

Coronavirus 2019

Overview

COVID-19

CORONAVIRUS DISEASE
DISCOVERED in 2019

"2019-nCoV" "WUHAN CORONAVIRUS"



COVID-19



SARS-CoV-2



WORLD HEALTH ORGANIZATION

SARS-CoV-2



COVID-19

SARS CORONAVIRUS



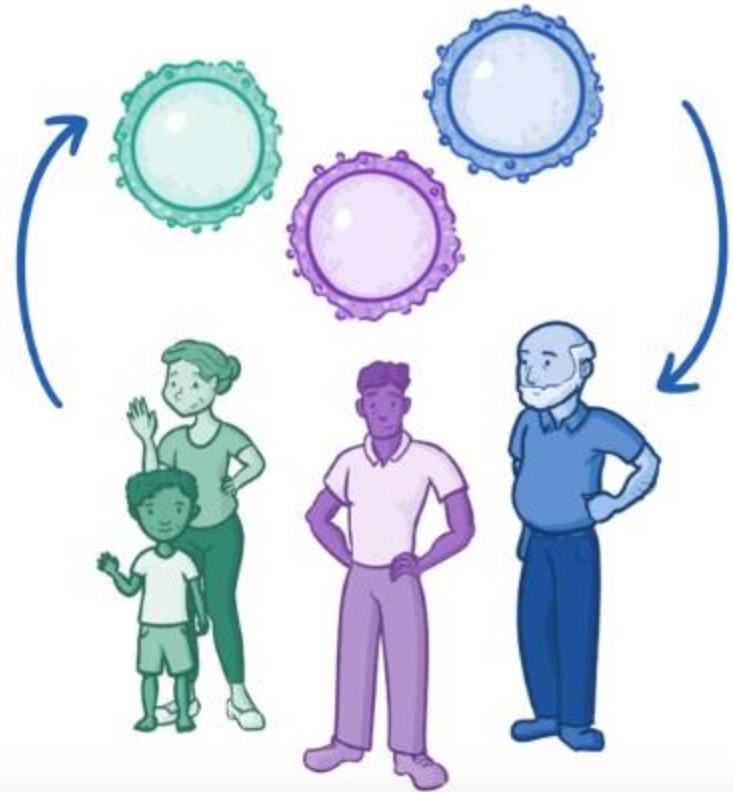
**SEVERE ACUTE
RESPIRATORY SYNDROME
(2002)**

