

# Up-date Covid-19

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24 Januari 2020

Prokami- Indonesia

# Pokok Bahasan

- Epidemiologi covid -19
- Etiologi
- Diagnosa
- Penatalaksanaan
- Pencegahan

# COVID 19 “Penyakit Baru”

## China's pneumonia-stricken Wuhan

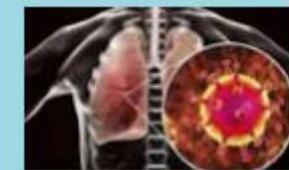
Second person died Jan 15 from mystery virus that has appeared in two other Asian countries



Source: maps4news.com/OSM

AFP

- What we know so far**
- ◆ Man, aged 61, died Jan 15 from respiratory illness, believed to be caused by new virus from same family as SARS (severe acute respiratory syndrome)
  - ◆ 2nd man, 69, died Jan 17 from infection-related complications
  - ◆ At least 41 people with pneumonia-like symptoms diagnosed with new virus
  - ◆ No new cases detected in Wuhan, no human-to-human transmission confirmed so far, but Chinese officials say possibility cannot be excluded"



Pneumonia Wuhan



SARS CoV-2



2 Maret 2020 : 2 kasus



11 Maret 2020 : PANDEMI

Globally, as of 7:11pm CET, 22 January 2021, there have been **96,267,473 confirmed cases** of COVID-19, including **2,082,745 deaths**, reported to WHO.

## Global Situation

  Daily Weekly

# 96,267,473

confirmed cases

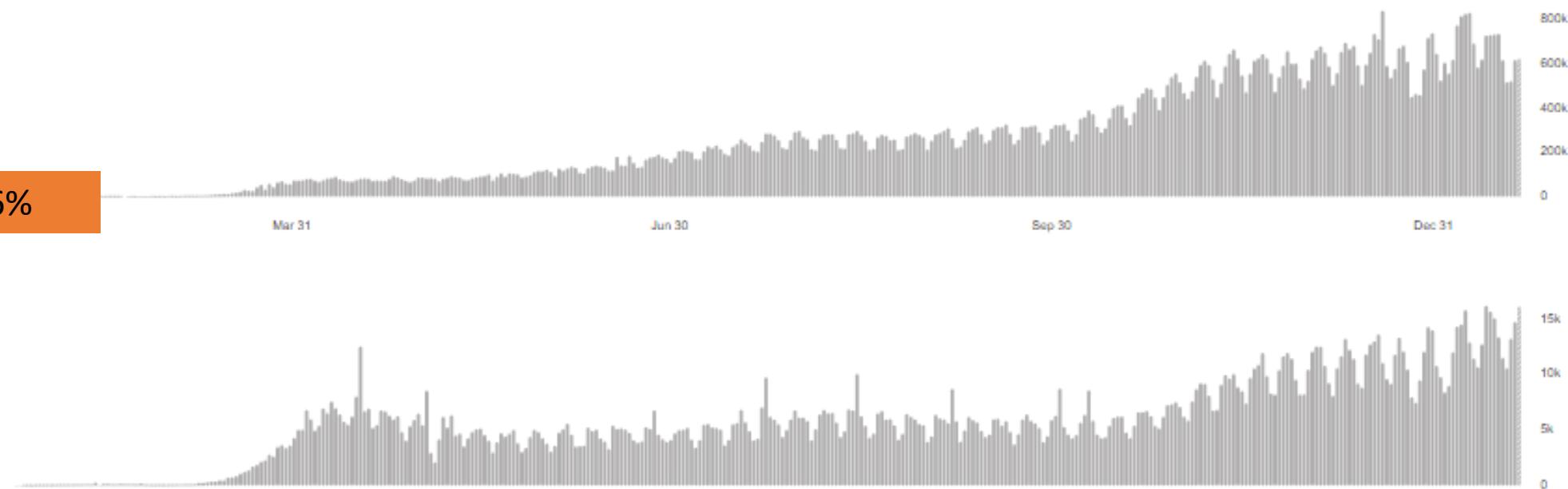
CFR 2.16%

# 2,082,745

deaths

Source: World Health Organization

 Data may be incomplete for the current day or week.



# Situasi Global Covid 19

## (WHO Region : 23 Januari 2020)

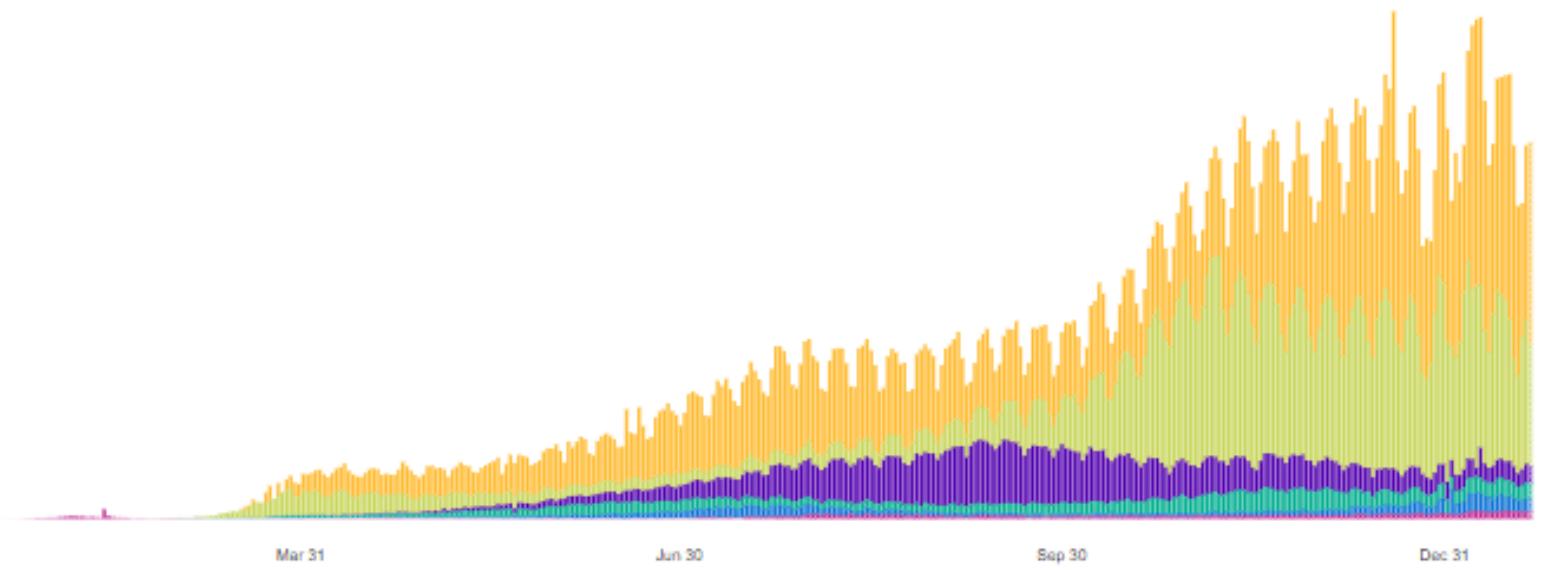
### Situation by WHO Region

Daily Weekly Cases Deaths Count ▾

|                       |            |
|-----------------------|------------|
| Americas              | 42,807,169 |
| Europe                | 31,659,231 |
| South-East Asia       | 12,597,011 |
| Eastern Mediterranean | 5,461,398  |
| Africa                | 2,416,834  |
| Western Pacific       | 1,325,085  |

Source: World Health Organization

Data may be incomplete for the current day or week.



## COVID-19 CORONAVIRUS PANDEMIC

Last updated: January 23, 2021, 09:49 GMT

[Graphs](#) - [Countries](#) - [Death Rate](#) - [Symptoms](#) - [Incubation](#) - [Transmission](#) - [News](#)

Coronavirus Cases:

**98,809,162**

[view by country](#)

Deaths:

**2,118,030**

Recovered:

**71,016,513**

23 Januari 2020

Peta Sebaran COVID-19

**977,474**  
TERKONFIRMASI  
+12,191 Kasus

**158,751**  
KASUS AKTIF  
16.2% dari Terkonfirmasi

**791,059**  
SEMBUH  
80.9% dari Terkonfirmasi

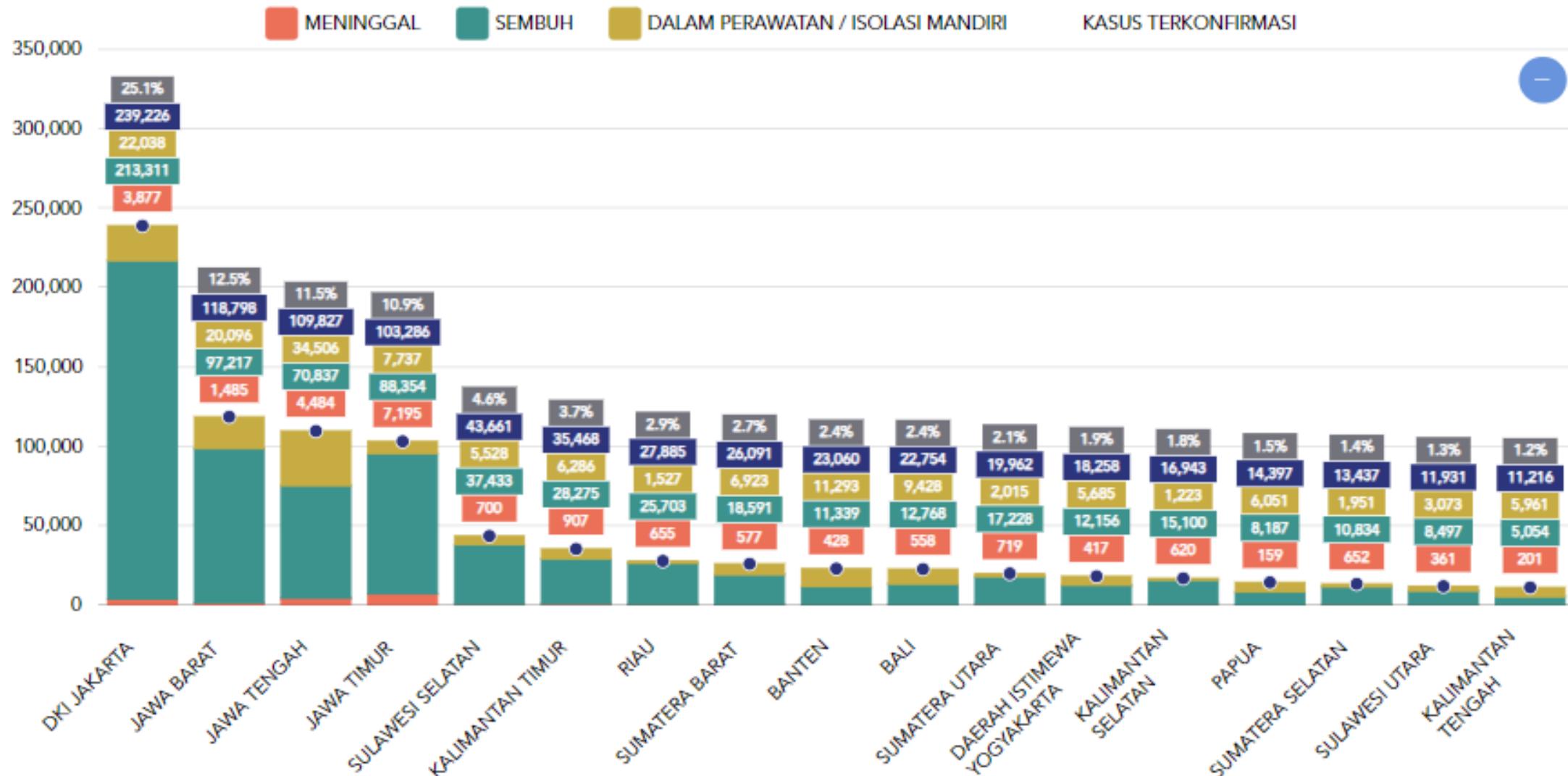
**27,664**  
MENINGGAL  
2.8% dari Terkonfirmasi

