Epidemiologi, faktor risiko, definisi dan manifestasi klinis COVID-19

Dr. Paul Harijanto, SpPD-KPTI

Pelatihan Penanganan Covid-19, Aula RSUP Kandouw, Rabu 29, 30 April 2020

Perjalanan kejadian 2019-nCoV

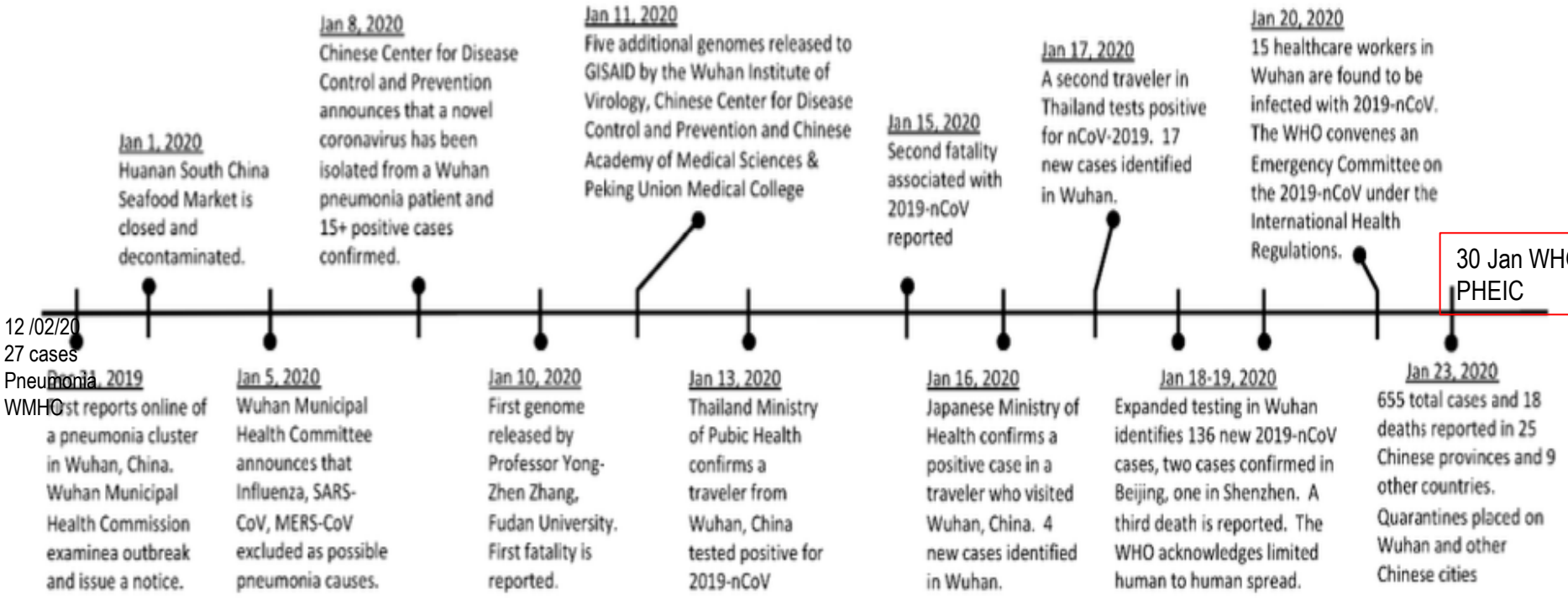


Figure 1. Timeline of the key 2019-nCoV events.