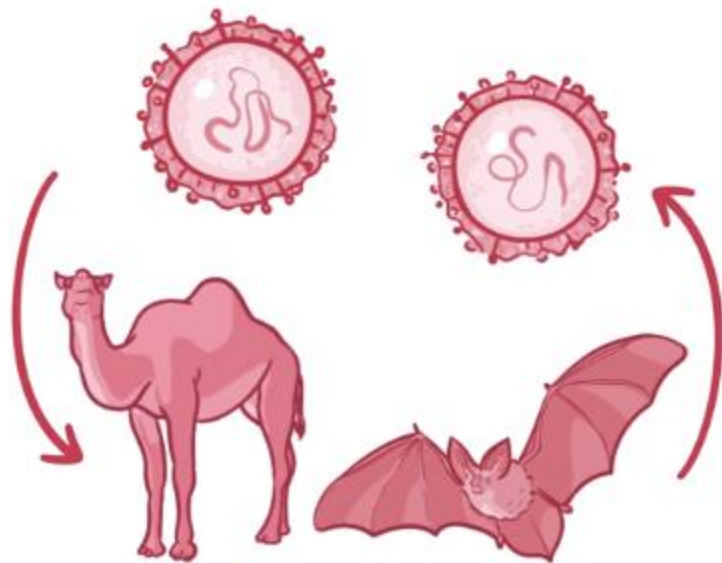
* TYPICALLY BENIGN

CORONAVIRUSES

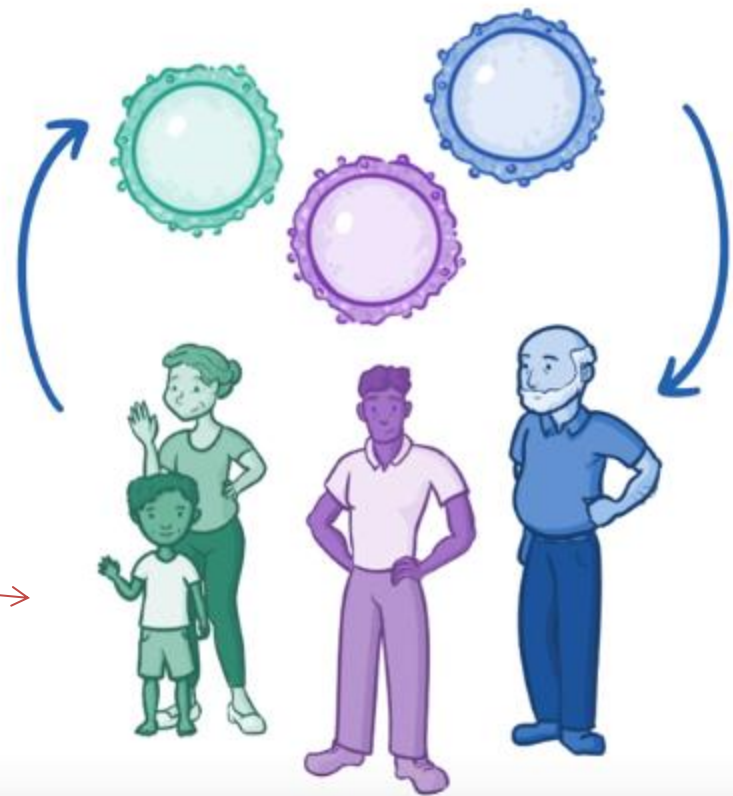


COLD ILLNESSES





ANIMAL RESERVOIRS



SARS (2002)

BATS



CIVETS



MERS (2012)

