

Frequently Asked Questions: COVID-19 and Tuberculosis

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The novel coronavirus or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is a new coronavirus that was only recently discovered in 2019. The virus causes coronavirus disease 2019 (COVID-19).

Tuberculosis (TB) is caused by *Mycobacterium tuberculosis*, a bacterium known since 1882 when it was discovered by Dr Robert Koch, but there is historical evidence of TB in humans for thousands of years.

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1. What are the similarities between how COVID-19 and TB spread?

COVID-19 and TB are both respiratory infections that can be transmitted by a person with the disease who may release pathogens into the air when breathing out. These pathogens can then be inhaled into the respiratory tract of another person.

TB pathogen causes infection in humans by being inhaled or breathed in. TB pathogens are released into the air by an individual with TB disease, with the commonest route being coughing. TB pathogens are small (a droplet nuclei, <5µm in diameter) and they are small enough to remain airborne for long periods of time. TB pathogens can stay airborne for up to 6 hours, but their concentration is decreased by the movement of air (open windows, well ventilated spaces), and exposure to direct sunlight, which can kill them. As inhalation of TB bacilli can cause infection, being in close contact with someone who has TB disease, especially if they are not on an appropriate TB treatment and with symptoms such as cough, will increase the risk of being infected.

SARS-CoV-2 is larger (droplet particle, >5-10 µm in diameter) and is either inhaled if at close contact or they settle (or “drop”) onto surfaces. Studies to date suggest that the SARS-CoV-2 is mainly transmitted through contact with respiratory droplets rather than through the airborne inhalation. When someone sneezes or coughs, the droplet particles containing SARS-CoV-2 can become airborne immediately. The routes of transmission for droplet spread infections can be inhalation while drops are still airborne or when people come into contact with virus-containing droplets that fall onto a surface, usually by getting the droplets on their hands and then putting their hands to their face/mouth/nose/eyes and inhaling. The airborne route is more likely for close contacts of someone with COVID-19 or in healthcare facilities. Evidence to date shows that SARS-CoV-2 can survive on surfaces for several hours and even up to a day, which is why there is a focus on frequent and thorough handwashing to remove the virus after touching an infected surface. This is also why people should limit touching their face, in particular their mouth, nose, and eyes, all of which can serve as entry points to the rest of the body.

2. How infectious is SARS-CoV-2 compared to TB?

When we look at the infectivity of an agent, we usually refer to the reproductive number (R_0 value) which can describe the transmission of an infectious disease. The R_0 value gives a number of how many people a person with the disease can pass the infection on to.

Although data for SARS-CoV-2 are still emerging, early data indicate that the reproduction number (R_0) is 2.2. This means that each person with COVID-19 can pass the infection on to an additional 2.2 individuals.

The R_0 value for TB in low-incidence countries is below 1; there may be little chance of infecting others and no TB outbreaks take place. However, in low-income settings with a high TB burden, the R_0 value for TB has been as high as 4.3 in China (2012) and 3.55 in Southern India (2004 to 2006). The R_0 value for TB is also variable as it is affected by other

factors, such as environmental conditions and the health of population. So in settings with more TB in general, crowded living conditions and risk factors, such as malnutrition and HIV infection, contribute to a higher R_0 value.

Once a person breathes in the TB bacilli, there are many variables that can affect the risk of developing TB infection and disease. These include:

- age (being an infant or young child - younger than five years old; being elderly - older than 60 years)
- immunosuppression - such as from HIV infection or severe malnutrition
- having other comorbidities, such as diabetes
- being a smoker or having a high alcohol intake

These variables can make a person more likely to develop severe TB and more likely to have a poor outcome (possibly even death).

For COVID-19, the risk of developing disease is not yet so well-known, but evidence to date suggests that older age and having comorbidities, such as hypertension, diabetes, coronary heart disease and smoking are important risk factors of a poor outcome. It is not yet clear whether having comorbid lung disease like TB, or other infections such as HIV, will increase the severity of COVID-19 if infected with SARS-CoV-2. Some early evidence shows that TB infection is likely to increase susceptibility to SARS-CoV-2 and increases COVID-19 severity. Interestingly, people with asthma and chronic obstructive pulmonary disease (COPD) do not appear to have an increased risk of poor outcomes.