Suspek

83,190

Probable

## Kasus Per-Provinsi

**NASIONAL**

# SEBARAN KASUS dan CFR MENURUT UMUR



# Belajar dari Korea....( 22 Januari2021)

Deaths by gender and age group

|       |             | New deaths (%) | Total deaths (%) | Case fatality rate (%) |
|-------|-------------|----------------|------------------|------------------------|
| Total |             | 12 (100)       | 1,328 (100)      | 1.79                   |
| Sex   | Male        | 9 (75.00)      | 659 (49.62)      | 1.81                   |
|       | Female      | 3 (25.00)      | 669 (50.38)      | 1.77                   |
| Age   | 80 or above | 6 (50.00)      | 750 (56.48)      | 20.24                  |
|       | 70-79       | 5 (41.67)      | 366 (27.56)      | 6.34                   |
|       | 60-69       | 0 (0.00)       | 156 (11.75)      | 1.33                   |
|       | 50-59       | 1 (8.33)       | 41 (3.09)        | 0.29                   |
|       | 40-49       | 0 (0.00)       | 9 (0.68)         | 0.08                   |
|       | 30-39       | 0 (0.00)       | 6 (0.45)         | 0.06                   |
|       | 20-29       | 0 (0.00)       | 0 (0.00)         | 0.00                   |
|       | 10-19       | 0 (0.00)       | 0 (0.00)         | 0.00                   |
|       | 0-9         | 0 (0.00)       | 0 (0.00)         | 0.00                   |

\* Case fatality rate (CFR) (%) = Number of deaths / Number of confirmed cases x 100

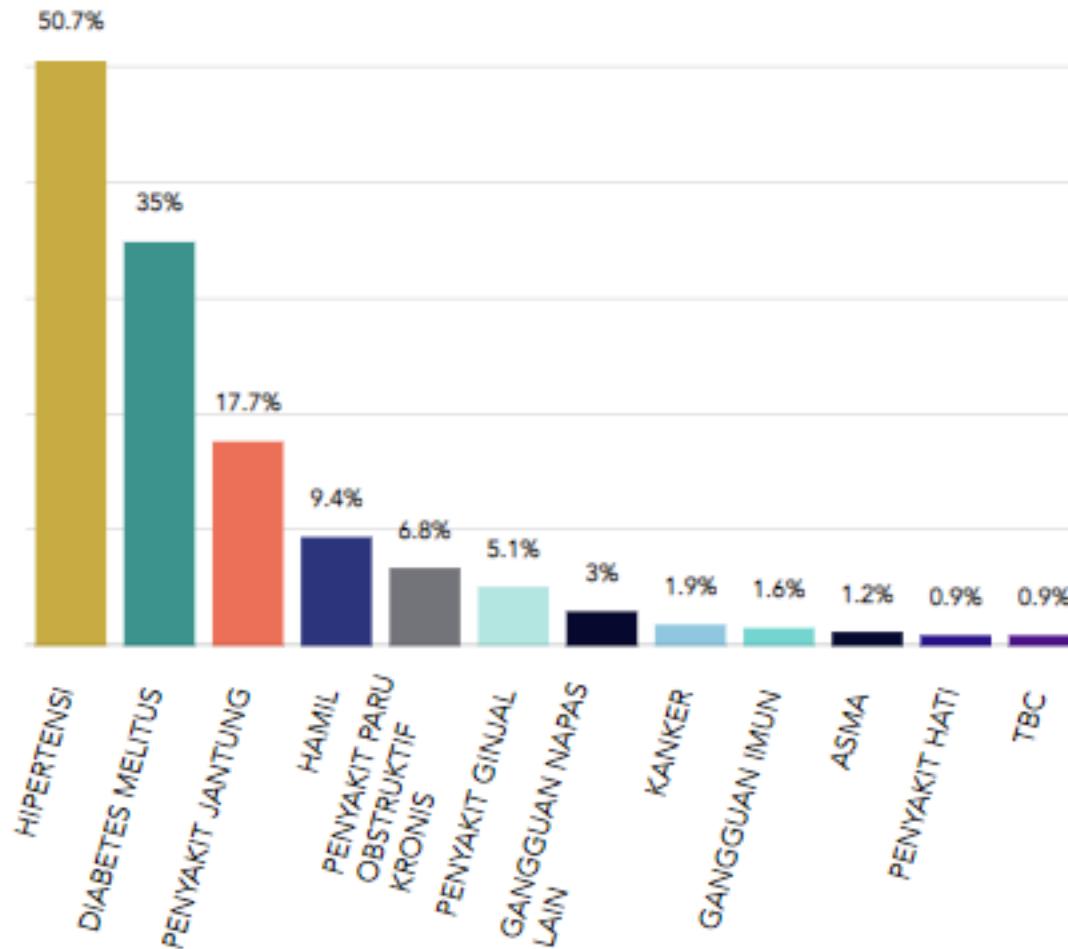
※ Figures subject to correction based on findings from epidemiological investigations

Positif

Dirawat / Isolasi Mandiri

Sembuh

Meninggal



## Timeline | Timeline of coronavirus emergence events

(1200–1500) HCoV-NL63: molecular clock analysis\* indicates that bat alphacoronavirus sequences share common ancestry with HCoV-NL63 and that they diverged approximately 563–822 years ago<sup>31</sup>

HCoV-OC43: molecular clock analysis of BCoV and HCoV-OC43 spike genes suggests that the viruses diverged from their most recent common ancestor in approximately 1890 (REF. 53)

rBCoV: coronaviruses were identified in a large percentage of affected calves on 32 farms with diarrhoea outbreaks<sup>127</sup>

MERS-CoV was isolated from the sputum of a 60-year-old Saudi Arabian male who had been hospitalized for fatal acute pneumonia and renal failure. The disease has subsequently been reported in eight countries and causes ~50% mortality in infected, hospitalized individuals<sup>16</sup>

1200                    1700                    1890                    1980                    1990                    2000                    2012

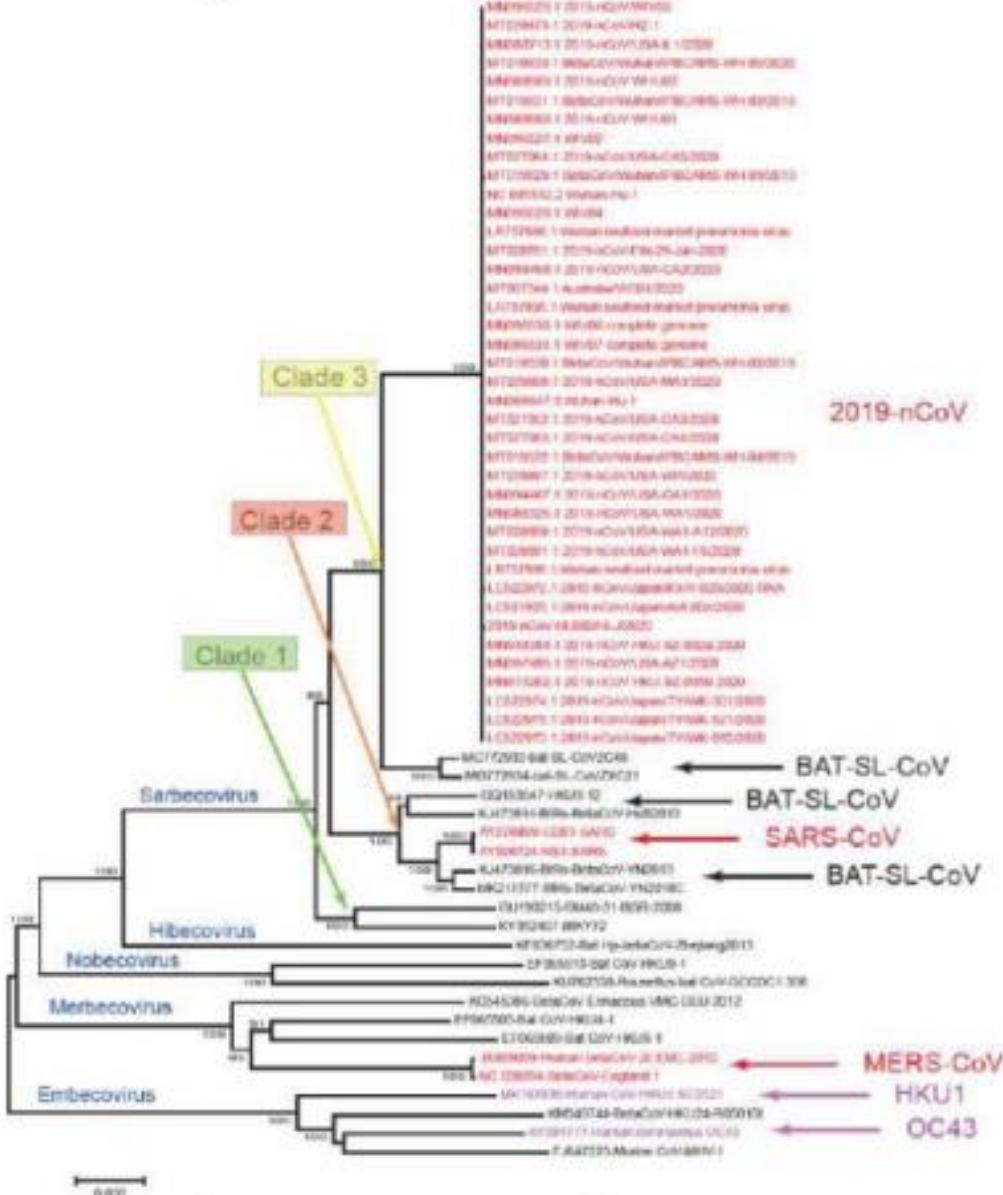
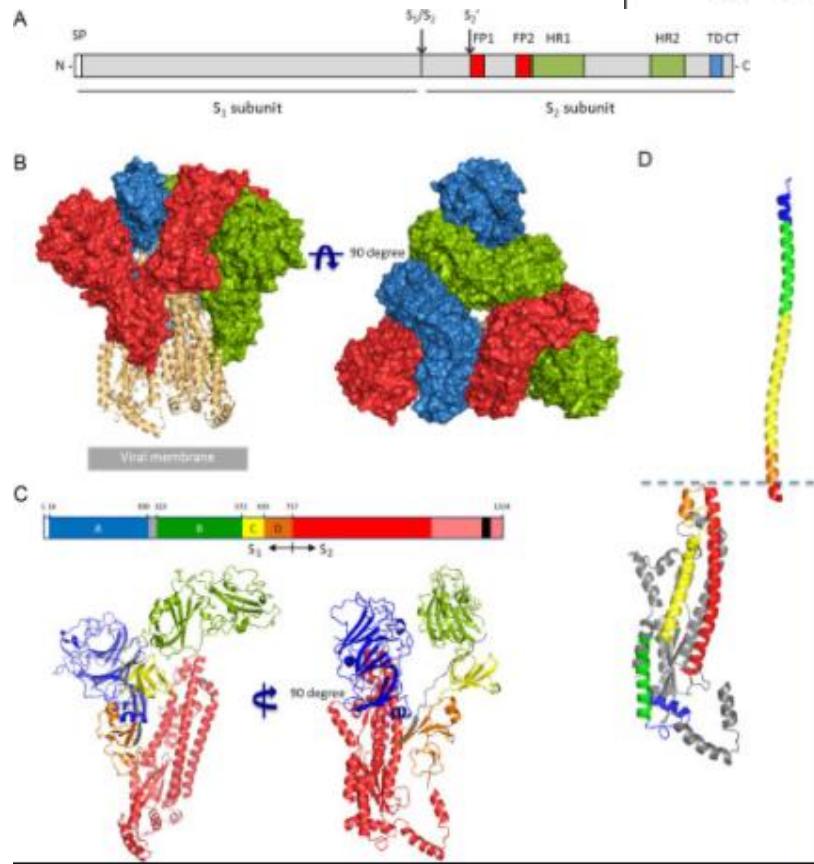
(1700–1800) HCoV-229E: molecular clock analysis indicates that HCoV-229E and a bat Alphacoronavirus lineage from Ghana diverged approximately 213–327 years ago<sup>7</sup>

