suspect and probable cases obtained within 24 hours of testing.	≥ 90%
KPI 4	% contacts registered in a centrally accessible electronic system (e.g.Go.Data)	≥ 80%
KPI 5	% contacts followed-up at a frequency stipulated as per national policy	≥ 80%

Tools Used

ID	Name	Purpose	Responsible person/team
Form A	A Form: Reporting form for confirmed or probable cases of COVID-19 (see Annex ..)	To collect personal, details of the case To determine the possible source of infection, if it has not been established in case reporting form To identify and list the contacts	Case Investigation Team (see details in Annex 2)
Form B1	Contact Interview Form (see Annex ..)	To interview contacts for the first time	Contact Tracing Team (see details in Annex 2)
Form B2	Contact Follow Up Form/Symptoms Diary (see Annex ..)	To daily monitor the development of any COVID-19 related symptoms in the contacts	Hotline Agent/Contacts/Contact Tracing Team/ (see details in Annex 2)

Recommended structure for Case Investigation (CI), Contact Identification (CI), Contact Tracing (CT) and Contact Follow-Up Team*



- Each contact tracing team of two members should have (a) communication support or allowance and (b) independent mobility support or allowance.
- Local level CI-CI team could be supported by District RRT and Provincial RRT when required.

* Details roles and responsibilities are described in Annex 2.

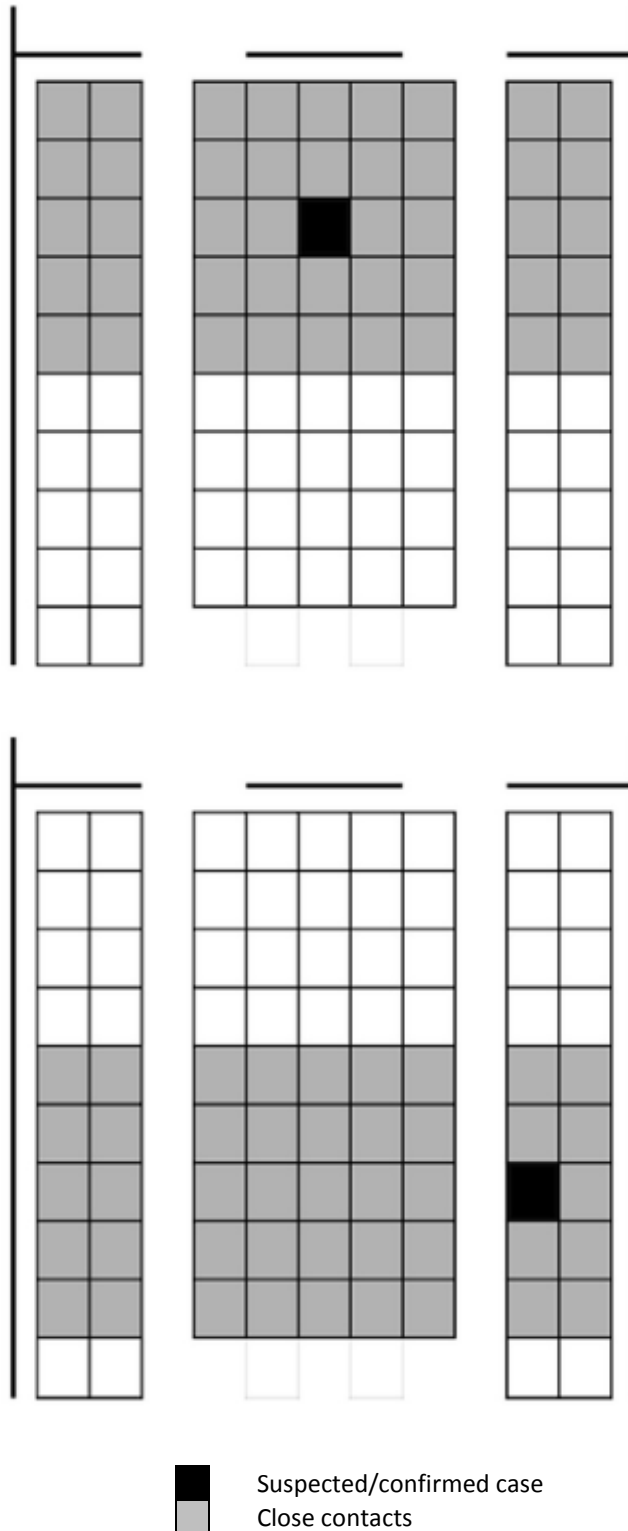
Procedures (Stepwise)