3. Are the symptoms of TB and COVID-19 similar?

Both COVID-19 and TB cause respiratory symptoms – cough and shortness of breath. Both cause fever and weakness. One of the biggest differences is the speed of onset. TB symptoms do not tend to occur immediately after infection and when they develop, are of a gradual onset, often over a period of weeks or longer, unlike COVID-19, where symptoms can occur within a few days.

TB usually has a period of time where bacteria are present in a person but the person is well and not infectious to others. During this time, the person has TB infection (sometimes referred to as latent TB), which has the potential to become active TB disease in the future. Thus, a person exposed to TB pathogens may: become sick within weeks (likely due to a severely weakened immune system); sick after years of carrying the bacteria when the immune system becomes weakened and cannot fight off the disease anymore; or infected but never sick. (For more information on TB infection, The Union offers an open access online course [here](#) in English, with French and Spanish versions coming soon).

Currently, symptoms of COVID-19 may appear 2-14 days after exposure, if symptoms ever arise, with a median incubation period of five days, similar to that of SARS. It looks

increasingly likely that there may be a period of asymptomatic spread for SARS-CoV-2 with reports of cases of spread occurring before the person has any symptoms (pre-symptomatic transmission events) and data show that some people can test positive for SARS-CoV-2 one to three days before they develop symptoms.

a. Comparison of TB and COVID-19

	Tuberculosis	COVID-19
Pathogen	<i>Mycobacterium tuberculosis</i> .	Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).
How it is spread	From person to person through droplet nuclei.	From person to person through droplet particles and through contaminated surfaces.
How it is diagnosed	Sputum tests for those with cough. Other samples depending on symptoms.	Nasal or oropharyngeal swabs and/or sputum tests.
Infectiousness	Range from less than 1 to up to 4 people infected per one person with TB.	Currently average of 2.2 people infected per one person with COVID-19.
Prevention	Prevention measures include TB preventive therapy for close contacts of people with TB and other risk populations, such as people living with HIV, appropriate TB treatment of people with TB and good airborne infection control and prevention measures.	Social distancing, cover your cough (cough etiquette) and frequent handwashing with soap for at least 20 seconds. Wearing a mask, particularly if experiencing symptoms or taking care of someone with symptoms. Personal protective equipment (PPE) for health care professions.
Symptoms	Systemic/generalised symptoms include fever, weight loss and night sweats. Lung specific symptoms can include: cough, shortness of breath, chest pain and coughing up blood.	Fever, cough (usually dry), sore throat and shortness of breath. Loss of smell and taste. During 2 nd week of illness (sometimes): difficulty in breathing (severe acute respiratory distress). Clinical presentation classified: <ul style="list-style-type: none"> • Asymptomatic/mild disease (80% of people with COVID-19) • Moderate disease (15%) • Severe disease (5%)
Treatment	Drug-sensitive TB 4 antibiotics for 2 months and 2-3 antibiotics for 4 months. For drug-resistant TB treatment, antibiotics for 9-24 months.	Symptomatic and supportive treatments currently. Antibiotics if secondary bacterial infection is suspected. Concentrated oxygen. Ventilator. Many drug trials under way.

Vaccine	BCG offers some protection, particularly for children against severe forms of TB.	No. Vaccine research and development underway.
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4. How deadly is COVID-19 compared to TB?

The data regarding COVID-19 are changing daily (check the [WHO Situational Dashboard](#) for the latest figures), including the number of deaths due to COVID-19 which are increasing daily. About 1.5 million people died from TB in 2018 and, of this total, over 250,000 were HIV positive. This equates to more than 4,000 deaths a day due to TB in 2018.

Mortality (death) rates determine the frequency of deaths in a specified population during a specified interval of time. With a novel disease like COVID-19, however, mortality rates are unreliable at this point in time due to a variety of factors. The COVID-19 mortality estimate may be unknown as we do not know exactly how many cases there are. This is due to underreporting and people with minimal or mild symptoms not being tested, and therefore not being factored into the total number of confirmed cases. This subsequently makes mortality estimates difficult. Some reports estimate mortality rates for COVID-19 anywhere from 1.5 to 20 percent, 20 percent being one of the highest estimates at the centre of the outbreak in Wuhan, China. In contrast, untreated TB has an average mortality rate of 45 percent. However TB is not only preventable but treatable, and the global success rate reported by the WHO for those who started TB treatment in 2018 was 85 percent.

