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# Facts

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# CORONA VIRUS DISEASE

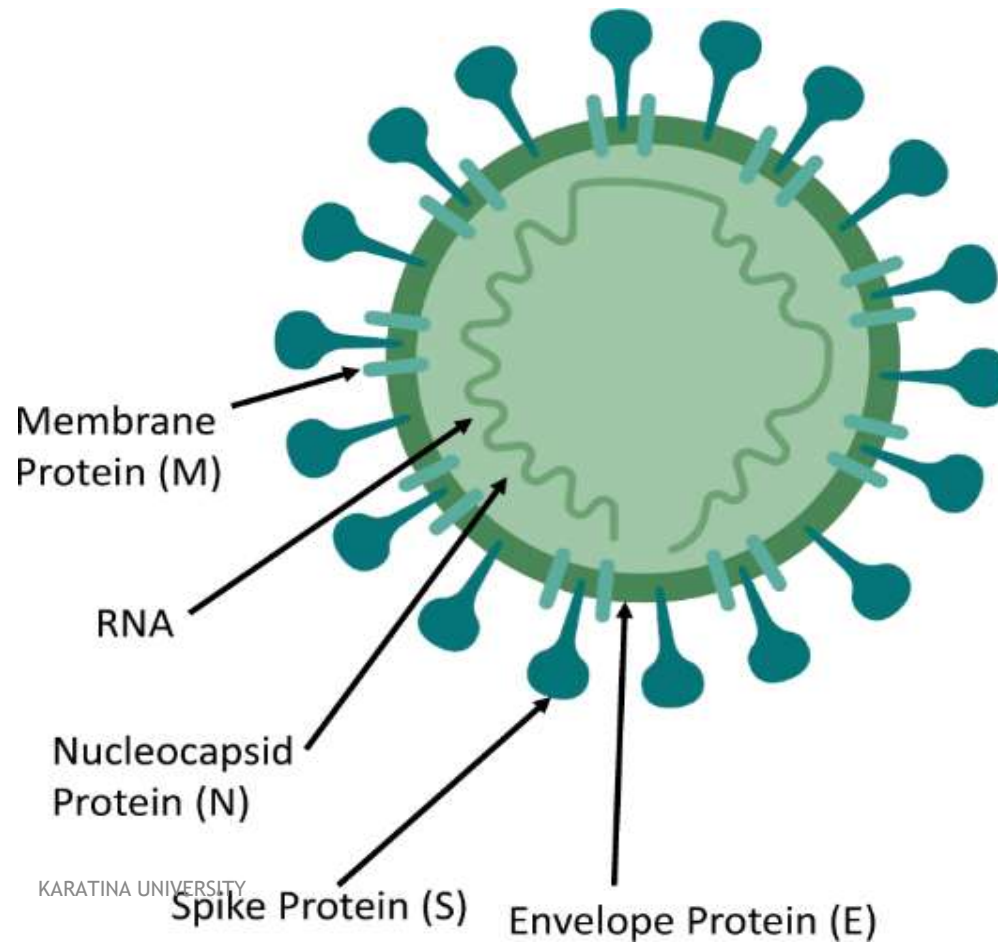
COVID -19( SARS- CoV 2)

KARATINA UNIVERSITY

# What are coronaviruses?

- ▶ Coronaviruses are large family of viruses that cause respiratory illnesses
- ▶ Belongs to Corona-viridae family
- ▶ Named for the crown-like spikes on surface 4 subgroupings (alpha $\alpha$ , beta $\beta$ , gamma $\gamma$ , delta $\delta$  )
- ▶ They are enveloped positive strand RNA viruses.
- ▶ First isolated in the 1960s Circulates among animals, avian species, most notably bats and humans (zoonotic)

# Corona virus structure



# Background of coronaviruses

- ▶ Seven (7) coronaviruses that can infect humans
- ▶ Common CoV-associated with mild illness:- (1) HCoV-229E (alpha), (2)HCoV-OC43 (alpha), (3)HCoV-NL63 (beta), (4) HCoV-HKU1 (beta)
- ▶ Other CoVs- highly pathogenic: (5)SARS-CoV (beta) (6)MERS-CoV (beta), **(7)SARS-CoV2\***
- ▶ **SARS-CoV2**, a Novel Coronavirus Identified in Wuhan, China in 2019
- ▶ Initial case reported had association with an animal/seafood market exposure Travel-related exportation of cases reported.