PEDV: CoV-like particles were detected by electron microscopy in intestinal contents sampled during diarrhoea outbreaks on four swine farms<sup>126</sup>

SARS-CoV: SARS was first reported in Guangdong Province, China, in November 2002. SARS had spread globally by July 2003. A novel coronavirus, named SARS-CoV, was found to be the causative agent<sup>22,85,128,129</sup>

BCoV, bat coronavirus; HCoV, human coronavirus; MERS-CoV, Middle East respiratory syndrome coronavirus; PEDV, porcine epidemic diarrhea virus; rBCoV, respiratory bat coronavirus; SARS, severe acute respiratory syndrome; SARS-CoV, severe acute respiratory syndrome coronavirus. \*Molecular clock analysis estimates the time at which two gene sequences diverged from each other based on known factors, such as mutation rate.

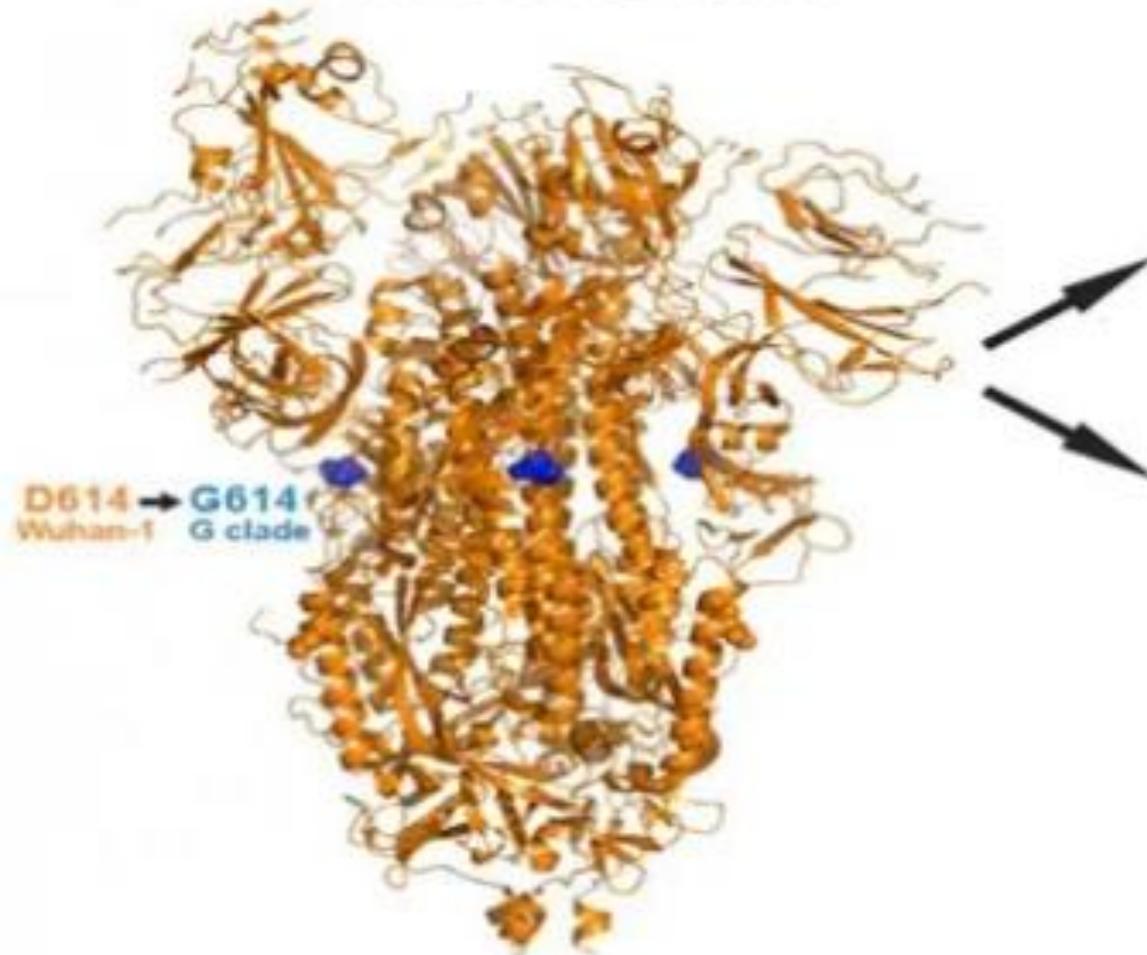
## Phylogenetic analysis of the COVID-19 virus and its closely related reference genomes



Note: COVID-19 virus is referred to as 2019-nCoV in the figure, the interim virus name WHO announced early in the outbreak.

Whole genome sequencing analysis of 104 strains of the COVID-19 virus isolated from patients in different localities with symptom onset between the end of December 2019 and mid-February 2020 showed 99.9% homology, without significant mutation

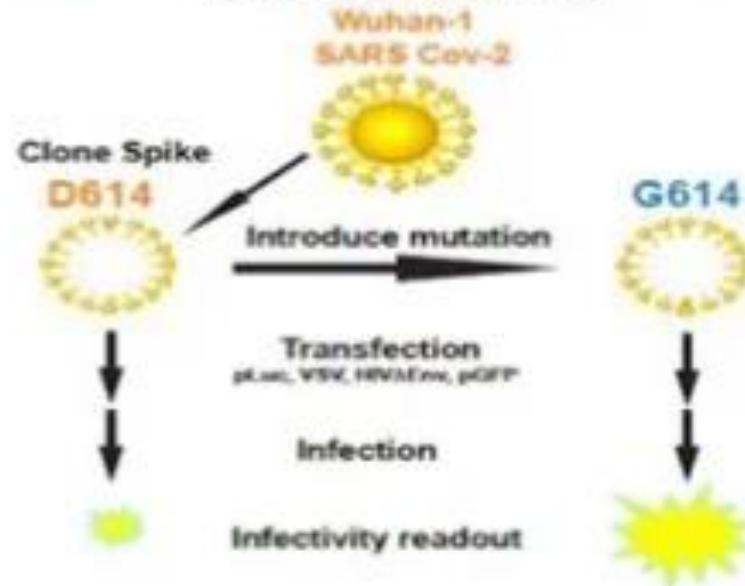
## SARS-CoV-2 Spike



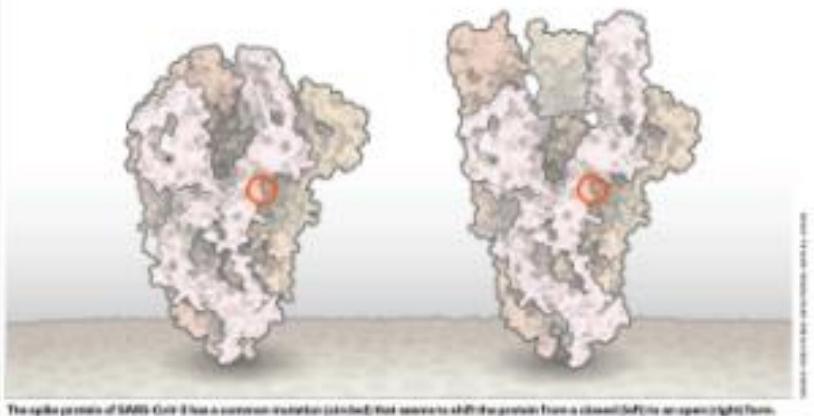
G614 is associated with higher viral loads in patients indicated by lower RT PCR cycle thresholds for detection



G614 is associated with higher infectious titers of spike pseudotyped virus



The variant in question, D614G, makes a small but effective change in the virus's "Spike" protein, which the virus uses to enter human cells. Credit: LANL.



## MAKING SENSE OF CORONAVIRUS MUTATIONS

Different SARS-CoV-2 strains haven't yet had a major impact on the course of the pandemic – but they might.

**W**hen COVID-19 spread around the globe this year, David Mermelstein wondered how the deadly virus behind the pandemic might be changing as it passed from person to person. Mermelstein, who directs an AIDS-vaccine research laboratory at Duke University in Durham, North Carolina, contacted his colleagues, an expert in HIV evolution and a long-time collaborator, another immunologist based at the Los Alamos National Laboratory (LANL) in New Mexico, and almost

ped into mutations fed from lasz and juncles yet mak-

head of g which

tion. But as population-wide immunity rises, **"It is a possibility that the virus will acquire mutations that change its susceptibility to antibodies and immunity."**

17:45 ✓✓

started sending those genetic sequences for a change-of-mind it was around the world. Compared with early, it's much more likely a mutation need not go gene encoding the spike virus particles to persist. The mutation appears samples from people with both anti-SARS-CoV-2, the amino acid sequence (which is what's most regularly being replaced by glycine G) because of a coding fault that altered a single nucleotide in the virus's 29,903-letter RNA code. Mermelstein's work is the D614G mutation,

which is most frequently found across the world. Although many news stories included reassurance, some headlines declared that the virus was becoming more dangerous. In retrospect,

## COVID-19



MENU >

Please see Emerging SARS-CoV-2 Variants, December 29, 2020, for the most recent info.

## Executive summary

A new variant strain of SARS-CoV-2 that contains a series of mutations has been described in the United Kingdom (UK) and become highly prevalent in London and southeast England. Based on these mutations, this variant strain has been predicted to potentially be more rapidly transmissible than other circulating strains of SARS-CoV-2. Although a variant may predominate in a geographic area, that fact alone does not mean that the variant is more infectious. Scientists are working to learn more about this variant to better understand how easily it might be transmitted and whether currently authorized vaccines will protect people against it. At this time, there is no evidence that this variant causes more severe illness or increased risk of death. Information regarding the virologic, epidemiologic, and clinical characteristics of the variant are rapidly emerging. CDC, in collaboration with other public health agencies, is monitoring the situation closely. CDC will communicate new information as it becomes available.