Thus, TB, if untreated, is technically deadlier than COVID-19, though one must consider the diseases themselves and other risk factors: age, HIV status, the quality of the body's immune systems, etc. Up to 50% of people with active, untreated TB disease may die, much more than even the highest projected mortality estimates for COVID-19, making it critical to address prevention and treatment options for TB. The advantage for TB is that we do have treatments that work, including for drug-resistant forms of TB. We also have treatments for the TB infection stage to prevent a person from becoming unwell with TB. Currently there is no proven treatment for COVID-19 except supportive treatment, however there are many trials underway.

The impact of co-infection of TB and COVID-19 is still unknown, but there is the possibility both could exacerbate the natural symptoms of the other and have negative impacts on a person's health. Some early data from China show that COVID-19 outcomes are worse in people with TB. It is important that data are collected on a person's TB status if they have COVID-19 to help gather data on the exact impact of TB on COVID-19 and COVID-19 on TB outcomes.

5. I am taking TB treatment, is there any guidance or recommendations for what a person on TB treatment should do if they get infected with COVID-19?

Currently there is no recommended drug treatment for COVID-19, and treatment for COVID-19 is managed by addressing a person's symptoms. There is a large therapeutics trial, the SOLIDARITY trial, which may give more details on drug treatments for COVID-19, and

many smaller trials are also underway. There is no vaccine currently to protect against COVID-19.

It is important that if you are experiencing mild symptoms that are similar to those of COVID-19, that you continue taking your TB treatment in order to completely cure your TB. Also, inform your TB treatment provider to get advice on the COVID-19 diagnostic services in your country and how and if you need to access them. There is no evidence currently that TB medications increase your risk of developing COVID-19.

If you are diagnosed with COVID-19, let the healthcare provider know that you are on TB treatment. If you have been started on any treatment for COVID-19, your care provider can make sure there are no drug-drug interactions with other medications. This is particularly important if you are on treatment for drug-resistant TB as you are on more medications and you may be at more risk of drug-drug interactions (the drugs you are taking for your TB treatment may interact with supportive or experimental treatments for COVID-19 and cause you harm). For example, hydroxychloroquine is a drug that is under investigation for its role in treating COVID-19, but it could cause dangerous heart-related side-effects with some drug-resistant TB medication.

As the impact of COVID-19 on people with TB and on treatment is unknown, you should consider (if possible) to practise social distancing and infection control measures such as regular handwashing, mask wearing and avoiding crowded public spaces or gatherings of people to minimise your risk of getting infected.

6. What symptoms should I look for to know if I have either TB or COVID-19, given that some of the symptoms are the same?

As discussed above, the symptoms of COVID-19 can be similar to those of TB, with fever, cough, and shortness of breath among the symptoms, but there is usually a difference in the speed that the symptoms start. COVID-19 symptoms are likely to be of a more rapid onset.

If you come into contact with someone known to have either TB or COVID-19, that increases your chance of having these diseases. Additionally, if you have been to an area with high TB rates or high rates of COVID-19, this information can also help your care provider in finding out the cause of your symptoms.

If you are unwell and are showing the above symptoms and have been in contact with someone with either TB or COVID-19 and/or have risk factors for either as outlined above, it is important that you are tested for both TB and COVID-19. When you visit the healthcare facility, let them know your symptoms and any risk factors you may have for either TB or COVID-19 so they can ensure the appropriate infection prevention and control measures can be implemented while the diagnosis is sought. (Infection prevention and control is the term that is used to help protect infections from being spread and includes things like hand washing, ensuring adequate space around someone with symptoms and barriers like masks and gloves).

7. What tests are used for COVID-19 and TB?

The gold standard for both TB and COVID-19 is a microbiological confirmation, i.e. confirming the presence of either the TB bacteria or the SARS-CoV-2 virus.

Tests for TB usually include testing sputum for TB bacteria. The preferred tests are rapid molecular tests, which can not only confirm the presence of the TB bacteria, but also check for resistance to the commonest antibiotics available to treat TB.

Current tests for COVID-19 detect small segments of the virus (viral RNA) that indicate a current infection with SARS-CoV-2. These molecular tests use respiratory tract samples (usually swabs from the back of the nose or mouth) that are then sent to a laboratory to test for SARS-CoV-2.

