

EQUINET Information sheet on COVID-19



Produced by Training and Research Support Centre for the Regional Network for Equity in Health in east and southern Africa (EQUINET)¹
March 20, 2020

This brief summarises and provides links to official, scientific and other resources to support an understanding of and individual to regional level responses to the epidemic of 'novel coronavirus', also known as COVID-19. On January 30 2020, the World Health Organization declared the coronavirus outbreak a Public Health Emergency of International Concern (PHEIC) and on March 11 2020 it declared it a pandemic. The International Health Regulations (IHR) 2005 term a PHEIC an extraordinary event that constitutes "a risk to other States through the international spread of disease", requiring a coordinated international response.

The multiple messages and reports, can overwhelm people who are also trying to respond to the epidemic at different levels. This brief aims to assist by bringing together information and links to resources from various sources on a range of issues related to COVID-19 covering:

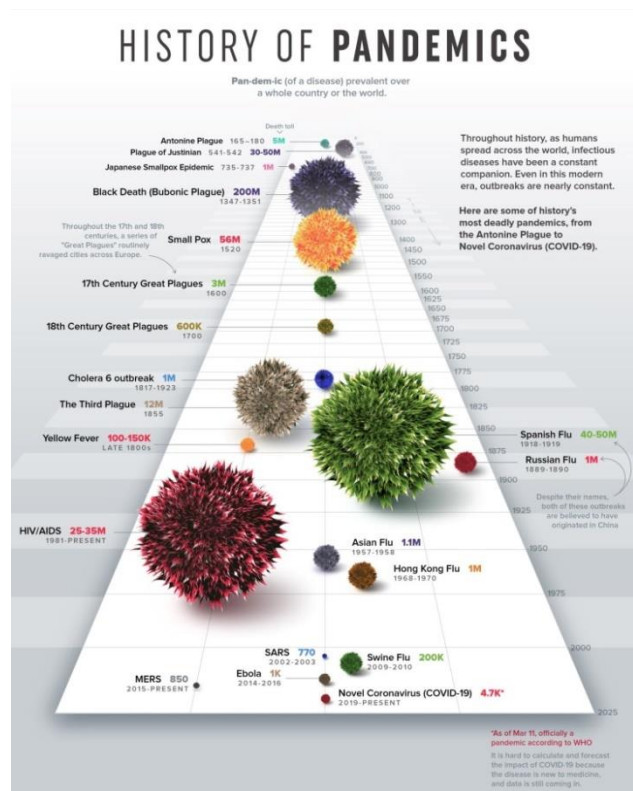
- 1: Basic information on the virus and its health impact
- 2: The level and growth of the pandemic
- 3: What individuals and communities can do to prevent and respond to COVID-19
- 4: What workplaces and organisations can do to prevent and respond to COVID-19
- 5: Protection and support of health and other frontline workers
- 6: What countries are doing to prevent and respond to COVID-19

The specific focus is on the ESA region, with information from other regions that may be useful for the ESA region or that may raise issues to discuss and plan for in the ESA region. The information is generally sourced from World Health Organisation (WHO), various official, public health and technical/ scientific sources. The source of information is cited/hyperlinked. The WHO page on COVID-19 is at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>.

This brief complements and does not substitute information from your public health authorities. You can read the full information sheet or go to the section that is most relevant to you. The information is as of March 20 2020. This first brief provides general information. Further editions will provide updated information, especially on the epidemic and responses in the region. We welcome feedback and contribution (send to admin@equinetafrica.org).

Basic information on COVID-19

COVID-19 is one of a family of viruses called coronaviruses. It is a new virus that was not known before the first reported outbreak was reported in Wuhan China on 29 December 2019 (this does not negate that there may have been earlier undetected cases). The first cases of COVID-19 outside of China were identified on January 13 in Thailand and on January 16 in Japan and from there it has spread to 182 countries in all world regions by March 20 2020. As the adjacent graphic shows, COVID-19 is one of a sequence of bacterial and viral diseases that have spread across countries. (While the numbers and size of the icons show the total cases, COVID-19 is still in progress, with nearly 250000 cases in March 20th so the number is not final).



¹ EQUINET is a network of professionals, civil society members, policy makers, state officials and others within east and southern Africa (ESA) implementing research, analysis, information sharing, dialogue and learning from action to promote health equity (www.equinetafrica.org). Written by R Loewenson

COVID-19 is different to the Severe Acute Respiratory Syndrome (SARS) virus that spread in 2003 (which caused more deaths but was less infectious - less easy to transmit- than COVID-19). Coronaviruses are common in animals. A third of the initial cases had direct exposure to the Huanan Seafood market in Wuhan selling fish, shellfish, wildlife, snakes, birds and several different types of meat and carcasses. The market was closed immediately, and it has not reopened since. The genetic sequence of the virus has been identified but not the source. [Scientists have rejected theories of a laboratory origin or that it came from snakes, while suggesting a close similarity between the COVID-19 virus and that in viral samples collected from bats.](#) Nevertheless the similarities found to date are not enough to link it to the human virus, and the intermediate animal host needed to spread it to humans has also not been identified. Identifying the animal source is important to inform prevention interventions.

The health risk and severity of illness posed by COVID-19 is assessed from:

- a. Its [transmission Rate \(Ro\)](#), which is the number of newly infected people from a single case. If the Ro is 0 and less than 1, the spread of the virus falls and it will disappear. If it is above 1 the epidemic is increasing. [Various studies](#) have estimated the Ro for COVID-19 to be between 1.5 and 3.58. In January [WHO](#) estimated it to be between 1.4 and 2.5. (For comparison, the Ro for the common flu is 1.3 and for SARS it was 2.0). This is a global estimate- countries and even local areas will have different transmission rates. A proxy measure for the Ro is the number of days it takes to double the reported cases. This information is more readily available for ESA countries. For example in In South Africa on 17 March the number of cases doubled in 3 days.
- b. The [Case Fatality Rate \(CFR\)](#) for COVID-19 is the percent of cases that result in death. [WHO estimated the](#) CFR in January to be around 2%. However, the real number of people infected is not known, so when the CFR is calculated from confirmed cases who test positive, it may appear higher than reality. The CFR also varies by country and area, depending on factors like how widely people are tested and on access to appropriate care. The virus can also mutate, raising or lowering the case fatality.
- c. The health risk is also judged from whether [transmission is possible before people have symptoms and how long it takes for symptoms to appear, or the incubation period](#). Symptoms of COVID-19 may appear in as few as 2 days or as long as 14 days (with [various estimates](#) in this range and an outlier of 24 days). During this time the virus is contagious but the person does not display any symptoms (*asymptomatic transmission*).

Testing enables infected people to *know* that they are infected and to take measures to avoid infecting others, or to get the care they need. It enables authorities and public to understand the epidemic and take action to slow it. The most common diagnostic tests for COVID-19 - as part of the part of the [protocol recommended by the WHO](#) - are the so-called “PCR tests” that use swabbed samples from the nose and throat. Tests may produce a false-negative result if they are done in an early stage of the disease, when viral loads are too low to be detected. False negative results can also occur if there are no major respiratory symptoms and little detectable virus in the throat and nose, or if samples were poorly handed. The WHO thus notes that additional tests may be needed in specific situations.

Distribution: Data for COVID-19 show equal numbers of cases between men and women so far, although there is report of small [differences in mortality and vulnerability to the disease between men and women](#), with more men than women dying, potentially due to differences in immunology or in social patterns like smoking. However there is caution against early assumptions, and as discussed later, women as carers and in family and social roles may be more heavily affected by the burdens imposed by the epidemic.

COVID-19 can infect people of all ages. Older people, and people with pre-existing medical conditions (such as asthma, diabetes, high blood pressure, heart disease) appear to be more susceptible to becoming severely ill with the virus. The fighter cells against disease (the immune function) decline with age. Older people, especially over the age of 70 years, are also more likely to be afflicted by chronic diseases that weaken the immune system. Older people have a higher chance of having a dangerous over-reaction called a [cytokine storm](#), where proteins that signal to the body to fight infection over-react, causing severe inflammation, high fever and organ

failure. However, it is important to keep in mind that a majority of older adults have recovered, especially older people in otherwise good health.