BATS

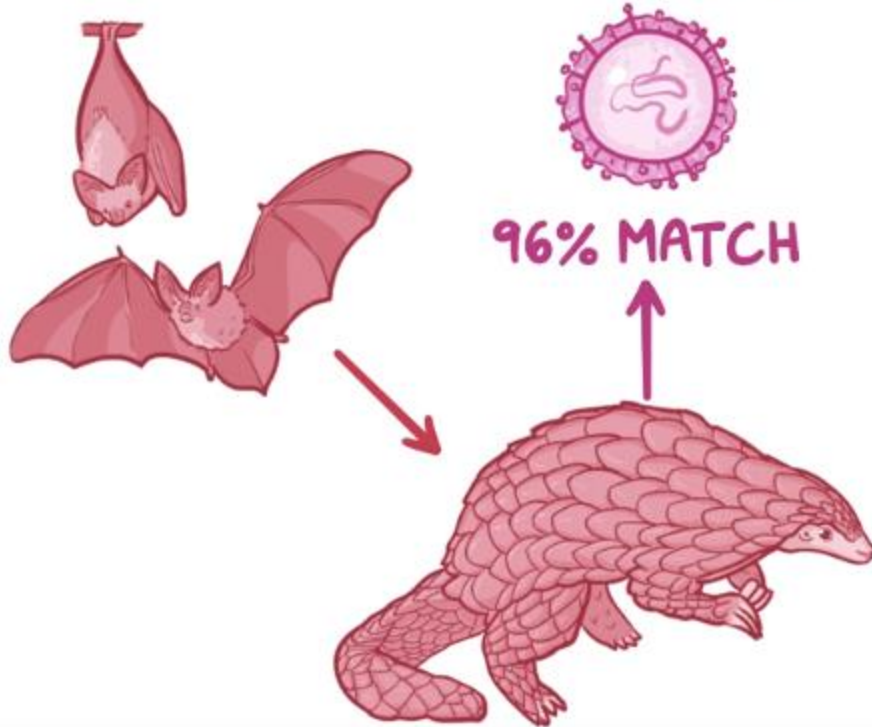


CAMELS

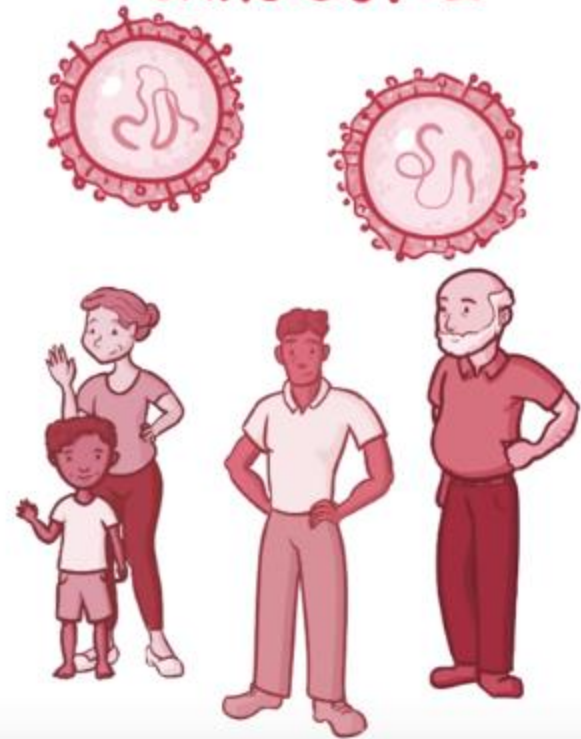


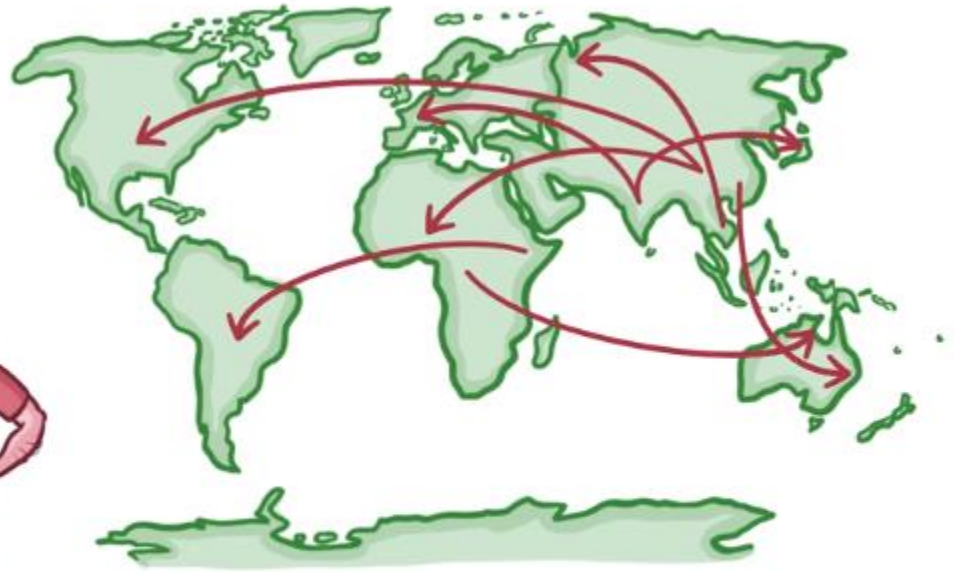
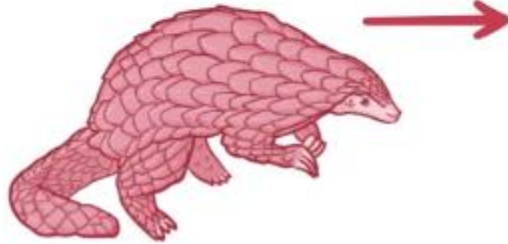
COVID-19

SARS COV-2



PANGOLIN





AS OF FEB 11, 2020...

 = 1,000 PEOPLE

COVID-19

43,103 CASES



1,018 DEATHS (2.4%)

SARS (2002)

8,098 CASES



774 DEATHS (9.6%)

MERS (2012)