# Mutasi SARS-CoV2

- Terdapat beberapa penelitian yang mendapatkan adanya mutasi pada virus SARS-CoV2
- Long dkk. → ditemukan mutasi pada spike protein asam amino Gly614
  - mutasi tersebut menyebabkan viral load pada nasofaring jauh lebih banyak, namun tidak mempengaruhi keparahan gejala dan terapi yang diberikan
- Mutasi SARS-CoV 2 mink-associated di Denmark → menyerang pasien segala umur
  - Secara umum, tidak ada perbedaan gejala klinisnya dengan virus yang belum bermutasi
- **MUTASI TERBARU DITEMUKAN DI INGGRIS**

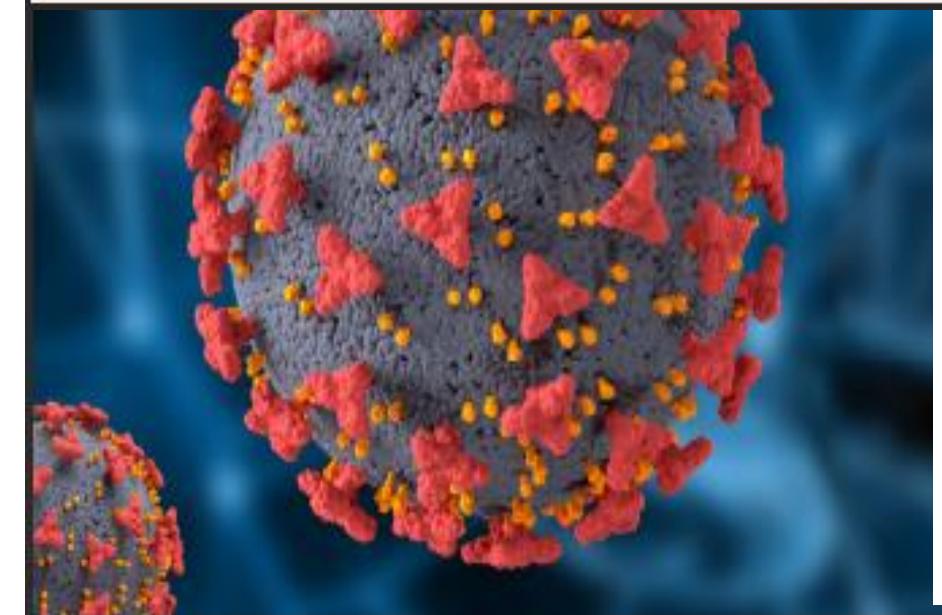
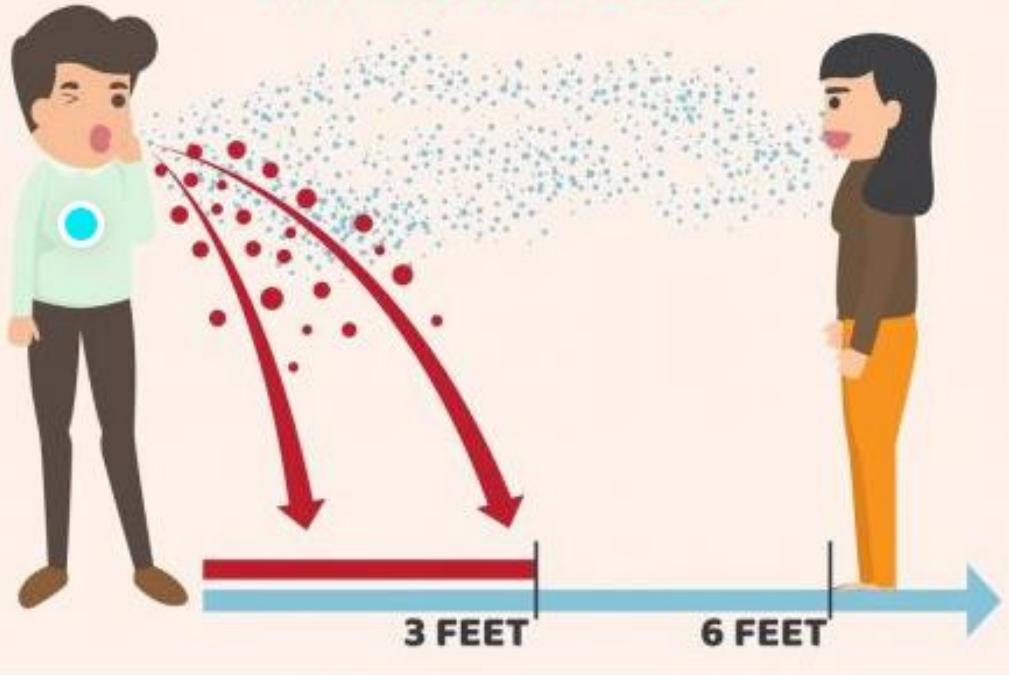
Long SW, Olsen RJ, Christensen PA, Bernard DW, Davis JJ, Shukla M, et al. Molecular Architecture of Early Dissemination and Massive Second Wave of the SARS-CoV-2 Virus in a Major Metropolitan Area. Bonomo RA, editor. *mBio*. 2020 Oct 30;11(6):e02707-20, /mbio/11/6/mBio.02707-20.atom.

WHO. SARS-CoV2 mink Associated variant strain. Denmark [cited 10 Nov 2020]. Available at: <https://www.who.int/csr/don/06-november-2020-mink-associated-sars-cov2-denmark/en/>

# MUTASI TERBARU DITEMUKAN DI INGGRIS

- Ditemukan pada bulan Oktober 2020 (sampel dari September 2020), tersebar di UK: London (Tenggara dan Timur) Dan terdapat kasus dari UK di Australia
- Terdapat 17 mutasi, termasuk mutasi di receptor binding domain pada spike glycoprotein (mutasi N501Y) --> diduga menyebabkan varian lebih infeksius
- Varian ini diduga memiliki kemampuan transmisi yang lebih tinggi dibandingkan varian lainnya.
- Implikasi pada pengembangan vaksin: varian ini memiliki mutasi pada spike protein yang ditargetkan oleh vaksin yang sedang dikembangkan, namun vaksin tidak hanya menargetkan bagian yang bermutasi sehingga mutasi tersebut tidak mengubah efektivitas vaksin

## AIR TRANSMISSION

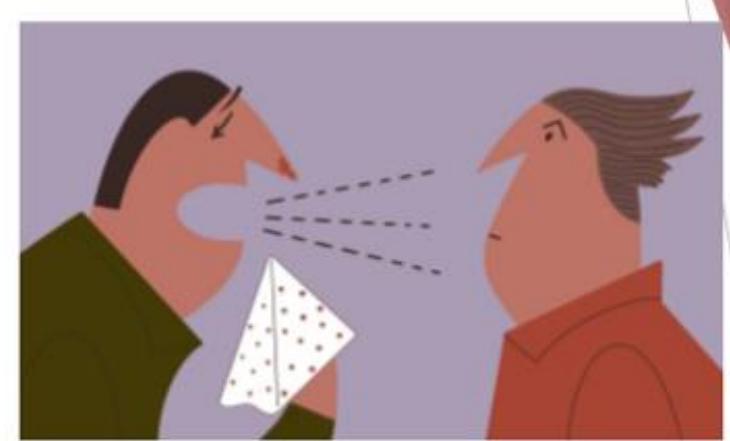


## Penularan COVID 19 : Droplet,( Airborn)



### TIDAK LANGSUNG

- Droplet tumpah ke permukaan benda
- Kemudian kita menyentuh dengan tangan, tangan menyentuh wajah (mata, hidung, mulut) tanpa cuci tangan.



### LANGSUNG

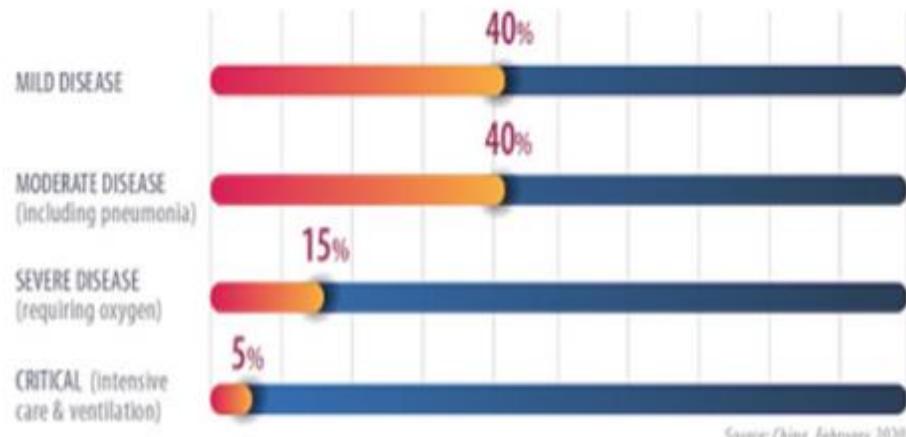
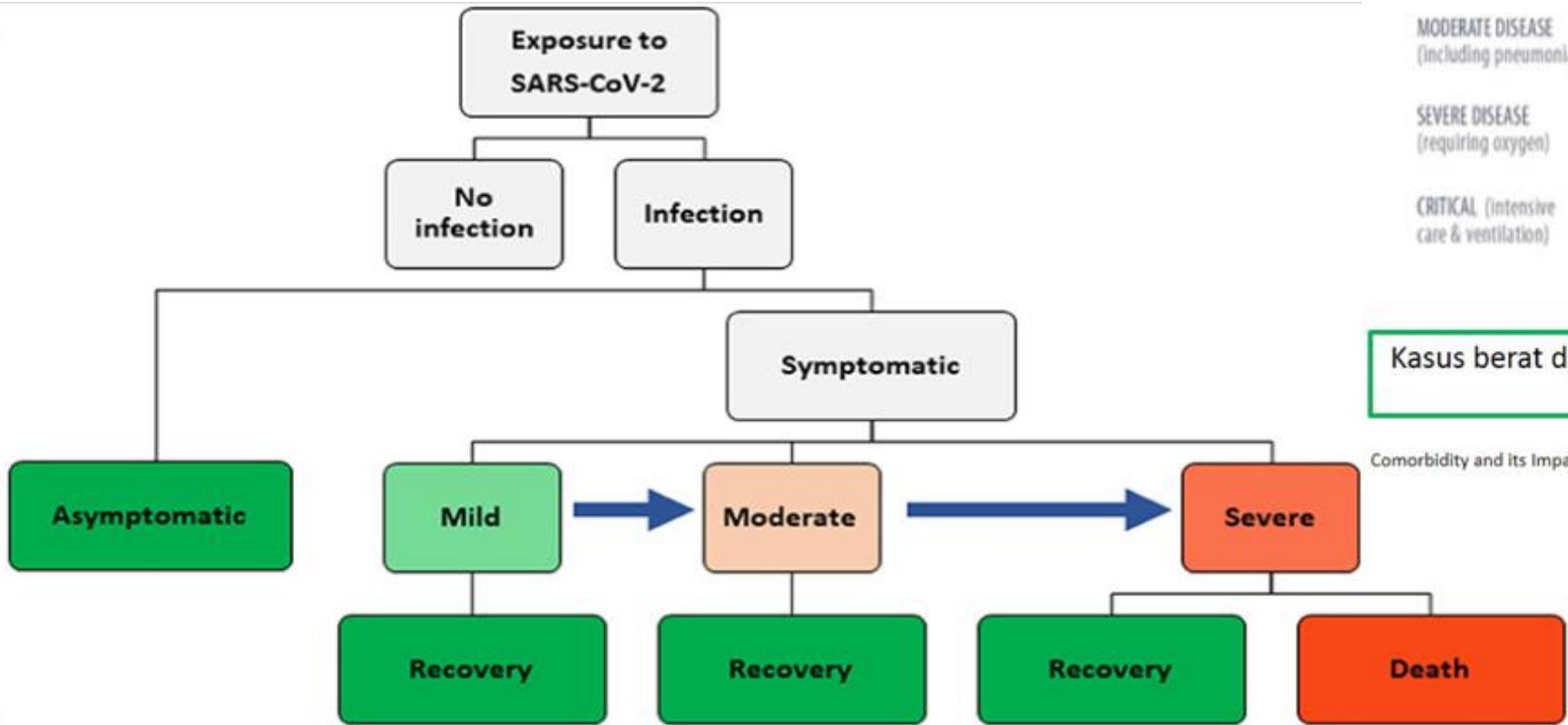
- Percikan langsung
- Jarak 1-2 meter dari orang yang batuk/bersin tanpa ditutup