Viruses **2020**, *12*, 135; doi:10.3390/v12020135

www.mdpi.com/journal/viruses

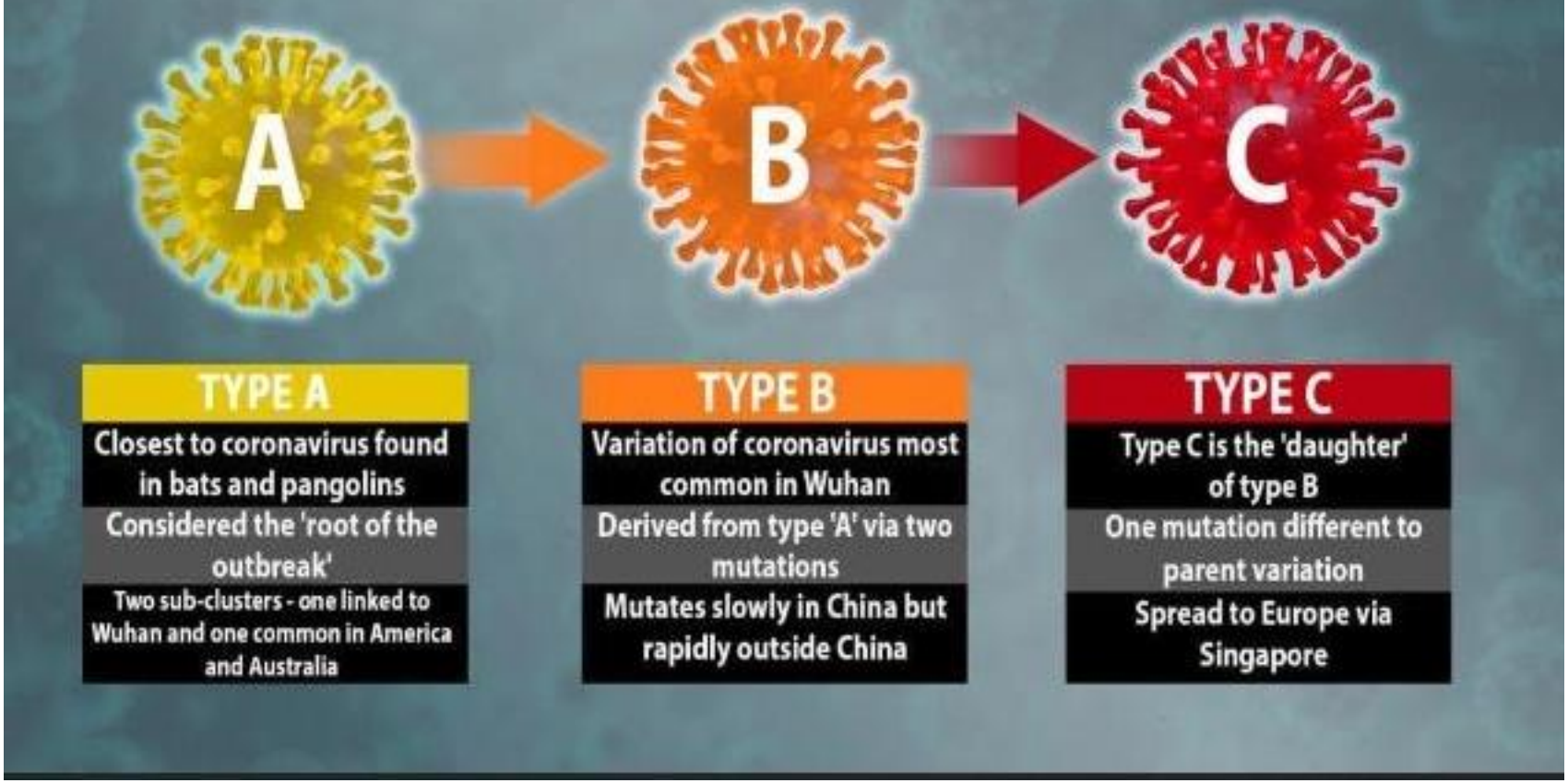
11 Feb2020
COVID-19

COVID-19

- WHO announced the current outbreak of coronavirus which was first reported from Wuhan, China, on December 31, 2019

- The virus has been named “SARS-CoV-2” and the disease it causes has been named “coronavirus disease 2019” (COVID-19)

THE THREE STRAINS OF CORONAVIRUS



World Health Organization

Novel Coronavirus (2019-nCoV)

