



# COVID-19 UPDATE

February 2021



## About this Update

The world is constantly learning about coronavirus (which is called SARS-CoV-2) and the illness it causes (which is called COVID-19). This information changes often, so it's important to check **trusted** sources regularly.

We get information for these slides from WHO, the Centers for Disease Control, Johns Hopkins, the New York Times, peer-reviewed scientific journals and other credible sources. It does not come from Facebook or other social media.

## What the world has learned about

- The pandemic
- Transmission
- How the virus has changed (variants)
- Prevention
- What COVID-19 can do to people (including people living with HIV)
- Care and treatment
- Vaccines

# The Pandemic

As of Monday 1 February, 2021:

**102,974,263** people have been infected

**2,229,403** people have lost their lives

To find information about the virus in your country, go to:  
<https://coronavirus.jhu.edu/map.html>

# Transmission

## It's all about what you inhale

Coronavirus is airborne.

It spreads when a person who has it coughs, sneezes, sings, talks or exhales. They release virus-laden droplets and aerosols (much smaller particles that stay in the air much longer than heavier droplets).

Other people get infected when they inhale these droplets and aerosols, or if they land inside the nose, eyes or mouth.

Sun and wind are your friends—the sun can inactivate the virus and the wind can blow it away.

# Transmission

It's possible, but not likely, that people could get COVID-19 if they touch a surface that has droplets/aerosols and then touch their eyes, nose or mouth, which allows the virus to enter their body.

Washing your hands for at least 20 seconds with soap and water or sanitizer with 70% alcohol – not touching your face (unless you have just washed your hands) can help

# How the virus has changed



## Changes to the coronavirus

After they enter people, viruses make millions to billions of copies of themselves each day. These copies may have changes, called mutations, that occur at random.

The more people who have a virus, the more chances that the virus has to mutate. Some mutations make the virus weaker, and others can make it more contagious or deadlier.

When a virus with mutations spreads into a population, it is called a variant- this means that it is a different version of that virus.

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## Coronavirus variants

Coronavirus variants have been discovered in different countries. They have been spreading for many months. Scientists and public health experts are paying attention to variants, because some of them can hide from the immune system in people who have already had COVID-19 or have been vaccinated.

Other variants are more contagious and could make people sicker. This happens when the virus changes in ways that make it easier to enter our cells—sort of like having a key that slides easily into a lock, instead of one that does not work easily.

**The good news is that prevention still works!**

# Prevention

# Preventing COVID-19

- Wear a mask that covers your mouth and nose.
- The outdoors is your friend. Avoid crowded, poorly ventilated indoor spaces.
- Use ‘social distancing’—stay 2 meters (6 feet) away from other people.
- Stay away from sick people.
- Get tested, and isolate if you find out that you have been in contact with someone who has COVID-19 or if you feel ill.
- Wash your hands thoroughly and often, and don’t touch your face unless you have just washed your hands.

# What COVID-19 can do to people

# Preventing COVID-19

Some people (~45%) with COVID-19 never have any symptoms.

**This means we need to assume that anyone could have it.**

# What COVID-19 can do to people

Most people will fall ill within 4-5 days after they are infected, but it can take up to 2 weeks for symptoms.

The most common symptoms are fever, chills, dry cough, shortness of breath or difficulty breathing, appetite loss, nausea or vomiting, diarrhea, fatigue, muscle and body aches, headaches, loss of the sense of smell and taste, sore throat, stuffy or runny nose, conjunctivitis, skin rash, and discolored fingers and toes.

# COVID-19 and people living with HIV

People living with HIV are no more likely to get COVID-19 than anyone else, *but they are more likely to become seriously ill if:*

- they are older (age >60 years)
- they have pre-existing conditions such as obesity and diabetes
- they have recently had an opportunistic infection
- and, possibly, if they have a low CD4 cell count (<200 cells/mm<sup>3</sup>), and/or a high viral load—and if they are not on ART