2,494 CASES



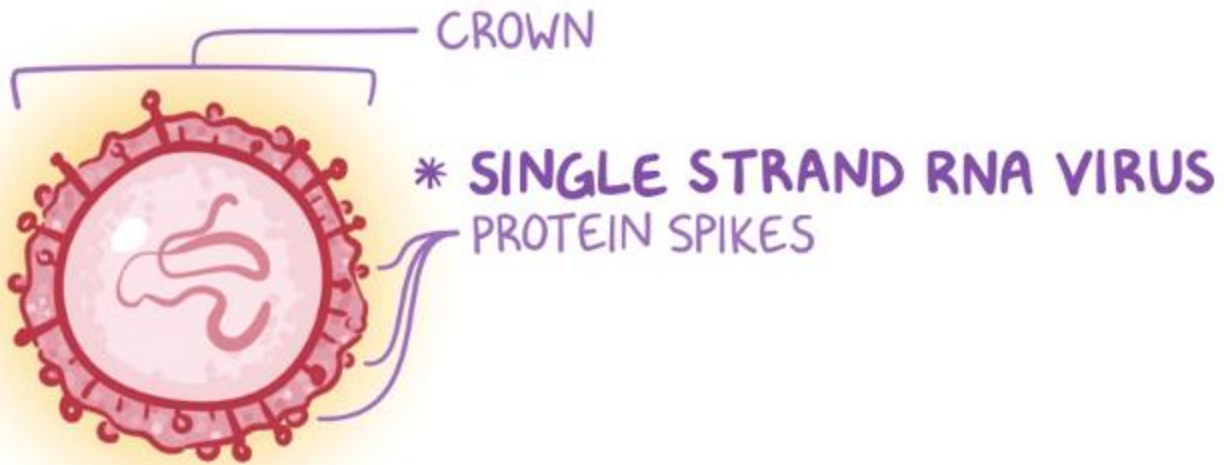
858 DEATHS (34%)