# Penyebaran COVID-19

- Prinsip penyabaran lewat droplet, terdiri dari **droplet besar** dan **droplet kecil**
- Transmisi dapat terjadi via:
  - Transmisi kontak → via kontak langsung (berjabat tangan)
  - Transmisi droplet → transmisi via droplet yang dikeluarkan penderita
  - Tranmisi **airborne** → transmisi via droplet kecil yang dapat bertahan di udara dalam beberapa jam
- Transmisi airborne sangat mungkin terjadi dalam beberapa situasi:
  - Ruangan tertutup
  - Paparan jangka panjang (bernyanyi, berolahraga bersama)
  - Ventilasi yang tidak adekuat

# Manifestasi Klinis Covid-19

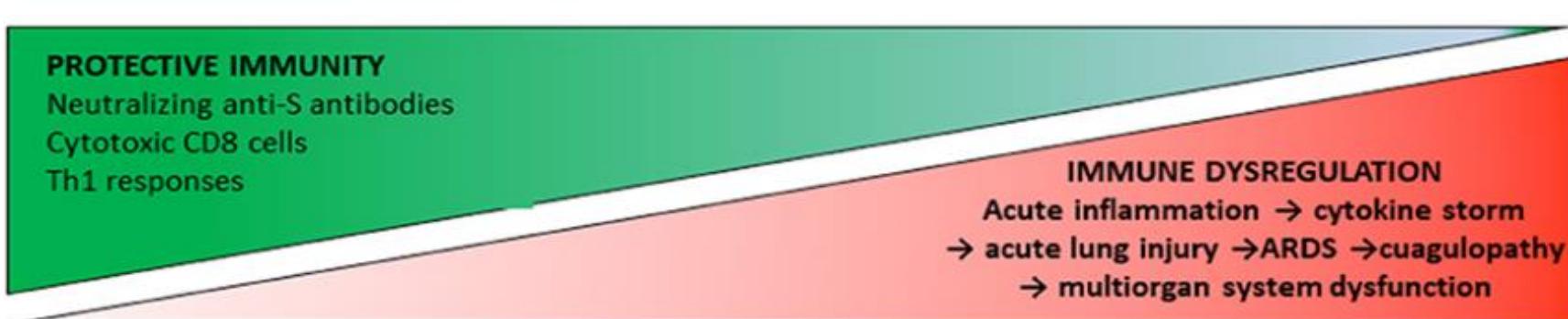
A



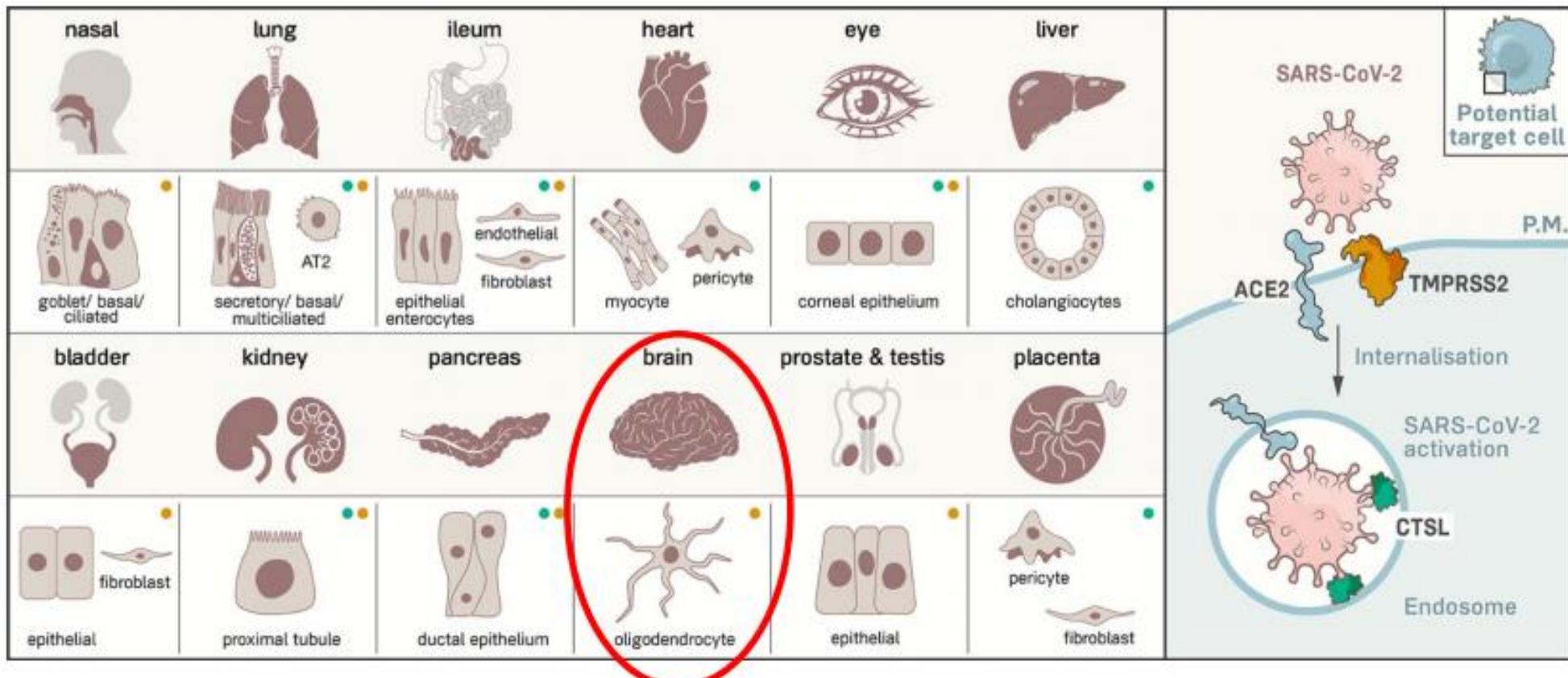
Kasus berat dan kematian meningkat pada orang yang dengan kondisi penyerta

Comorbidity and its Impact on Patients with COVID. <https://doi.org/10.1007/s42399-020-00363-49>

B

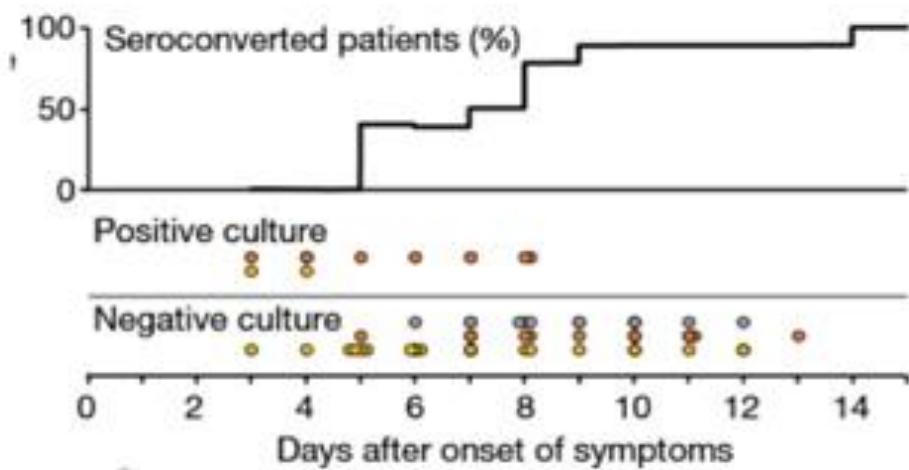


# Target Cells in SARS-CoV-2 Infection



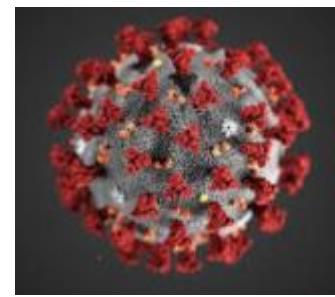
The brain is in many ways an immunologically and pharmacologically privileged site, that the BBB limits the entry of immune cells and immune mediators into the CNS that may prevent from eradication of this infection? **it remains unclear**

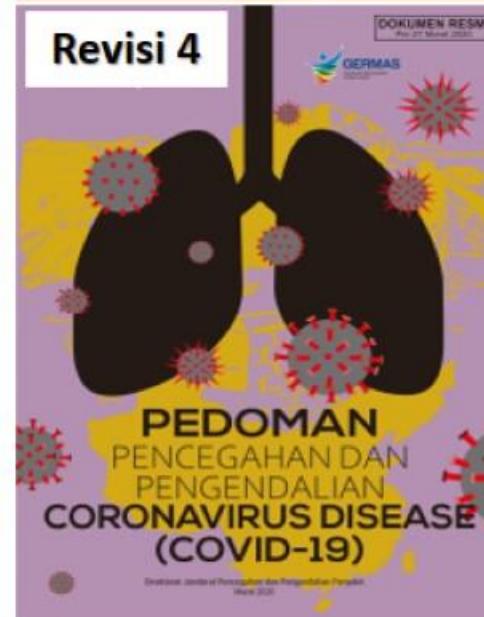
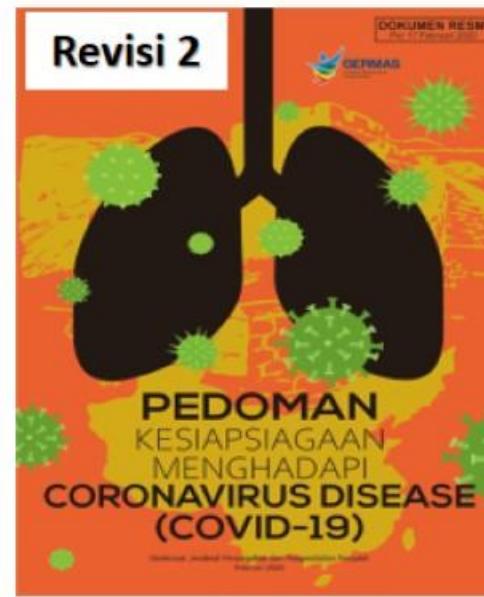
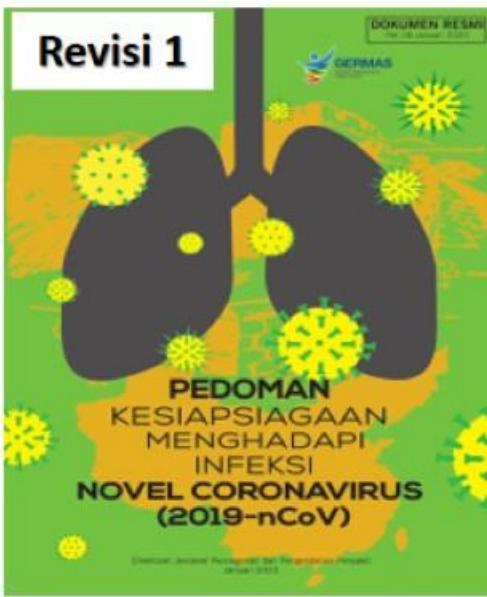
|                       |   |
|-----------------------|---|
| <b>Otak</b>           | <ul style="list-style-type: none"><li>• Stroke, kejang, inflamasi otak</li></ul>                                    |
| <b>Mata</b>           | <ul style="list-style-type: none"><li>• Konjungtivitis, inflamasi kornea</li></ul>                                  |
| <b>Hidung</b>         | <ul style="list-style-type: none"><li>• Anosmia</li></ul>   |
| <b>Kardiovaskular</b> | <ul style="list-style-type: none"><li>• Pembekuan darah, vasokonstriksi pembuluh darah</li></ul>                    |
| <b>Hati</b>           | <ul style="list-style-type: none"><li>• Peningkatan enzim hati</li></ul>  |
| <b>Intestinal</b>     | <ul style="list-style-type: none"><li>• Diare</li></ul>   |
| <b>Ginjal</b>         | <ul style="list-style-type: none"><li>• AKI, proteinuria</li></ul>  |
| <b>Neurologis</b>     | <ul style="list-style-type: none"><li>• GBS, ensefalitis, kejang, halusinasi, gangguan kesadaran/delirium</li></ul> |