There are many new tests being developed for COVID-19 with the aim of being more point of care, i.e. not needing large laboratories and skilled staff to complete. Currently, there are no point of care tests available for COVID-19. [The pipeline of COVID-19 tests can be found here.](#)

There have been some molecular tests developed that use existing diagnostic platforms/machines that are used in many countries to diagnose other infections, particularly TB and HIV. Tests that use these platforms offer an opportunity for countries that have high rates of TB to use existing infrastructure that is already in-country.

One of these newer tests for COVID-19 uses the GeneXpert platform that is used by many countries to diagnose TB. This test may allow for countries that have a high burden of TB to offer more tests for COVID-19. Currently, this test is recommended to be used for confirmed COVID-19 in someone who is unwell or at risk. It is important that the tests developed for COVID-19 are affordable and do not compromise any existing use for TB and HIV programmes.

Chest X-rays can be used for TB and COVID-19. For both TB and COVID-19, chest X-rays do not definitively confirm COVID-19 or TB, but they give care providers an idea of the likelihood of the diagnosis, while the microbiological (laboratory) tests confirm the presence of the pathogens. Chest X-rays or CT scans can be used to support a provisional diagnosis if there are not molecular tests available.

In countries that have a high burden of TB, it is particularly important that people with symptoms that could suggest TB continue to be screened and tested for TB with tests for SARS-CoV-2 offered in line with the national guidelines.

8. I have recovered from TB, but am I at greater risk of getting infected with COVID-19?

As COVID-19 is so new, there is little data available on if those with TB or those who have a previous history of TB are more at risk of worse COVID-19 outcomes, but some early evidence from China does show worse outcomes and more severe COVID-19 disease for

those with TB. For TB survivors, since COVID-19 affects the lungs and we know that there is usually some left-over damage in the lungs following TB disease, this may put you at increased risk of developing more severe COVID-19 symptoms.

People who have had TB, particularly those who may have required lung surgery or who have been diagnosed with post-TB lung disease should consider limiting their exposure to high risk environments, such as health care settings, and practice more stringent social distancing than the general population.

The key ways to protect yourself from COVID-19 include:

- Regular handwashing using soap and water or an alcohol-based hand rub
- Social distancing - maintain at least 1 metre (3 feet) distance between yourself and anyone who is coughing or sneezing
- Good respiratory hygiene by covering your mouth and nose with your bent elbow or tissue when you cough or sneeze, then disposing of the used tissue immediately
- Avoid touching your face, mouth, or eyes
- Wearing a mask, particularly in high risk environments.

In addition to the advice regarding regular handwashing, regular cleaning of surfaces, and practicing social distancing measures, some of the ways to protect yourself include keeping in good general health and avoiding tobacco use. It has been shown that tobacco use (including tobacco smoking, vaping and using e-cigarettes) gives an increased risk of developing a more severe COVID-19 disease. If you do use tobacco products, it would be recommended to stop – this will not only protect you from severe COVID-19 disease but will be good for your lung health in general and also protect you from TB.

9. I am a contact of someone with TB, do I still take my TB preventive therapy?

People who have been in contact with someone with TB and who are well and do not show any signs or symptoms, may have TB infection, sometimes also referred to as latent TB. People with TB infection do not spread TB bacteria. Almost 2 billion people have TB infection, i.e. infected with TB but without active TB disease, and it is estimated that 5-10 percent of otherwise healthy people with TB infection will develop active TB disease over their lifetime.

TB preventive therapy (TPT) treats the infection before it can make you unwell and develop TB disease. If you have been started on TPT, it is important that you continue taking your treatment. You can discuss with your healthcare provider to have your complete course of TPT provided so that you do not need to attend the healthcare facility for more medication. Make sure you have a number to contact in case you develop any problems with your TPT.

10. My child is on TB treatment, do they continue taking it?

Evidence to date suggests that children and adolescents (0-19 years) are less susceptible than adults to severe COVID-19 disease.

If your child is on TB treatment, as with adults, it is important that he/she continues and completes treatment. To minimise the child's and the caregiver's exposure to high risk COVID-19 environments, such as health care facilities, you can ask your health care provider for enough medication to complete the treatment at home without having to attend a clinic for refills. Ensure that you have a number to contact if there are any problems.

If your child is a contact of someone with TB, he/she is eligible for TB preventive therapy (TPT). Given the increased risk of children, particularly those under the age of five years, to develop TB disease, it is important that any child who is a contact of a person with TB is screened for TB disease and started on TPT even if he/she has no evidence of active TB. It is likely that the numbers of TB-related deaths in children and adolescents globally in 2020 - around a quarter of a million - will far exceed those due to COVID-19, so it is vital that children are continued to be screened for TB and treated or offered TPT during the COVID-19 response.