Younger people who have underlying medical conditions - such as asthma, diabetes, high blood pressure, heart disease- may also have compromised immune systems and be more vulnerable. The virus can also damage the immune cells that might otherwise fight against it. For such people the virus can do more damage. The WHO [report on China's outbreak](#) found a case fatality rate in people who reported no chronic diseases to be 1.4% but to be 13.2% for those with cardiovascular disease, 9.2% for diabetes, 8.4% for hypertension, 8.0% for chronic respiratory disease, and 7.6% for cancer.

In the ESA region, there is a relatively higher prevalence of people living with HIV, tuberculosis and malnutrition and high levels of other communicable diseases, that may compromise immune systems and make people more vulnerable. This has been noted also by the Director General, World Health Organization:











As the coronavirus moves to low-income countries, we're deeply concerned about the impact it could have among populations with high HIV prevalence or malnourished children. We're calling on every country & individual to do everything they can to stop transmission

There is still limited data on the level of added vulnerability to COVID-19 due to HIV, TB, malnutrition and other conditions prevalent in ESA countries. This is something that will need close attention from communities and public health authorities.

For example, Mudhukar Pai, a pulmonary specialist, has raised concerns on [the implications of COVID-19 for tuberculosis](#) and its management. The experience of the more mature epidemic in South Korea was that tackling COVID-19 disrupted routine TB care, particularly for those needing hospital-based care such as MDR-TB patients. There is no data yet, but Dr Pai raises the risk that lung damage from current or past TB may make patients more prone to negative outcomes of COVID-19, as may the malnutrition, HIV, silicosis, diabetes, homelessness and smoking that also raise the risk of TB. He proposes that if TB patients and survivors develop COVID-19 symptoms, they should be tested immediately and if needed hospitalized. Their care may demand additional support, from volunteers, hotline numbers and Whatsapp, and other digital tools for those in self isolation, like [video observed therapy](#) to supervise that they take the TB treatment.

The most common symptoms of COVID-19 are fever, tiredness, and dry cough. Some people may have aches and pains, nasal congestion, runny nose, sore throat or diarrhoea but this is less common (See the infographic adjacent on symptoms of COVID-19 vs cold and flu).

According to the WHO, 'these symptoms are usually mild and begin gradually. Some people become infected but don't develop any symptoms and don't feel unwell. Most people (about 80%) recover from the disease without needing special treatment. Around 1 out of every 6 people who gets COVID-19 becomes seriously ill and develops difficulty breathing". (see above discussion on older people, and those with underlying medical problems).

Symptoms	Coronavirus <small>Symptoms range from mild to severe</small>	Cold <small>Gradual onset of symptoms</small>	Flu <small>Abrupt onset of symptoms</small>
 Fever	Common	Rare	Common
 Fatigue	Sometimes	Sometimes	Common
 Cough	Common* (usually dry)	Mild	Common* (usually dry)
 Sneezing	No	Common	No
 Aches and pains	Sometimes	Common	Common
 Runny or stuffy nose	Rare	Common	Sometimes
 Sore throat	Sometimes	Common	Sometimes
 Diarrhea	Rare	No	Sometimes for children
 Headaches	Sometimes	Rare	Common
 Shortness of breath	Sometimes	No	No

Sources: World Health Organization, Centers for Disease Control and Prevention

[Scientists in Australia](#) report that they have mapped how the body's immune system responds to coronavirus, as an important step in the possible creation of an effective vaccine. They note that three days after admission with symptoms, the patient they were tracking for this had large populations of several immune cells, which are often a tell-tale sign of recovery during seasonal influenza infection. They thus predicted that the patient would recover in three days, which is what happened. From the date of onset of symptoms, a total of 11 days passed in this case before recovery and discharge. 20 days after onset of symptoms the test was still negative.

Medical personnel who have managed COVID-19 report the following common progression of symptoms, although symptoms and duration may vary between people

1. It first infects the throat, with a sore throat lasting 3 to 4 days, and possibly mild fever.
2. About 6 days later the person may recover, or the virus may enter the trachea and then the lungs, causing pneumonia. With the pneumonia comes high fever, a severe nasal congestion and difficulty in breathing. People with fever, cough and difficulty breathing should seek medical attention.

There is a very useful visual summary of information on COVID-19 in an infographic at <https://informationisbeautiful.net/visualizations/covid-19-coronavirus-infographic-datapack/>

Updates on the development of the pandemic

The numbers: This brief doesn't present the numbers of cases in ESA countries as this is constantly changing. You can find them updated on the links outlined here:

1. WHO provides - at 10am Geneva time - a daily situation report on COVID-19 at <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports/> and in a [visual situation dashboard](#) By March 20 [34 of Africa's 54 countries had cases](#), with the total close to 650.
2. The ['Our World in Data' site](#) uses the WHO data to present accessible analyses of the data on COVID-19, and Johns Hopkins presents a [visual dash board](#).
3. Daily information is also provided in an accessible form on the Worldometer site² at <https://www.worldometers.info/coronavirus/>, showing for all countries that have reported cases: total and new cases, total and new deaths, total recovered, active cases, serious or critical cases and importantly, the *prevalence rate* of total cases/ million people³.

Understanding the numbers: Numbers can confuse as much as they explain! There are some important things to look for:

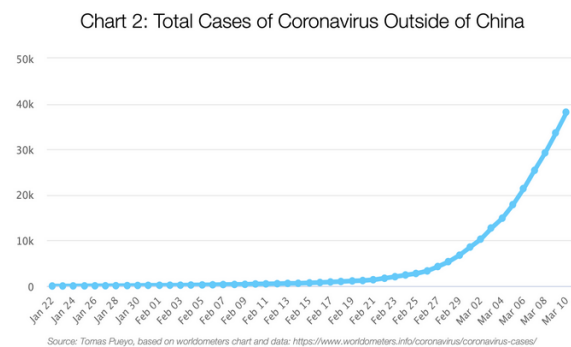
- a. We don't really know the actual number of cases in a country - we only know the number confirmed by testing, a subset of the total. It is useful therefore to know how many cases have been confirmed in relation to how many tests are done, to interpret the figures for cases. Since cases can only be confirmed with the tests, more tests generally implies more cases. However countries with similar levels of testing may have different levels of confirmed cases. If a country that has lower levels of confirmed cases or a fall in confirmed cases for similar levels of testing this is an encouraging sign ([Roser et al, 2020](#)).
- b. We need to have measures that help us to assess the risk of infection. The prevalence rate combines old and new cases as a share of the population. Two countries may each have 200 cases, but there is a difference if one has 200 cases in 1000 people and the other 200 cases in 100 000 people. *The incidence rate*, or the *new cases* per 1000 people or deaths/ 1000 tells us more about the rate the epidemic is spreading.
- c. The *rate of growth of new cases and deaths* tells us more about where we are in the epidemic than the total cases. Even if the total number is low, if new cases and deaths are increasing rapidly case numbers will rise. One way to see this is through the number of days it takes for cases or deaths to double. Fewer days equate to faster growth in cases.

² Worldometer is run by an international team of developers, researchers and volunteers providing live counters on key issues using information from reputable organisations and statistical offices, including for Covid19, WHO, government disease control/ public health agencies and press reports

³ There are small differences in these data as the Worldometer site may update nationally reported data more quickly than they appear on the WHO site and data from Johns Hopkins also publishes data on 'recovered cases' which the WHO does not publish (see Roser et al, 2020 at <https://ourworldindata.org/coronavirus>).