Case interview and identification of contacts Responsible team: Case Investigation Team		
1.	A suspected/probable/confirmed case of COVID-19 is identified	
2.	<u>When a case is identified, overall CI and CT Supervisor is alerted of the case. S/he assigns cases to one of the teams responsible for conducting CI and CT. (i.e. CI Team)</u>	
3.	<u>CI team</u> lead by a team leader conducts interview with the case <i>using the Form A</i> .	Form A
4.	Case investigation and contact identification team directly talks to the case as far as possible. Preferable method of interview is through phone but face-to-face maintaining a safe distance If case is too ill to be directly interviewed, family members or someone very familiar with the case is interviewed <i>See Annex 3 for PPE to be used when interviewing contacts</i>	
5.	CI team identifies close and casual contacts in <u>Form A1 (Section 8)</u> .	Form A
6.	CI-CT Coordinator compiles forms from different municipalities at the end of each working day and send it to Provinces for data entry.	
7.	<u>Data management team</u> enter all data from Form A0 and A1 into centrally accessible system (e.g. Go.Data)	
Contact Tracing Primary Responsible Team: Contact Tracing		
8.	<u>Team Leader</u> determines close contacts that are high risk and prioritizes them for tracing and interview.	
9.	<u>Team Leader</u> assigns contacts to <u>Contact Tracing Team</u> . The number of contacts per tracing team is decided by the team leader based on the field experience of the maximum number of contacts a contact tracing team can handle per day.	
10.	<u>Contact Tracing Team</u> prepares to locate and conduct interview of contacts.	
11.	If a case and his contacts are distributed across multiple municipalities within the same district, CI-CT coordinator establishes coordination between municipalities. If a case and his contacts are distributed across multiple districts, Provincial Focal Point to coordinate.	
12.	When the contact is traced, <u>Contact Tracing Team</u> queries the contacts about the kind of exposure or interaction they had with the case to reconfirm the information provided by the case or people who identified contacts on behalf of the case.	

	<ul style="list-style-type: none"> ◆ If no risk is identified when reconfirming, such persons are removed as a contact with consultation and approval from the <u>Team Leader</u>. 	
13.	<p><u>For a close contact:</u></p> <ul style="list-style-type: none"> — Interview confirmed contacts using the Form B1 with priority to high risk close contacts. — Provide information on their contact status, preventive measures, and the importance of notifying the contact tracing team if they develop symptoms. — If a contact is symptomatic at the time of interview, assign contact as a suspected case. Arrange for the transportation of the contact to an isolating hospital. — Immediately alert Team Leader. — If asymptomatic, perform PCR between 5 to 10 days of the last day of exposure. <ul style="list-style-type: none"> ○ If PCR positive, refer to protocol for case management of a confirmed case. ○ If PCR negative, inform them to stay in total 14 days quarantine since their last contact with the case, self-monitor symptoms and notify contact tracing team/hotline if symptoms develop. 	Form B1
14.	<p><u>For a casual contact:</u></p> <ul style="list-style-type: none"> — Interview contacts using the Form B1 — Provide information on their contact status, preventive measures, and the importance of notifying the contact tracing team if they develop symptoms. — Inform contacts to self-quarantine and self- monitor symptoms for 14 days and notify the contact tracing team/hotline if they develop symptoms. 	
15.	<p><u>Data management team</u> enter all Form B1 data into centrally accessible electronic system (e.g. Go.data)</p>	
<p>Contact follow-up Responsible Team: Hotline agent and Contact Tracing Team</p>		
16.	<p><u>Team Leader</u> to assign contacts to Contact Tracing Team; the number of contacts per team to be based on field experience to reach the maximum capacity a contact tracing team can handle per day.</p>	
17.	<p>Contacts are actively monitored primarily through <u>SMS-based system</u> and <u>Hotline agents</u>. Contact Tracing Team to conduct home visits when required.</p>	
18.	<p>Days 1-14. Contacts to maintain symptom diary and call contact tracing team if symptoms develop</p> <p>Each day, a SMS is sent to all contacts asking if they have any symptoms related to COVID-19</p> <p>Yes – They feel unwell</p> <p>No –Everyone is feeling well</p> <p>Active call to close contacts on Day 1, 3, 7, and 10, and 14</p> <p>Active call to casual contacts on Day 1</p>	Form B2