Health care providers should set up remote support and monitoring for children on TB treatment and TPT.

11. Do I need to wear a mask?

Wearing a mask presents a barrier for the spread of both TB and COVID-19 pathogens as masks stop them being distributed into the air or infecting surfaces with respiratory droplets if being worn by someone who has symptoms. Masks can also reduce the chances of the wearer inhaling the pathogen or touching the mouth or nose with hands that have touched objects infected with respiratory droplet particles.

Masks have been used in TB infection prevention and control for many years to reduce the risk of further spread of TB. Personal protective equipment (PPE), such as surgical face masks and respirators, are only a part of TB infection control and prevention measures. Measures ensuring the processes and environment in health care settings are such that people with TB and the healthcare workers are protected are often more important. For TB, as there is an effective treatment available, once a person is on the right treatment the risk of infecting others rapidly decreases and there is often no need to wear a mask. It follows that the earlier people with TB are diagnosed and started on correct treatment, the better; these steps are crucial in interrupting spread of TB pathogens in our families and communities.

For COVID-19, the World Health Organisation (WHO) prioritises the use of personal protective equipment (PPE) for health care providers. PPE usually includes gloves, medical masks, goggles or a face shield, and gowns, as well as for specific procedures, respirators (i.e. N95 or FFP2 standard or equivalent) and aprons.

There is some evidence from China that voluntary wearing of masks by healthy or asymptomatic people in the community can help decrease the spread of COVID-19. Mask wearing is part of a package of infection prevention and control interventions, and in isolation is likely to have a minimal impact on transmission of TB or COVID-19. If you are at risk and in a high burden context (for either TB or COVID-19), adding mask wearing to regular hand washing, social distancing, and cough hygiene practices may offer additional protection.

For the general population where surgical masks or respirators are not available, there are a number of resources available on making “non-medical” masks that could be used if it is difficult to access surgical masks or respirators. There is no evidence on how well these masks work and they should be added to existing proven infection and prevention activities (as above).

12. How will the TB response be affected?

There are guidelines regarding the management of TB in emergencies that can help countries plan to ensure that TB services remain operational. It is very important that national TB services continue, and that people have access to diagnostic services, treatments and support services for TB during this time of COVID-19. Given the impact that COVID-19 has had in countries with increasing cases, there are a number of risks for the TB response:

- National TB programme staff being drafted into the COVID-19 response, creating staff shortages or increased workloads
- National laboratory and diagnostic services focusing on COVID-19 activities, such that TB laboratory tests like rapid molecular tests and cultures are delayed and there is limited access to chest X-rays
- Drug stock-outs and procurement issues. As global transport networks are reduced and countries involved in the manufacture of TB medications are affected, there may be delays in the procurement chain. If health systems are overwhelmed or there are staff shortages, stock management may be de-prioritised.
- Social distancing measures and national quarantine measures may interrupt treatment support and TB contact tracing measures.

These are all risks that national TB programmes, WHO, donors and implementing partners need to work together to plan for and put in strategies to avoid.

[WHO has issued an information note regarding TB care services and COVID-19.](#)

It is yet to be seen how the COVID-19 response will affect the activities of TB programmes in high burden TB countries. It is vital that priority is given to continuing to support those on treatment as well as activities to find, treat and prevent TB.

13. What should TB programmes do to lessen the impact of the COVID-19 epidemic on TB prevention and care services?

WHO has released guidance for TB programmes on how to continue their programmes during the COVID-19 pandemic.

The Infectious Diseases Society of Southern Africa also released some pragmatic and immediately implementable approaches for TB services, particularly those in low- and middle-income countries (LMICs), which not only ensure that their TB care continues, but will also help to protect people with TB from COVID-19.