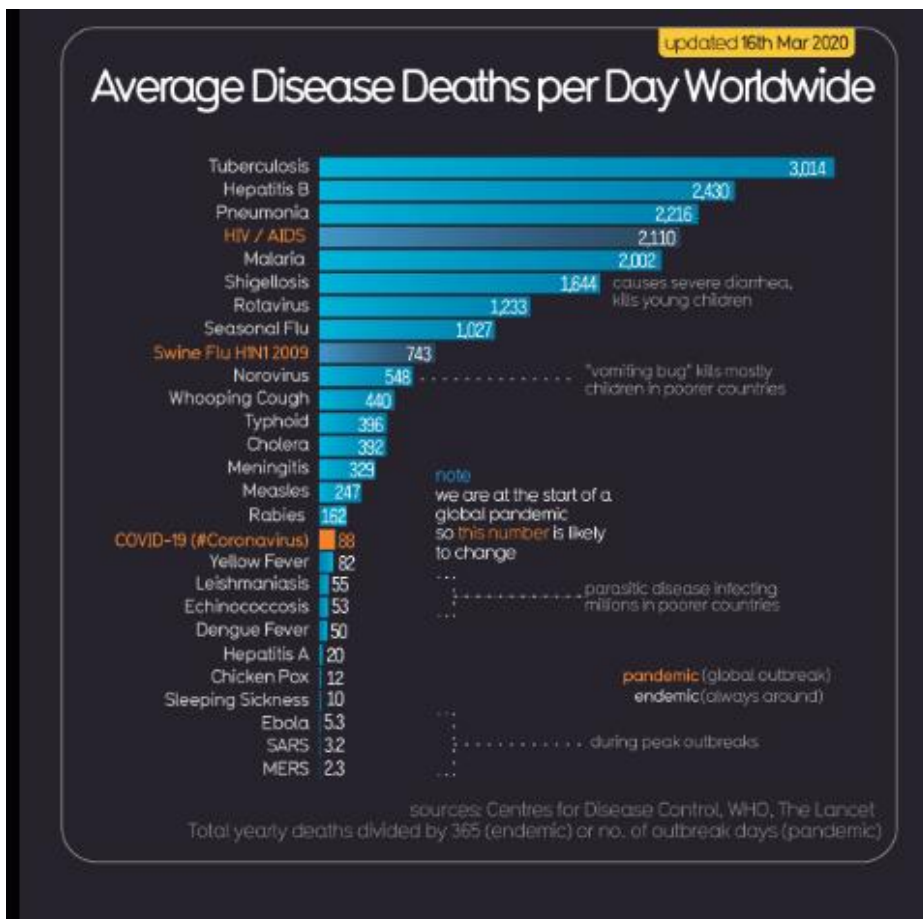
For example on 17 March, China's total confirmed deaths and cases doubled in 31 and 36 days respectively, as the epidemic is declining there. In contrast in Spain deaths and cases doubled in 2 and 3 days respectively as it is rising ([Roser et al, 2020](#)). In South Africa on 17 March cases doubled in 3 days. The case reports for other ESA countries are now beginning to emerge and this figure is one we need to keep an eye on in the future.

- d. The epidemic curve changes from a relatively horizontal line with low levels to an exponential more rapid rise, as the adjacent example of the cases outside China compiled by [T Pueyo](#) shows. This is the curve that will happen if cases or deaths double at a constant rate and can lead to many cases/ deaths, even if the starting figures are low. Low numbers are thus not a cause for complacency!



It is also important to know whether the cases are imported or whether local transmission has begun. Local transmission refers to cases spread locally person to person in the country and not coming from a person arriving from another country. According to the [WHO situation reports](#) on 17 March, *in the ESA region*, local transmission has already begun in South Africa, Rwanda and Kenya. On that date Seychelles, Democratic Republic of Congo, Namibia, Eswatini, United Republic of Tanzania only had imported cases. **Whether cases are imported from other countries or spread locally is important to keep a track. Containment by screening for fever and symptoms at ports of entry is key when cases are imported, but is not sufficient when cases are spreading locally, when in-country measures are also needed.**

The worldometer site indicates that by March 21 there were 304 990 COVID-19 cases globally and 13 007 deaths.



As a comparison, every year an estimated 290,000 to 650,000 people die in the world due to complications from seasonal influenza (flu) viruses.

The COVID-19 figures are significant, but it is important that we also keep in mind the daily deaths world-wide due to other conditions, shown adjacent from [the infographic cited earlier](#).

African countries have a high share of this burden of mortality. When the COVID-19 epidemic ends or falls to low endemic levels, these other deaths will still be there and also need to be prevented.

The figures on COVID-19 cases and deaths help to decide what to do to control the epidemic at different stages. To control the epidemic, we need to reduce the transmission rate, the R_0 discussed earlier, to below 1. Usually this is done through vaccinating enough people to interrupt transmission and build a herd immunity. This means that even if a few people have the condition, it won't spread, as they will only make contact with immune people.

An [effective vaccine for Covid-19](#) is unlikely to be available for another 12-18 months, however. Kucharski, [Klepac and Glog, \(2020\)](#) thus suggest other ways of reducing transmission, such as by shortening the duration of infection with treatment. Yet here too, while there are more than a hundred clinical studies in progress, a therapy is not yet available. Another way of reducing the duration of infection by [testing](#) - finding infected people and advising them to self-isolate for the duration of the infection so they don't pass on the infection. This slows down the spread but it also needs quick test results to be effective. In Wuhan test results came back after 4 hours, in UK it takes 2-4 days and in many ESA countries if they have to send to central labs it can take much longer. Testing and isolating cases are key for the **containment model**. The earlier and the more thorough the testing and contact tracing is, the better the chance of containment.

With some transmission of [Covid-19](#), before people show obvious symptoms, if the testing is based on symptoms, such as in the [airport screening at arrival](#) for fever, this is not 100% effective. Asymptomatic infected cases may escape detection, infecting wider contacts. As a result, [containment](#) has failed to stop the epidemic in many countries.

One strategy (such as that applied in China and Italy) is to stop as much infection as possible. The WHO China Joint Mission Report suggested that 80% of transmission in China occurred in the household, as wider contacts had already been drastically reduced by other interventions. Social isolation and mass lock-downs may interrupt the transmission rate to below 1. The transmission rate will also be reduced by measures that reduce the probability of transmitting the virus upon contact - such as by frequent handwashing with soap, not touching our faces, covering our coughs and sneezes. It can also be reduced reducing the number of different people we come into contact with by self-isolation, cancelling large gatherings, working from home, school closures and other '*social distancing*' measures. Many countries are now implementing this. There is a question of how many months such restrictions can be sustained for, however, as well as a possibility that when restrictions are relaxed infections may re-emerge and rates will climb again. At this point the restrictions will need to be reintroduced.

We need to know which activities/contacts are most likely to spread the virus to identify what will have most impact on stopping it and to avoid taking actions that unnecessarily impede freedoms and socio-economic activity. For example, as Kucharski, [Klepac and Glog \(2020\)](#) found for the UK that adults aged 20-50 make most of their contacts in workplaces, calling for remote working, while people over 65 years make their contacts in shops, suggesting a need to find ways to bring supplies to them. ***In ESA countries mapping the situations where crowds are more frequent for different age groups will be important for prevention.***

If lower risk people are infected, recover and become immune, they cannot infect others. The more immune people there are, the lower the risk of infection. This is another way of building herd immunity. People who are immune may return to work places and maintain services and economic activities, as long as those who are seriously ill receiving treatment. As this is a new epidemic it is not currently clear how long immunity lasts for. To know this we need to track the antibodies and tests for this are under development. ***We will include more on immunity in a latter information sheet.*** As discussed later, health services cannot handle too many people with severe illness at the same time, so social distancing is needed to reduce the rise in the epidemic and to avoid this. [T Pueyo \(2020\) maps the progression and impacts of the epidemic](#) to argue that even countries with low numbers should implement social distancing measures to give health services a chance to cope. Others argue that if restrictions imposed are too severe for too long, people may resist them and they may have negative socio-economic impacts.

Countries with more mature epidemics have done projections of the future spread of COVID-19, the numbers likely to be affected and severely affected, and the effect on different control measures on these numbers. It should also be done in ESA countries. Future iterations of this brief will look at this in more detail.

3: What individuals and communities can do

We do not need to wait for all the scientific information on the virus to act. There is sufficient information to act *now* to stop its spread. Experiences in China, Hong Kong and South Korea indicate that it is possible to bring transmission down.

[On 12 March 2020, the WHO DG noted](#) that this calls for a four pronged strategy to:

- a. Prepare and be ready
- b. Detect, prevent and treat
- c. Reduce and suppress, and
- d. Innovate and improve.