19.	If a contact cannot be directly reached, <u>Hotline Agent/ Contact Tracing Team</u> calls the alternative person identified during the first interview with the contact or his/her respondent.	
20.	If a contact or alternative contact could not be reached, <u>Hotline Agent/Contact Tracing Team</u> notifies the Team Leader. <u>Contact Tracing Team</u> conducts a house visit.	
21.	<u>Hotline agents</u> record status of each follow-up visit.	
22.	<u>Team Leader</u> to print list of follow-ups each day to facilitate the work.	
23.	<ul style="list-style-type: none"> — If a contact reports COVID-19 disease symptom during the 14 days follow-up period, <u>Hotline Agent/Contact Tracing team</u> immediately inform the Team Leader. — Contacts are informed of the nearest designated hospital for isolation and laboratory testing, along with other measures they need to take to ensure that those whom they live; works/study, travel and interact with are not exposed to the infection. <p><i>Refer to guidance for clinical management of confirmed COVID-19 cases</i></p>	
24.	On Day 14, if the contact has not reported symptoms then the period of follow-up ends. <u>Hotline Agent/Contact Tracing Team</u> to inform contacts of their release from follow-up.	

Annex 1: Seating Arrangements of Close Contacts in a Flight



Adapted from: Protecting Travelers' Health from Airport to Community: Investigating Contagious Diseases on Flights | Quarantine | CDC [Internet]. 2019 [cited 2020 Mar 21]. Available from: <https://www.cdc.gov/quarantine/contact-investigation.html>

Annex 2: Different Teams Involved in Case Investigation, Contact Identification, Contact Tracing and Contact Follow-Up

Team members and quantity	Responsibilities	Details
1. CI and CT Coordinator	<ul style="list-style-type: none"> — Oversee and coordinate CI CT operation within a district — Create linkage between Province and local level — Mobilize District RRT as requested by the local level 	Responsible person: Chief, Health Office role
2. CI and CT Supervisor	<ul style="list-style-type: none"> — Oversee operations, monitoring completeness of investigations and training, and mobilizing resources. — Assign cases to CI teams 	Responsible person: Health section chief of the local level
3. CI-CT teams	<ul style="list-style-type: none"> — Conduct case investigation and contact identification 	<p>Number of team will be as per "कोभिड-१९का लागि केश अनसुन्धान तथा कन्याक्ट खोजपड्ताल टीम परिचालन अन्तरिम निर्देशिका, २०७७" MoHP.</p> <p>CI-CT team constitutes of a team leader who oversees multiple Contact Tracing Teams</p> <p>Each CI and CT team is responsible for different cases</p>
3.1. Case Investigation and Contacts Identification team	<ul style="list-style-type: none"> — Interview any potential cases using case investigation form to <ul style="list-style-type: none"> • determine exposures • Identify all contacts (including household, work / study and travel settings, community gathering, etc) and list them in a contact listing form • Determine close or casual — The team consists of a team leader. His/her responsibilities are: <ul style="list-style-type: none"> • Involve in case investigation and contact identification • Assign contacts to contact tracing teams for tracing and follow-up • Decide which contacts should continue to be followed up/traced, which contacts are priorities, and 	<p>Trained interviewer with social and investigative skill;</p> <p>Team should compose of at least one public health officer, paramedics/nurse, and a laboratory technician.</p> <p>(See कोभिड-१९का लागि केश अनसुन्धान तथा कन्याक्ट खोजपड्ताल टीम परिचालन अन्तरिम निर्देशिका २०७७ for details)</p> <p>The team leader should have skills to manage multiple teams involved in case investigation and contact tracing. S/he should be highly organized and detail oriented and able to commit full-time to Case Investigation and Contact Tracing.</p>

