

# **Interim guidance for management of essential TB services during COVID-19 pandemic**



Government of Nepal  
Ministry of Health and Population  
Department of Health Services  
National Tuberculosis Control Center



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Ministry of Health and Population  
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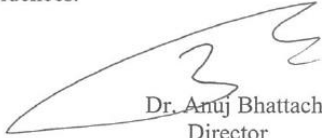
## National Tuberculosis Control Center

Thimi, Bhaktapur, Nepal  
(.....Section)

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Nepal is also tackling with COVID-19 pandemic, it is equally important for us to ensure that essential services is resilient and functional. During this difficult time, essential TB services needs to be people-centred and should not be compromised. Our National TB Programme has developed this interim guidance to support health personnel and TB patients for continuation of essential services. This interim guidance will be updated as informed by evolving situation and evidences.



Dr. Anuj Bhattachan  
Director

## 1. Situation of Tuberculosis and COVID-19

### 1.1 Tuberculosis (TB)

Tuberculosis is an airborne disease and transmitted through the person to persons, when people who are sick with TB expel bacteria into the air, for example, by coughing. It typically affects the lungs (pulmonary TB) but can also affect other sites (extrapulmonary TB). The probability of developing TB disease is much higher among people living with HIV; it is also higher among people affected by risk factors such as undernutrition, diabetes, smoking and alcohol consumption. The TB and COVID 19 symptoms are similar nature and attacks to the same organ (lungs)

### Comparison between Tuberculosis and COVID-19

	<b>COVID-19</b>	<b>Tuberculosis</b>
<b>Mode of transmission</b>	Transmitted via droplets and fomites during close unprotected contact between an infector and infectee.	Transmitted Via droplets not fomites during close contact with documented pulmonary disease. Will have sign and symptoms
<b>Transmission rate</b>	Higher transmission rate due to short incubation period. $R_0$ 2-2.5	Slower transmission rate due to its much longer incubation period. $R_0$ usually less than 1
<b>Can be prevented</b>	Yes, isolation of infected population, social distancing, hand hygiene, respiratory protection	Yes, prompt treatment of active TB, respiratory protection, treatment of latent infection
<b>Symptoms</b>	Fever (87.9%), Dry cough (67.7%), Fatigue (38.1%), Sputum production (33.4%), Shortness of breath (18.6%), Sore throat (13.9%), Headache (13.6%), Myalgia or arthralgia (14.8%), chills (11.4%), Nausea or vomiting (5.0%), Nasal congestion (4.8%), Diarrhea (3.7%), and hemoptysis (0.9%), Conjunctival congestion (0.8%)	Coughing that lasts two or more weeks. Coughing up blood. Chest pain, or pain with breathing or coughing. Unintentional weight loss. Fatigue. Fever. Night sweats. Chills
<b>Incubation period</b>	Mean incubation period generally b/t 3-7 days, range 1-14 days	Of the 5-10% of infections that develop into active (symptomatic and infectious) TB disease, it is thought that the majority occur within the first two years after infection
<b>Case fatality</b>	2.3 %. Individuals at highest risk for severe disease and death include people aged over 60 years and those with underlying conditions such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and cancer.	Without treatment, the mortality rate from TB is high. Studies of the natural history of TB disease in the absence of treatment with anti-TB drugs (conducted before drug treatments became available) found that about 70% of individuals with sputum smear-positive pulmonary TB died within 10 years of being diagnosed, as did about 20% of people with culture-positive (but smear-negative) pulmonary TB.
<b>Number of established cases in Nepal</b>	Two	Annually around 32000
<b>Death in Nepal</b>	None	Annually around 5500 (around 20 deaths per day)

## **1.2 COVID-19: Considerations for tuberculosis (TB) care services**

- As Nepal is also tackling the COVID-19 pandemic, it is equally important to ensure that essential services and operations to protect the lives of people with TB.
- National TB Programme has developed this rapid guidance to assist national TB programmes, health personnel and TB patients for continuity of essential services for people affected with TB during the COVID-19 pandemic.
- All measures should be implemented to provide quality service and to prevent any stigmatization or discrimination of people affected by either of these conditions

### **Principle guidance to follow**

As people ill with COVID-19 and TB have similarity in symptoms such as cough, fever and difficulty breathing. Both diseases attack primarily the lungs and although both biological agents transmit mainly via close contacts, the incubation period from exposure to disease in TB is longer, with often a slow onset.

