COVID-19: FACTS AND MYTHS

Dr. Luay Abu-Qatouseh

Associate Professor Medical Microbiology and Immunology

University of Petra

Facts

- **What is COVID-19?**

- The disease associated with the new corona virus discovered in 2019

- **What is SARS-CoV-2?**

- The 2019 novel coronavirus is now named severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2)

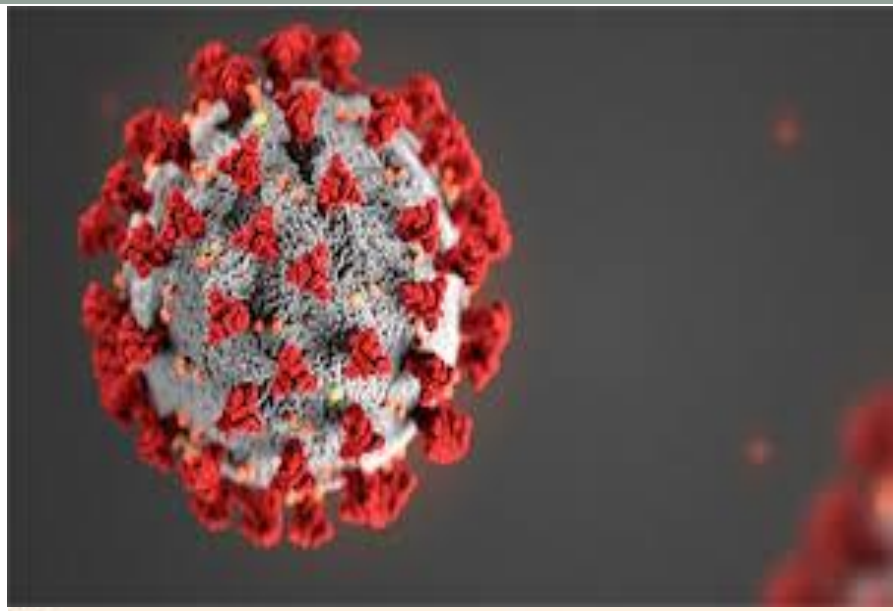
- SARS-CoV-2 was first identified in humans in China and was not previously reported

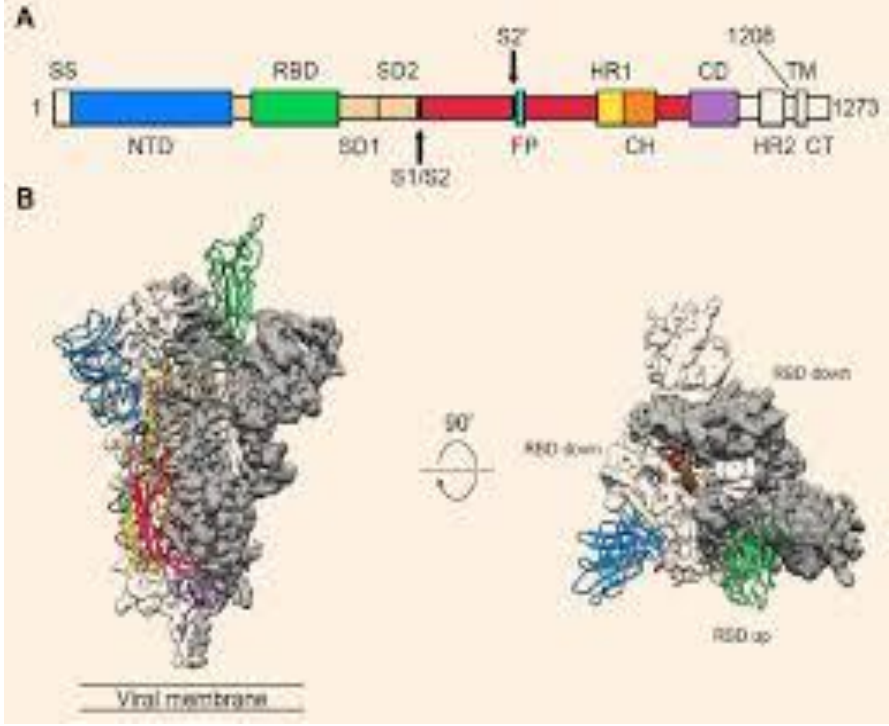
Facts

- **Coronaviruses**

Coronaviruses are viruses that circulate among animals but some of them are also known to affect humans.

