

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



**World Health  
Organization**

# COVID-19



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Organization**

# International Public Health Security: since 1980...



**HIV/AIDS**



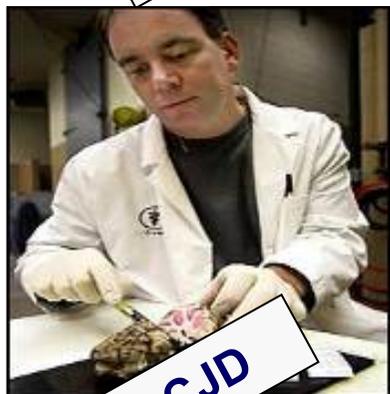
**Chernobyl**



**Plague**



**Ebola /  
Marburg**



**NvCJD**



**Nipah**



**Anthrax**



**SARS**



**meningitis**



**Chemical,  
nuclear**



**Avian  
Influenza**



**Pandemic  
Influenza**

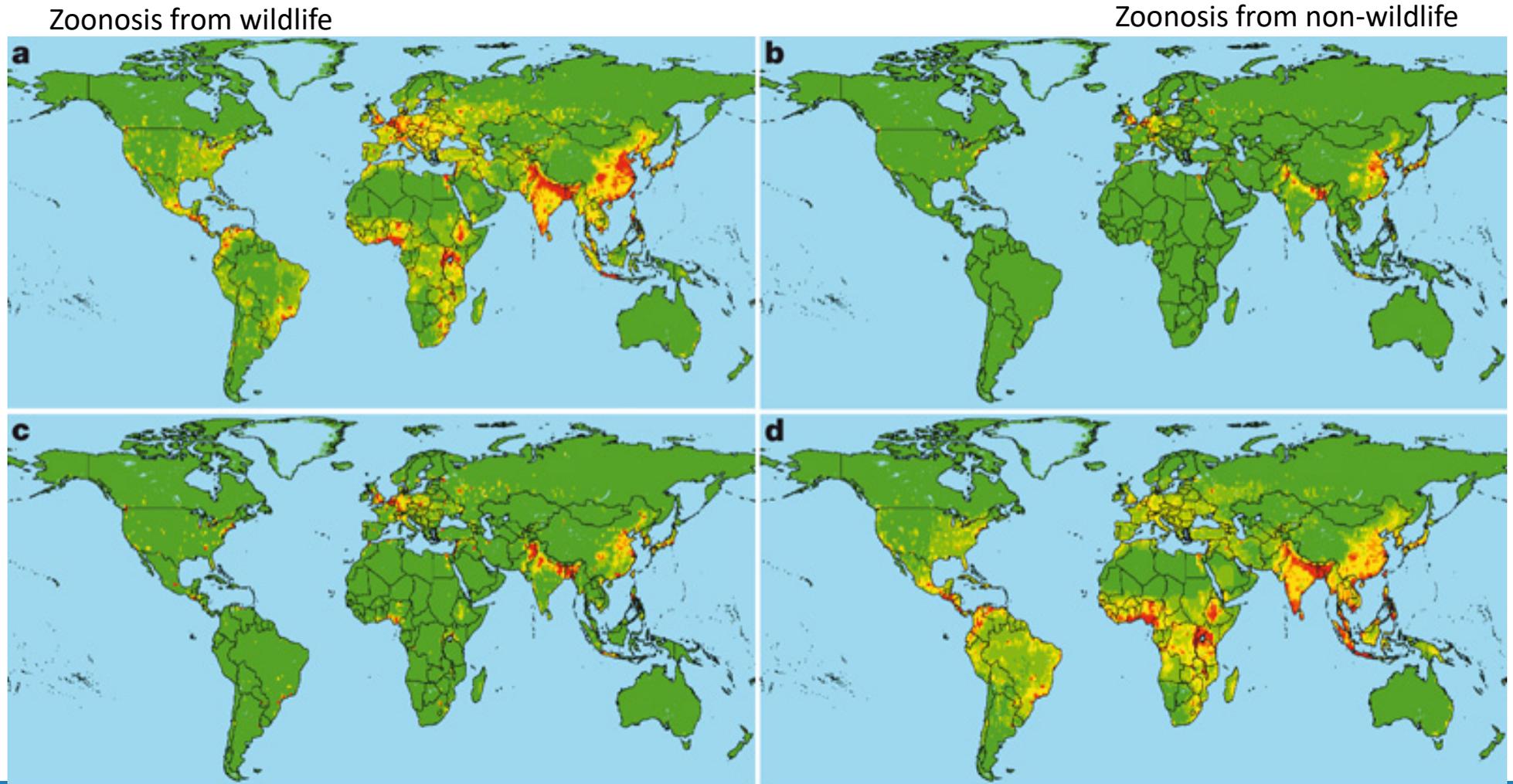
**MERS**



# 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.



Drug-resistant pathogens

Vector-borne pathogens

# Global interconnectivity

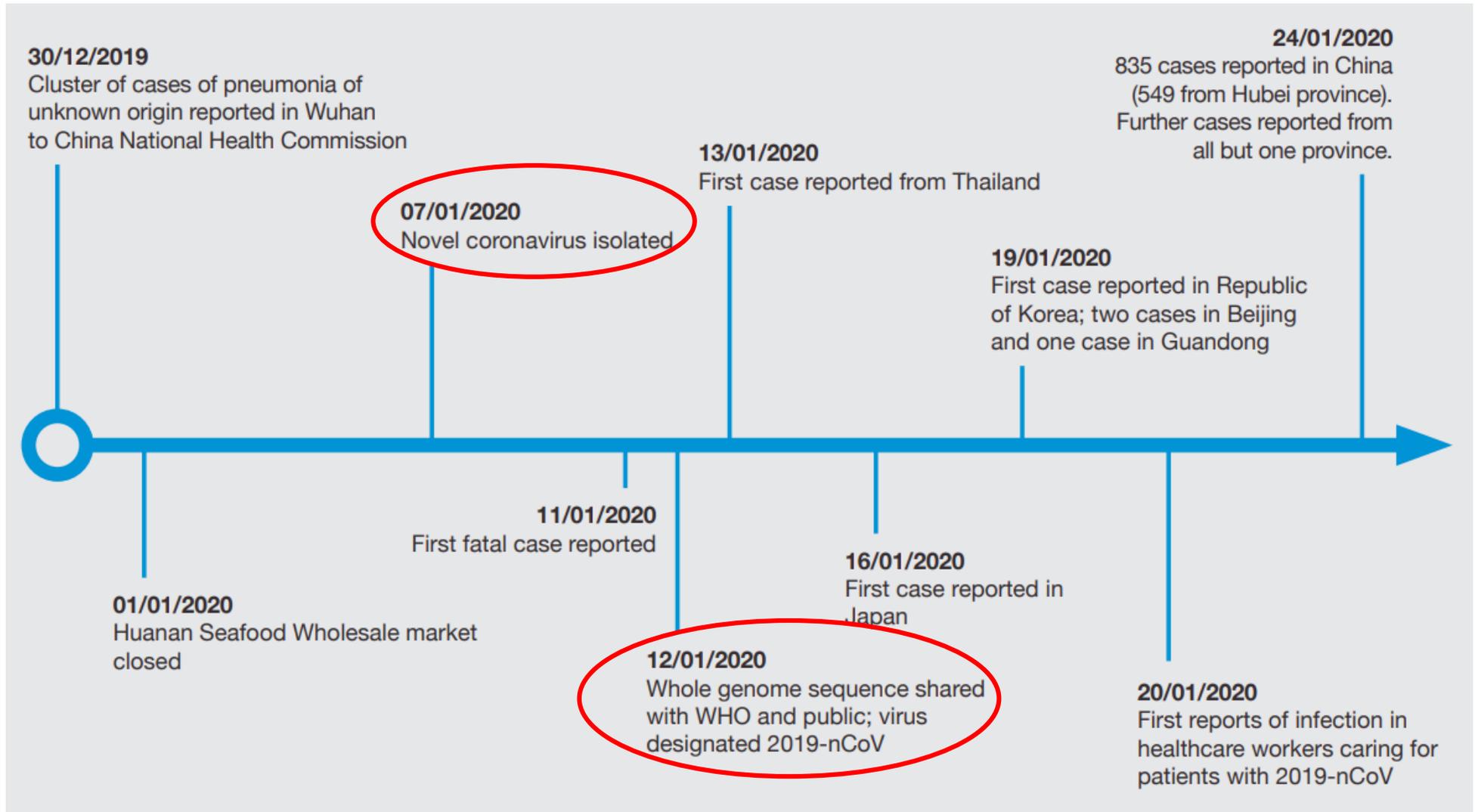


# Spread of Rumor

- 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



# Significant timeline



# 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**



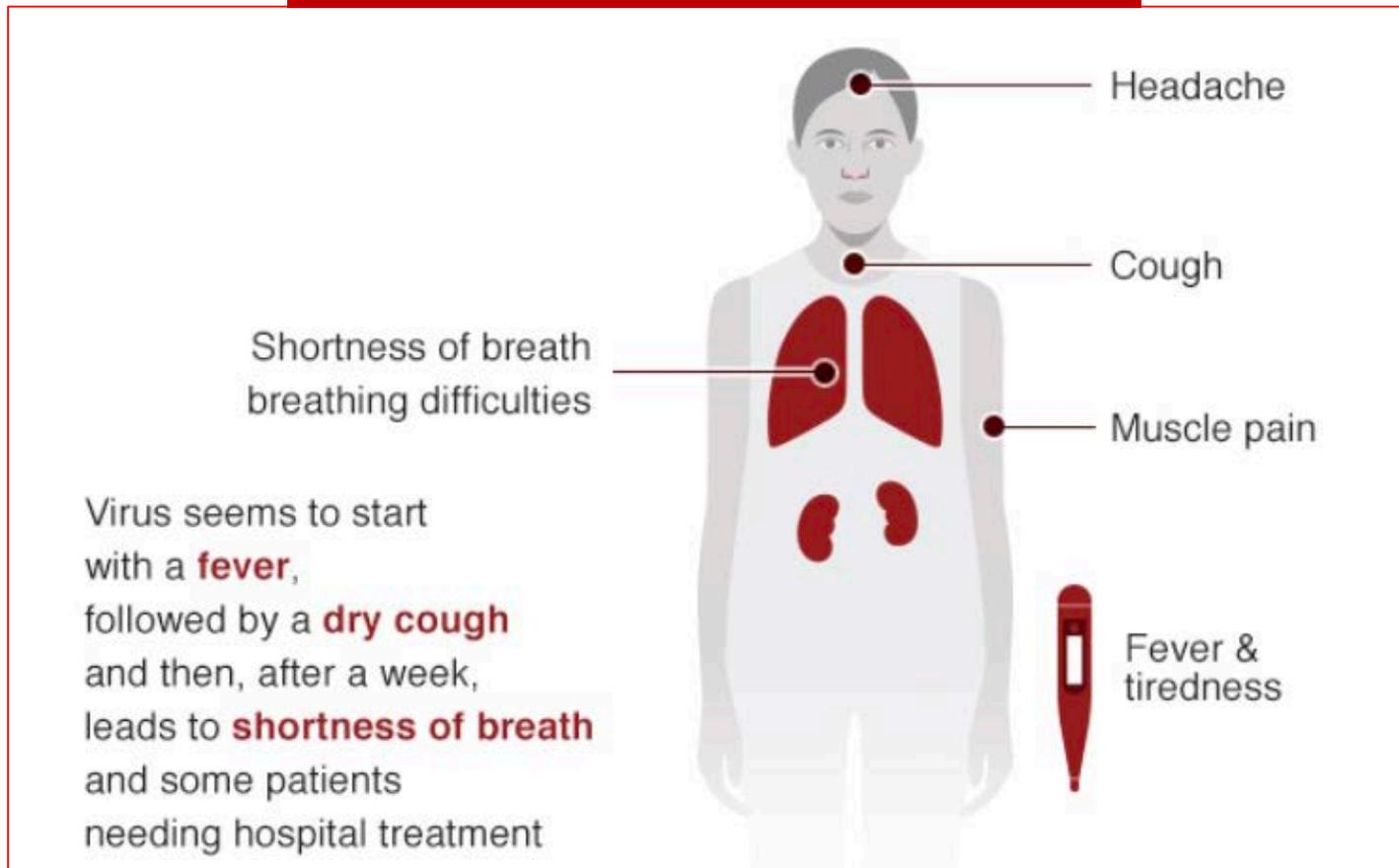