The approach of TB programmes during COVID-19 can include:

- People with TB should be required to make far fewer visits to TB clinics and healthcare facilities, and instead be provided with enough medication to ensure they can complete their treatment at home.
- Staff at healthcare facilities must receive urgent training on the importance of universal safety precautions, appropriate use of personal protective equipment (PPE) and criteria for self-isolation to reduce the spread of COVID-19 in TB clinics.
- All people with TB should receive and wear a surgical mask while attending a TB clinic and be screened for COVID-19 through an appropriate triage system.
- Clinicians should recall by telephone all those with results that require urgent attention. People with TB on treatment should have a number that they can contact if they have any concerns about their treatment or other issues that could compromise their TB care.
- The move to all-oral regimens for drug-resistant TB (DR-TB) needs to be accelerated.
- People with TB who also have HIV and who are not on antiretroviral therapy (ART) should be started on ART on the same day as TB treatment, with ART and TB prescriptions aligned.
- Adherence counselling remains vitally important and should be carried out by phone.

TB programmes, for the immediately foreseeable future, need to move to a more “hands-off” approach to TB care, with minimal visits to health care facilities to protect people with TB from COVID-19 and remove the pressure on over-burdened health care facilities.

This does not, and should not, mean that there should be any decrease in the quality of care. People with TB should be supported from diagnosis and throughout the entire period of time that they receive treatment, monitoring them for side effects to medication and ensuring that the treatment they receive is working.

It is important to continue to screen contacts of people with TB and offer TB preventive therapy (TPT) to those eligible. TPT is particularly important for children less than 5 years old and/or people living with HIV, as they are most at risk of developing TB. The continuation of TPT services may serve to not only protect against additional people developing TB disease but protecting them from worse outcomes from COVID-19. The use

of shorter TPT regimens as recommended by the WHO may help continue and expand TPT activities.

14. Do I need to stockpile my TB medicines?

There are concerns regarding global supply of medications. Currently, none of the first-line TB drugs are being used for the management of COVID-19, and as such there is not expected to be a re-directing of the medications themselves to people with COVID-19. High burden TB countries should have procurement and supply management systems in place to ensure adequate supplies of TB medications and timely ordering of new drugs to avoid stock outs. International procurement agencies, such as the Stop TB Partnership's TB Global Drug Facility, are working with governments to ensure TB supply chains are not affected.

If you are on TB treatment, you should continue to take your medication as prescribed and keep your appointments with your care provider for medication refills. Given the rapidly evolving situation for COVID-19, when you next have an appointment with your care provider, it would be worth discussing options for medication refills, such that you receive all the medication you require to complete your treatment. You should also have a means of contacting your care provider if you have any side effects or difficulties in completing your treatment.

15. What alternatives are available to ensure people in treatment for TB can continue to be given the proper support and supervision if directly observed therapy (DOT) is restricted due to social distancing and national quarantine measures?

Social distancing is a type of measure used by public health officials to slow down or stop the spread of a disease, especially to allow healthcare systems a chance to ensure care can be offered to everyone who needs it. For social distancing, people are advised to stay at least one metre (three feet) away from each other to limit the spread of COVID-19, prompting many officials worldwide to cancel large scale events and gatherings in order to mitigate the spread of disease.

In many TB programmes, the daily observation of a person with TB taking medications is part of the treatment package for people with TB. Where daily observation of treatment is being recommended as a standard of care, it should be not only for the recording of medication adherence, but to check for any side effects or issues with the treatment as well as offering support to the person with TB.

While the spread of COVID-19 continues, models of care that involve regular close contact may need to be reconsidered, particularly if national quarantine measures are put in place. TB programmes should consider giving people on treatment more medication so that they can go longer between appointments and not attend health care facilities as frequently. For people with drug-resistant TB (DR-TB), all oral regimens should be prioritised.

There are alternatives to daily observed therapy (DOT), which can include self-administered therapy (SAT) and support utilising digital platforms such as video-observed therapy (VOT)

and other mobile phone-supported adherence strategies, such as 99DOTS. There is increasing evidence that these, when implemented as part of a comprehensive package of care, can have the same outcomes as DOT and are often a more patient-centred approach to care. While some of these systems require time and digital/mobile technologies to be implemented, TB programmes with large numbers of people using DOT should consider what options can be implemented in a short period of time, including prioritising DOT for those who need more support through their treatment and moving the majority to SAT.

If DOT approaches have to be quickly withdrawn from people on TB treatment due to national quarantine procedures, it is vital that TB programmes ensure people on treatment have enough medication to complete their treatment and that they have a system in place to continue to support people on TB treatment, to ensure that any side effects from the medications can be addressed as well as support any psycho-social issues. This is particularly the case for people on DR-TB treatment who often have more medications to take and may experience more side effects from the treatment.