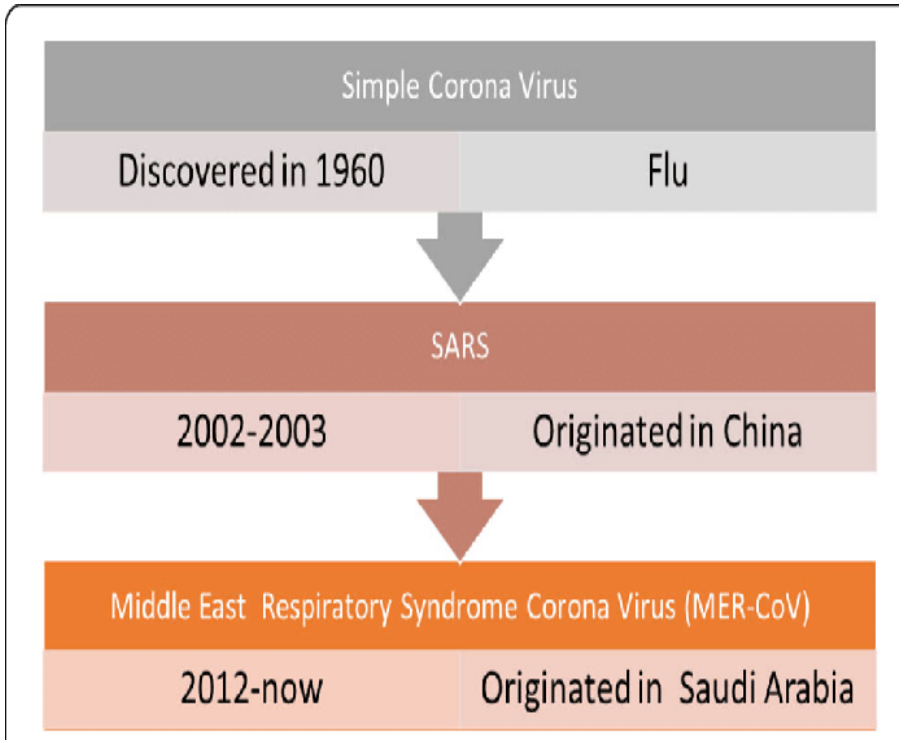
- enveloped viruses
- positive-sense-single-stranded-RNA genome
- nucleocapsid of helical symmetry.
- The genome size : 27 to 34 kilobases, (the largest among known RNA viruses)
- "crown" or "halo“ shape (as viewed under two-dimensional transmission electron microscopy, due to the surface covering in club-shaped protein spikes.





History

- Coronaviruses were first discovered in the 1960s.
- The earliest ones discovered in chickens
- two viruses from the nasal cavities of human patients with the common cold (human coronavirus 229E and OC43)
- SARS-CoV in 2003 (outbreak from Hong Kong and China
- HCoV NL63 in 2004 HKU1 in 2005
- MERS-CoV in 2012,
- SARS-CoV-2 in 2019.



Clinical features and sequelae

- Human infections with common coronaviruses are mostly mild and asymptomatic
- Occasionally, the viruses are able to cause more significant lower respiratory tract infections in humans with pneumonia