Team members and quantity	Responsibilities	Details
	<p>which contacts can be discharged from follow-up.</p> <ul style="list-style-type: none"> • Liase with other stakeholders like police, airport authorities with support of CI-CT supervisor and CI-CT coordinator to trace contacts • Supervise and receive reports from investigation, contact tracing and follow-up team • Submit reports to CI-CT supervisor 	
<p>3.2. Contact tracing and Contact Follow Up Team²</p> <p><i>(At least three teams with two people in each team; multiple such contact tracing& teams could be constituted as per need)</i></p>	<ul style="list-style-type: none"> — Daily list of contacts to be obtained and previous day list to be submitted to CI-CT team — Find /Locate, communicate with, and interview all possible contacts — Alert contacts of their status, tell them about the contact tracing procedure including follow-up measures, and offer support — Inform contacts about the disease, prevention and self-care measures, importance of self-reporting on development of symptoms — Enquire if a contact has symptoms of the disease. If yes, then counsel the person and ensure that it is immediately reported to the Team Leader to make arrangements to investigate the contact as a potential suspected and for isolation. — Provide hotline number of call center to self-report or to ask any questions related to the disease — Submit contact interview report to the Team Leader 	<p>Trained interviewer with social skills; team could constitute of local volunteers including FCHVs, teachers, students, police, etc.</p> <p>Desired qualities of members of a contact tracing team:</p> <ul style="list-style-type: none"> • Knowledge of local language • Independent mobility
<p>4. Hotline Agents</p>	<ul style="list-style-type: none"> — Follow-up of the contacts — Answer any questions that arise during the follow-up process — If the contact develops any symptoms, immediately call the team leader and 	<ul style="list-style-type: none"> — Trained interviewer with social / counselling skills

² If there are few cases, same team can both investigate a case and interview his/her contacts. But as the number of cases grow, having different teams for investigation and contact interview could be helpful.

Team members and quantity	Responsibilities	Details
	report	
5. Data management team	<ul style="list-style-type: none"> — Enter and manage all data related to contact tracing including contact list, contact interview and daily follow-up — Provide accurate, up-to-date lists of all contacts to be followed — Perform data quality check — Assess whether there are cases with no or too few contacts, whether there are contacts that haven't been seen for several days with no explanation and give that information to the team leader. 	<ul style="list-style-type: none"> — Someone with prior data management experience and proficient computer skills. — If multiple provinces become involved, a data Manager at the National level should supervise and coordinate all the data coming in from the provinces. — EDCD manages data

Annex 3: Infection prevention and control protocol for Case Investigation and Contact Tracing Teams

	Remotely (e.g. telephone)	In person
Interview with cases	<ul style="list-style-type: none"> — No PPE (preferable method is to use telephone but face to face in a safe distance) 	<p>In COVID ward:</p> <ul style="list-style-type: none"> — Use full PPE <p>Not in COVID ward:</p> <ul style="list-style-type: none"> — Medical mask — Maintain physical distance of at least 1 m both sides — The interview should be conducted outside the house or outdoors, and confirmed or suspected COVID-19 patients should wear a medical mask if tolerated — No sharing of pen, papers etc — May use gloves as indicated
Interview with contacts	<ul style="list-style-type: none"> — No PPE 	<ul style="list-style-type: none"> — If in-person interview, the interview should be performed outside the house or outdoors. If it is necessary to enter the household environment, maintain physical distance of at least 1m from both side and do not touch anything in the household environment

Source: World Health Organization. Rational use of personal protective equipment (PPE) for coronavirus disease (COVID-19) [Internet]. 2020 [cited 2020 Mar 25]. Available from: https://apps.who.int/iris/bitstream/handle/10665/331498/WHO-2019-nCoV-IPCPPE_use-2020.2-eng.pdf