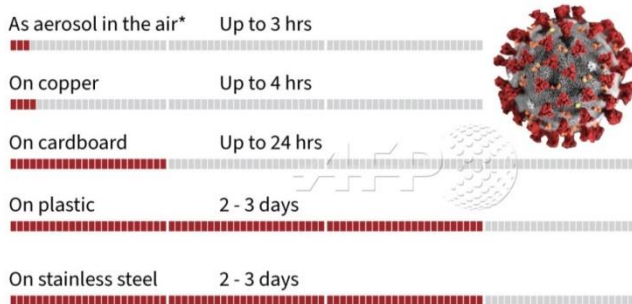
In the next sections we cover the implications of these approaches for individuals, communities, organisations, health services, national and regional levels, based on existing knowledge, WHO guidance and experience from more mature epidemics. ***We are on a learning curve on this. As many ESA countries are just beginning to respond, in future information briefs more information will be included on the responses in the region.***

Interrupting transmission starts with preventing exposure.

WHO indicates that the virus spreads from person to person through small droplets from the nose or mouth that are spread when a person with COVID-19 coughs or exhales. These droplets land on objects and surfaces around the person. Studies indicate that if someone sneezes the droplets generally fall to the ground or surfaces about 3 meters away. Other people then catch COVID-19 by touching these objects or surfaces, and then touching their eyes, nose or mouth. The virus can survive on different surfaces for different lengths of time. [Studies have evaluated the stability of the virus](#) outside the human body, with the findings summarised in the adjacent graphic. On fabric, it is reported to survive for 6-12 hours and be killed by normal laundry detergent. The virus is not heat-resistant, dislikes direct sunlight and is killed by a temperature of 26/27 degrees centigrade.

How long does the virus last?

SARS-CoV-2, which causes COVID-19, needs a living host to reproduce in. A new study looks at how long it can last outside the body



Study and paper by :
New England Journal of Medicine
CDC
Universitis of California, LA, Princeton

*Researchers used a nebulizer to simulate coughing or sneezing, and found that the virus became an aerosol

© AFP

People can also catch COVID-19 if they breathe in droplets from a person with COVID-19 who coughs out or exhales droplets. This is why it is important to stay more than 1 meter (3 feet) away from a person who is sick”.

For individuals, therefore, it means you can **prevent your exposure** by:

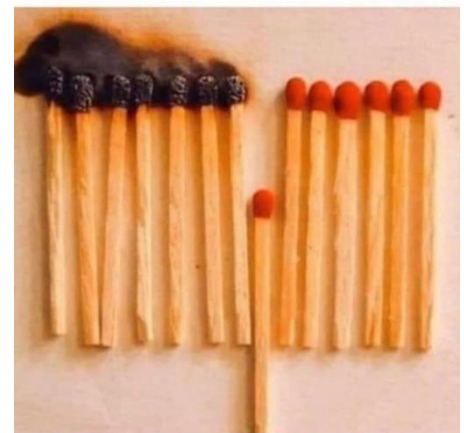
- a. Regularly and thoroughly washing your hands with soap and water for at least 20 seconds, especially after blowing your nose, coughing, or sneezing, having been in a public place, before and after eating, before and after the toilet and if you have touched surfaces. The soap destroys the lipid (fatty) outer layer of the virus and kills it.
- a. If you do not have running water use an alcohol-based hand sanitiser that has at least 60% alcohol to clean your hands in the same frequency as you would wash them with soap. Clean things you and others touch regularly like smart phones, kitchen and work surfaces, doorknobs computer keyboards with the sanitiser or surface cleaner. (Avoid taking and using your phone in the toilet!). Keep a bottle of sanitizer available at each of your home or work entrances and in the bag you travel with so you can use it if you touch surfaces when you can't immediately wash your hands.
- b. Avoid touching your eyes, nose and mouth. You don't notice you are doing it, but people unconsciously touch their faces more than 45 times a day! So this takes attention. Hands

- touch many surfaces, pick up virus and if you touch your face you transfer them to your eyes, nose or mouth and from there the virus can enter your body and can make you sick.
- NO HANDSHAKING or hugging! Use a fist bump, bow, elbow bump, Vulcan signal or whatever creative non-touching method you devise. Use your knuckle to touch light switches, elevator buttons, etc. Open swing doors with your hip not the handle, don't close doors unnecessarily to avoid having to keep touching handles (including on bathrooms when not in use).
 - To the extent possible, avoid touching surfaces in public places, such as elevator buttons, door handles, handrails, etc. Use a tissue or your sleeve to cover your hand or finger if you must touch something.
 - Avoid crowds, especially in poorly ventilated spaces. The risk of exposure to respiratory viruses like COVID-19 may increase in crowded, closed-in settings with little air circulation.
 - Avoid non-essential travel and big meetings
 - Maintain at least 1 metre (3 feet) distance between yourself and others, particularly anyone who is coughing or sneezing, to avoid breathing in droplets that may have the virus.

Avoid exposing others:

- Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Then dispose of the used tissue immediately. If you use your elbow remember that clothing on your elbow may then contain an infectious virus that can be passed on before it is washed.
- Stay home if you feel unwell. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance. Follow the directions of your local health authority. National and local authorities will have the most up to date information on the situation in your area and many provide a hotline number to call. Calling in advance will allow your health care provider to quickly direct you to the right health facility. This will also protect you and help prevent spread to others.

This photo has been shared by doctors in Greece. "The one who stayed away saved all the rest"



Maintain good health and boost immunity:

- Drink a lot of water, especially warm water. Try not to drink liquids with ice. You can also gargle as a prevention using a solution of salt in warm water, as this may help to reduce viruses when they are in the throat, before they go down to the lungs.
- Eat immune boosting and anti-oxidant foods- Carrots, spinach and green leafy vegetables, mango, apricots, pumpkin or squash, sweet potatoes, squash or yams, broccoli, parsley, garlic and onions
- Eat fruits and vegetables that are rich in vitamin C, such as oranges, lemons, tomatoes, papaya, mangos, red peppers
- Eat protective foods for the respiratory system, like adding acacia honey with ginger and lemon to hot drinks.

It's important to also think about measures in your **family and communities:**

As [Resnick et al, \(2020\)](#) point out, socio-economic inequality can lead poorer communities to have more risk of exposure and less means to deal with it. Many communities in ESA countries lack predictable running water at home or work, making even basic infection control measures like handwashing problematic. ***The community level aspects of ESA, such as the need for access to functioning water services and the inequalities in access to other prevention and care measures will be discussed in future information briefs.***

Communities need to ensure that enterprises, commercial and public buildings have hand sanitiser with >60% alcohol at all entry and exit points to be used by anyone in need, public wash facilities with soap and water should be expanded to enable frequent washing with water and soap. (They should be placed in secure dispensers to avoid removal as that would disadvantage everyone).

The measures above to protect individuals should be available to all in families, including children. Families should make time to discuss measures to avoid exposure and help children to implement them. We need to think about others, such as how to avoid exposure in those who wash clothes (that may have been sneezed on), those who care for ill family members and children or those who keep homes clean. Women take on many of these roles. The epidemic may also cause anxiety, in children and adults, and families need to reassure and address this, communicate across the generations and provide support, such as with the methods shown in the adjacent graphic.

MANAGING CORONA VIRUS (COVID-19) ANXIETY

For You

- Avoid excessive exposure to media coverage
- Connect through calls/text/internet
- Add extra time for daily stress relief
- Practice self-care
- Focus on your mental health

For Kids

- Reassure them that they're safe
- Let them talk about their worries
- Share your own coping skills
- Limit their news exposure
- Create a routine & structure

For Quarantine/Isolation

- Keep in contact with your loved ones via social media, texts, and phone calls
- Create a daily self-care routine
- Keep yourself busy: games, books, movies
- Focus on new relaxation techniques

To protect the wider community, people who have [coronavirus symptoms](#) – dry cough, fever, and a general feeling of listlessness – should self-isolate for 14 days, depending on the rule set by national authorities. Anyone who has had these symptoms in the in the past 14 days should avoid visits to older / vulnerable people to avoid passing it to them. If a family or community member has the symptoms, follow the advice above for individuals to support them to report to a health service and / or to self-isolate.

Solidarity is also a good remedy to the risk and inequality that may arise at a community level. While later sections discuss the responses from workplaces, services and governments, actions at the community level can have a significant impact on health and wellbeing. In more mature epidemics communities are using existing or forming new local associations to provide mutual support, as for example indicated adjacent of cards being distributed by a COVID 19 Community Support group to make links in communities with those who need support.



There are many social networks in ESA countries and later updates will share further information and links on what is being done to inform and make connections.