## COVID-19 (SARS-CoV2)

- ▶ Identified in Wuhan, China in 2019.
- ▶ Initial cases all linked to Huanan Seafood Market in Wuhan City, China.
- ▶ The Market was closed 01.01.20 for environmental sanitation and disinfection.
- ▶ On 10 January, WHO launched a website with updated general and travel guidance <https://www.who.int/health-topics/coronavirus>.
- ▶ The initial cases having travelled from China to other countries in the world.

# Epidemiology Of Corona Virus Disease

## ▶ INFECTIONS

- ▶ Worldwide- Over 1.4 million cases
- ▶ Africa - Over 10,000 cases
- ▶ Kenya- Over 170 cases

## ▶ DEATHS

- ▶ World wide- Over 81,000 deaths
- ▶ Africa- Over 485 deaths
- ▶ Kenya- Over 5 deaths

# How is Covid-19 spread?

- ▶ Transmission likely to be **droplets, direct and indirect contact**
- ▶ Most commonly spread from an infected person to others through:
- ▶ The air by coughing, spitting or sneezing- small droplets from nose/mouth spread when a person with covid-19 coughs/exhales. **(droplets)**
- ▶ Close personal contact, such as touching or shaking hands. **(direct contact)**
- ▶ Touching an object or surface contaminated by droplets from a person with covid 19 then touching eyes, nose/mouth. **(indirect contact)**

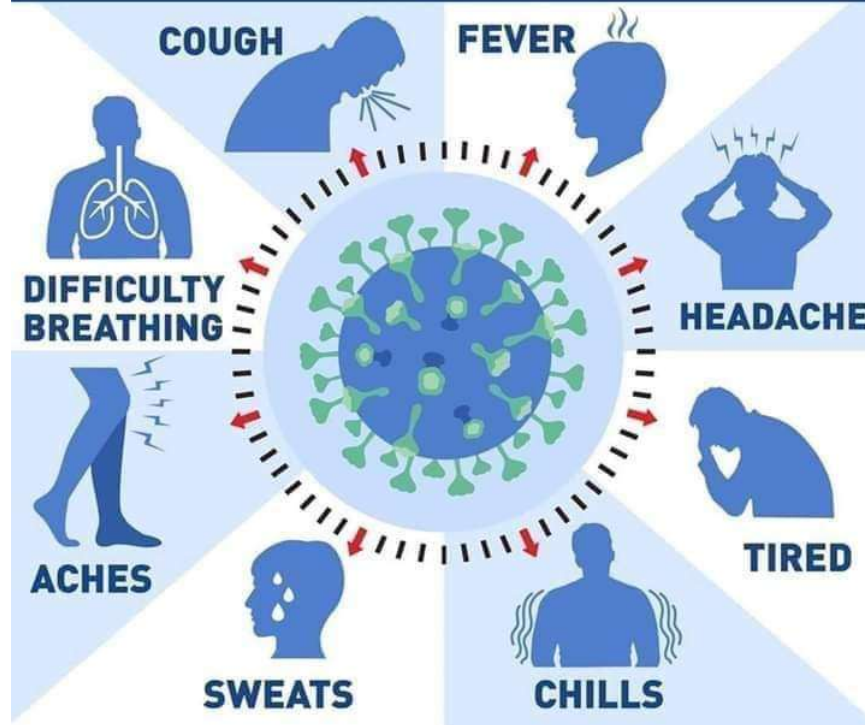
# What is the clinical spectrum of Covid-19?

- ▶ Most often associated with upper respiratory tract infections. **(Next slide)**
- ▶ May progress to Pneumonia and lower tract infections in those with other comorbidities like; **( slide 10)**
  - ▶ Immune-compromised individuals; - HIV positive individuals, people on chemotherapy
  - ▶ Diabetes
  - ▶ Chronic respiratory problems- asthma.
  - ▶ Cardiac ailments - Heart disease.
  - ▶ Pregnancy
  - ▶ The young and elderly



- ▶ Usually cause mild to moderate **upper-respiratory tract illnesses**, like the common cold with these symptoms.
  - ▶ Runny nose ,Headache
  - ▶ Cough ,Sore throat
  - ▶ Fever
  - ▶ General unwell feeling- body ache, fatigue
  - ▶ Pneumonia & Bronchitis

# SYMPTOMS OF CORONAVIRUS 2019-nCoV (coronavirus)



# Clinical syndromes associated with COVID-19 ( stages 1-7

1. Uncomplicated illness- Upper respiratory tract viral infection
2. Mild pneumonia - cough or difficulty breathing + fast breathing
3. Severe pneumonia- respiratory rate  $>30$  breaths/min
4. Critical cases - Respiratory failure and requiring mechanical ventilation.
5. Acute Respiratory Distress Syndrome
6. Sepsis
7. Septic shock leading to death

# How long is the incubation period for Covid-19?

- ▶ Incubation period means the time between catching the virus and beginning to have symptoms of the disease.
- ▶ Most estimates of the incubation period for covid-19 range between 2-14 days, most commonly around 5 days.