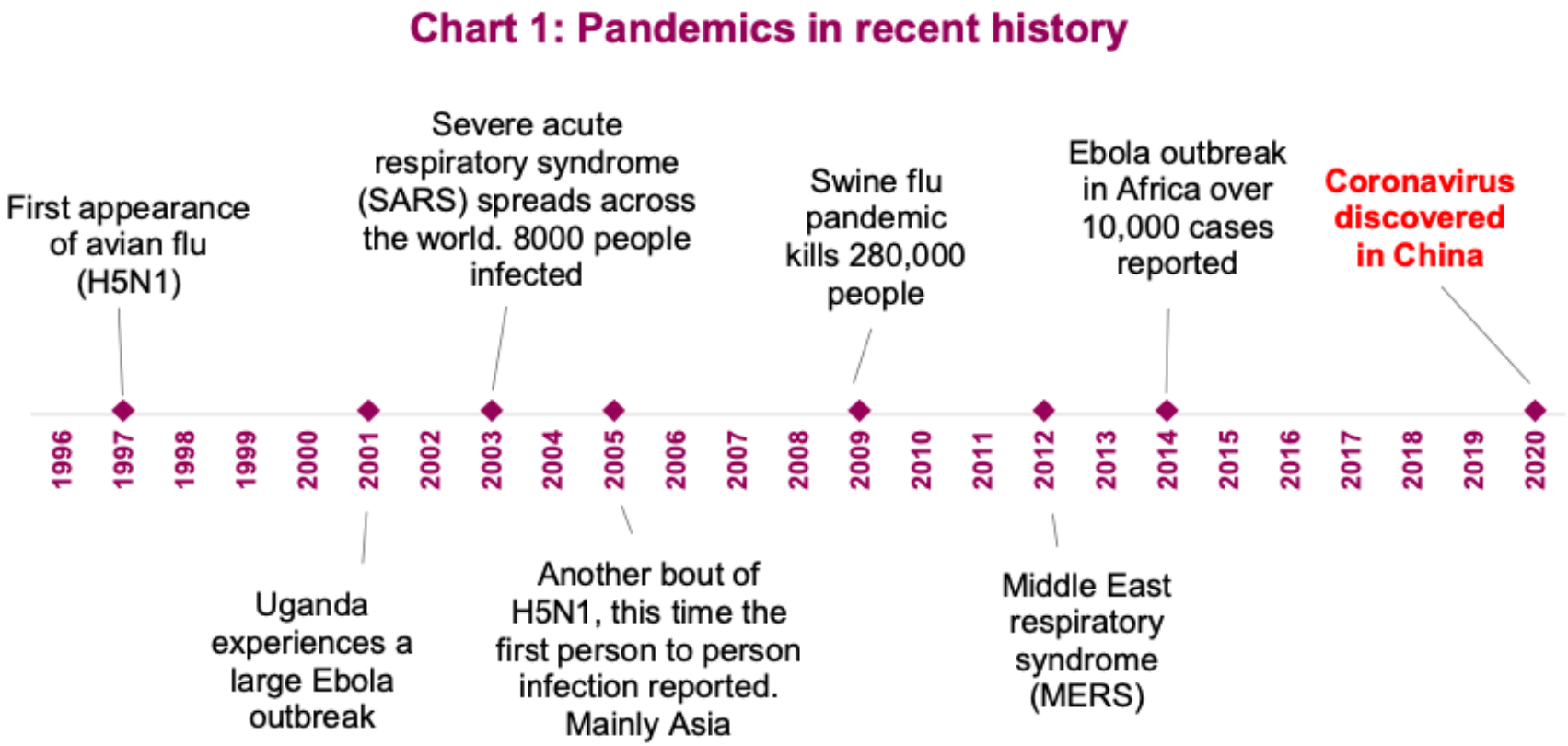
- Risk factors
  - Immunocompromised individuals
  - people with cardiopulmonary illnesses
  - The elderly
  - Smoking

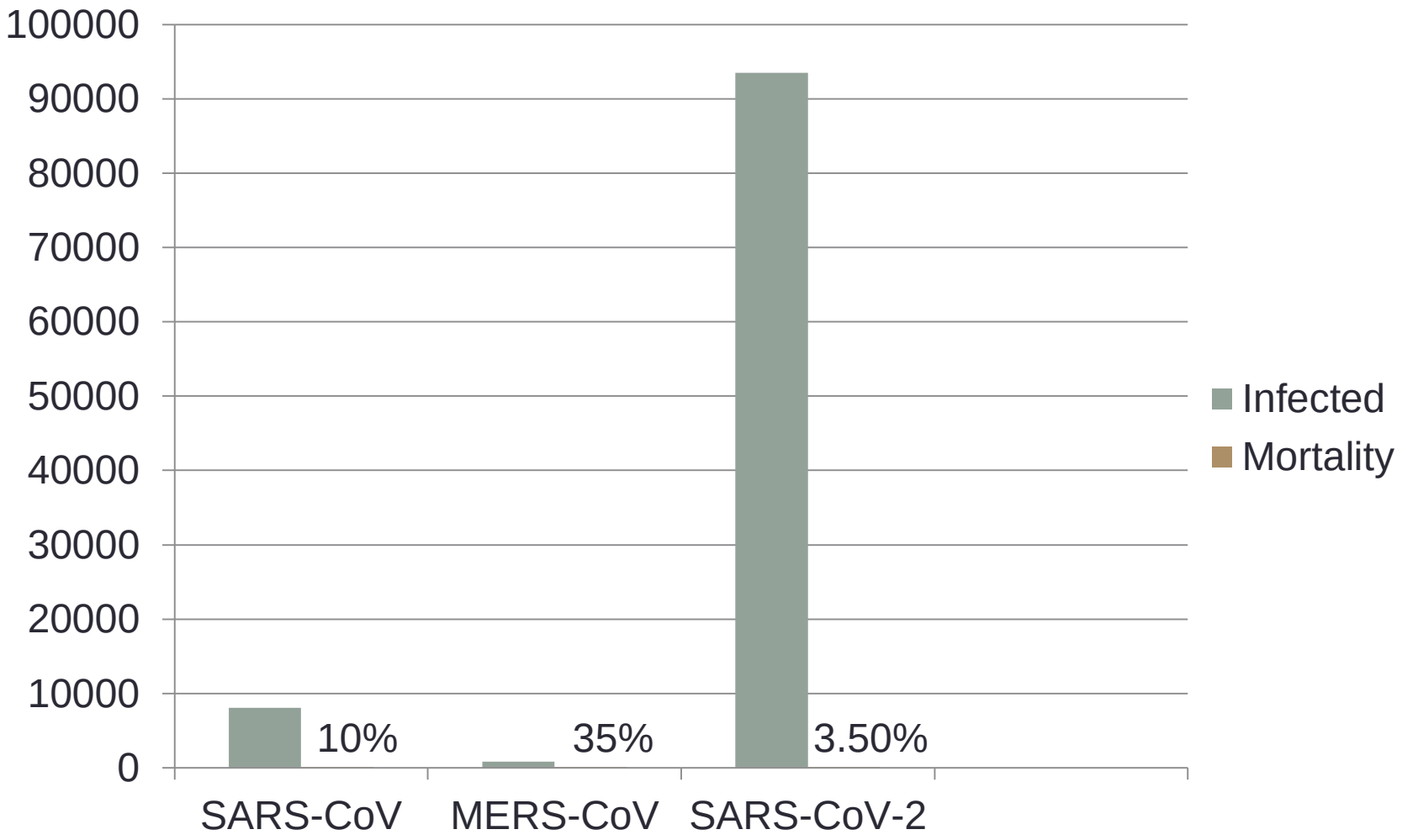
- SARS-CoV (2003): causing severe pulmonary infections