Elderly people and people with disabilities, disabling chronic conditions can already be socially isolated and lonely — with harm to their physical and mental health. That creates a difficult situation if the response to COVID-19 further isolates such people.

For those that live in collective facilities like nursing homes, there is a risk of cases spreading amongst more vulnerable people within the facility if measures are not taken to limit the spread. However, this may further isolate them, especially if the people providing the care start to keep their distance.

There are things we can do to help vulnerable people (elderly, those with underlying conditions) to promote good health and prevent exposure:

- Avoiding unnecessary exposures especially in crowded places and public transport. This means staying home if it is not necessary to go out, but also not becoming isolated or housebound. It means finding good ways to keep regularly in touch and have interactions.
- Staying active – going for walks or other exercise, walking outdoors, in gardens, even just standing up and walking around indoors 10 times an hour.

HELLO! If you are self-isolating, I can help.

My name is

I live locally at

My phone number is

If you are self-isolating due to COVID-19 I can help with:

<input type="checkbox"/> Picking up shopping	<input type="checkbox"/> Posting mail
<input type="checkbox"/> A friendly phone call	<input type="checkbox"/> Urgent supplies

Just call or text me and I'll do my best to help you (for free!)

Coronavirus is contagious. Please take every precaution to ensure you are spreading only kindness. Avoid physical contact (2m distance). Wash your hands regularly. Items should be left on your doorstep. #ViralKindness

- Helping to ensure the healthy diet noted above for individuals , including with shopping so they do not need to go into crowded places
- Ensuring they have a supply of the medicines they need and getting medicines from local services or pharmacies if not.
- Helping to clean surfaces in their homes, as noted earlier.
- If family members, friends are symptom free (and have been for the last 14 days) visit, but limit direct contact where not necessary and increase the frequency of other methods to keep in frequent contact to reassure and help, such as through WhatsApp and calls.
- If you visit people who are vulnerable, then apply all the measures for preventing individual exposures noted above.

Families can help to prepare support if vulnerable people have to self-isolate:

- Check that they know the symptoms and who to contact if they experience them.
- Plan and make sure people have the supplies they need in case of quarantine or self-isolation, such as food, medication and help with other errands.
- Deliver or ensure they can get delivered medicines and groceries if they need to (if there is concern over exposure these can be left at the door for the person inside to bring in)
- Have a plan in case the main person they rely on for care also gets ill, detailing the medication they are on, important contact numbers and who can step in.

4: What workplaces and organisations can do

In more mature epidemics in high and middle income countries, [the evidence shows](#) that lower earners are likely to be hit most swiftly, lack entitlement to sick pay, are in jobs that make it less possible to work from home, making it harder for them to protect their incomes in the face of social distancing measures. They also have limited or no savings and have less to fall back on. In ESA countries this is even more significant, with many low wage workers, weak social protection systems, and large shares of informal employment where even a short period without work implies catastrophic levels of impoverishment.

For formal organisations and workers, there are measures that should be taken to plan for the epidemic and prevent exposure.

Workplaces need to ensure conditions to **prevent exposure:**

- Informing all at the workplace on COVID-19 its mode of spread and prevention
- Involving all at the workplace in agreeing on and communicating organisational procedures and a plan for prevention, management and support that all understand and will comply with.
- Making water and soap available to all workers and clients for handwashing.
- Having an alcohol-based hand sanitiser that has at least 60% alcohol at points of entry and exit in a secured container.
- Promoting awareness on exposure prevention methods for worker and clients, including through reminder signs on handwashing, avoiding hand-shaking etc, face touching, direct hand contact with doorknobs etc and on good respiratory hygiene (there are free WHO infographics for this).
- Ensuring regular cleaning of commonly touched kitchen, bathroom, entry/exit, communal and work surfaces, doorknobs computer keyboards with sanitiser or surface cleaner.
- Ensuring good ventilation and 1m meter spacing of workers and where possible further.
- Avoiding in person meetings, where-ever possible holding these on skype, whatsapp, zoom or by other virtual means; and having any small internal meetings in well ventilated / outdoor spaces.
- Postponing or cancelling large gatherings/ conferences/ meetings and non-essential travel.
- Considering changes in opening and closing time for workers using public transport to avoid their travelling in and out to work in peak transport periods, maintaining hours of work.
- Setting plans for home-or remote working and facilitating access to internet/ data for employees needing to do home-working.
- Securing adequate resources for measures to prevent office exposures.

Organisations and all workers need to have clear information on what to do if they experience COVID related symptoms at home or at the workplace, and the procedures for seeking medical attention and for self-isolation. .

WHO indicate that the likelihood of an infected person contaminating commercial goods is low and the risk of catching the virus that causes COVID-19 from a package that has been moved, travelled, and exposed to different conditions and temperature is also low. However, organisations should identify work organisation changes needed to significantly limit / reduce face-to-face exposure to outside organisations, banks and suppliers, especially if they bring workers into crowded areas, such as by having appointments to avoid queues, or managing interactions remotely online.

While self-isolation will be required for those with symptoms, some workplaces may at some stage need to switch to remote working, or have to close. The consequences of this for workers needs to be planned and prepared for. If workers lose income due to these measures, it may create an incentive to mask symptoms. In more advanced epidemics [discussion is underway and measures are being proposed and implemented to secure incomes and social protection.](#)

These include:

- a. Simple extensions of sick pay, to increase the eligibility and length of benefit to enable workers to take sick leave
- b. Ensuring that employment and workers incomes are sustained, given that this will also play a role in the family and community management of the epidemic. This may imply reducing dividends to shareholders, drawing on investment resources and reducing capital spending to pay for measures to keep workers on the payroll. This may call for public sector support for struggling enterprises, to subsidise wages so that they do not fall below two thirds of previous wages and above the statutory minimum. If from the public sector this may be done through existing mechanisms to enable companies to make timely payments to workers, such as through tax and VAT breaks or deferrals or by public funding through employer administered social security systems.
- c. Ensuring that workers have funds to purchase soap, antiseptic supplies, water for their own prevention activities at home.
- d. Ensuring stronger social security safety net, setting aside funding to meet health care costs for workers and their immediate families who need it.
- e. Contributing to schemes and networks that are supporting community led responses, such as those discussed earlier.

The Southern African Trade Union Co-ordinating Council (SATUCC), a regional trade union organization representing all major trade union federations in the Southern African Development Community (SADC) has [issued a statement on COVID-19](#), noting some of the issues. SATUCC has called for national response teams on employment issues and for workplaces to ensure free testing for those with symptoms and access to health services. In addition, SATUCC has raised the need for special attention to ***the situation of migrant workers many of whom are particularly vulnerable. Migrant workers must be able to return to their habitual place of work as soon as it is practicably possible should local and/or national containment measures financially or logistically inhibit them from doing so. Public health measures and health care services for prevention and treatment of Covid19 should be available for all workers and their families, whatever their residence status.*** [Veary and Ganday \(2020\)](#) note that for COVID-19 control and support measures to succeed that need to reach everyone and should not exclude marginalised foreign migrants. For example, they queried South Africa spending ZAR37.2 million to build a border fence with Zimbabwe, when this could provide income support to 20,898 pensioners.

A further group of workers that SATUCC notes require more focused attention are frontline health care personnel. This is discussed in the next section.

Informal sector organisations and workers are the majority of those in employment in most ESA countries and play a significant role in national and household economies. Yet these workplaces generally have much more limited resources and social protection to prevent exposure and manage the consequences of the epidemic. This needs to be addressed for the protection of workers in the sector and of the wider society. For example, [Bhekisisa, the centre for health journalism, raised concerns](#) in March around access to the resources to implement

measures to prevent risk, such as in taxis or in informal markets. For example, confining 15 people or more to a combi taxi, a common practice in many countries, will put them at higher risk of contracting COVID-19, as was found for TB in a [2013 mathematical modelling study](#). Local authorities need to play a role in this, to provide water tankers to communities and water points and soap or hand sanitiser in public areas, including in taxi ranks, train and bus stations; and to regularly clean minibus taxis and market stands. In some previous epidemic control, informal sector workers have been shut down or displaced, sometimes with conflict between workers and authorities. COVID-19 will demand sustained measures to be applied over many months. To succeed in this the informal workers' and residents' organisations need to be engaged on how to address the challenges, the roles in an effective response, including the role informal sector organisations can play in prevention awareness and activities, given their embedded nature in many communities.