SITUATION REPORT - 1

21 JANUARY 2020

Data as reported by: 20 January 2

SUMMARY

Event highlights from 31 December

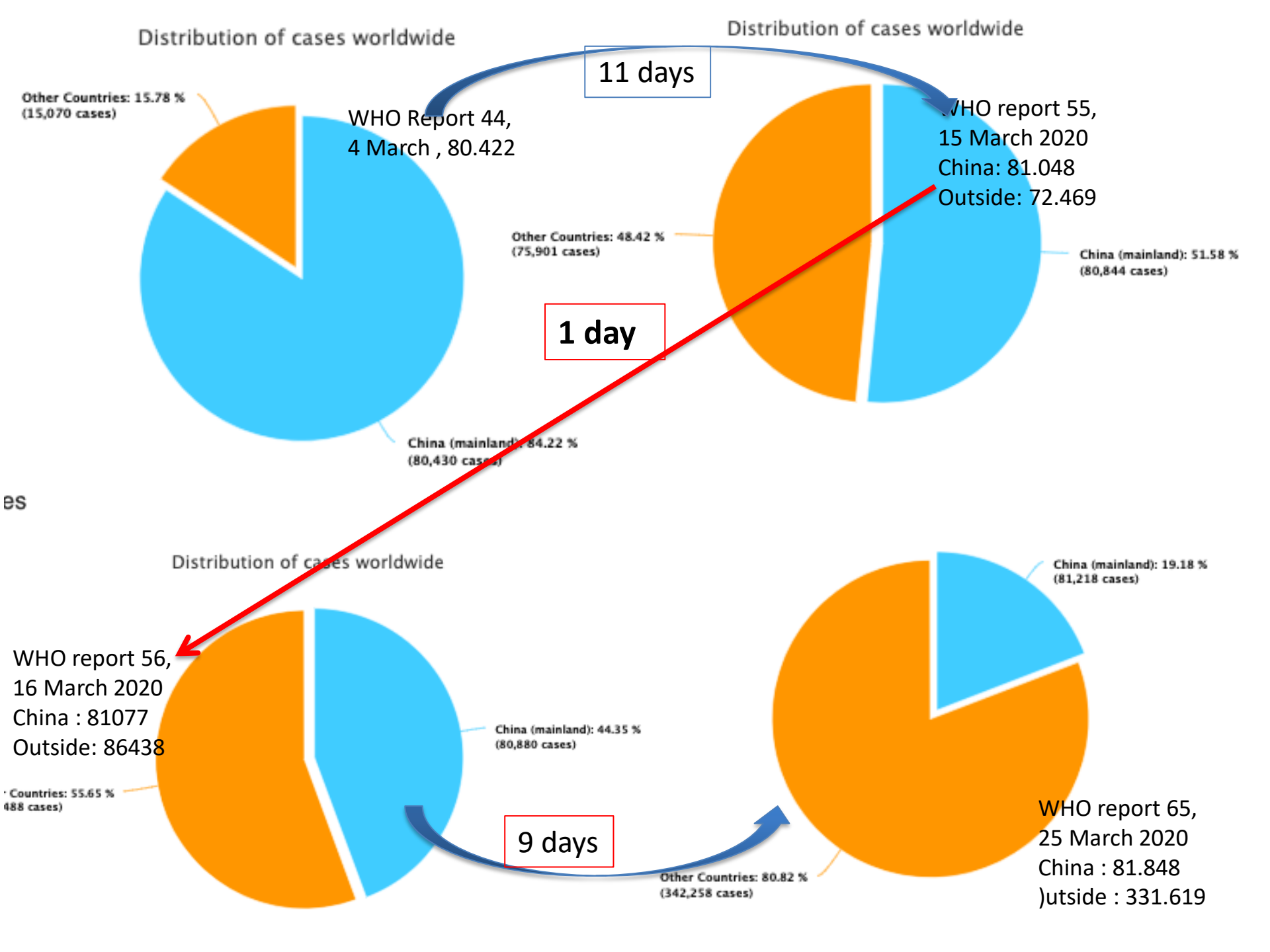
I. SURVEILLANCE

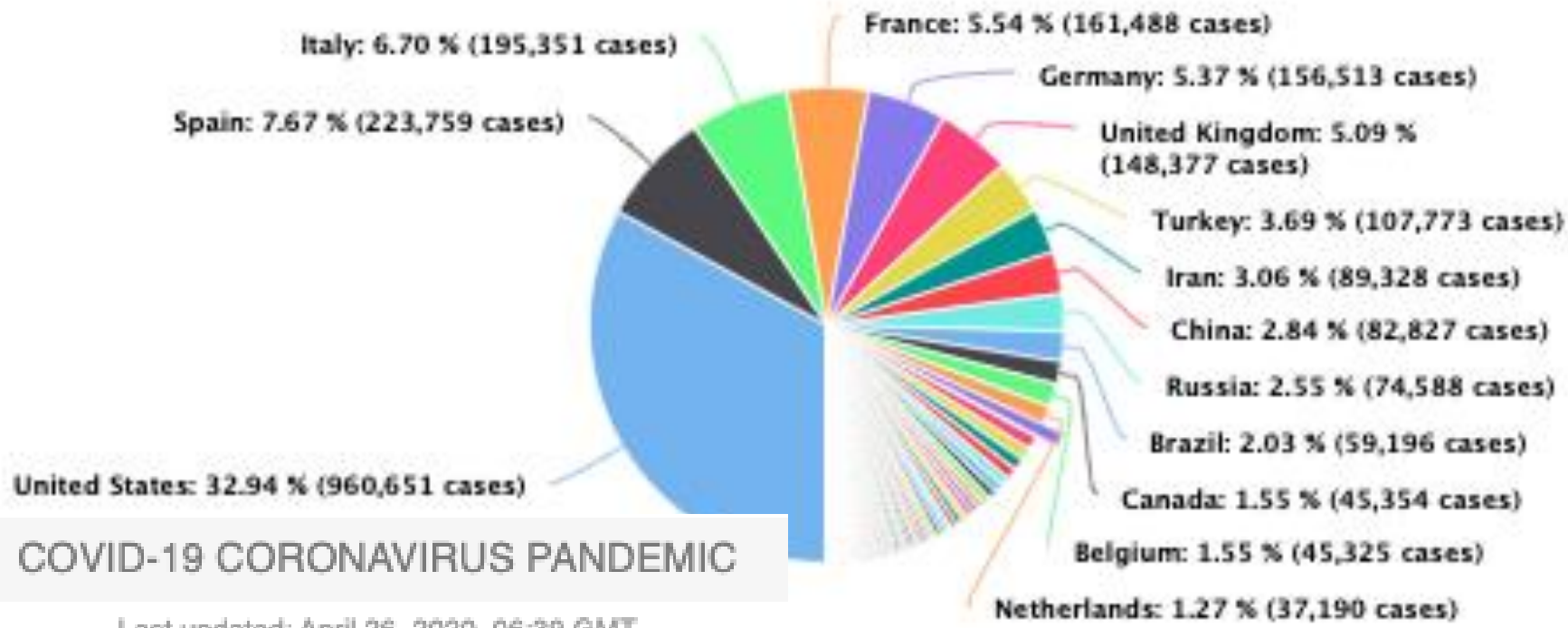
Reported incidence of confirmed 2019-nCoV cases

Table 1. Countries, territories or areas with reported confirmed cases of 2019-nCoV, 20 January 2020

WHO Regional Office	Country, territory, area	Total number of confirmed cases
WPRO	China – Hubei Province	258
	China – Guangdong	14
	China – Beijing Municipality	5
	China – Shanghai Municipality	1
	Japan	1
	Republic of Korea	1
SEARO	Thailand	2
Total confirmed cases		282

Details of cases reported on 20 January 2020:

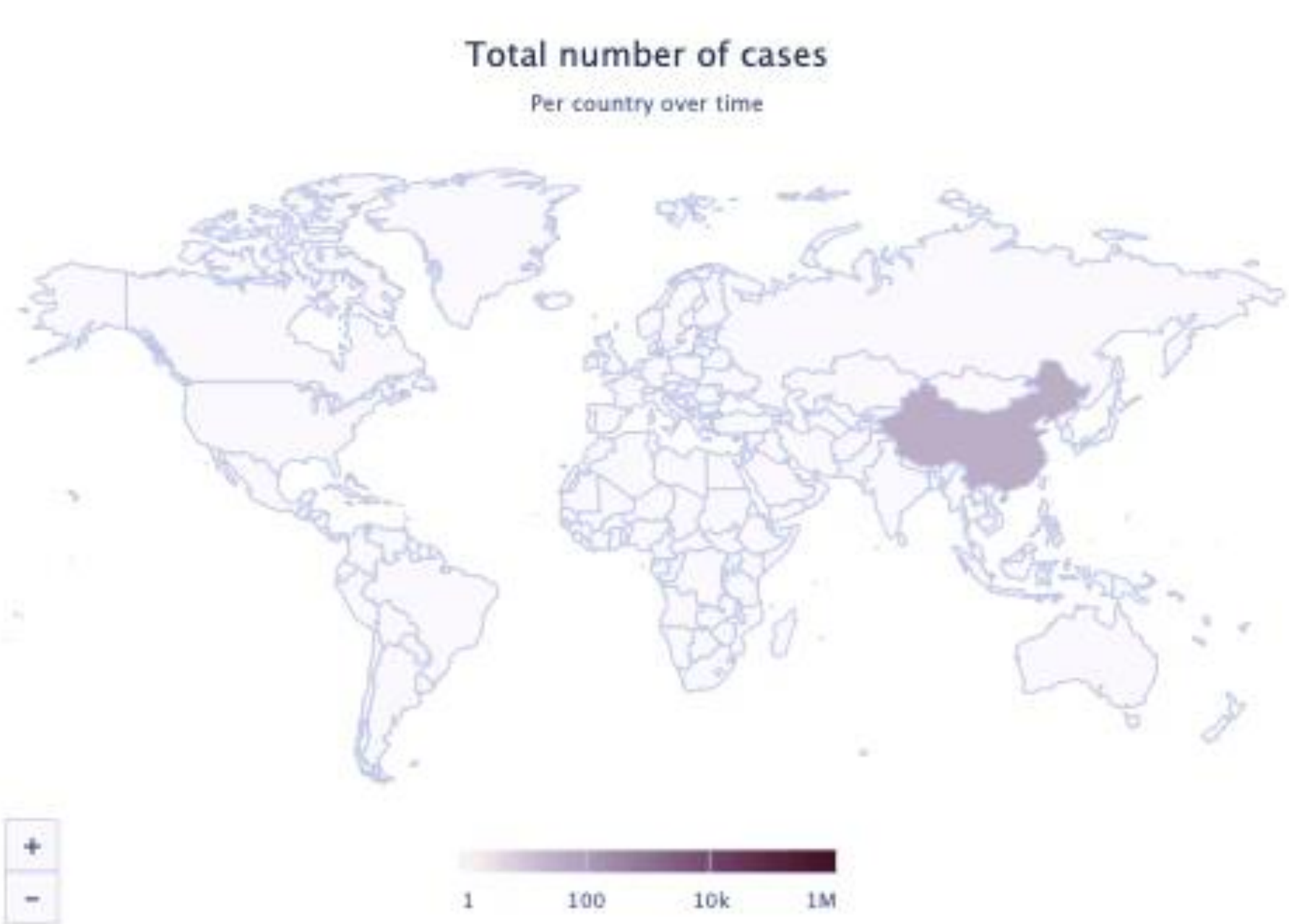

Distribution of cases worldwide
Other Countries: 15.78 %
(15,070 cases)
China (mainland): 84.22 %
(80,430 cases)
WHO Report 44,
4 March , 80.422
11 days
Distribution of cases worldwide
Other Countries: 48.42 %
(75,901 cases)
China (mainland): 51.58 %
(80,844 cases)
WHO report 55,
15 March 2020
China: 81.048
Outside: 72.469
1 day
Distribution of cases worldwide
WHO report 56,
16 March 2020
China : 81077
Outside: 86438
China (mainland): 44.35 %
(80,880 cases)
9 days
China (mainland): 19.18 %
(81,218 cases)
Other Countries: 80.82 %
(342,258 cases)
WHO report 65,
25 March 2020
China : 81.848
)utside : 331.619



COVID-19 CORONAVIRUS PANDEMIC

Last updated: April 26, 2020, 06:39 GMT

World	2,923,009	+3,605	203,307	+143	837,156	1,882,546	57,870
USA	960,896	+245	54,265	+9	118,162	788,469	15,110
Spain	223,759		22,902		95,708	105,149	7,705
Italy	195,351		26,384		63,120	105,847	2,102
France	161,488		22,614		44,594	94,280	4,725
Germany	156,513		5,877		109,800	40,836	2,570
UK	148,377		20,319		N/A	127,714	1,559
Turkey	107,773		2,706		25,582	79,485	1,782
Iran	89,328		5,650		68,193	15,485	3,096
China	82,827	+11	4,632		77,394	801	51


Total number of cases
Per country over time
+
−
1
100
10k
1M

RISK FACTORS :

Strong

- residence in/travel to location reporting community transmission during the 14 days prior to symptom onset
- close contact with a confirmed case
- older age and/or underlying health conditions
- obesity
- smoking
- malignancy
- surgery