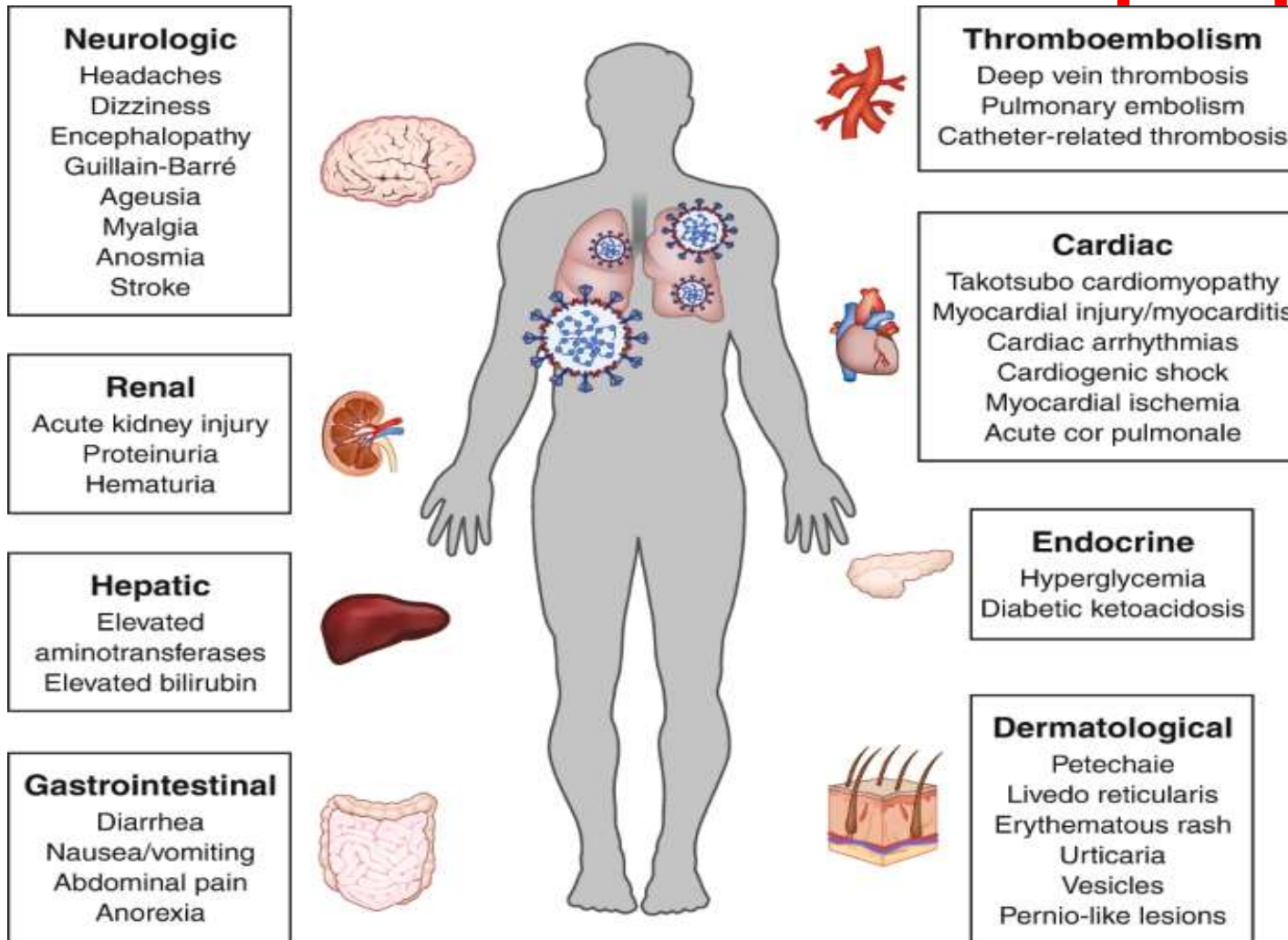
# What COVID-19 does to people

The virus itself can make people very ill.

COVID-19 can have an impact on many organs and systems in the body. It can damage the heart, lungs, kidneys, liver and cause strokes.

The immune response to the virus can also make people very ill. COVID-19 can trigger 'cytokine storm', when the immune system overacts, and attacks tissues and cells. (We need to learn much more about this.)

# What COVID-19 can do to people



COVID-19 can have an effect on many body parts and systems—not just the lungs. It's different for each person.

## What COVID-19 can do

80% of people with COVID-19 do not become seriously ill.

15% become seriously ill, and 5% become critically ill.

The COVID-19 death rate differs, by age, pre-existing conditions- and by country. For example, in South Africa, people with diabetes and/or kidney disease were up to 13 times more likely to die from COVID-19. during mid-2020.

People who have TB are more likely to become seriously ill and die from COVID-19.

# Long COVID

**Some people are ‘long-haulers’**—they have a range of symptoms that go on for months, including shortness of breath, chest tightness, mild to severe fatigue, chills or sweats, body aches, dry cough, headaches, “brain fog” (trouble with memory and concentration), and gastrointestinal symptoms.

This is happening to people of all ages, including those who are fit, young and healthy. We do not know what puts people at risk for long COVID and are not sure how to treat it.

# COVID Re-infection

The immune system can protect a person who has had COVID-19 for at least a few months, but it is not always able to. Everyone has a different immune system, some stronger than others; it also may depend on how sick a person was, how long ago they were sick, and other factors.