How to secure prevention, incomes, employment and social protection in the informal sector is a key challenge. Linda-Gail Bekker, the deputy director of the Desmond Tutu HIV Centre observed: "We're in a no-information no-precedent zone here which makes it all difficult." Yet it is a key element of the response that ESA countries will need to address, in dialogue with those affected, and with some speed.

Future updates of the brief will aim to provide further information on the employment and labour impacts and responses in ESA countries.

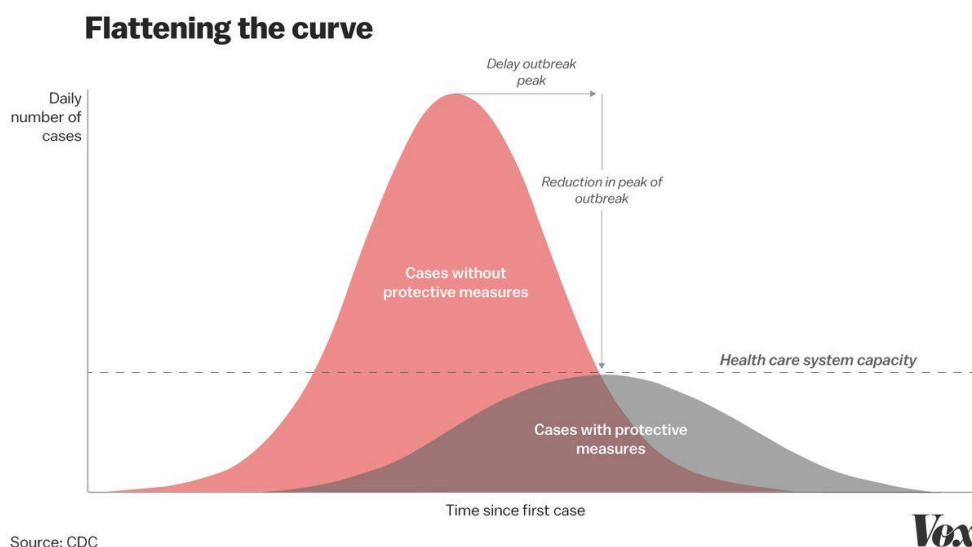
5: Protection and support of health care and frontline workers

A major uncertainty in the coronavirus outbreak in many countries is how big it will get, and how fast. How many people are exposed, become infected and get ill matter to properly plan for an effective service response. From the experience in high and middle income countries, WHO has, as noted earlier, identified that about 84% of cases will be mild and not need health care treatment and about 16% will become seriously ill and develop difficulty breathing. The case fatality rate is estimated to be between 1% and 2%. Epidemiologists have estimated that [20 to 60% of adults](#) in the population could be infected and some put the figure higher. If 20% of adults in a total population of 10 million are infected, where 50% are adults over the age of 15 years, it means that 1 million adults will be infected. If 16% of these become ill, then 160000 people will need medical attention, including potentially ventilator and intensive care support, and of these 20 000 may die. If the share of adults infected rises to 40% then the demand for critical health services rises to 320 000 in this population of 10 million, and if the share of adults is 60% then the service demand rises to nearly half a million people, and 120 000 people may die.

The data points to a **rise in demand on health services** that may outstrip supply unless planned for. COVID-19 is a respiratory illness and in its most serious stages can require patients with pneumonia to be put on a ventilator. Mechanical ventilation has been identified as a critical aspect of managing COVID-19. WHO estimates 5% to 10% of patients with COVID-19 will potentially need mechanical ventilation for respiratory support. There is a question of whether there are enough ventilators to meet that need if the outbreak becomes too widespread. ***It is currently uncertain what the numbers of functioning ventilators are in hospitals in ESA countries, to be able to match supply to demand and to identify the gap.*** High income countries are already taking measures to boost their supplies of treatment equipment, including protective equipment for health care workers, given projected numbers. While some companies are working with governments and private organisations to expand ventilation capacity in ESA countries for critical care and emergency transport, in the absence of a gap analysis between projected demand and current supply it is not clear how adequate this is.

The health system is about much more than ventilators. The demand for care needs to be matched by beds, including in intensive care units, health workers and systems with capacities to manage the epidemic, medicines and other commodities. In more mature epidemics, hospitals are reported to be rationing surgical masks and preparing temporary facilities. There is some anecdotal report of hospitals making hard choices on the likely survival of patients to determine who accesses scarce intensive care equipment.

If the speed of transmission, the ‘doubling rate’ referred to earlier is rapid, these numbers pose a risk that the health care system will be overwhelmed by a sudden explosion of illness that requires more people to be hospitalized than the system can handle. In that scenario, more people may die if the services cannot cope. In many countries therefore the measures being applied of closing schools, cancelling mass gatherings, working from home, self-quarantine, self-isolation, avoiding crowds is not only to reduce the absolute numbers, but also to keep the virus from spreading fast. The strategy of preventing a huge spike in cases is referred to as ‘flattening the curve,’ as shown adjacent (Source: Christina Animashaun/Vox)



(The [#FlattenTheCurve](#) graphic is now on [@Wikipedia](#) with proper attribution & a CC-BY-SA licence for open sharing).

Flattening the curve, through the various measures to prevent rapid transmission described earlier is about slowing down the rate at which people get sick, to give the health services a better chance of managing the epidemic and people a better chance of getting the care they need. In particular, the advice that vulnerable people noted earlier avoid crowds as much as possible will slow the spread to this vulnerable group and also help with availability of health services when needed.

[Imperial college UK has modelled the impact of non-pharmaceutical interventions to reduce COVID-19 mortality and health care demand.](#) They explored two possible strategies:

- a. *mitigation*, which focuses on slowing but not necessarily stopping epidemic spread – reducing peak healthcare demand while protecting those most at risk of severe disease from infection, and
- b. *suppression*, which aims to reverse epidemic growth, reducing case numbers to low levels and maintaining that situation indefinitely.

They found that mitigation policies that combine home isolation of suspect cases, home quarantine of those living in the same household as suspect cases, social distancing of the elderly and others at most risk of severe disease flattens the curve and might reduce peak healthcare demand by 66% and deaths by half.

Each strategy has major challenges. Mitigation, or flattening the curve to reduce peak incidence and overall deaths calls for the interventions to remain in place for as much of the epidemic period as possible. The timing of measures needs to be balanced against the scale of disruption imposed and the likely period over which the interventions can be maintained. While this strategy may spread the burden on health services, the modelling suggested that it will still likely leave health systems (most notably intensive care units) overwhelmed. This has led to suppression being recommended by WHO and being chosen in many countries as a preferred policy option, combining social distancing of the entire population, home isolation of cases and household quarantine of their family members, supplemented by school and university closures. This level of intensive intervention would need to be maintained until a vaccine becomes available as transmission is likely to quickly rebound if interventions are relaxed. This may lead to intermittent social distancing triggered by trends in disease surveillance, with interventions relaxed temporarily in short time windows, and reintroduced if or when case numbers rebound.

It is not clear whether any similar projections of the epidemic, the implications for demand on health services and the impact of different control measures have yet been done for ESA countries.

What is certain is that if/when local transmission occurs and cases rise, there will be a significant demand on **health care workers and those in frontline services**, ie those at entry points of health services, in out-patient and casualty departments, isolation centres, medical rescue services and security services at gates.

Registrars and consultants at University of KwaZulu-Natal (UKZN) have prepared guidance on protecting frontline health workers. They note that health care workers (HCWs) are at high risk both of being infected and of spreading the disease. Within 3 weeks of the epidemic in China, 1716 HCWs were infected. Data from the State Council Information Office in China suggest that more than 90% of HCWs in Hubei province are women, emphasising the gendered nature of the health workforce and the risk that predominantly female health workers incur. The same is potentially the case for frontline health workers in ESA countries.

The epidemic could thus place a burden on health workers, generate tension for how they meet the needs of patients and of families, and may, if exposure is not well controlled, worsen the shortage of HCWs. This needs an urgent strategy to protect HCWs and clients and manage the demand for HCWs raised by the epidemic.