Although people with TB who are on treatment may not be at an increased risk of serious illness, many people with Tuberculosis have conditions that increase their risk:

- Older age – over third of people with TB in Nepal are over 50 years of age.
- TB patients also tend to have comorbid or living conditions that increase their vulnerability. These include conditions such as malnutrition, HIV, silicosis, diabetes, homelessness and smoking.
- TB patients and survivors often have lung damage. Although there are no data, yet it is suspected lung damage might make TB patients more prone to COVID-19 and its negative outcomes.

While experience on COVID-19 infection in TB patients remains limited, it is anticipated that people ill with both TB and COVID-19 may have poorer treatment outcomes, especially if TB treatment is interrupted. During COVID-19 emergency, essential TB services needs to be people-centred for TB prevention, diagnosis, treatment and care. Essential TB services particularly essential diagnostic and treatment supplies should not be compromised during this period of COVID-19 response.

## **2. Information for front line health workers working in DOTs**

### **For Prevention:**

Based on the available evidence, the COVID-19 virus is transmitted between people through close contact and droplets, not by airborne transmission. The people most at risk of infection are those who are in close contact with a COVID-19 patient or who care for COVID-19 patients.

#### **i. Applying standard precautions for all patients.**

- Maintain spatial distance of at least 1m
- Ensure that all patients cover their nose and mouth with a tissue or elbow when coughing or sneezing.
- Offer a medical mask to patients with suspected COVID-19 while they are in waiting/public areas or in waiting rooms.
- Perform hand hygiene after contact with respiratory secretions.
- Provide IEC to patients related to COVID 19 prevention.

**Hand hygiene and respiratory hygiene are essential preventive measures.**

Recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease in DOTs center

<b>Setting</b>	<b>Target personnel</b>	<b>Activity</b>	<b>Type of PPE or procedure</b>
DOTs Center	Healthcare workers	Physical examination of patient with respiratory symptoms	Medical mask Gown Gloves Eye protection
	Healthcare workers	Physical examination of patients without respiratory symptoms.	Personal protection according to standard precautions and risk assessment.
	DOTS provider	During supply of DOTS to patient without respiratory symptoms	No PPE required
		During supply of DOTS to patient with respiratory symptoms	Maintain distance of at least 1m Use mask and globes Sanitize hands after touching the TB patient card
		Taking weight of respiratory symptomatic TB patient	Use medical mask Place the wait machine outside the DOTS clinic Ask the patient to read the weight if he can or read yourself with adopting proper PPE
	Patients with respiratory symptoms	Any	Provide medical mask if tolerated
	Patients without respiratory symptoms.	Any	No PPE required

**ii. Ensuring triage, early recognition, and source control (isolating patients with suspected COVID-19)**

- Encourage HCWs to have a high level of clinical suspicion.
- Establish a well-equipped triage station at the entrance to the facility, supported by trained staff, Institute the use of screening questionnaires according to the updated case definition.
- Post signs in public areas reminding symptomatic patients to alert HCWs.
- In case of high suspicion, inform higher authorities for needful action.

Additional precautions are required by healthcare workers to protect themselves and prevent transmission in the healthcare setting. Precautions to be implemented by healthcare workers caring for patients with COVID-19 disease include using PPE appropriately; this involves

selecting the proper PPE and being trained in how to put on, remove and dispose of it. Table 1 explains the WHO recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease, according to the setting, personnel and type of activity.