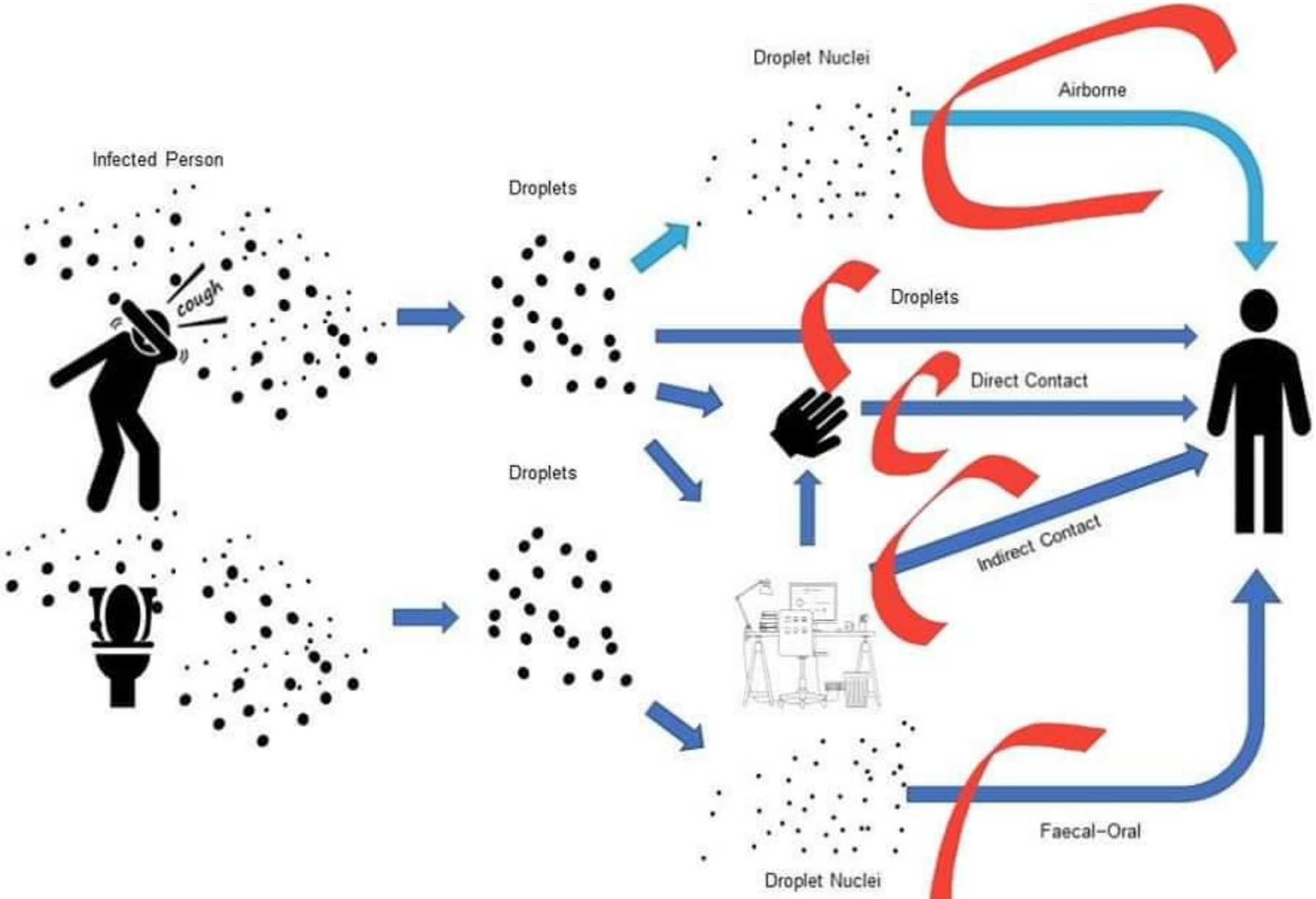


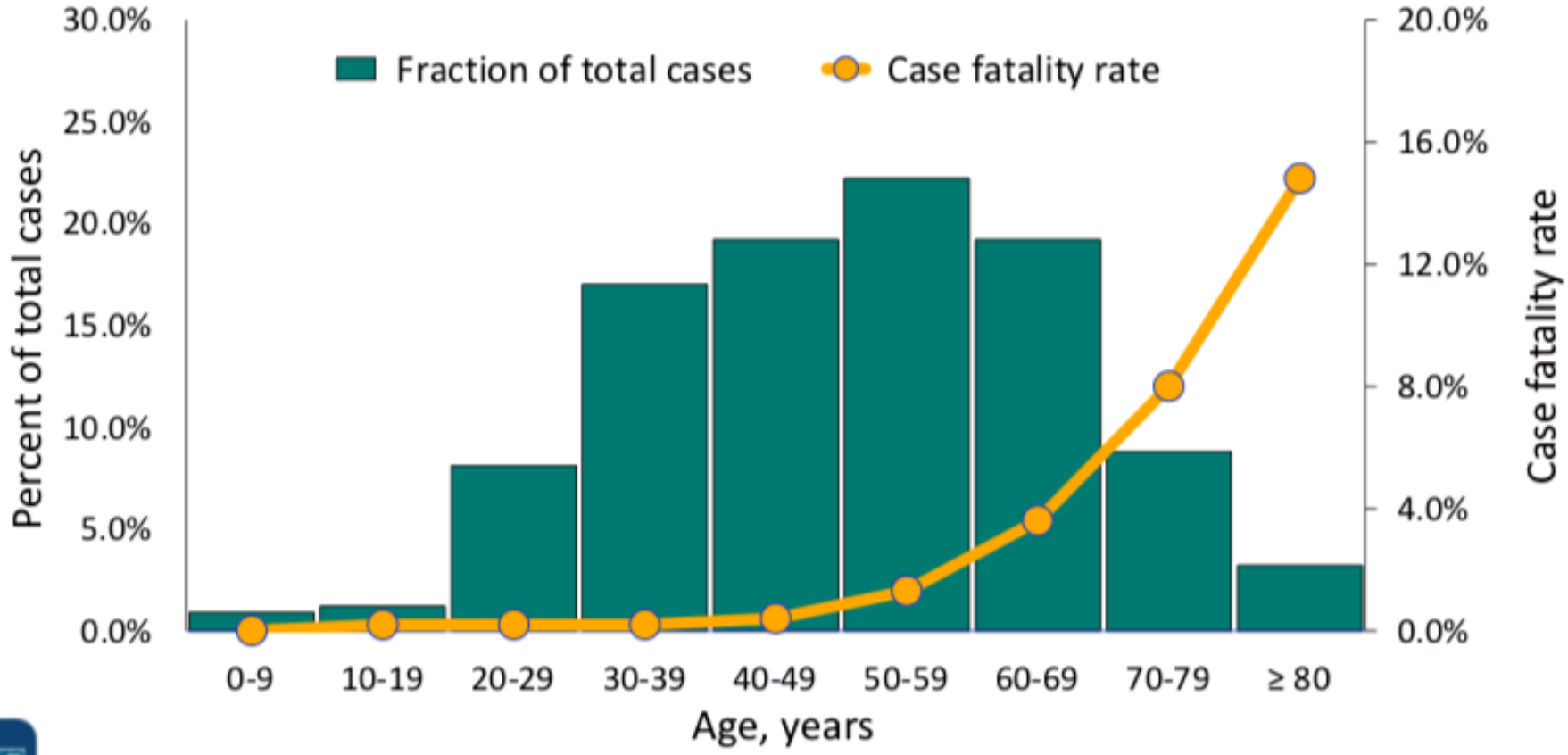
Figure 1. WHO reported exposure mechanisms of COVID-19 SARS-CoV-2 droplets (dark blue colour). Light blue colour: airborne mechanism that is known from SARS-CoV-1 and other flu, currently there is no reported evidence specifically for SARS-CoV-2 (figure: courtesy Francesco Franchimon).