Medical experts in China who returned from the frontlines of fighting the pandemic., with the support of The First Affiliated Hospital, Zhejiang University School of Medicine (FAHZU), Jack Ma Foundation and Alibaba Foundation have [published a guidebook on the clinical experience of how to treat this new coronavirus](#). It covers staff and service management , COVID-19 related personal protection management; hospital practice protocols and digital support for epidemic prevention and control. In relation to clinical management it provides information on the key clinical protocols for diagnosis, treatment and care of patients, including for surgical, psychological interventions, nursing care and rehabilitation therapy. The guidebook outlines measures for organising facilities to ensure prevention and control of exposure for health care workers (HCWs) and patients, as well as the personal protective management and care responses for HCWs themselves, as for example shown in the adjacent figure.

The Handbook intends to share experience learned from practice...”Because the real remedy for epidemics is not isolation, but cooperation”.

The (UKZN) team note that the measures needed to protect and support health workers are wide ranging and include:

- a. Education and training;
- b. Hazard controls including personal protective equipment that are not taken home;
- c. Masks and sanitisers for home use;
- d. Deployment measures for HCWs who are at risk of developing the more serious forms of the disease – noting the vulnerabilities raised earlier - so they are not put in positions where they are exposed to risk.

III. COVID-19 Related Personal Protection Management

Protection Level	Protective Equipment	Scope of Application
Level I protection	<ul style="list-style-type: none"> • Disposable surgical cap • Disposable surgical mask • Work uniform • Disposable latex gloves or/and disposable isolation clothing if necessary 	<ul style="list-style-type: none"> • Pre-examination triage, general outpatient department
Level II protection	<ul style="list-style-type: none"> • Disposable surgical cap • Medical protective mask (N95) • Work uniform • Disposable medical protective uniform • Disposable latex gloves • Goggles 	<ul style="list-style-type: none"> • Fever outpatient department • Isolation ward area (including isolated intensive ICU) • Non-respiratory specimen examination of suspected/confirmed patients • Imaging examination of suspected/confirmed patients • Cleaning of surgical instruments used with suspected/confirmed patients
Level III protection	<ul style="list-style-type: none"> • Disposable surgical cap • Medical protective mask (N95) • Work uniform • Disposable medical protective uniform • Disposable latex gloves • Full-face respiratory protective devices or powered air-purifying respirator 	<ul style="list-style-type: none"> • When the staff performs operations such as tracheal intubation, tracheotomy, bronchofibroscope, gastroenterological endoscope, etc., during which, the suspected/confirmed patients may spray or splash respiratory secretions or body fluids/blood • When the staff performs surgery and autopsy for confirmed/suspected patients • When the staff carries out NAT for COVID-19

Notes:

1. All staff at the healthcare facilities must wear medical surgical masks;
2. All staff working in the emergency department, outpatient department of infectious diseases, outpatient department of respiratory care, department of stomatology or endoscopic examination room (such as gastrointestinal endoscopy, bronchofibroscope, laryngoscopy, etc.) must upgrade their surgical masks to medical protective masks (N95) based on Level I protection;
3. Staff must wear a protective face screen based on Level II protection while collecting respiratory specimens from suspected/confirmed patients.

- e. HCW access to quick testing, diagnosis and management of infection, including through self-isolation and quarantine.
- f. Sick leave measures that cover HCW pay if in isolation or ill.

Services are recommended to establish a task team chaired by senior management responsible for risk assessment, hazard control, exposure risk, early diagnosis, sick leave, self-isolation and quarantine and for psychological and social support, with a 24 hour emergency contact number to support HCWs.

HCWs are likely to face mental health stress and their family role also needs to be recognised. If the balance between service and family needs relating to the epidemic for HCWs is not adequately addressed, HCWs may also be absent or leave to respond to family issues. Their stress and exposure grows if they face supply chain issues, are not supplied with surgical masks, sanitisers and other PPE, and are not given visible appreciation from the public and authorities. For HCWs and patients there are measures that can improve the service environment. Those at security gates and entry points should have guidance on how to direct clients, including those who arrive with symptoms of COVID-19. Measures are needed to avoid overcrowded waiting rooms, such as by giving people appointments and numbers so they can wait outdoors, using sms to call them when ready; pre-screening clients before they come into waiting rooms; having good ventilation and partitions in all frontline areas, enabling 1-2m space between clients in waiting rooms, and between clients and health workers in consulting rooms, and deep cleaning contact surfaces and tools used in waiting areas and consulting rooms.

The epidemic may also affect HCW numbers. HCWs are in a high risk situation and may themselves be infected. If exposed to a confirmed case in a high risk exposure they should have a 14 day period of cessation of health care interaction, to be tested for infection and if symptomatic to self-isolate for 14 days. If they become ill they should have access to care. If the exposure is low risk, UKZN propose that HCWs daily monitor for symptoms and temperature and if asymptomatic continue working. In some countries HCWs are prioritised recipients of forthcoming new antibody assay tests when these are made available, as these will be able to determine immune status, which will be important for HCWs.

While there are concerns on whether there are sufficient resources to address service and HCW needs in relation to COVID-19, there is also concern on [the implications of COVID-19 for management of key problems like TB](#), especially if funding for these existing challenges are diverted towards managing COVID-19. COVID-19 is already depleting and disrupting the [global supply chain](#) for all drugs, including [TB medicines](#), and other products such as [N95 respirators](#). The [Global Drug Facility](#) is argued to play a key role here to ensure optimal distribution of existing TB drugs. Where diagnostic laboratories are prioritized for COVID-19 testing instead of testing for TB and other key problems, this can lead delays in diagnosis and treatment, which in the case of TB can lead to increased community transmission. If social distancing means that people with TB cannot work and disrupts their incomes, it could reduce treatment completion rates. These challenges are argued to need proactive responses and a dedicated damage control unit to avoid TB losing its visibility and increases in TB mortality associated with COVID-19, reversing progress made in TB in the region. The same may be said in relation to other prevalent conditions.

For ESA countries already managing the double burden of infectious diseases and rising levels of non-communicable diseases, often with falling public budgets, COVID-19 adds to make a triple burden. This calls for additional budgetary allocations to health systems to respond. We will update with future information from the region on the responses to these health service and HCW issues.

6: What countries can and are doing

Many countries in the ESA region have begun to implement containment and suppression strategies, particularly since mid-March. **At regional level**, SADC Ministers of Health met on 9th March 2020 to share existing knowledge and information on the outbreak, to agree on how to harmonize and coordinate the preparedness and response to COVID-19 in the SADC region.

The meeting called for Member States to put in place National Preparedness and Response Plans, prevention and public awareness interventions, contingency and emergency funds and training activities to address gaps in prevention, impact mitigation and other interventions and to establish coherent mechanisms of sharing information on issues of transboundary public health concern through virtual rather than face-to-face meetings. The SADC Pooled Procurement Services through Medical Stores Department (MSD) will be used to procure medicines and supplies. The health ministers recognised that at country and regional level, the epidemic response requires working with other sectors in government - Immigration, Tourism, Finance, Foreign Affairs and Trade- as well as with Africa CDC; development partners; private sector; and civil society. The [East African Community](#) has suspended its meetings due to COVID-19.

The country response incorporates all of the areas covered in the prior sections. There is a high expectation of public leaderships to use evidence, make timely choices and ensure effective responses to the epidemic to fulfil their constitutional duties to protect the health of their populations. As raised earlier, this includes ensuring the resources for prevention, including water, as well as the preparation of health services and equipment for infection control for health and other exposed workers, the stocks of tests, medicines and other commodities. These are immediate concerns, but there are also longer term issues such as ensuring access to new rapid test options and vaccines once available and addressing the economic impacts. Governments need to provide strategic measures and resources to address the economic, labour market, income support and social protection issues raised in this brief. They need to negotiate with private sector health providers to assist in making equipment and services more widely available and secure affordable supplies of key pharmaceutical commodities for households to manage mild illness. They need to engage with small traders on cross border movements and with companies on retaining workers and meeting key commodity needs (soap etc) for population prevention, including under situations of social distancing. Governments implementing measures such as closure of schools and universities have a duty to ensure the conditions for remote teaching, including negotiating with internet providers to ensure that low cost internet access is available for remote teaching.