16. I keep reading about new treatments and novel ways to protect yourself from COVID-19, how do I know if they are true?

SARS-CoV-2 is a very new virus and we are learning new things about it every day with regards to how it spreads, how we can protect ourselves from it, treatments that may be able to prevent you from falling ill or treat you if you become unwell with COVID-19. The best way to check the information that you are reading or that is being shared is to check reputable websites. The WHO updates its website daily with information on all aspects of COVID-19 ([here](#)). The United States Centers for Disease Control and Prevention (CDC) website also has regular updates on COVID-19 ([here](#)). These websites are reputable and trustworthy sources for the latest evidence and knowledge with regards to COVID-19

17. Does the BCG vaccine protect against COVID-19?

The BCG vaccine has been used against TB for the last 100 years. The BCG is the most widely administered vaccine in the world, although a number of low burden TB countries no longer routinely give the BCG as part of their national immunisation programme. BCG does not offer significant protection against TB in adolescents and adults, but it does protect young children against the most severe forms of TB.

A recent study suggested that the BCG may offer a protective effect against COVID-19, but there are a number of weaknesses to this study. There are now two clinical trials addressing this question to generate evidence to confirm if there is any protective effect from the BCG for people with COVID-10. These studies must be timely and well-resourced.

It is important not to divert BCG supplies from its original purpose of vaccinating young children against TB, and children must continue to receive the BCG in line with the national vaccination schedule. WHO does not recommend BCG vaccination for the prevention of COVID-19.

18. I am feeling anxious and stressed about COVID-19, what can I do?

Individuals with TB have a significantly higher risk for depression than the general population due to multiple reasons and these feelings are likely to be made worse during this time. It is very normal to feel anxious, stressed or fearful during a time of uncertainty and change and the COVID-19 pandemic is causing global change and uncertainty.

Some common feelings you may be experiencing are: fear and worry about your own health status and that of your loved ones, changes in your sleep or eating patterns, difficulty sleeping or concentrating and increased use of alcohol, tobacco or other drugs.

If you are already on treatment for mental health conditions, it is important that you continue your treatment and if the symptoms are getting worse, let your care provider know.

If you are on TB treatment, particularly drug-resistant TB treatment, again let your care provider know so they can check that it isn't one of your medications that is making these feelings worse.

Although social distancing is absolutely crucial to combat the spread of the virus, staying home and avoiding contact with friends and loved ones can be emotionally difficult. It is important to look after your mental health and wellbeing at this time which could include:

- Maintain a healthy lifestyle at home, including a balanced diet, sleep, and exercise – even simple exercises that can be done at home if you are in an area limiting outdoor activity.
- Avoid relying on support like alcohol or tobacco as these impact negatively on mental health as well as your physical health.
- Stay in contact with loved ones and friends at home via phone or online means.
- Stick to credible sources of news about COVID-19 such as the WHO website, or a local or state public health agency. Reduce the time you and your family spend watching or listening to media coverage of the crisis and avoid this especially before bedtime.
- Remember that children may respond to stress in different ways: Some resources for [helping explain COVID-19 to children](#) and helping children to cope with stress can be found in [The Union COVID-19 resources page](#).
- [WHO has guidelines](#) on ways to reduce the feeling of stress and support mental wellbeing which includes advice for health care workers, different ages groups and those in isolation.

19. What can I do to reduce stigma related to COVID-19 and other communicable diseases?

We have learned from our experience with TB of the effects of stigma on people with or at risk of disease and the importance of the language we use when describing the illness. We have seen the similar use of stigmatising language by the media and others when discussing people who have COVID-19. It is important that we adhere to the language

guidance issued by WHO, which mirrors many of the lessons we have learned in TB to minimise stigma experienced by people affected by COVID-19.

Stigma can be one of the most powerful barriers to delivering prevention, treatment and care to those most in need, and can negatively affect those with the disease, as well as their caregivers, family, friends and communities. It is important that we refer to the virus by its name, not by the place of origin or the region that the virus initially affected.

Person-centred language is language that respects and empowers people, putting the person before the disease. For example, say “person with COVID-19” or “person showing symptoms of COVID-19” rather than using phrases like “COVID-19 victims” or “suspected cases”. The language we use shapes our understanding of the situation, and it is essential that we avoid blaming others or ostracising a person who may be ill with disease. Read the WHO’s [guidance on stigma](#) for more information.