**For Diagnosis:**

TB laboratory services needs to be provided at both microscopic and Gene Xpert centre. Adequate stock of chemical, reagent necessary for microscopy and cartridge for Gene Xpert to be ensured by NTCC and province. To do so Laboratory focal person will be identified, and that focal person will communicate weekly with provincial team to know the status on functionality and stock situation of microscopic and gene Xpert center. As laboratory personnel needs to perform test on respiratory sample following precaution needs to be done.

Setting	Target personnel	Activity	Type of PPE or procedure
Laboratory	Lab personnel	Manipulation of respiratory samples.	Medical mask Gown Gloves Eye protection (if risk of splash)

**For TB labs (Microscopy and GeneXpert centers)**

- Must ensure supply of PPEs to labs (as stated in table above)
- Lab personal should disinfect the sample container with 1% sodium hypochlorite on receiving the sample
- Encourage patient to follow hand hygiene after sample submission

**For Treatment and care:**

**Patient-centered DOTS:**

Patient-centred care will be preferred over facility-based treatment for TB patients (unless serious conditions are requiring hospitalisation) to reduce opportunities for transmission till COVID-19 situation remains. Following measures needs to be taken:

- Change strategy of Daily DOTs at health facility to DOTs at household till the COVID-19 situation settles
- TB patients, as well as family member needs to be counseled about drugs compliance and side effect.
- Provide one month medicine for patient in intensive phase (1<sup>st</sup> two months) of DS TB if patient is not taking medicine from CB-DOTs
- One months of medicine for patient in continuation phase (after 2<sup>nd</sup> months) of DS TB if patient is not taking medicine from CB-DOTs
- One months of medicine for DR TB patient (not staying at treatment center) having all oral DR-TB medicine if patient is not taking medicine from DR TB CB-DOTs
- Follow up modality:
  - Local FCHV or health care worker will be mobilized to contact TB patients for their adherence and side effects.
  - Introduce a quick mobile follow up for each registered patient and follow up bi-weekly

### **Ensure infection preventive measure at DR-TB centers/sub-centers strong through administrative and environmental control.**

A strong infection prevention measure in DR centers where patient is taking medicines or staying in hostel needs to be done through strong administrative and environmental control.

#### **Implementing administrative controls.**

- Educating patients' caregivers
- Developing policies on the early recognition of acute respiratory infection potentially caused by COVID-19 virus
- Ensuring access to prompt laboratory testing for identification of the etiologic agent
- Preventing overcrowding, in all departments
- Providing dedicated waiting areas for symptomatic patients.
- Appropriately isolating hospitalized patients
- Ensuring adequate supplies of PPE
- Provide infection control training and use of PPE to health care workers

#### **Using environmental controls.**

- These controls address the basic infrastructure of the health care facility and aim to ensure adequate ventilation in all areas in the health care facility, as well as adequate environmental cleaning.
- Additionally, separation of at least 1 meter should be maintained between all patients. Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health care setting.
- Ensure that cleaning and disinfection procedures are followed consistently and correctly. Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as sodium hypochlorite) is effective and sufficient. Manage laundry, food service utensils and medical waste following safe routine procedures.

### **3. Ensure adequate provision of TB drugs at health facility, province and NTCC**

As appropriate planning and monitoring are essential to ensure that procurement and supply of TB medicines and diagnostics are not interrupted. National TB Program will ensure that there will be enough stock of TB medicine at all level. There needs to be minimum stock of:

- 2 months required medicine at Health facility
- 4 months required medicine at Province and
- 6 months required medicine at Centre

Logistics team at central level will communicate with provincial team in a weekly basis to know TB drugs status at province and below. At the same time, central team also will initiate to collect the supply chain management status up to treatment and diagnostic centre level using the format attached in Table 3 to make sure the uninterrupted supply of drugs, chemical and reagents. Based on the findings of the assessment, the NTCC will manage the logistics directly from the centre to periphery levels until situation is normal.