The epidemic may raise demands for social protection and income support, including to provide guidelines to protect tenants unable to pay rentals for defined periods if they are temporarily not at work, while also protecting those whose livelihoods depend on this income. Governments in other countries have provided temporary support via cheap loans and tax deferrals to prevent firms going under and economy-wide demand support from Reserve Bank rate cuts and broad increases in public spending. [Resnick et al., \(2020\)](#) raise the demand for solidarity in these responses, to avoid a 'tit-for-tat' spiral of self-protection between countries and communities that leaves the more vulnerable, with least capacities, less supported, or worse still subject to discrimination and stigma. The groups more likely to be socially, economically or legally disadvantaged, including undocumented migrants, homeless people, low income informal residents, youth and orphans, need to be identified to ensure that measures being considered are accessible to or include them.

It is not only the illness driving economic damage, but the response to it, and the consequences for economic activity, employment and incomes. Many governments are now planning in a context of significant uncertainty of how long social distancing and other necessary, but potentially economically damaging measures will last for, and seeking ways to reduce that uncertainty for firms and families. Not doing this raises the risk of inequitably shifting the burden of the epidemic not only to the poorest households, but also to productive sectors, with longer term economic consequences. ***It is not easy to extrapolate these impacts and responses across very different contexts. The response that ESA governments take must be based on a clear view about the nature and level of the shocks, with assessment of impacts and policy measures, noting that this may vary across different parts of the country and for different sectors and social groups.*** This requires advance planning and organisation of resources to address the wider economic impacts of the strategies used to suppress, manage and mitigate the effects of COVID-19. These measures desirably call for transparency, communication and trust in the relationship between governments and the public. This is especially important when people are expected to voluntarily comply with measures that restrict their freedoms, unless more coercive measures are used, which may be itself be open to challenge and litigation.

COVID-19 demands may, however, also open production opportunities. For example, a [specialized facility in Dakar](#), Senegal is being supported in a joint investment of the Institut Pasteur de Dakar with the UK government and private sector to develop “point of need” test kits that can diagnose Covid-19 in 10 minutes, with prototype test kits validated by specialists in the Liverpool School of Tropical Medicine, the University of London, the Wuhan Institute of Virology, the University of Malaya, Malaysia and Fiocruz in Brazil. This may provide a much faster way to test and diagnose COVID-19 that as noted earlier is important for containment interventions.

These wider challenges are significant and suggest a marshalling of cross party political co-operation, domestic and international talents and resources for ESA countries to develop and manage the responses to them.

The responses at country level also need to show a balance in the legal powers assigned to states between **public health protections and human rights**, and [between rights, duties and responsibilities](#).

Countries have obligations under the IHR 2005 to provide health surveillance and ensure the basic capabilities to prevent and manage cross border epidemics and public health emergencies. ESA countries have integrated the IHR into their domestic public health law. Many countries have passed laws specifically for COVID-19 that regulate and empower states to impose isolation and quarantine measures for people and animals; mandatory laboratory tests, vaccinations, exams and medical treatments; the temporary restriction on the entry and exit of people and goods from the country; the requisition of private goods and services by the state, that are enacted in the interests of public health but that also affect the exercise of fundamental rights and freedoms provided for in national Constitutions. In democratic states, [Ventura et al \(2020\)](#) argue that such measures must be regulated in detail, in order to ensure that they are properly motivated, reasonable and proportionate, potentially efficient and based on scientific evidence.

Generally, the state is expected to exercise its powers in line with the 1984 UN [Siracusa Principles](#), where measures to restrict individual freedoms must:

- a. Be carried out in accordance with the law;
- b. Have clear public health purpose to improve or sustain public health by accomplishing essential public health services and functions, as a legitimate objective of general interest;
- c. Be based on scientific evidence and not drafted or imposed arbitrarily
- d. Be strictly necessary in a democratic society to achieve the objective;
- e. Be well-targeted, through the least restrictive alternative, not applying to more individuals than is necessary for the public’s health, and given that there are no less intrusive and restrictive means available to reach the same objective;
- f. Be based on the precautionary principle
- g. Include ongoing public health education and outreach to encourage, facilitate and promote community participation in accomplishing public health goals.
- h. Be respectful of human dignity, and not discriminate unlawfully against individuals; and
- i. Be of a limited duration and subject to review.

An analysis of the USA presidential powers on COVID in [JAMA](#) is argued to raise 6 key principles to guide responses to safeguard human rights while achieving public health goals:

1. Interventions should be grounded in scientific knowledge, not political considerations
2. Health officials should only act to prevent a significant risk of transmission and make individualized, not group, assessments
3. Coercive measures should be proportional to the threat faced
4. There should be no less restrictive alternatives
5. Individuals must have the right to due process
6. Government should ensure fair and equal treatment, avoiding stigma or discrimination.

While coercive measures and imposed treatments are generally recognised to have limited public health effectiveness and to potentially breach medical ethics, it is true that a large scale epidemic with exceptional in impact on public health can impact on the rights of those affected, provided this is in the least invasive and intrusive manner feasible. Hence for example, self-isolation at home may be seen as less intrusive than forced quarantine for cases with no or mild symptoms.

There is already some debate, as raised by Ventura et al., (2020) on the restriction of the international movement of people in conditions where there is local transmission for the extent to which it may stigmatise migrants and block the entry of people needed for families and systems to respond. To date [WHO has advised against the application of travel and trade restrictions](#) to countries experiencing COVID-19 outbreaks not recommended restrictions on the international movement of people , stating in February 2020:

In general, evidence shows that restricting the movement of people and goods during public health emergencies is ineffective in most situations and may divert resources from other interventions. Furthermore, restrictions may interrupt needed aid and technical support, may disrupt businesses, and may have negative social and economic effects on the affected countries. However, in certain circumstances, measures that restrict the movement of people may prove temporarily useful, such as in settings with few international connections and limited response capacities. Travel measures that significantly interfere with international traffic may only be justified at the beginning of an outbreak, as they may allow countries to gain time, even if only a few days, to rapidly implement effective preparedness measures. Such restrictions must be based on a careful risk assessment, be proportionate to the public health risk, be short in duration, and be reconsidered regularly as the situation evolves.

Nevertheless numerous countries globally have restricted international travel, including the prohibition of foreigners from entering national territory, the imposition of quarantine measures or isolation of nationals or foreigners, or restrictions on granting visas. In the ESA region, the following countries were reported on March 20 to have [implemented restrictions on international traffic](#), albeit not trade restrictions:

- a. Kenya suspended travel from any country with reported COVID-19 cases and allows only Kenyan citizens and any foreigners with valid residence permits to come in, provided they proceed on self-quarantine.
- b. Madagascar, starting from March 20, will have no commercial passenger flights to and from Europe for 30 days. Travellers arriving from affected countries must self-quarantine for 14 days.
- c. South Africa has barred entry to foreign travellers arriving from or transiting through high-risk countries, including Italy, Iran, South Korea, Spain, Germany, France, Switzerland, the US, the UK and China. South Africans were also advised to cancel or postpone all non-essential foreign travel.

The list does not include restrictions within countries or those still to be notified internationally.

Measures such as travel bans may be regarded as acceptable for short periods, as a measure to contain imported cases, especially where health systems face challenges to respond. However, countries applying these measures will increasingly be called on to justify their legitimacy if the bans are prolonged and when local transmission is established. This will especially be the case if bans undermine efforts to manage the response, such as the flow of capacities to respond to the epidemic. In both east Africa and Southern Africa there is significant cross-border movement of individuals for schooling, employment, trade, family interactions and indeed use of health services, and such restrictions may have significant negative social and economic consequences. The rules applied in one country affect their neighbours and would thus seem to be a matter for regional co-operation and information sharing.

Article 32 of the IHR obliges States Parties to minimize “any inconvenience or anguish associated with restrictive measures ”, treating affected travellers with respect; taking their socio-cultural concerns into account, and providing adequate food, water, accommodation, medical treatment and a means of communication to family and protection of their goods. There is scope for countries to face challenges to human rights violations if they have not ensured the legal and procedural basis for the measures they are taking, have not been shown to have provided fair treatment in terms of the issues above or if measures lead to job loss or other harms for those affected.

As a [CEHURD Uganda March 20 statement](#) noted, community participation and solidarity are key pillars that have historically been critical in controlling and managing similar outbreaks and communities need to be active and informed participants in the response.