# Spread of virus

- 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



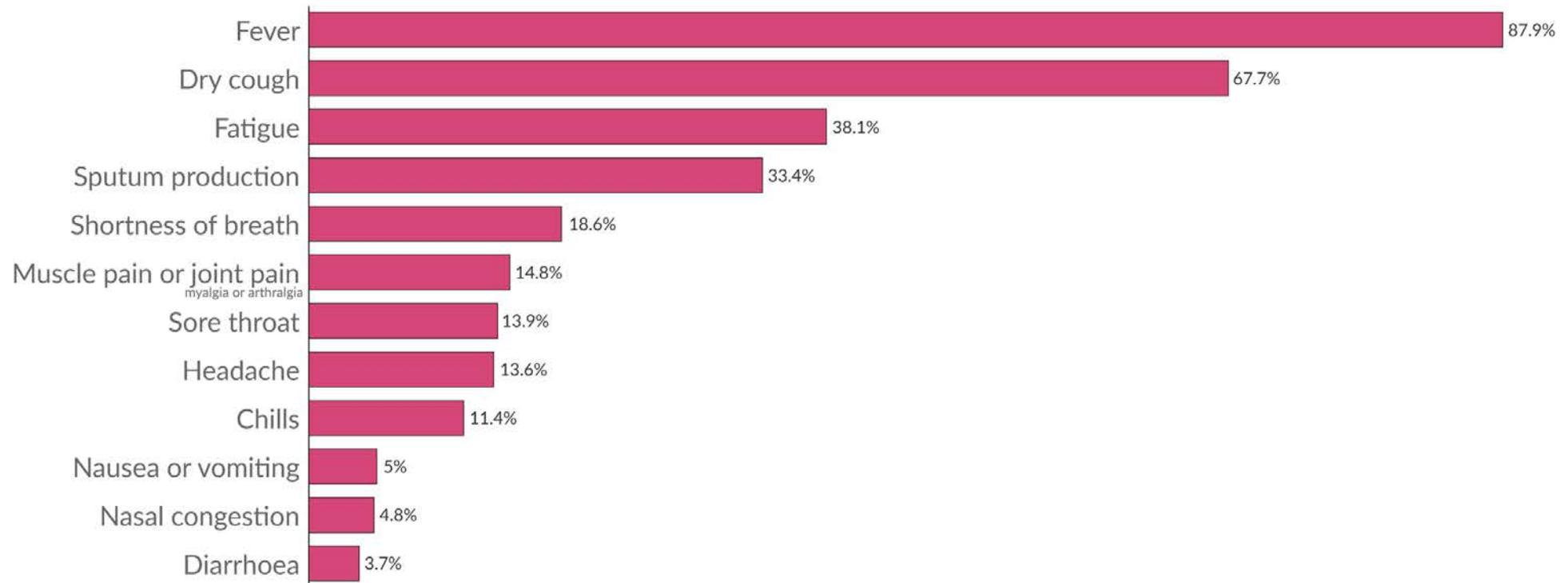
# Epidemiology - Symptoms

## 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

Our World  
in Data

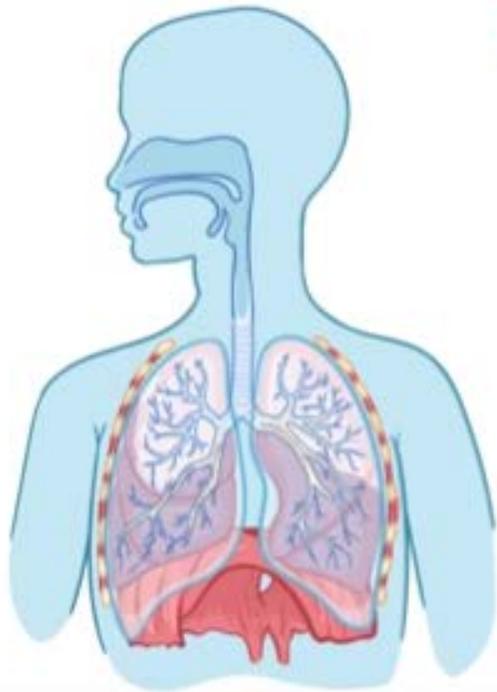


Data source: World Health Organization (2020). Report of the WHO-China Joint Mission on Coronavirus Disease 2019 (COVID-19). Symptoms in fewer than 1% are not shown.  
OurWorldinData.org – Research and data to make progress against the world's largest problems. Licensed under CC-BY by the authors.

# Population at Risk

SEVERE LUNG DAMAGE → ARDS

ACUTE RESPIRATORY DISTRESS SYNDROME



SEPTIC SHOCK



> 60



SMOKERS



PREVIOUS  
MEDICAL  
CONDITIONS

# Treatment

## TREATMENT



### SUPPORTIVE CARE

- ~ PROVIDING FLUIDS
- ~ OXYGEN