- MERS-CoV (2012)
- Symptoms include fever, cough and shortness of breath, with pneumonia as a common clinical diagnosis.
- progress in severe cases to acute respiratory distress syndrome (ARDS), septic shock and multi-organ failure resulting in death.
- In addition, the gastrointestinal tract can be involved with gastrointestinal symptoms, such as diarrhoea.

- SARS-Cov-2
- symptoms include mainly fever and difficulty breathing, with radiological findings of pneumonia
- However, severe and even critically ill patients with ARDS have also been reported.

Epidemiology and Statistics




100000
90000
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70000
60000
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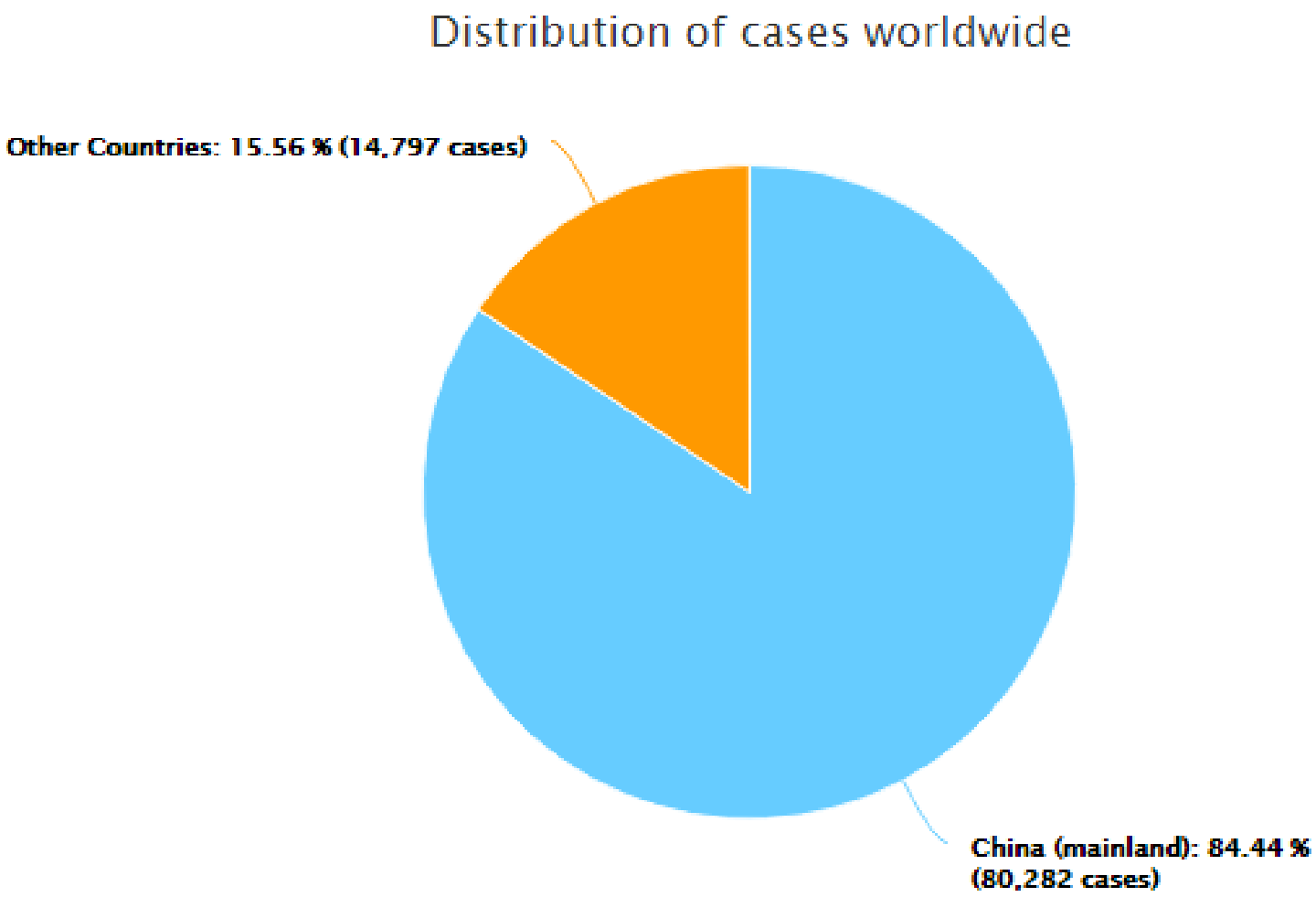
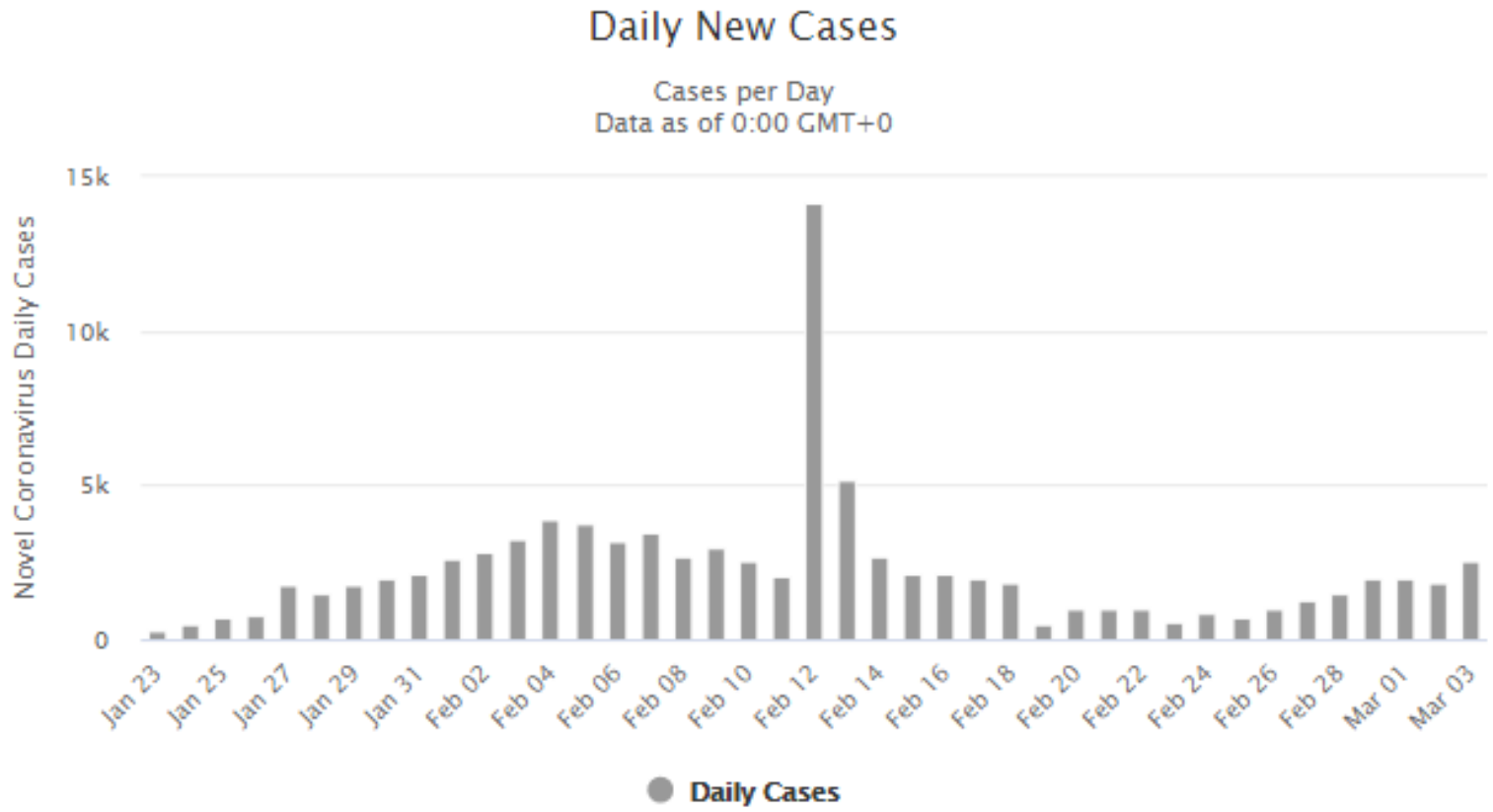
20000
10000
0
10%
35%
3.50%
SARS-CoV
MERS-CoV
SARS-CoV-2
Infected
Mortality