#### **4. Information for Tuberculosis patient**

The impact of COVID-19 on people with Tuberculosis is not known. Current evidence indicates that the risk of severe illness increases with age and with certain chronic medical problems. In one case series, the median age of critically ill patients was 66 years and 72% had underlying co-morbid conditions, including cardiovascular disease, diabetes, cancer, chronic lung disease, and immunosuppression. Although people with TB who are on treatment may not be at an increased risk of serious illness, many people with Tuberculosis have conditions that increase their risk:

- Older age – over third of people with TB in Nepal are over 50 years of age;
- TB patients also tend to have comorbid or living conditions that increase their vulnerability. These include conditions such as malnutrition, HIV, silicosis, diabetes, homelessness and smoking.
- TB patients and survivors often have lung damage. Although there are no data, yet it is suspected lung damage might make TB patients more prone to COVID-19 and its negative outcomes.

#### **How Can People with TB Protect Themselves?**

The basics for protecting yourself from COVID-19 are almost the same as for everyone:

- Washing hands with soap and water.
- Cover your cough or sneeze with a tissue or your elbow.
- Avoiding touching eyes, nose or mouth with unwashed hands.
- Avoiding close contact with people who are sick.
- Staying away from work, school, and other people if you become sick.
- Continuing your TB medications to keep your immune system as healthy as possible.

#### **What Can You Do If You Are at Higher Risk for Illness From COVID-19?**

In addition to general precautions to protect yourself, you should:

- Make sure that you have adequate supplies for your Anti-tubercular medicine and other medications.
- Keep away from others who are sick, limit close contact and wash your hands often.
- Avoid crowds and large gatherings of people as much as possible.
- If there is a COVID-19 outbreak in your community, stay home as much as possible but maintain a social network remotely to help you stay socially connected and mentally healthy.



## 5. Do's and Don't

### **WHAT MUST BE DONE TO PROTECT ONE'S SELF (THINGS TO DO)**

- Wash your hands frequently with soap and water or, use an alcohol-based hand rub.
- Cover your mouth and nose with tissue or handkerchief when coughing and sneezing. Maintain reasonable distance between yourself and someone who is coughing, sneezing (at least 1 meter apart).
- Avoid touching your eyes, nose and mouth.
- If you have fever, cough and difficulty in breathing, seek medical care immediately.
- People with flu-like symptoms should use face masks to cover the nose and mouth and stay home in a well-ventilated room.
- If you are caring for individuals who have symptoms, such as cough and fever you are encouraged to use a face mask to cover your nose and mouth for personal protection.
- Clean and disinfect frequently touched surfaces such as doorknobs/handles, car doors, elevator buttons etc. daily with regular household disinfectant or soap and water.
- All travellers coming from countries affected by the Coronavirus disease should follow guidance given by health workers at the airport and other border entry points.

### **WHAT MUST NOT BE DONE**

- **AVOID HAND-SHAKING AND HUGGING AT ALL TIMES.**
- Avoid close contact with people who are visibly sick with flu-like symptoms (fever, cough, sneeze).
- When sick with flu-like symptoms avoid going to public places, offices and public gatherings. Remain at home to avoid infecting others.
- Don't take self-medication such as antibiotics.
- Do NOT spit in public.
- Delay travel to countries that currently have many patients with Coronavirus disease. If you MUST travel, please follow the above protective measures.
- Avoid travel if you have flu-like symptoms.