Orang yg terinfeksi bisa sebagai sumber penularan ter utama 2 hari sebelum sakit (**presimptomatis**) hingga selama sakit  
**Asimptomatis** Berpotensi menularkan

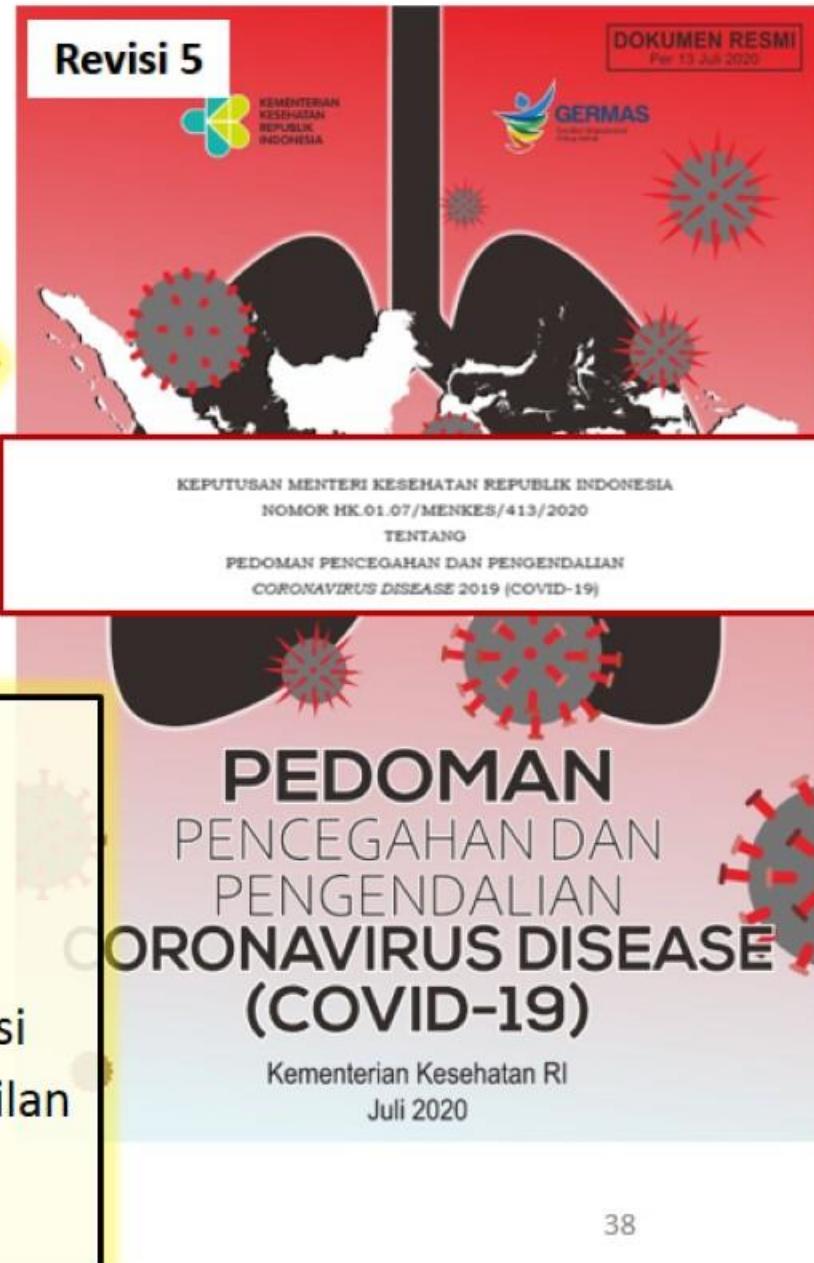
Tidak menemukan virus yang dapat dikultur setelah onset gejala hari ke-8





Dilakukan revisi ke-5,  
sesuai dengan:

- Perkembangan kasus
- Pekembangan informasi
- Penyesuaian pengambilan kebijakan



# WHO COVID-19: Case Definitions

Updated in Public health surveillance for COVID-19, published 16 December 2020



## Case Definitions

### Suspected case of SARS-CoV-2 infection

- A** A person who meets the clinical AND epidemiological criteria:

Clinical Criteria:

- Acute onset of fever AND cough; OR
- Acute onset of ANY THREE OR MORE of the following signs or symptoms: Fever, cough, general weakness/fatigue<sup>1</sup>, headache, myalgia, sore throat, coryza, dyspnoea, anorexia-nausea/vomiting<sup>1</sup>, diarrhoea, altered mental status.

AND

Epidemiological Criteria:

- Residing or working in an area with high risk of transmission of virus: closed residential settings, humanitarian settings such as camp and camp-like settings for displaced persons; anytime within the 14 days prior to symptom onset; or
- Residing or travel to an area with community transmission anytime within the 14 days prior to symptom onset; or
- Working in any health care setting, including within health facilities or within the community; any time within the 14 days prior of symptom onset.

- B** A patient with severe acute respiratory illness:

(SARI: acute respiratory infection with history of fever or measured fever of  $\geq 38^{\circ}\text{C}$ ; and cough; with onset within the last 10 days; and requires hospitalization).

- C** Asymptomatic person not meeting epidemiologic criteria with a positive SARS-CoV-2 Antigen-RDT<sup>2</sup>

<sup>1</sup>Signs separated with slash (/) are to be counted as one sign.

<sup>2</sup> NAAT is required for confirmation, see [Diagnostic testing for SARS-CoV-2](#)

See [Antigen detection in the diagnosis of SARS-CoV-2 infection using rapid immunoassays](#)

### Probable case of SARS-CoV-2 infection

- A** A patient who meets clinical criteria above AND is a contact of a probable or confirmed case, or linked to a COVID-19 cluster<sup>3</sup>

- B** A suspect case with chest imaging showing findings suggestive of COVID-19 disease<sup>4</sup>

- C** A person with recent onset of anosmia (loss of smell) or ageusia (loss of taste) in the absence of any other identified cause.

- D** Death, not otherwise explained, in an adult with respiratory distress preceding death AND was a contact of a probable or confirmed case or linked to a COVID-19 cluster<sup>3</sup>

### Confirmed case of SARS-CoV-2 infection

- A** A person with a positive Nucleic Acid Amplification Test (NAAT)

- B** A person with a positive SARS-CoV-2 Antigen-RDT AND meeting either the probable case definition or suspect criteria A OR B

- C** An asymptomatic person with a positive SARS-CoV-2 Antigen-RDT who is a contact of a probable or confirmed case

<sup>3</sup> A group of symptomatic individuals linked by time, geographic location and common exposures, containing at least one NAAT-confirmed case or at least two epidemiologically linked, symptomatic (meeting clinical criteria of Suspect case definition A or B) persons with positive Ag-RDTs (based on  $\geq 97\%$  specificity of test and desired  $>99.9\%$  probability of at least one positive result being a true positive)

<sup>4</sup> Typical chest imaging findings suggestive of COVID-19 include the following:

- Chest radiography: hazy opacities, often rounded in morphology, with peripheral and lower lung distribution
- Chest CT: multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution
- Lung ultrasound: thickened pleural lines, B lines (multifocal, discrete, or confluent), consolidative patterns with or without air bronchograms.

Note: Clinical and public health judgment should be used to determine the need for further investigation in patients who do not strictly meet the clinical or epidemiological criteria. Surveillance case definitions should not be used as the sole basis for guiding clinical management.

# Rapid Test Antigen

## General recommendations for the use of SARS-CoV-2 Ag-RDTs

1. SARS-CoV-2 Ag-RDTs that meet the minimum performance requirements of  $\geq 80\%$  sensitivity and  $\geq 97\%$  specificity compared to a NAAT reference assay<sup>1</sup> can be used to diagnose SARS-CoV-2 infection in a range of settings where NAAT is unavailable or where prolonged turnaround times preclude clinical utility.

To optimize performance, testing with Ag-RDTs should be conducted by trained operators in strict accordance with the manufacturer's instructions and within the first 5-7 days following the onset of symptoms.

# PERUBAHAN ISTILAH PADA PEDOMAN PENCEGAHAN DAN PENGENDALIAN COVID-19 REVISI 5

PDP DAN ODP KONTAK ERAT



SUSPEK

OTG



KONTAK ERAT

KONFIRMASI



KONFIRMASI

- TIDAK BERGEJALA (ASIMPTOMATIK)
- BERGEJALA (SIMPTOMATIK)

ISTILAH BARU

- KASUS PROBABLE
- DISCARDED

# DEFINISI OPERASIONAL (1)

## KASUS SUSPEK (pedoman Revisi 5)

Seseorang yang memiliki salah satu dari kriteria berikut:

1. Orang dengan Infeksi Saluran Pernapasan Akut (ISPA)\* **DAN** pada 14 hari terakhir sebelum timbul gejala memiliki riwayat perjalanan atau tinggal di negara/wilayah Indonesia yang melaporkan transmisi lokal\*\*.
2. Orang dengan salah satu gejala/tanda ISPA\* **DAN** pada 14 hari terakhir sebelum timbul gejala memiliki riwayat kontak dengan kasus konfirmasi/probable COVID-19.
3. Orang dengan ISPA berat/pneumonia berat\*\*\* yang membutuhkan perawatan di rumah sakit **DAN** tidak ada penyebab lain berdasarkan gambaran klinis yang meyakinkan.