Cases


Distribution of cases worldwide
Other Countries: 15.56 % (14,797 cases)
China (mainland): 84.44 %
(80,282 cases)

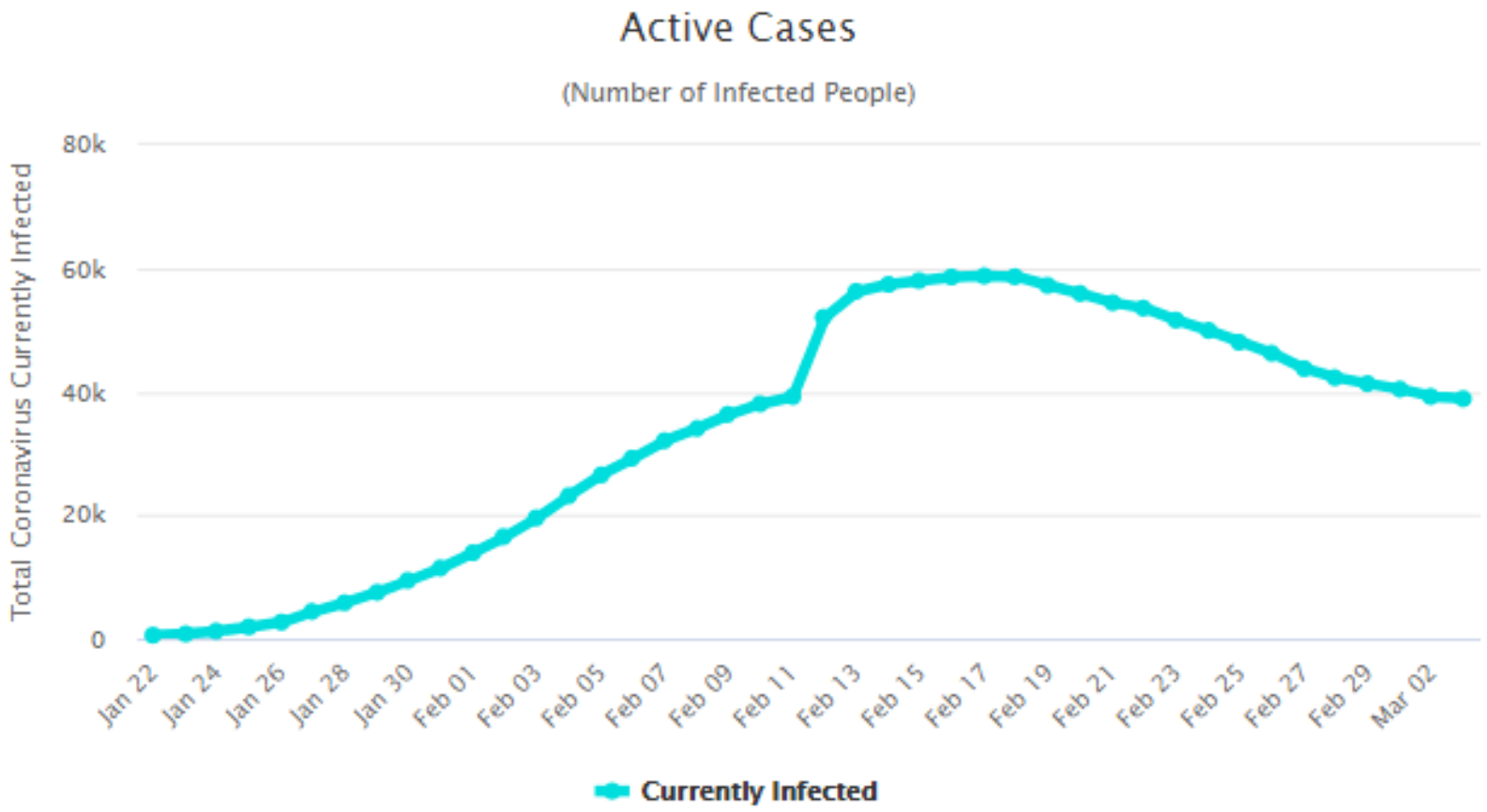
Daily Cases (worldwide)