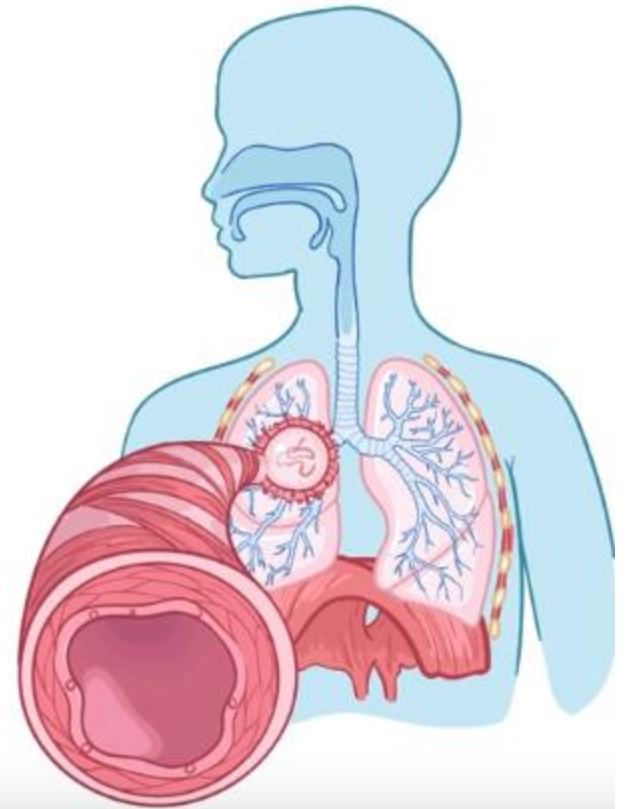
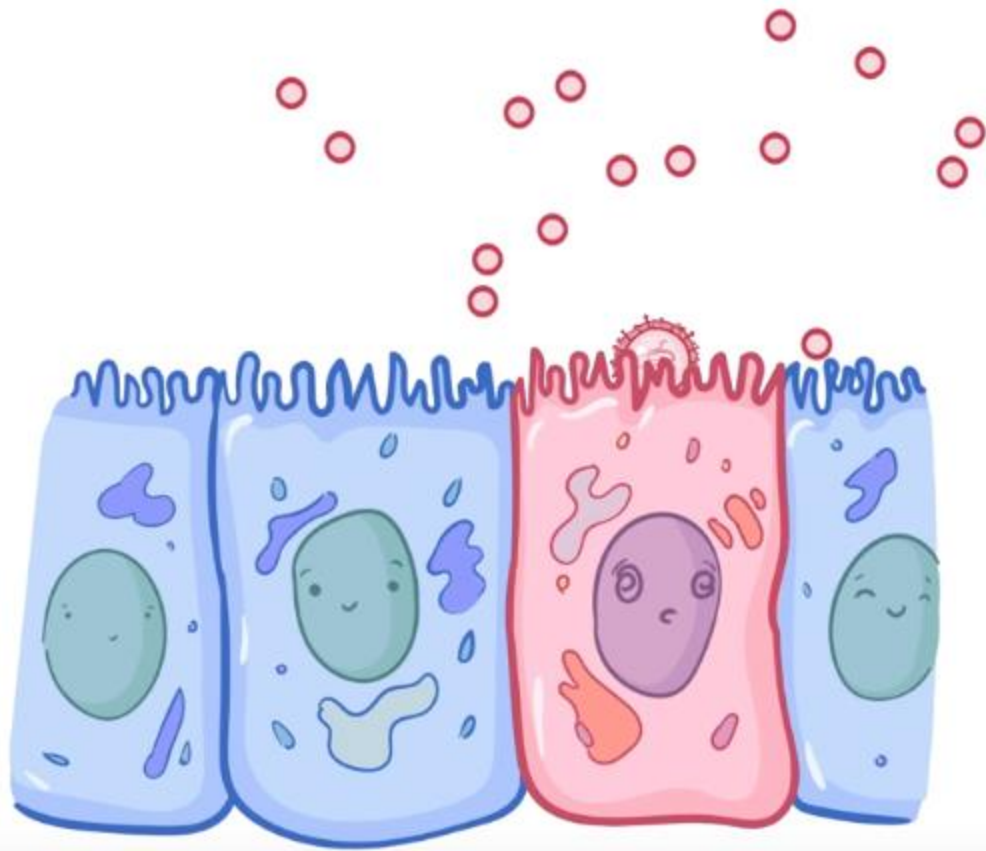
EBOLA (2014)