Comparison with other viruses

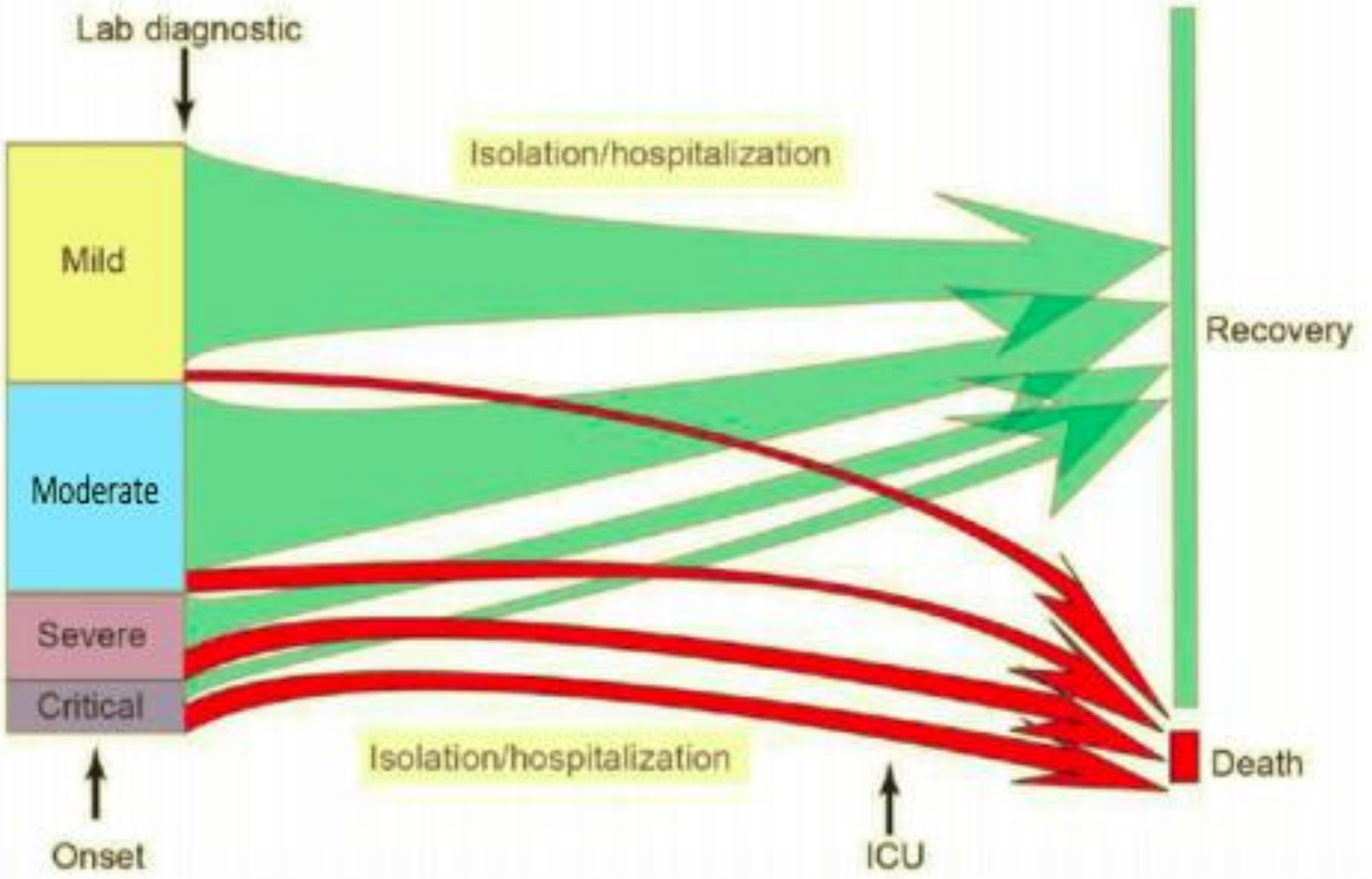
For comparison, the incubation period for the common flu (seas
Incubation period for other coronaviruses: SARS 2-7 days; MEI