The spike observed on Feb. 12 is the result, for the most part, of a change in diagnosis classification for which 13,332 clinically (rather than laboratory) confirmed cases were all reported as new cases on Feb. 12, even though they were diagnosed in the preceding days and weeks. We will distribute these cases over the correct period once the analysis being conducted by the WHO with China's NHC is completed. See also: **How to interpret the 15,152 (+600%) surge in new cases of February 12**



Active Cases

By removing **deaths** and **recoveries** from **total cases,** we get "currently infected cases" or "active cases" (cases still awaiting for an outcome).



Transmission

- A broad range of coronaviruses are found in bats, which might play a crucial role in the virus evolution
- Other animal species can also act as host and animal reservoir.
- The incubation period differs

- SARS-CoV :3–10 days
- MERS-CoV up to 14 days.
- SARS-CoV-2: 14-21 days

Transmission

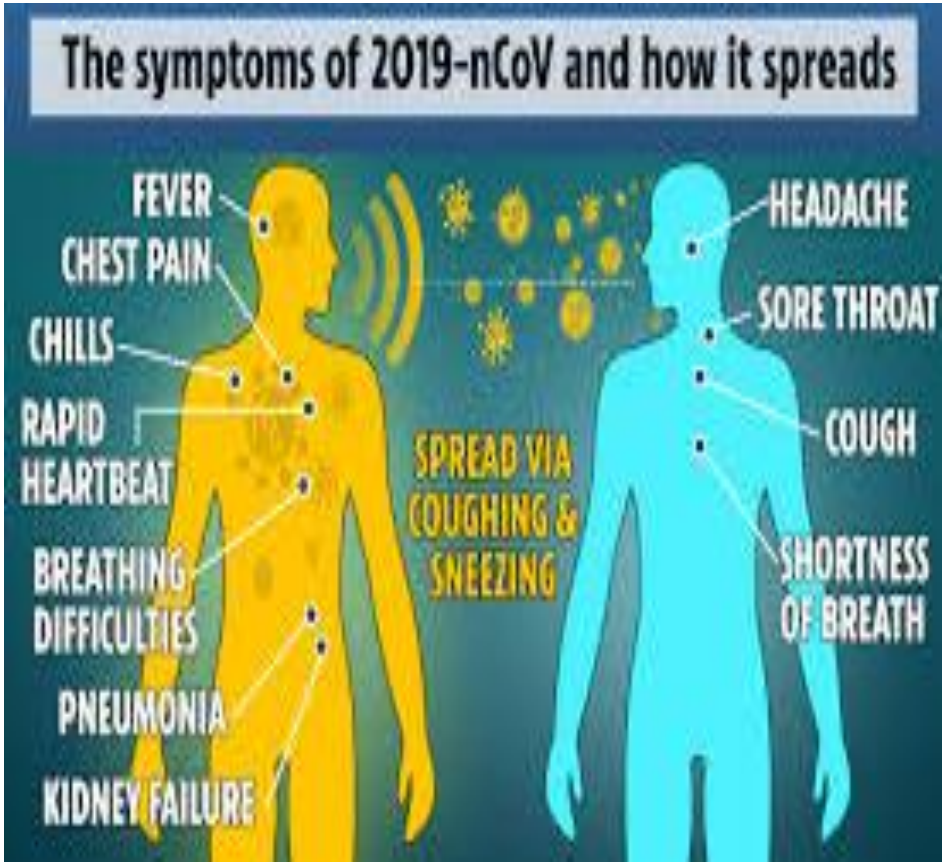
- In humans, the transmission between an infected individual and others occur through