- ~ VENTILATORY SUPPORT



- CHLOROQUINE
- RITONAVIR
- REMDESIVIR

LARGE-SCALE  
CLINICAL TRIALS

# Prevention – No Vaccine

**PREVENTION**



**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 COVID-19 spread & How do you protect yourself?



**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

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# 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

**Concerted effort**



# 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

### Distribution of COVID-19 cases as of 09 March 2020



Data Source: World Health Organization

Map Production: WHO Health Emergencies Programme

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The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

## 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 [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200304-sitrep-44-covid-19.pdf?sfvrsn=783b4c9d\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200304-sitrep-44-covid-19.pdf?sfvrsn=783b4c9d_2)

# Clinical Categorization

## Coronavirus [COVID-19]: the severity of diagnosed cases in China

Descriptions of 44,415 confirmed cases of COVID-19 nationwide in China. Included are confirmed cases in the early period of the outbreak of the disease up to February 11, 2020.



### 2.3% of all cases died

1,023 of the 44,415 infected people, for which the breakdown is shown on the right, died. The *case fatality rate* is therefore 2.3%.

### 5% Critical cases

Critical cases include patients who suffered respiratory failure, septic shock, and/or multiple organ dysfunction/failure.

### 14% Severe cases

Severe cases include patients suffer from shortness of breath, respiratory frequency  $\geq 30$ /minute, blood oxygen saturation  $\leq 93\%$ , PaO<sub>2</sub>/FIO<sub>2</sub> ratio  $< 300$ , and/or lung infiltrates  $> 50\%$  within 24–48 hours.

### 81% Mild cases

Mild cases include all patients without pneumonia or cases of mild pneumonia.

Cases that were not identified and not diagnosed

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

Data source: Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. *Vital surveillances: the epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19)—China, 2020*. China CDC Weekly. Case counts: 36,160 mild cases; 6,168 severe cases; 2,087 critical cases.  
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# Mortality

VIRUS	YEAR	CASES	DEATHS	FATALITY RATE	NUMBER OF COUNTRIES
Ebola	1976	33,577	13,562	40.4%	9
Nipah	1998	513	398	77.6%	2
SARS	2002	8,096	774	9.6%	29
MERS	2012	2,494	858	34.4%	28
COVID-19**	2020	100,645	3,410	3.4%	114