28,639 CASES



11,316 DEATHS (40%)





1) MILD

SOME DO NOT
DEVELOP SYMPTOMS



2) ILLNESS

SYMPTOMS

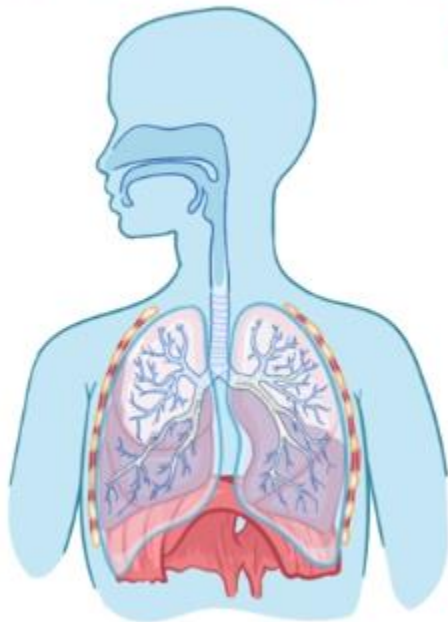
- ~ FEVER
 - ~ COUGH
 - ~ SHORTNESS
of BREATH
- ↓
- ~ PNEUMONIA



3) PNEUMONIA

SEVERE LUNG DAMAGE → ARDS

ACUTE RESPIRATORY DISTRESS SYNDROME



SEPTIC SHOCK



> 60

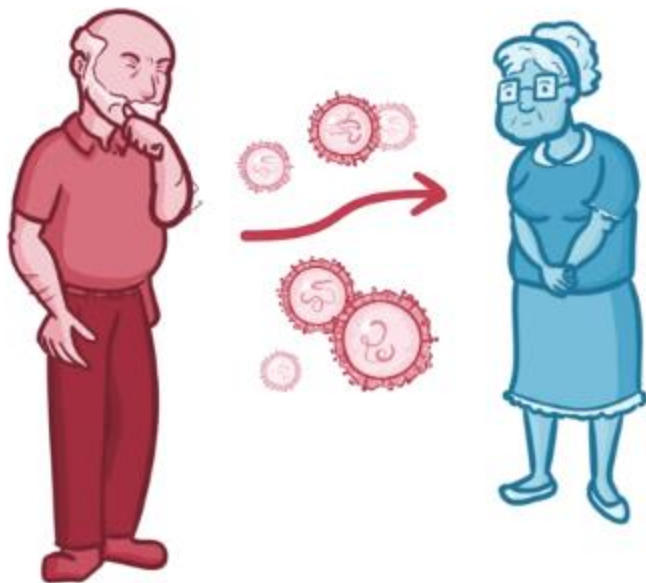


SMOKERS



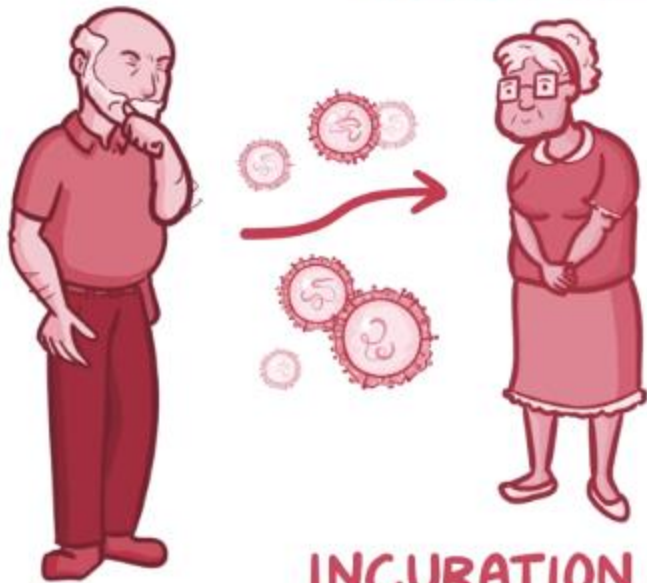
**PREVIOUS
MEDICAL
CONDITIONS**

COUGH or SNEEZE



FAULTY DRAINAGE SYSTEM

SYMPTOMS:
AVG. 5 DAYS LATER



INCUBATION PERIOD
(up to 24 DAYS)