## What's known about Covid-19?

- ▶ Infection with this virus causes respiratory disease ranging from **mild** to **severe** disease.
- ▶ Some infected patients **have died** from infection (people with serious **underlying medical conditions** are more at risk for severe disease and death)

## FACTS of Coronavirus

	Cold	Flu	Coronavirus
Time between catching the virus and beginning to show symptoms	1-3 days	1-4 days	2-14 days
Symptom onset	Gradual	Abrupt	Gradual
How long do symptoms last	7-12 days	3-7 days	Mild cases: ~2 weeks. Severe or critical disease: 3-6 weeks
<b>Major symptoms</b>			
Fever	Sometimes	Common	Common
Runny nose	Common	Sometimes	Less Common
Sore throat	Common	Sometimes	Less Common
Cough	Common	Sometimes	Common
Body Ache	Rare; if occurs, mild	Common	Less Common
Difficulty Breathing	Rare	Rare	Common

# What is being done to control the outbreak?

- ▶ **What are affected countries doing?**
- ▶ Restrictions of international flights
- ▶ Remaining vigilant for new cases and providing care for existing cases
- ▶ Implementing screening of travellers.
- ▶ Sharing information with WHO and other countries

- ▶ **What is Kenya doing?**
- ▶ Curfew imposed from 7pm-5am, **Face mask a Must!** in Public areas.
- ▶ Cessation of travel to & from Hot spots - Nairobi Metropolitan area, Mombasa, Kilifi and Kwale Counties.
- ▶ Establishment Quarantine centres
- ▶ Implementing screening of travellers at Point of Entry and county to county
- ▶ Testing of citizens including health care workers.
- ▶ **Ministry of Health Hotline numbers** 0800721316, 0732353535, 0729471414 for assistance.



# Case definitions for surveillance

## ▶ Suspect case

- ▶ Any person with any acute respiratory illness (fever or cough or difficulty in breathing) AND at least one of the following:
  - ▶ A history of travel to or residence China and all affected countries in the 14 days prior to symptom onset,
  - ▶ Close contact\* with a confirmed or probable case of COVID 19 in the 14 days prior to illness onset,
  - ▶ Close contact\* with an individual with a history of respiratory illness and travel to China and all affected countries within the last 30 days,
  - ▶ Worked or attended a health care facility in the 14 days prior to onset of symptoms where patients with hospital-associated COVID 19 infections have been reported.



▶ **Confirmed case**

- ▶ A person with laboratory confirmation of COVID 19 infection, irrespective of clinical signs and symptoms.

## What is close contact?

- ▶ Working together in close proximity or sharing the same classroom environment with a COVID 19 patient
- ▶ Traveling together with a COVID 19 patient in any kind of conveyance
- ▶ Living in the same household as a COVID 19 patient
- ▶ Health care associated exposure, e.g providing direct care for COVID 19 patients,
- ▶ Working with health care workers infected with novel coronavirus, visiting patients or staying in the same close environment as a COVID 19 patient.
- ▶ The epidemiological link may have occurred within a 14-day period before or after the onset of illness in the case under consideration.

# Screening for COVID-19

- ▶ Helps in identifying suspected patients, Contacts & Probable patients
- ▶ Screening and Triage for COVID-19 must be available in all Ports of entry & Hospital facilities
- ▶ Screening ( What's checked?):
  - ▶ Fever: Temperature > **38 degrees**
  - ▶ Flu-like Symptoms: Cough, Fever, Shortness of breath, headache, Weakness/ fatigue, Muscle aches.
  - ▶ History of travel from CHINA and other affected countries History of contact; with symptomatic patients, confirmed cases, sick animals
  - ▶ Close monitoring is done for SUSPECTED or CONTACTS for a period of 14 days

## Are there any Therapies to cure covid-19?

- ▶ There is no specific treatment, its mainly supportive care.
- ▶ WHO does not recommend self medication with any Medicine
- ▶ In all patients suspected or confirmed for COVID-19 treatment is like for a Severe Acute respiratory illness (SARI). That is, according to presenting signs and symptoms and laboratory confirmation.
- ▶ Patients' vitals( temperature, Blood pressure, Respiratory rate, pulse) are monitored while looking out for complications.( stages 1-7 slide 10)