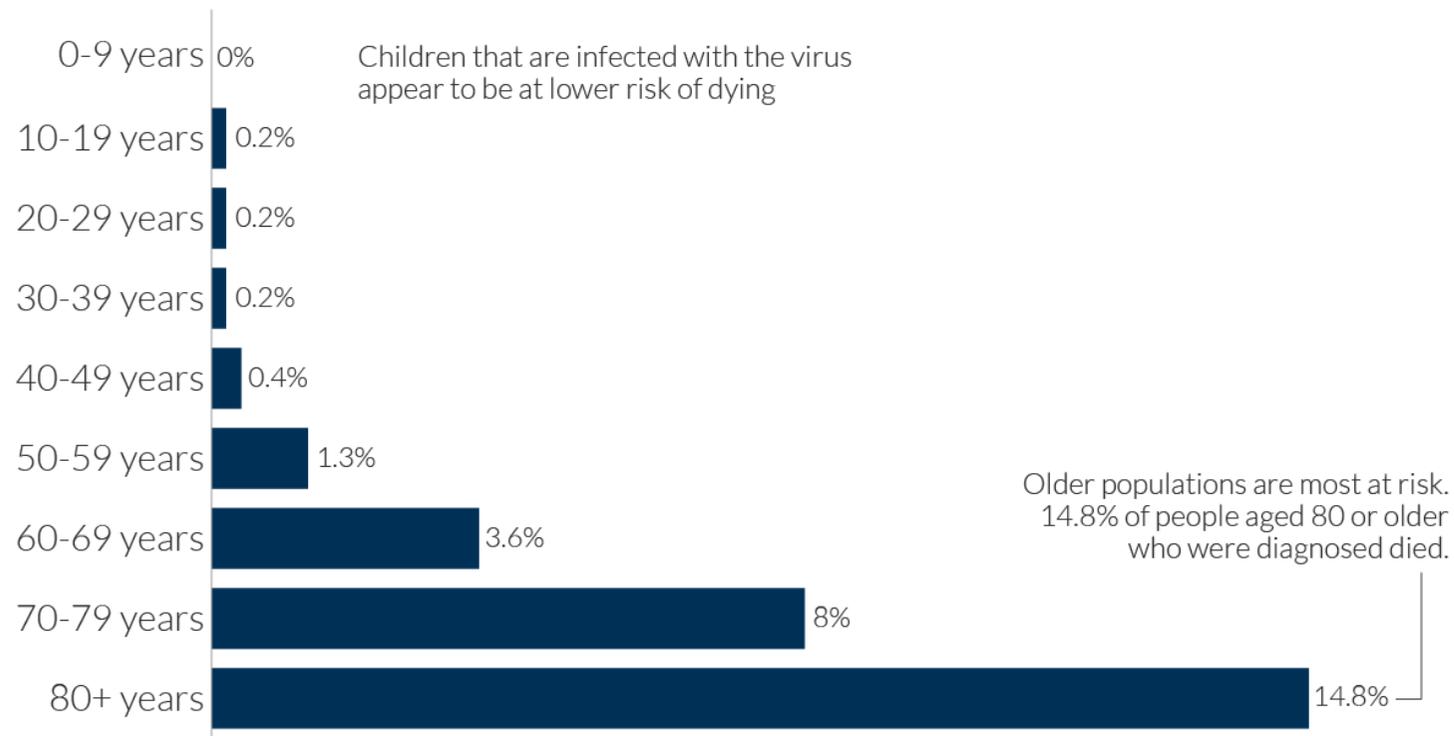


# Age specific mortality

## 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.



Data source: Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. *Vital surveillances: the epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19)—China, 2020*. China CDC Weekly.