**CAN ASYMPTOMATIC
PEOPLE
SPREAD DISEASE?**

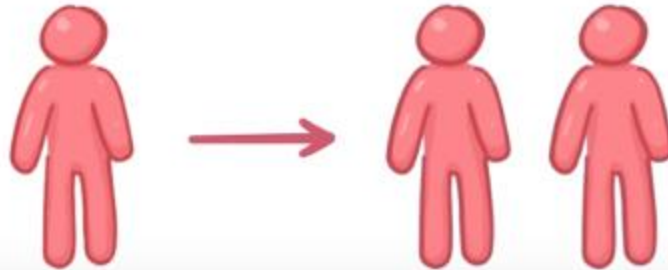


$R_0 \rightarrow$ HOW QUICKLY it SPREADS

$R_0 = 1$



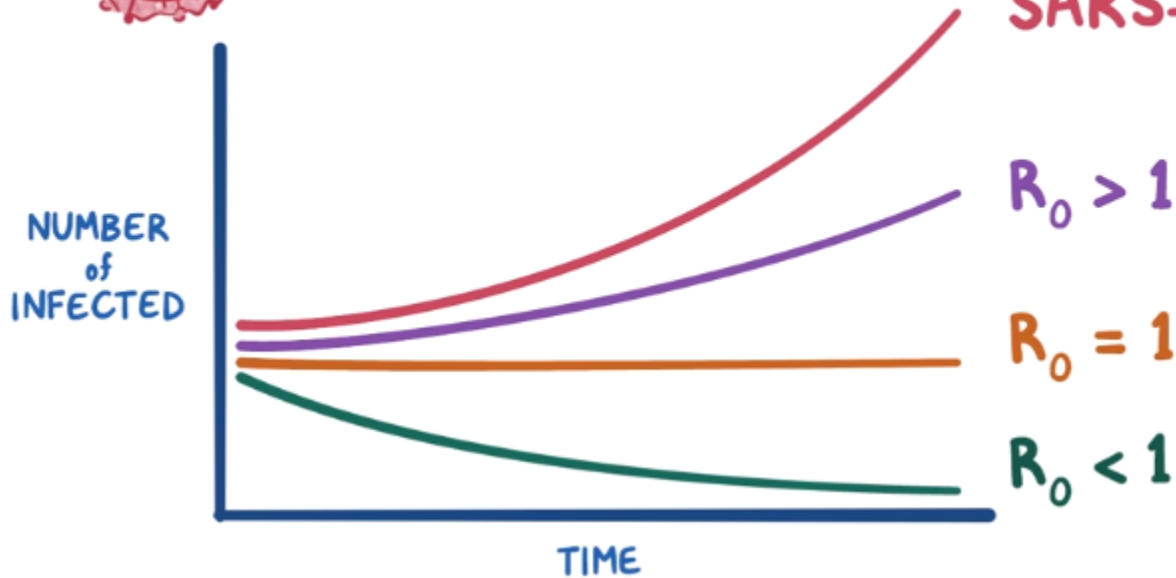
$R_0 = 2$





$R_0 \rightarrow$ HOW QUICKLY it SPREADS

SARS-CoV-2 $R_0 \approx 2 - 2.5$



SUPERSPREADERS



SUPERSPREADERS



REAL-TIME POLYMERASE CHAIN REACTION rt-PCR



- SPUTUM
- SWABS or ASPIRATES
- LAVAGE
- SERUM

TREATMENT



SUPPORTIVE CARE

- ~ PROVIDING FLUIDS
- ~ OXYGEN
- ~ VENTILATORY SUPPORT



- CHLOROQUINE
- RITONAVIR
- REMDESIVIR

LARGE-SCALE
CLINICAL TRIALS

PREVENTION



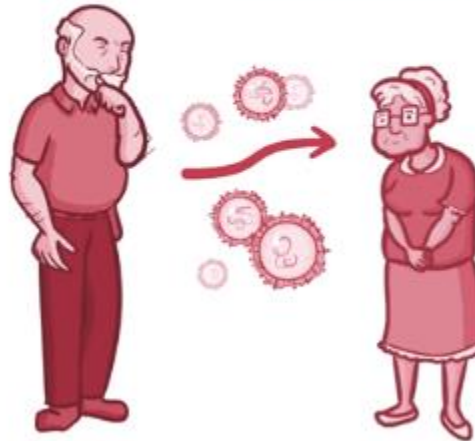
NO VACCINES AVAILABLE
at the **MOMENT**

PREVENTION

3 ft/ 1 m



ISOLATING INDIVIDUALS
w/ COVID-19



CAN SURVIVE on
SURFACES for OVER a DAY

PREVENTION



- * AVOID TRAVEL to OUTBREAK AREAS
- * STAY AWAY from CROWDS
- * STAY > 6 ft or 2 m AWAY from ANYONE w/ SYMPTOMS



**SURGICAL MASK
NOT
RECOMMENDED**

PREVENTION

- * HAND WASHING**



- * AVOID TOUCHING
EYES, NOSE, & MOUTH**



T-ZONE

DROPLET & CONTACT PRECAUTIONS

- ~ SURGICAL MASK
- ~ GLOVES
- ~ LONG-SLEEVED GOWNS
- ~ EYE PROTECTION

PROCEDURES that PRODUCE AEROSOL

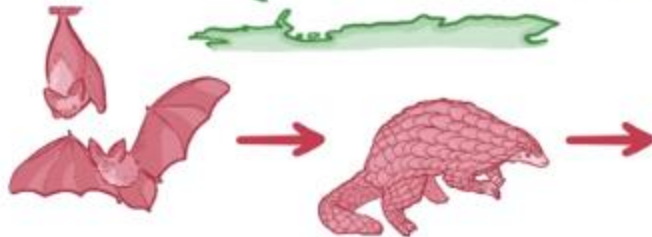
- ~ N95 RESPIRATOR



COVID-19



↳ CAUSED by SARS-CoV-2



PNEUMONIA & ARDS

SYMPTOMS

- ~ FEVER
- ~ COUGH
- ~ SHORTNESS of BREATH



SUPPORTIVE CARE



REMDESIVIR

COVID-19

PREVENTION

* HAND WASHING



* AVOID TRAVEL to OUTBREAK AREAS



* STAY AWAY from CROWDS



* AVOID TOUCHING T-ZONE

* USING PROTECTIVE EQUIPMENT