## 6. Communication line

### 6.1 TB coordination team during COVID-19 pandemic:

Chair, Director, NTCC Dr. Anuj Bhattachan (9843921549)

Area	Focal person	Support
Focal point to coordinated with MOHP, HEOC and NEOC and partners	Bhanu Bhakta Neupane (9851071131)	Dr. Ashish Shrestha (9841336395)
Clinical management	Dr. Naveen Prakash Shah (9848063955)	Dr. Pramod Bhattraï (9851042167)
Focal person to coordinate with province and local level	Pushpa Joshi (9848424521)	Rajendra Basnet (9848026486)
Focal person to media	Basundhara Sharma (9851277997)	Gokul Mishra (9851151640)
Data management focal person	Dr. Sharad Sharma (9851172626)	Ratna Bhattraï (9851161452)
Logistic focal person	Badri Koirala (9851072056)	Ajudey Shrestha (9841460484) Salaral Khadka (9849129130)
Laboratory focal person	Meera Hada (9849619762)	Kirshna Adhikari (9851047441)
Technical expert, epidemiology expert	Dr. Lungten Wangchuk (9801246686)	Dr. Suvesh Kumar Shrestha (9801047879)

**Table 1. Recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease, according to the setting, personnel and type of activity**

Setting	Target personnel or patients	Activity	Type of PPE or procedure
<b>Healthcare facilities</b>			
<b>Inpatient facilities</b>			
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	Medical mask Gown Gloves Eye protection (goggles or face shield).
		Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95 or FFP2 standard, or equivalent. Gown Gloves Eye protection Apron
	Cleaners	Entering the room of COVID-19 patients.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
	Visitors <sup>b</sup>	Entering the room of a COVID-19 patient	Medical mask Gown Gloves
Other areas of patient transit (e.g., wards, corridors).	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact <sup>c</sup> .	Maintain spatial distance of at least 1 m. No PPE required
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated by patient.
	Patients without respiratory symptoms.	Any	No PPE required
Laboratory	Lab technician	Manipulation of respiratory samples.	Medical mask Gown Gloves Eye protection (if risk of splash)
Administrative areas	All staff, including healthcare workers.	Administrative tasks that do not involve contact with COVID-19 patients.	No PPE required
<b>Outpatient facilities</b>			
Consultation room	Healthcare workers	Physical examination of patient with respiratory symptoms	Medical mask Gown Gloves Eye protection

Setting	Target personnel or patients	Activity	Type of PPE or procedure
	Healthcare workers	Physical examination of patients without respiratory symptoms.	PPE according to standard precautions and risk assessment.
	Patients with respiratory symptoms	Any	Provide medical mask if tolerated
	Patients without respiratory symptoms.	Any	No PPE required
	Cleaners	After and between consultations with patients with respiratory symptoms.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
Waiting room	Patients with respiratory symptoms.	Any	Provide medical mask if tolerated. Immediately move the patient to an isolation room or separate area away from others; if this is not feasible, ensure spatial distance of at least 1 m from other patients.
	Patients without respiratory symptoms.	Any	No PPE required
Administrative areas	All staff, including healthcare workers.	Administrative tasks	No PPE required
Triage	Healthcare workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 1 m. No PPE required
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 1 m. Provide medical mask if tolerated.
	Patients without respiratory symptoms.	Any	No PPE required

**Table 3: TB Drug stock level collection from Treatment Centre**

SN	Name of drugs	Stock Balance at the day of visit	Number of patients	Remaining days for treatment	Average tablets need	Actual drug need	Drug balance situation	Expire date	Over Stock or Under Stock
1	HRZE								
2	HRE								
3	HR								
4	HR Child								
5	HRZ Child								
6	E Child								

**DR TB Drugs**

SN	Name of drugs	Stock Balance at the day of visit	Number of patients	Remaining days for treatment	Average tablets need	Actual drug need	Drug balance situation	Expire date	Over Stock or Under Stock
1									
2									
3									

**Status of Microscopic Centres in the Palika**

Number of MC	Number of Functional	Number of Non-Functional	Reason for Non-Functional

**Status of Genexpert Centre**

No of Xpert Machine	Module	Test per day	No of Cartridge Balance	Expiry Date

***Note: This interim guidance will updated informed by evolving situation and evidences.***