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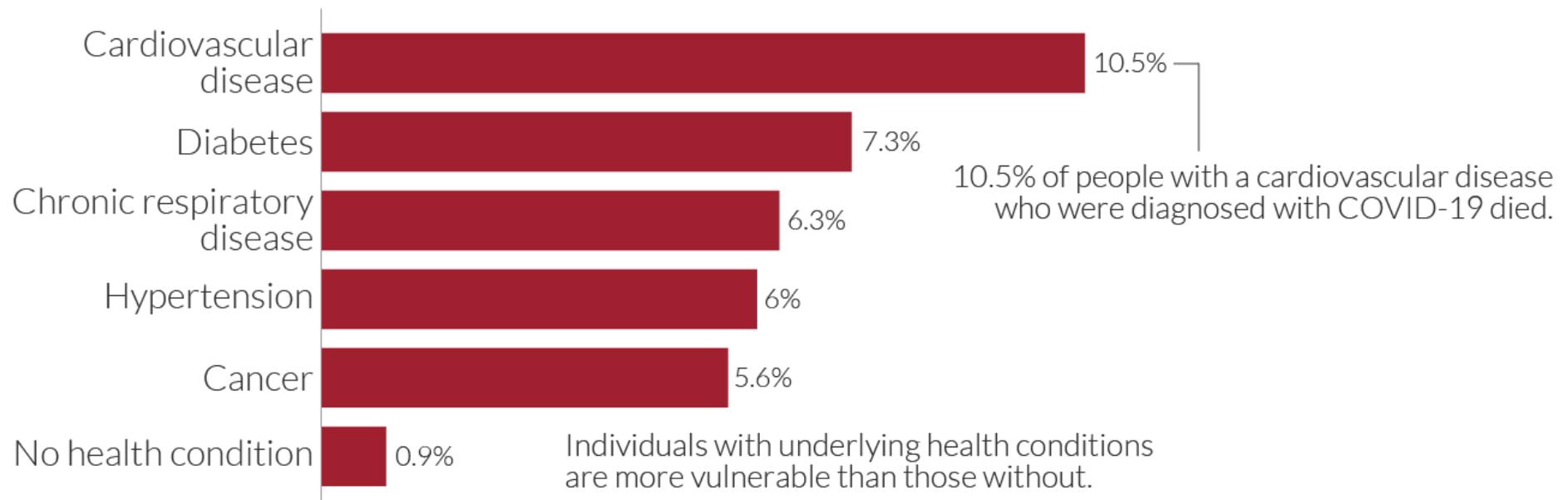
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# Underlying health condition

## 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.



Data source: Novel Coronavirus Pneumonia Emergency Response Epidemiology Team. *Vital surveillances: the epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19)–China, 2020*. China CDC Weekly.

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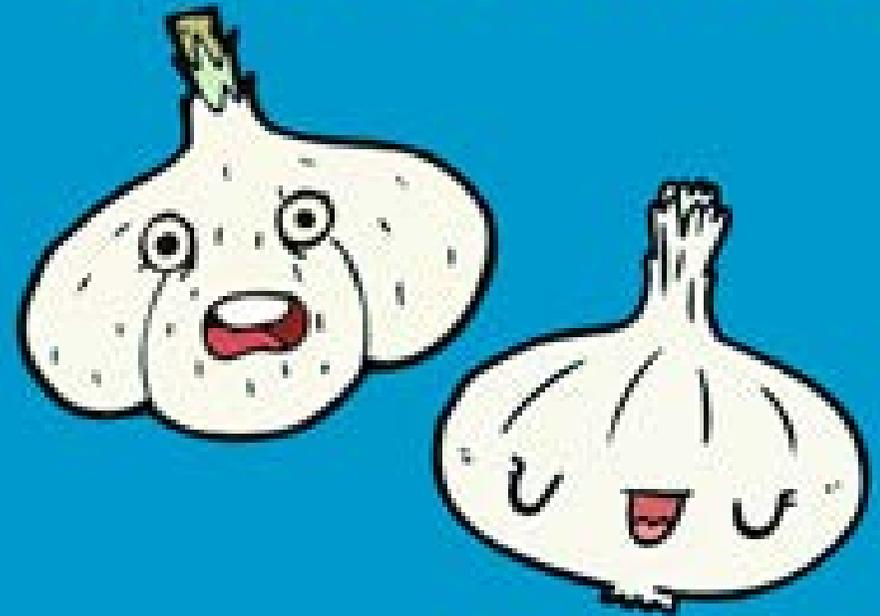
# COVID-19 related Myths



# 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)

Can eating garlic help prevent infection with the new coronavirus?



