Emerging infectious diseases: Coronavirus disease 2019 (COVID-19) update
COVID-19

World Health Organization
Asia-Pacific, a hotspot

Global trends in emerging infectious diseases, Nature 451, 990-993

Figure 3: Global distribution of relative risk of an EID event.

Zoonosis from wildlife

Zoonosis from non-wildlife
Global interconnectivity

4095 airports
3 billion passengers per year.
2 million flights per week

Spread of Rumor

- Rumor may spread faster than virus: info era with multiple new means of communications (e.g. social media)

- Managing public fear could be more challenging than controlling the disease
30/12/2019
Cluster of cases of pneumonia of unknown origin reported in Wuhan to China National Health Commission

07/01/2020
Novel coronavirus isolated

13/01/2020
First case reported from Thailand

19/01/2020
First case reported in Republic of Korea; two cases in Beijing and one case in Guandong

11/01/2020
First fatal case reported

01/01/2020
Huanan Seafood Wholesale market closed

12/01/2020
Whole genome sequence shared with WHO and public; virus designated 2019-nCoV

16/01/2020
First case reported in Japan

24/01/2020
835 cases reported in China (549 from Hubei province). Further cases reported from all but one province.

20/01/2020
First reports of infection in healthcare workers caring for patients with 2019-nCoV
COVID-19 declared as PHEIC

The Emergency Committee on the novel coronavirus (2019-nCoV) under the International Health Regulations (IHR 2005) were convened by the World Health Organization Director-General Dr Tedros Adhanom Ghebreyesus on Thursday, 31 January. The Committee declared public health emergency of international concern over the global outbreak of novel coronavirus (PHEIC).
WHO Risk Assessment

China – Very High
Regional – Very High
Global – Very High
Epidemiology – Host & Reservoir

COVID-19

Intermediate Animal
Epidemiology – COVID-19

Virus: SARS-CoV-2
Family: Coronaviridae
Type: Single-stranded RNA viruses
Size: 125 nanometer
The most common method of catching SARS-CoV-2 is via
- contact or inhalation of moisture/droplets
- from infected persons during person-to-person interactions.
Epidemiology - Symptoms

Incubation period 2-14 days

Virus seems to start with a fever, followed by a dry cough and then, after a week, leads to shortness of breath and some patients needing hospital treatment.
The symptoms of coronavirus disease [COVID-19]
The most common signs and symptoms of 55,924 laboratory confirmed cases of COVID-19. Reported from China in the period up to February 22, 2020

- Fever: 87.9%
- Dry cough: 67.7%
- Fatigue: 38.1%
- Sputum production: 33.4%
- Shortness of breath: 18.6%
- Muscle pain or joint pain: 14.6%
- Sore throat: 13.9%
- Headache: 13.6%
- Chills: 11.4%
- Nausea or vomiting: 5%
- Nasal congestion: 4.8%
- Diarrhoea: 3.7%

Population at Risk

Severe Lung Damage → ARDS
Acute Respiratory Distress Syndrome

> 60 Smokers
Previous Medical Conditions

World Health Organization
Treatment

TREATMENT

SUPPORTIVE CARE
- PROVIDING FLUIDS
- OXYGEN
- VENTILATORY SUPPORT

- CHLOROQUINE
- RITONAVIR
- REMDESVIR

LARGE-SCALE CLINICAL TRIALS
Prevention – No Vaccine

NO VACCINES AVAILABLE at the MOMENT
Prevention and control

- **Avoid close contact** (maintain 1-2 meters distance) with people suffering from acute respiratory infections

- Frequent **hand-washing**, especially after direct contact with ill people or their environment

- **Avoid unprotected contact** with farm or wild animals

- **Cough etiquette** (maintain distance, cover coughs and sneezes with disposal tissues or clothing)

- **Enhance standard infection prevention and control** practices in hospitals, especially in emergency departments
How is COVID-19 spread and how do you protect yourself against it?
Prevention and control – Hand wash
Prevention and control – hand rub
Prevention and control – how to use mask
Prevention and control

- Personal Hygiene
  - Hand hygiene
  - Respiratory hygiene

- Social distancing/avoid mass gathering

- Infection and Prevention Control

Other public health tools
- Quarantine
- Isolation
- Contact Tracing
Prevention and control

The bottom line is - we are not at the mercy of this virus.

Deep individual and collective commitment is key to controlling the outbreak.
Recent COVID-19 Updates

What does number say
Coronavirus Disease 2019 (COVID-19)
(data as on 11 March 2020)

Countries, territories or areas with reported confirmed cases of COVID-19, 11 March 2020

SITUATION IN NUMBERS
total and new cases in last 24 hours

Globally
118 326 confirmed (4627 new)

China
80 955 confirmed (31 new)
3 162 deaths (22 new)

Outside China
37 371 confirmed (4 596 new)
113 countries (4 new)
1130 deaths (258 new)

The situation report includes information provided by National authorities as of 10 AM Central European Time  
Clinical Categorization

Of the 80,000 reported cases in China, more than **70% have recovered** and been discharged.
# Mortality