## KASUS SUSPEK (dalam proses perubahan)

Seseorang yang memiliki salah satu dari kriteria berikut:

1. Orang yang memenuhi salah satu kriteria klinis **DAN** salah satu kriteria epidemiologis:  
**Kriteria Klinis:**
  - a. Demam akut ( $\geq 38^{\circ}\text{C}$ )/riwayat demam\* dan batuk; **ATAU**
  - b. Terdapat 3 atau lebih gejala/tanda akut berikut: demam ( $\geq 38^{\circ}\text{C}$ )/ riwayat demam\*, batuk, kelelahan (fatigue), sakit kepala, myalgia, nyeri tenggorokan, coryza/pilek/hidung tersumbat\*, sesak nafas, anoreksia/mual/muntah\*, diare, penurunan kesadaran**DAN**  
**Kriteria Epidemiologis:**
  - a. Pada 14 hari terakhir sebelum timbul gejala memiliki riwayat tinggal atau bekerja di tempat berisiko tinggi penularan\*\*, **ATAU**
  - b. Pada 14 hari terakhir sebelum timbul gejala memiliki riwayat tinggal atau bepergian di negara/wilayah Indonesia yang melaporkan transmisi lokal\*\*\*; **ATAU**
  - c. Pada 14 hari terakhir sebelum timbul gejala bekerja di fasilitas pelayanan kesehatan, baik melakukan pelayanan medis, dan non-medis, serta petugas yang melaksanakan kegiatan investigasi, pemantauan kasus dan kontak; **ATAU**
  - d. Pada 14 hari terakhir sebelum timbul gejala memiliki riwayat kontak dengan kasus konfirmasi/probable COVID-19.- 2. Seseorang dengan ISPA Berat\*\*\*\*;
- 3. Seseorang dengan gejala akut anosmia (hilangnya kemampuan indra penciuman) atau ageusia (hilangnya kemampuan indra perasa) dengan tidak ada penyebab lain yang dapat diidentifikasi.

# DEFINISI OPERASIONAL (2)

## KASUS PROBABLE (pedoman Revisi 5)

Kasus suspek dengan ISPA Berat/ARDS\*\*\*/meninggal dengan gambaran klinis yang meyakinkan COVID-19 **DAN** belum ada hasil pemeriksaan laboratorium RT-PCR.

Ket: termasuk yang tidak ada hasil pemeriksaan lab. RT-PCR dengan alasan apapun.

## KASUS PROBABLE (dalam proses perubahan)

Kasus suspek yang meninggal dengan gambaran klinis yang meyakinkan COVID-19; **DAN** memiliki salah satu kriteria sebagai berikut:

- Tidak dilakukan pemeriksaan laboratorium RT-PCR; **ATAU**
- Hasil pemeriksaan laboratorium RT-PCR satu kali negatif dan tidak dilakukan pemeriksaan laboratorium RT-PCR yang kedua.

## KEMATIAN (pedoman Revisi 5)

Kematian COVID-19 untuk kepentingan surveilans adalah kasus konfirmasi/ probable COVID-19 yang meninggal.

## KEMATIAN (dalam proses perubahan)

Kematian COVID-19 untuk kepentingan surveilans adalah kasus konfirmasi COVID-19 yang meninggal dalam masa isolasi atau kasus *probable*.

# DEFINISI OPERASIONAL (3)

## KONTAK ERAT

Orang yang memiliki riwayat kontak dengan kasus probable atau konfirmasi COVID-19. Riwayat kontak yang dimaksud antara lain:

- a. Kontak tatap muka/berdekatan dengan kasus probable atau kasus konfirmasi dalam radius 1 meter dan dalam jangka waktu 15 menit atau lebih.
- b. Sentuhan fisik langsung dengan pasien kasus probable atau konfirmasi (seperti bersalaman, berpegangan tangan, dll).
- c. Orang yang memberikan perawatan langsung terhadap kasus probable atau konfirmasi tanpa menggunakan APD yang sesuai standar.
- d. Situasi lainnya yang mengindikasikan adanya kontak berdasarkan penilaian risiko lokal yang ditetapkan oleh tim penyelidikan epidemiologi setempat (penjelasan dilihat pada lampiran 5).

Pada kasus probable atau konfirmasi yang bergejala (simptomatik), untuk menemukan kontak erat periode kontak dihitung dari 2 hari sebelum kasus timbul gejala dan hingga 14 hari setelah kasus timbul gejala.

Pada kasus konfirmasi yang tidak bergejala (asimptomatik), untuk menemukan kontak erat periode kontak dihitung dari 2 hari sebelum dan 14 hari setelah tanggal pengambilan spesimen kasus konfirmasi.

## PELAKU PERJALANAN

Seseorang yang melakukan perjalanan dari dalam negeri (domestik) maupun luar negeri pada 14 hari terakhir.

## DISCARDED

*Discarded* apabila memenuhi salah satu kriteria berikut:

1. Seseorang dengan status suspek dengan hasil pemeriksaan RT-PCR 2 kali negatif selama 2 hari berturut-turut dengan selang waktu >24 jam.
2. Seseorang dengan status kontak erat yang telah menyelesaikan masa karantina selama 14 hari.

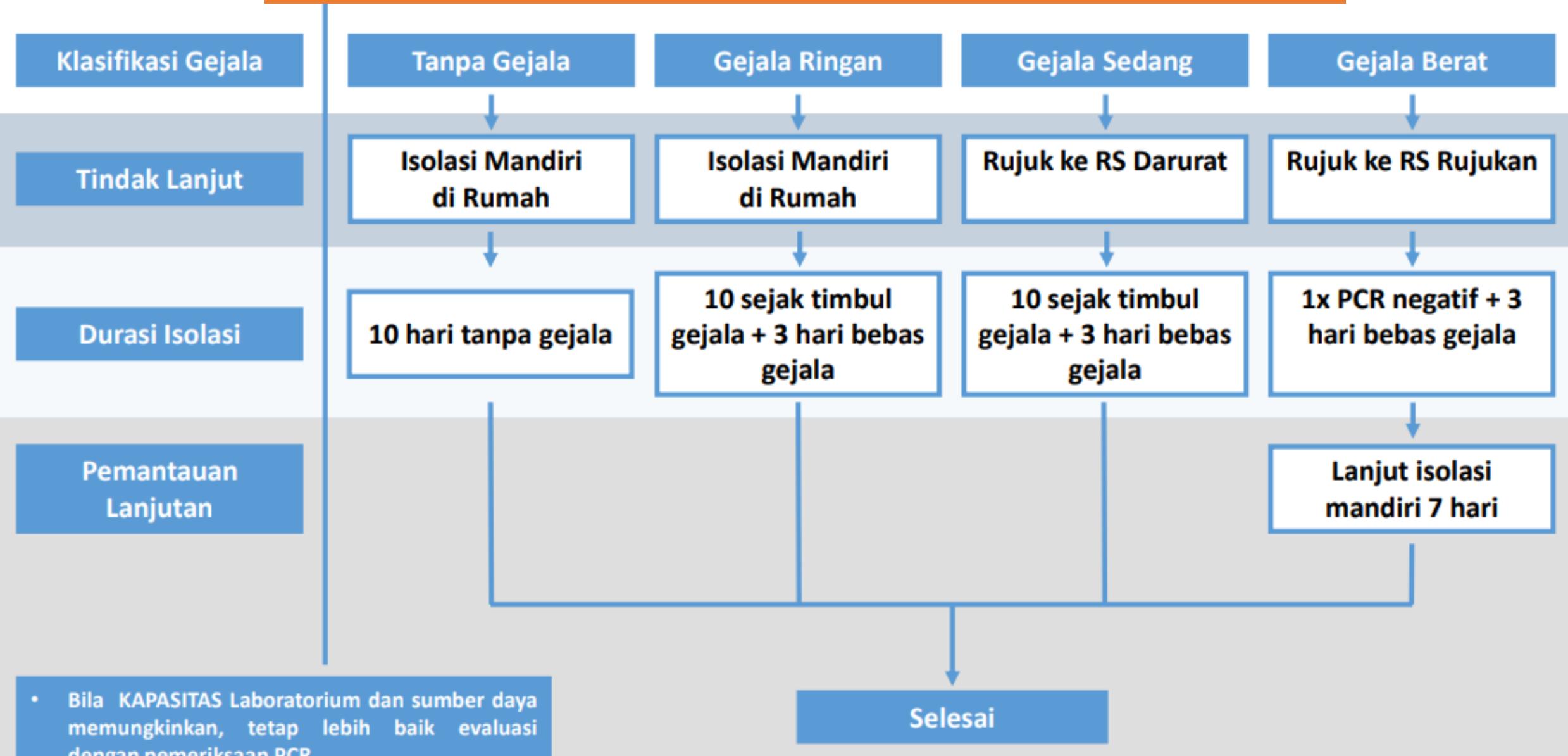
## KASUS KONFIRMASI

Seseorang yang dinyatakan positif terinfeksi virus COVID-19 yang dibuktikan dengan pemeriksaan laboratorium RT-PCR.

Kasus konfirmasi dibagi menjadi 2:

- Kasus konfirmasi dengan gejala (simptomatik)
- Kasus konfirmasi tanpa gejala (asimptomatik)

# Ringkasan Alur Managemen Covid-19



# Perkembangan Terapi COVID-19

- Terapi Standar :

- Vit C
- VIT D
- Azitromisin
- Supportif: Terapi Oksigen (NRM, HFNC ,VM, ECMO)
- Terapi antikoagulan
- Terapi simptomatis
- Antivirus :
  - Oseltamivir
  - Favipiravir
  - Remdesivir

Beberapa pilihan terapi lain (***Host Modifiers/Immune-Based Therapy***):

- Inhibitor IL-6 (Tocilizumab)
- Plasma convalescent therapy
- Inhibitor IL-1 (Anakinra)
- Human immunoglobulin
- Stem cell therapy
- Imunomodulator lainnya
- Steroid

# Hasil PCR tetap Positif?

Setelah isolasi mandiri

- ada kemungkinan hasil PCR tetap positif, walaupun sudah tidak ada gejala
- Penelitian di Korea: ditemukan bahwa walaupun sudah tidak ada virus yang hidup di tubuh pasien, masih terdapat sisa-sisa virus sehingga akan terdeteksi di spesimen pemeriksaan RT-PCR hingga 12 Minggu (Korea CDC, 2020; Li et al., 2020; Xiao et al, 2020)
- Tidak adanya virus yang “hidup” → resiko penularan rendah sehingga tidak akan terjadi penularan ke orang lain

# Positif Presisten

- Penelitian di Korea ditemukan bahwa walaupun sudah tidak ditemukan virus yang dapat bereplikasi 3 minggu setelah onset gejala pertama di tubuh pasien, SARS-CoV-2 RNA masih terdeteksi di spesimen pemeriksaan RT-PCR hingga 12 Minggu (Korea CDC, 2020; Li et al., 2020; Xiao et al, 2020)
- Spesimens dari pasien yang sudah dinyatakan *recovered* namun memiliki RT-PCR positif karena muncul gejala lagi (reinfeksi) tidak terdeteksi *replication-competent virus* (Korea CDC, 2020; Lu et al., 2020).

# Fenomena Long COVID-19

- Pasien Covid-19 **seharusnya mengalami *recovery* setelah 2-6 minggu.**
- Diantara usia 18-34 tahun dengan kesehatan yang baik, sekitar **20% dilaporkan mengalami *prolonged symptoms*.**
- Pada beberapa orang, beberapa **gejala dapat bertahan atau muncul kembali** setelah berminggu- minggu hingga berbulan- bulan setelah pulih.
- **Faktor risiko:** hipertensi, obesitas, kondisi Kesehatan mental.