#2019nCoV

# Myths

No, antibiotics do not work against viruses, only bacteria.

The new coronavirus (2019-nCoV) is a virus and, therefore, antibiotics should not be used as a means of prevention or treatment.

However, if you are hospitalized for the 2019-nCoV, you may receive antibiotics since a bacterial co-infection is possible.

**Vitamin C/Probiotics**

## Are antibiotics effective in preventing and treating the new 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.



# 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.

## How effective are thermal scanners in detecting people infected with the new coronavirus?



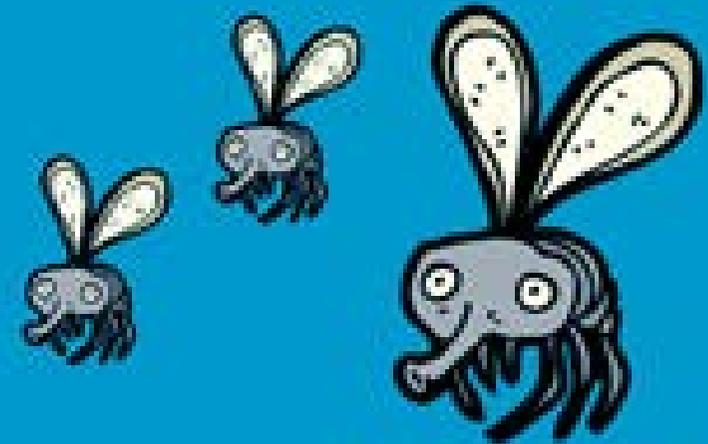
# Myths

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.

**FACT:**  
The new coronavirus  
**CANNOT**  
be transmitted through  
mosquito bites



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#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



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#COVID19



# Important Links

[IEDCR Bangladesh CoVID-2019](#) (including daily press release)

[World Health Organization \(WHO\)](#)

[WHO Home Page COVID-19](#)

[WHO Global SitRep](#)

[Situation Dashboard of COVID-19](#)

[Updated WHO recommendations for international traffic in relation to COVID-19 outbreak](#) (New)

[A Joint Statement on Tourism and COVID-19 - UNWTO and WHO Call for Responsibility and Coordination](#) (New)

[Rational use of personal protective equipment for coronavirus disease 2019 \(COVID-19\)](#) (New)

[Social Stigma associated with COVID-19](#)

[Coronavirus disease \(COVID-19\) advice for the public: Videos](#) (Online training materials, accessed upon enrollment)

[WHO Technical Guidance Notes](#)

[Emerging respiratory viruses, including nCoV: methods for detection, prevention, response and control](#)

[Surveillance and case definitions](#)

[Early investigations](#)

[Patient management](#)

[Infection prevention and control](#)

[Laboratory guidance](#)

[WHO COVID-19 Situation Dashboard](#)

[WHO COVID-19 related myth](#)

[WHO Research & Development Blueprint](#)

[WHO COVID-19 Q&A](#)

[WHO COVID-19 Travel advice](#)

[WHO RIGHTS, ROLES AND RESPONSIBILITIES OF HEALTH WORKERS, INCLUDING KEY CONSIDERATIONS FOR OCCUPATIONAL SAFETY AND HEALTH](#)

[WHO 2019 Novel Coronavirus \(2019-nCoV\): STRATEGIC PREPAREDNESS AND RESPONSE PLAN](#)

[WHO Country readiness](#)

[WHO Risk communication and community engagement](#)

[Risk Communication materials in Bengali](#)

[WHO Disease commodity package](#)

[WHO Reduction of transmission from animals to humans](#)

[WHO South East Asia Regional Office, SEARO](#)

[5 min video on basic understanding of COVID-19](#)

[Acute Respiratory Infections \(ARIs\) and basic hygiene measures to protect against COVID-19](#)

[Video demonstration on when and how to use masks](#)

[Risk Communication and Community Engagement: Advice for Public - Protect Yourself](#)

[WHO Infection Prevention and Control \(IPC\) for COVID-19](#)

[CDC Atlanta COVID-19](#)

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# Thank you