- droplets from coughing or sneezing

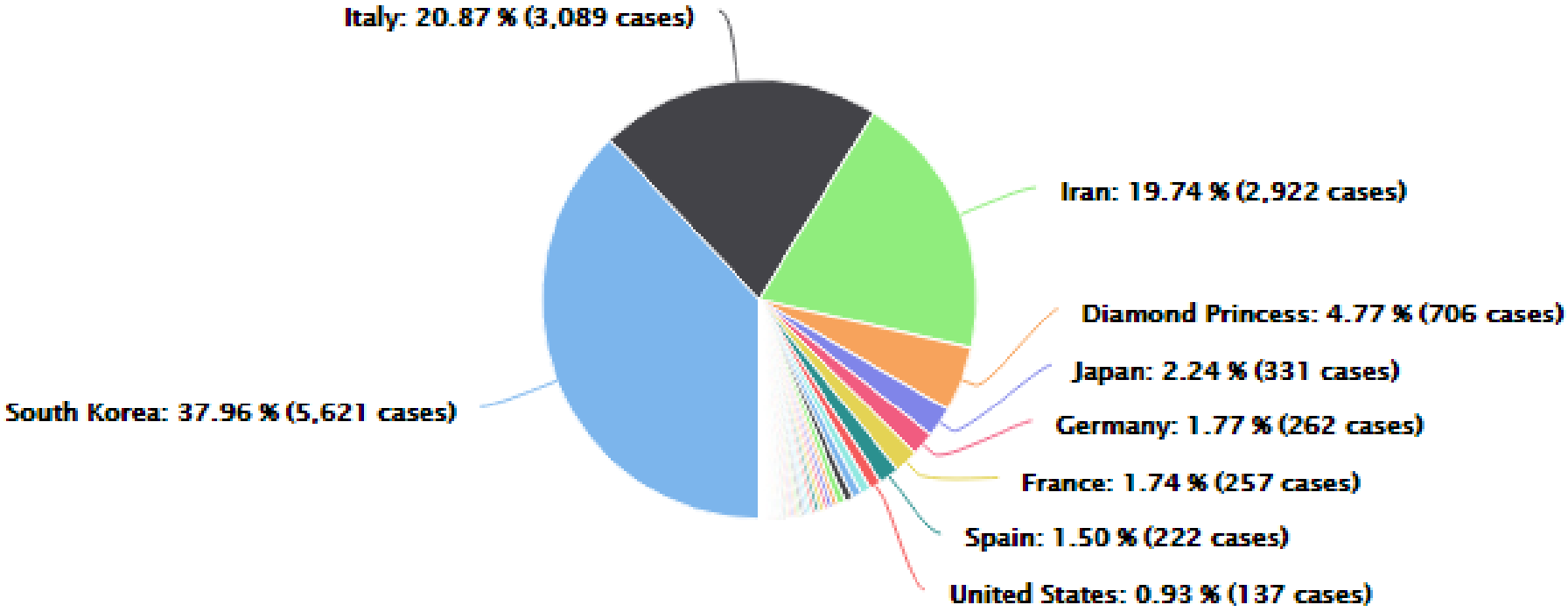
- touching contaminated objects or surfaces

- close contact, such as touching or shaking hands and then touching your nose, eyes or mouth.

- Nosocomial transmission has been described as an important driver in the epidemiology of SARS and MERS.



Distribution of cases outside of mainland China



Diagnosis

- Clinical and epidemiological picture is the first step.

- it is important to note that one negative result in a patient with strong epidemiological or clinical suspicion for disease should be confirmed with a second specific RT-PCR test targeting a different gene and/or a clinical sample from a different anatomical site.

Management and control

- Basic preventative measures:

- including: good respiratory hygiene
- respiratory etiquette
- frequent careful hand washing
- avoiding touching one's eyes, mouth and nose
- sanitary disposal of oral and nasal discharges
- avoiding contact with sick people.

Management and control

- **Are face masks effective in protecting against COVID-19?**
- Face masks help prevent further spread of infection from those who are sick to others around them. However, face masks do not seem to be as effective in protecting those who are not infected.

- FFP-2 respirators can provide protection for two sides

COVID-19 and animals and food products

- There is no evidence that any of the animals or animal products authorised for entry into the European Union pose a risk to the health of EU citizens as a result of the presence of COVID-19 in China.
- There has been no report of transmission of the COVID-19 via food.
- travelers are mainly the source of transmission hence they must not be allowed to carry any meat, meat products, milk or dairy products in their luggage.
- There is no evidence that dogs or cats pose a risk of infection to humans.

Is it a Bio-War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