Someone may be immune to the version of coronavirus they already had – but not to one of the newer variants of the virus that is spreading.

# Care and Treatment

## Care

People with mild COVID-19 usually recover at home; rest, fluids and fever reducers are recommended.

Monitoring your temperature with a thermometer and your oxygen levels with a pulse oximeter ( a device that clips on to your finger) can help alert you that you are getting sicker and may need medical help.

People who are elderly and/or have a pre-existing condition should check with a healthcare provider, and be monitored by family, friends or healthcare worker.

# Care

People with moderate to severe COVID-19, especially those with pre-existing conditions, may need to be hospitalized, where they may be given oxygen and other medicines to make them more comfortable.



# Treatment

Thousands of clinical trials are looking at treatments for COVID-19. Some things may help to stop people from getting sick if they are given soon after someone becomes infected—these are still in development.

So far, one life-saving treatment has been identified: **dexamethasone**. It is a steroid, available as an affordable generic.

Dexamethasone improves survival in people who are very ill—on a ventilator or oxygen—but it does not help people with milder COVID-19.

## Treatment—what does not work for people with severe COVID-19

The WHO Solidarity Trial, done in nearly 12,000 people hospitalized with COVID-19 across 30 countries, compared 4 treatments (**remdesivir, hydroxychloroquine, lopinavir/ritonavir and interferon**) to the standard of care. None of them made a significant difference in:

- how long people stayed in the hospital
- whether or not they went on a ventilator
- survival

# Vaccines

# Vaccines

Several vaccines have been approved and more are in development. They use different approaches to train the immune system to recognize and fight off SARS-CoV-2.

These vaccines produce immune responses that prevent people from falling ill with COVID-19. Some are up to 95% effective— but It is not clear whether people who have been vaccinated can still get infected, but not have any symptoms – and will be able to transmit the virus.

# Vaccines

These vaccines were developed quickly, because of improvements in technology and years of research. Some have been approved by regulatory agencies, but others have not. We know that approved vaccines are safe and effective.

There are things we don't know yet- such as how long they will protect people from COVID-19, and if there are rare side effects – that we will only discover over time, and as more people get them.

## Vaccines and Variants

Current vaccines were developed to work against some versions of SARS-CoV-2. They may be less effective, or not effective, against new variants—we are still learning about how well they work against new variants.

Researchers are working on vaccines that are adapted to new variants; they should be out by the third quarter of 2021.

In the meantime, prevention is more important than ever to stop new variants from spreading!

Vaccine and producer	Data from phase III trials	Status (emergency use approval)	Effectiveness (based on published peer reviewed data)	Dosing
Pfizer/BioNTech <b>BNT162b2</b>	yes	55 countries and WHO	94.6%	2
AstraZeneca/Oxford ( <b>AZD1222</b> ) and Serum Institute of India ( <b>Covishield</b> )	yes	51 countries	Overall, 70.4%; varies from 62% -90%, by dose and age – may not be effective against SA variant B.1.351	2
Moderna <b>m-RNA-1273</b>	yes	37 countries	92%	2
Gamaleya <b>Sputnik-5</b>	yes; interim	16 countries	91.6% at 21 days after the first vaccine	2
Sinopharm <b>BBI-BP-CorV</b>	yes	11 countries	Not available; claims from 79-86%	2
Sinovac <b>Coronavac</b>	no	5 countries	Not available; claims range from 91.25% to 50.4%	2
Sinopharm <b>Inactivated</b>	no	2 countries	?	2
CanSino <b>Ad5-nCoV</b>	no	1 country	?	1
Bharat Biotech <b>Covaxin</b>	no	1 country	?	2
EpiVacCorona FBRI	no	Phase II; approved in	?	

## Vaccines and Variants

The AstraZeneca vaccine did not stop people who got infected with the B.1.351 variant from getting mild-to-moderate COVID-19. But it might prevent hospitalization and death—we just don't know yet.

The J & J vaccine is less effective against the B.1.351 variant than other versions of the virus—but it still prevents people from being hospitalized and dying from COVID-19, and it is 57% effective at preventing moderate to severe COVID-19.



## Vaccine Hurdles

Rolling out vaccines globally is essential, but it will be challenging for many reasons. These include insufficient supply and inequitable distribution, high prices and if/how access will be enhanced through technology transfer or other means – also, there are other concerns:

- If it needs two doses – and how far apart should they be?
- If it causes serious side effects – including allergic reactions that require people to stay and be observed after being vaccinated
- If it must be shipped and stored at very cold temperatures
- If it works better for some groups of people than others.



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