Fatigue

Batuk,  
kongesti,  
sesak napas

Anosmia,  
ageusia

Sakit kepala,  
nyeri-nyeri  
badan

Diare, mual

Nyeri  
abdomen dan  
nyeri dada

*Confusion*

# Post COVID-19 Neurological Syndrome (PCNS)

- Merupakan sekumpulan gejala yang dirasakan oleh survivor COVID-19
- Umumnya mengeluhkan adanya kelemahan otot seluruh tubuh
- Selain itu, ditemukan juga survivor COVID-19 dengan gangguan kognitif dan gangguan neuropsikiatri
- Dihipotesiskan terjadi akibat infeksi sistem saraf pusat dan kombinasi dengan keadaan hipoksia dan efek peningkatan mediator inflamasi berkepanjangan
- Dihipotesiskan bahwa survivor COVID-19 memiliki potensi gangguan neurologis jangka panjang pasca sembuh dari COVID-19

# Reinfeksi Sars-Co-V 2

April 2020 dilaporkan kasus reinfeksi SARS-CoV-2 terkonfirmasi pertama di Amerika

*Selama karantina pasien sembuh lalu hasil RT-PCR negatif pada dua kali pemeriksaan setelahnya. Namun, 48 hari setelah tes awal, pasien dinyatakan positif lagi dengan RT-PCR (nilai Ct 35 - 31; spesimen B)*

*"Namun, pengurutan genom dari isolat infeksi pertama dan reinfeksi menunjukkan perbedaan signifikan, sehingga kecil kemungkinan virus berasal dari infeksi yang sama. Pada kasus reinfeksi gejala penyakit lebih berat daripada infeksi pertama, sehingga pasien perlu rawatan di rumah sakit dan bantuan oksigen"*

## Beberapa laporan kasus reinfeksi Sars-Co-V 2

|                          | Sex    | Age (years) | First infection<br>(Ct) | Second infection (Ct) | Intervening period (days) | Antibody after first infection | Antibody after reinfection |
|--------------------------|--------|-------------|-------------------------|-----------------------|---------------------------|--------------------------------|----------------------------|
| Hong Kong <sup>1</sup>   | Male   | 33          | Mild (N/A)              | Asymptomatic (27)     | 142                       | Negative                       | IgG+                       |
| Nevada, USA <sup>2</sup> | Male   | 25          | Mild (35)               | Hospitalised (35)     | 48                        | N/A                            | IgM+ and IgG+              |
| Belgium <sup>3</sup>     | Female | 51          | Mild (26-27)            | Milder (33)           | 93                        | N/A                            | IgG+                       |
| Ecuador <sup>4</sup>     | Male   | 46          | Mild (37)               | Worse (N/A)           | 63                        | IgM- and IgG-                  | IgM+ and IgG+              |

Data were obtained Sept 14, 2020, for reinfection cases confirmed by viral genome sequences. Ct=cycle threshold. N/A=not available. SARS-CoV-2=severe acute respiratory syndrome coronavirus 2.

Table: Characteristics associated with reinfection with SARS-CoV-2

# Yang dilakukan saat **ISOLASI DIRI**



- Tetap di rumah selama 14 hari
- Menggunakan kamar terpisah dari anggota keluarga lain
- Jika memungkinkan jaga jarak setidaknya 1 meter dari anggota keluarga lain
- Menggunakan masker selama isolasi diri
- Melakukan pengukuran suhu tubuh harian dan observasi gejala klinis
- Hindari pemakaian bersama peralatan makan, peralatan mandi dan linen/sprei
- Terapkan Perilaku Hidup Bersih dan Sehat (PHBS) terutama makan dengan gizi seimbang dan sering cuci tangan pakai sabun
- Berada di ruang terbuka dan berjemur di bawah sinar matahari setiap pagi
- Jaga kebersihan rumah dengan cairan disinfektan
- Hubungi segera fasyankes jika mengalami perburukan gejala untuk perawatan lebih lanjut

# STRATEGI PENGENDALIAN



# PROTOKOL KESEHATAN

3 PESAN KUNCI (MASKER, MENCUCI TANGAN, MENJAGA JARAK)



ADAPTASI KEBIASAAN BARU

# How long does the virus last?

SARS-CoV-2, which causes COVID-19, needs a living host to reproduce in.  
A new study looks at how long it can last outside the body

As aerosol in the air\* Up to 3 hrs

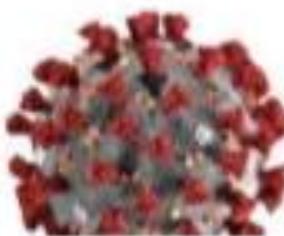
On copper Up to 4 hrs

On cardboard Up to 24 hrs

On plastic 2 - 3 days

On stainless steel 2 - 3 days

Study and paper by :  
New England Journal of Medicine  
CDC  
Universitiis of California, LA, Princeton



**Table 1.** Antimicrobial agents effective against different coronaviruses: human coronavirus 229E (HCoV-229E), mouse hepatitis virus (MHV-2 and MHV-N), canine coronavirus (CCV), transmissible gastroenteritis virus (TGEV), and severe acute respiratory syndrome coronavirus (SARS-CoV)<sup>1</sup>

| Antimicrobial agent   | Concentration   | Coronaviruses tested               | References |
|-----------------------|-----------------|------------------------------------|------------|
| Ethanol               | 70%             | HCoV-229E, MHV-2, MHV-N, CCV, TGEV | [4,6,7]    |
| Sodium hypochlorite   | 0.1–0.5%        | HCoV-229E                          | [6]        |
|                       | 0.05–0.1%       | SARS-CoV                           | [5]        |
| Povidone-iodine       | 10% (1% iodine) | HCoV-229E                          | [6]        |
| Glutaraldehyde        | 2%              | HCoV-229E                          | [6]        |
| Isopropanol           | 50%             | MHV-2, MHV-N, CCV                  | [7]        |
| Benzalkonium chloride | 0.05%           | MHV-2, MHV-N, CCV                  | [7]        |
| Sodium chlorite       | 0.23%           | MHV-2, MHV-N, CCV                  | [7]        |
| Formaldehyde          | 0.7%            | MHV-2, MHV-N, CCV                  | [7]        |

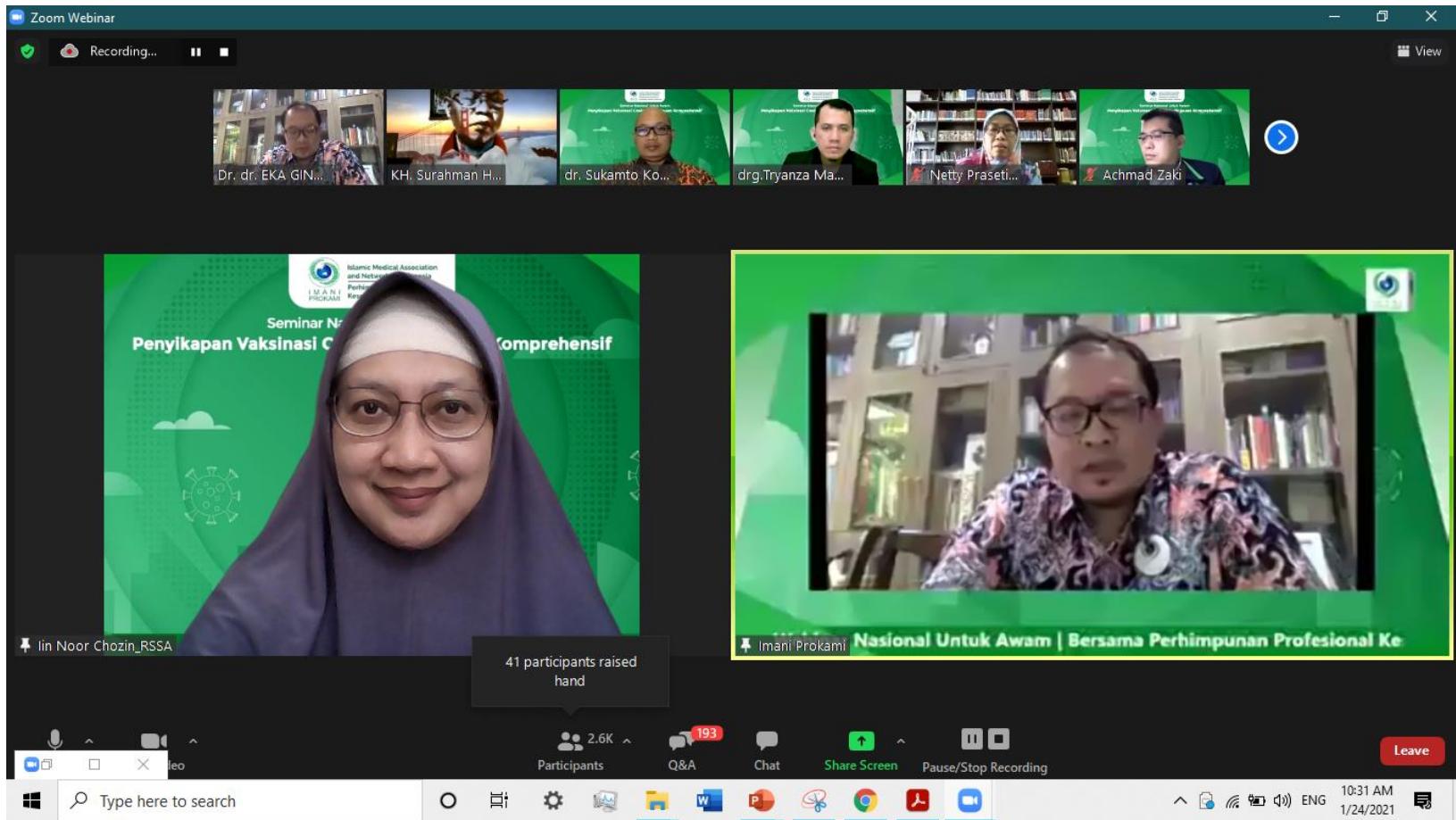
Tahun 2012



Tahun 2021



TERIMA KASIH



## Best and worst face coverings

| TYPE OF COVERING   | EFFICIENCY AT FILTERING LARGE DROPLETS | EFFICIENCY AT FILTERING AEROSOLS | WHERE IT CAN BE WORN                    |
|--|--|----------------------------------|---|
|  N95 mask                           | 99.9%                                  | 95%                              | Healthcare settings                     |
|  Surgical mask                      | 98.5%                                  | 89.5%                            | Healthcare settings                     |
|  Hybrid mask                        | 96%                                    | 94%                              | Public, indoor, and/or crowded settings |
|  Two-layer cotton mask              | 99.5%                                  | 82%                              | Public, indoor, and/or crowded settings |
|  Tea towel or dishcloth             | 98%                                    | 72.5%                            | Outdoor areas                           |
|  100% cotton t-shirt                | 97%                                    | 51%                              | Outdoor areas                           |
|  Natural silk                       | 56%                                    | 54%                              | Outdoor areas                           |
|  Scarf or bandana                 | 44%                                    | 49%                              | As a last resort                        |
|  Mask with built-in valve or vent | 90%                                    | 90%                              | Never (does not protect others)         |

Sources: Democritus University of Thrace; Duke University; Journal of Hospital Infection; Public Health England; University of Chicago; University of Illinois at Urbana-Champaign

ON SIDE