<table>
<thead>
<tr>
<th>VIRUS</th>
<th>YEAR</th>
<th>CASES</th>
<th>DEATHS</th>
<th>FATALITY RATE</th>
<th>NUMBER OF COUNTRIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ebola</td>
<td>1976</td>
<td>33,577</td>
<td>13,562</td>
<td>40.4%</td>
<td>9</td>
</tr>
<tr>
<td>Nipah</td>
<td>1998</td>
<td>513</td>
<td>398</td>
<td>77.6%</td>
<td>2</td>
</tr>
<tr>
<td>SARS</td>
<td>2002</td>
<td>8,096</td>
<td>774</td>
<td>9.6%</td>
<td>29</td>
</tr>
<tr>
<td>MERS</td>
<td>2012</td>
<td>2,494</td>
<td>858</td>
<td>34.4%</td>
<td>28</td>
</tr>
<tr>
<td>COVID-19**</td>
<td>2020</td>
<td>100,645</td>
<td>3,410</td>
<td><strong>3.4%</strong></td>
<td>114</td>
</tr>
</tbody>
</table>
Age specific mortality

Coronavirus: early-stage case fatality rates by age-group in China

Case fatality rate (CFR) is calculated by dividing the total number of deaths from a disease by the number of confirmed cases. Data is based on early-stage analysis of the COVID-19 outbreak in China in the period up to February 11, 2020.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>CFR (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-9 years</td>
<td>0%</td>
</tr>
<tr>
<td>10-19 years</td>
<td>0.2%</td>
</tr>
<tr>
<td>20-29 years</td>
<td>0.2%</td>
</tr>
<tr>
<td>30-39 years</td>
<td>0.2%</td>
</tr>
<tr>
<td>40-49 years</td>
<td>0.4%</td>
</tr>
<tr>
<td>50-59 years</td>
<td>1.3%</td>
</tr>
<tr>
<td>60-69 years</td>
<td>3.6%</td>
</tr>
<tr>
<td>70-79 years</td>
<td>8%</td>
</tr>
<tr>
<td>80+ years</td>
<td>14.8%</td>
</tr>
</tbody>
</table>

Children that are infected with the virus appear to be at lower risk of dying.

Older populations are most at risk. 14.8% of people aged 80 or older who were diagnosed died.


OurWorldinData.org – Research and data to make progress against the world’s largest problems.

Licensed under CC-BY by the authors.
**Coronavirus: early-stage case fatality rates by underlying health condition in China**

Case fatality rate (CFR) is calculated by dividing the total number of deaths from a disease by the number of confirmed cases. Data is based on early-stage analysis of the COVID-19 outbreak in China in the period up to February 11, 2020.

- **Cardiovascular disease**: 10.5%
- **Diabetes**: 7.3%
- **Chronic respiratory disease**: 6.3%
- **Hypertension**: 6%
- **Cancer**: 5.6%
- **No health condition**: 0.9%

10.5% of people with a cardiovascular disease who were diagnosed with COVID-19 died.

Individuals with underlying health conditions are more vulnerable than those without.

[OurWorldinData.org](http://OurWorldinData.org) – Research and data to make progress against the world’s largest problems. 

Licensed under CC-BY by the authors.
COVID-19 related Myths
COVID-19 related Myths

Garlic is a healthy food that may have some antimicrobial properties. However, there is no evidence from the current outbreak that eating garlic has protected people from the new coronavirus (2019-nCoV).

#2019nCoV
No, antibiotics do not work against viruses, only bacteria.
The new coronavirus (2019-nCoV) virus and, therefore, antibiotics should not be used as a prevention or treatment.
However, if you are hospitalized for the 2019-nCoV you may receive antibiotics since bacterial co-infection is possible.

Vitamin C/Probiotics

Are antibiotics effective in preventing and treating the new coronavirus?

#Coronavirus
Myths

Can pets at home spread the new coronavirus (2019-nCOV)?

At present, there is no evidence that companion animals / pets such as dogs or cats can be infected with the new coronavirus. However, it is always a good idea to wash your hands with soap and water after contact with pets. This protects you against various common bacteria such as E. coli and Salmonella that can pass between pets and humans.

#Coronavirus

World Health Organization
Myths

Thermal scanners are effective in detecting people who have developed a fever (i.e. have a higher than normal body temperature) because of infection with the new coronavirus. However, they cannot detect people who are infected but are not yet sick with fever. This is because it takes between 2 and 10 days before people who are infected become sick and develop a fever.

#2019nCoV
Myths

To date there has been no information nor evidence to suggest that the new coronavirus could be transmitted by mosquitoes. The new coronavirus is a respiratory virus which spreads primarily through droplets generated when an infected person coughs or sneezes, or through droplets of saliva or discharge from the nose. To protect yourself, clean your hands frequently with an alcohol-based hand rub or wash them with soap and water. Also, avoid close contact with anyone who is coughing and sneezing.

World Health Organization  #Coronavirus    #COVID19
Myths

Even though the new coronavirus can stay on surfaces for a few hours or up to several days (depending on the type of surface), it is very unlikely that the virus will persist on a surface after being moved, travelled, and exposed to different conditions and temperatures. If you think a surface may be contaminated, use a disinfectant to clean it. After touching it, clean your hands with an alcohol-based hand rub or wash them with soap and water.

FACT: The new coronavirus cannot be transmitted through goods manufactured in China or any country reporting COVID-19 cases.

#Coronavirus    #COVID19
Myths

Taking a hot bath will not prevent you from catching COVID-19. Your normal body temperature remains around 36.5°C to 37°C, regardless of the temperature of your bath or shower. Actually, taking a hot bath with extremely hot water can be harmful, as it can burn you.

The best way to protect yourself against COVID-19 is by frequently cleaning your hands. By doing this you eliminate viruses that may be on your hands and avoid infection that could occur by then touching your eyes, mouth, and nose.

FACT: Taking a hot bath does not prevent the new coronavirus disease

World Health Organization #Coronavirus #COVID19
Thank you