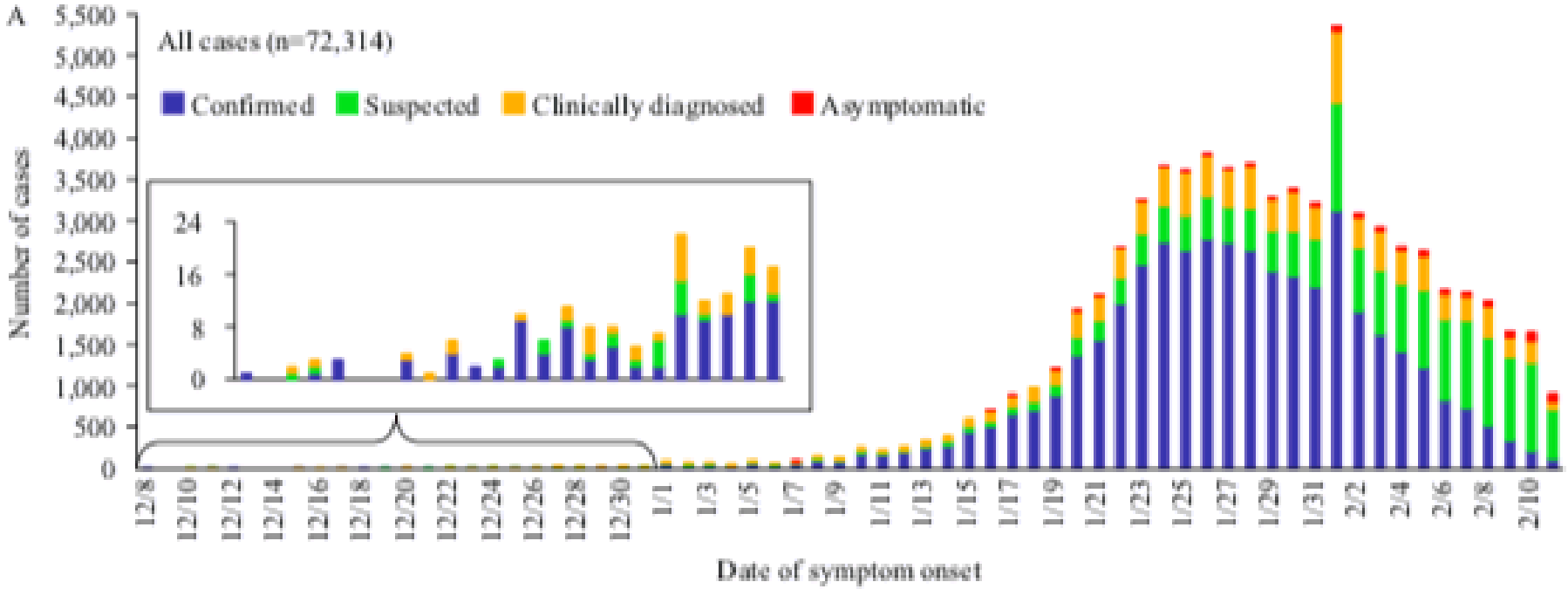
Virus	Incubation Period
Novel Coronavirus (2019-nCoV)	Coronavirus Incubation Period: *Last updated: February 23, 2:00 GMT* **2 - 14 days** Possible outliers: **0 - 27 days**
SARS	2-7 days, as long as 10 days
MERS	5 days (range: 2-14)
Swine Flu	1-4 days, as long as 7 days
Seasonal Flu	2 days (1-4 range)

Age Distribution and Case Fatality Rate COVID-19
China through 11-Feb-2020 (N = 44,672 confirmed cases)



adapted from Zhang 2020, China CDC Weekly Rep; 2(8):113-122.


Lab diagnostic
Isolation/hospitalization
Mild
Moderate
Severe
Critical
Recovery
Death
Isolation/hospitalization
Onset
ICU



The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19) — China, 2020

The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team

(Chinese Center for Disease Control and Prevention , CCDC Weekly / Vol. 2 / No. 8)

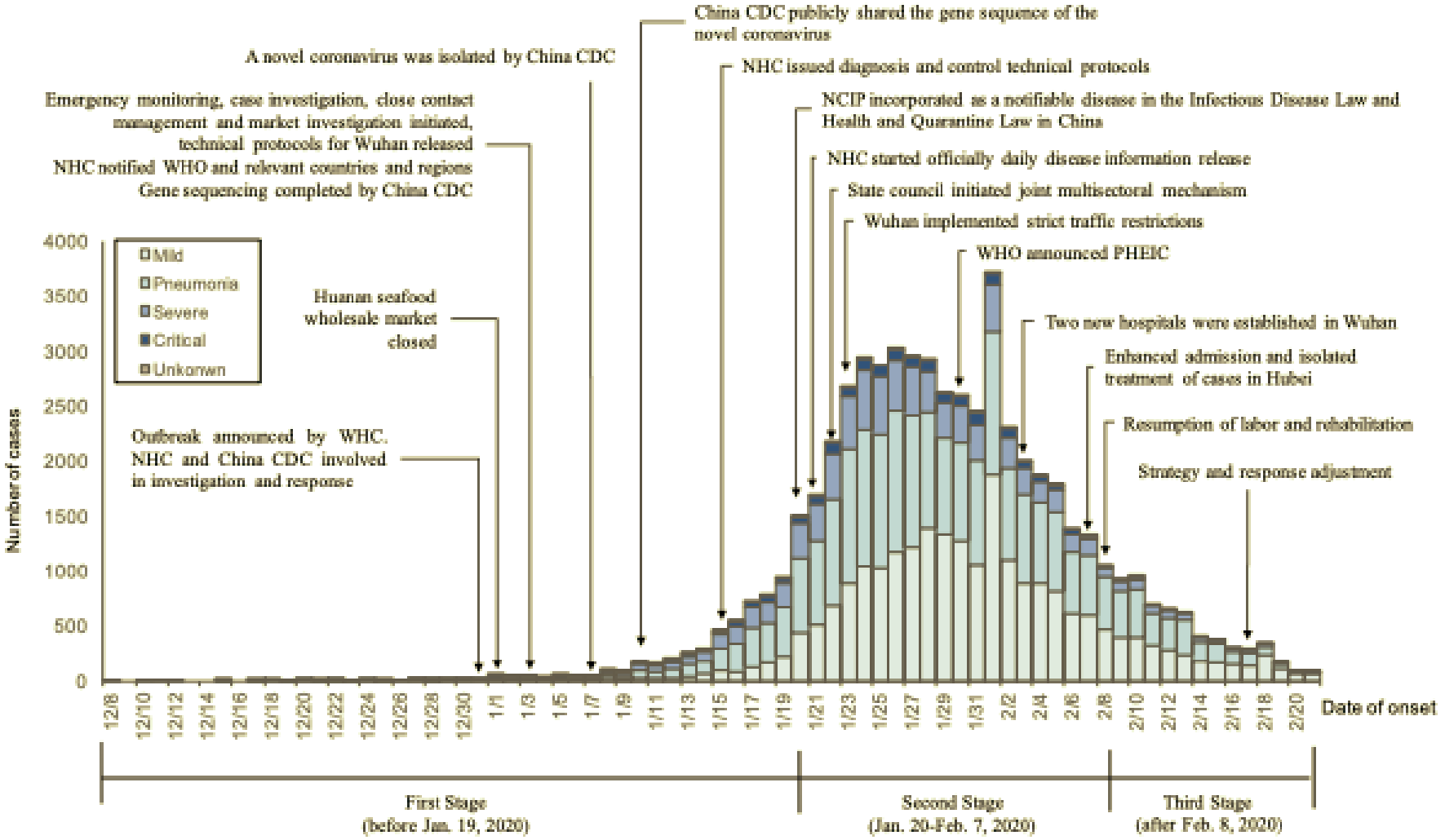
COVID-19 Fatality Rate by COMORBIDITY:

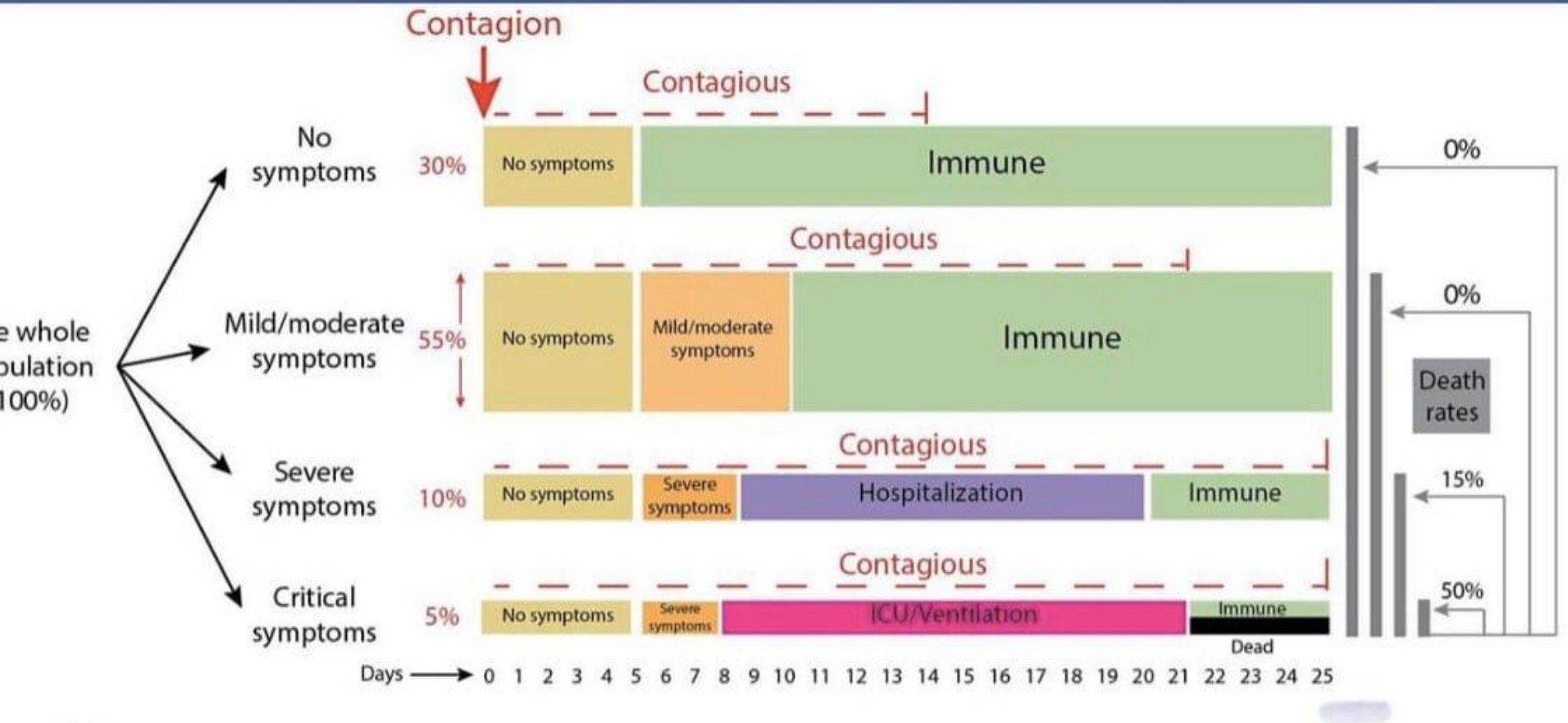
PRE-EXISTING CONDITION	DEATH RATE
Cardiovascular disease	**10.5%**
Diabetes	**7.3%**
Chronic respiratory disease	**6.3%**
Hypertension	**6.0%**
Cancer	**5.6%**
no pre-existing conditions	**0.9%**

COVID-19 Fatality Rate by AGE:

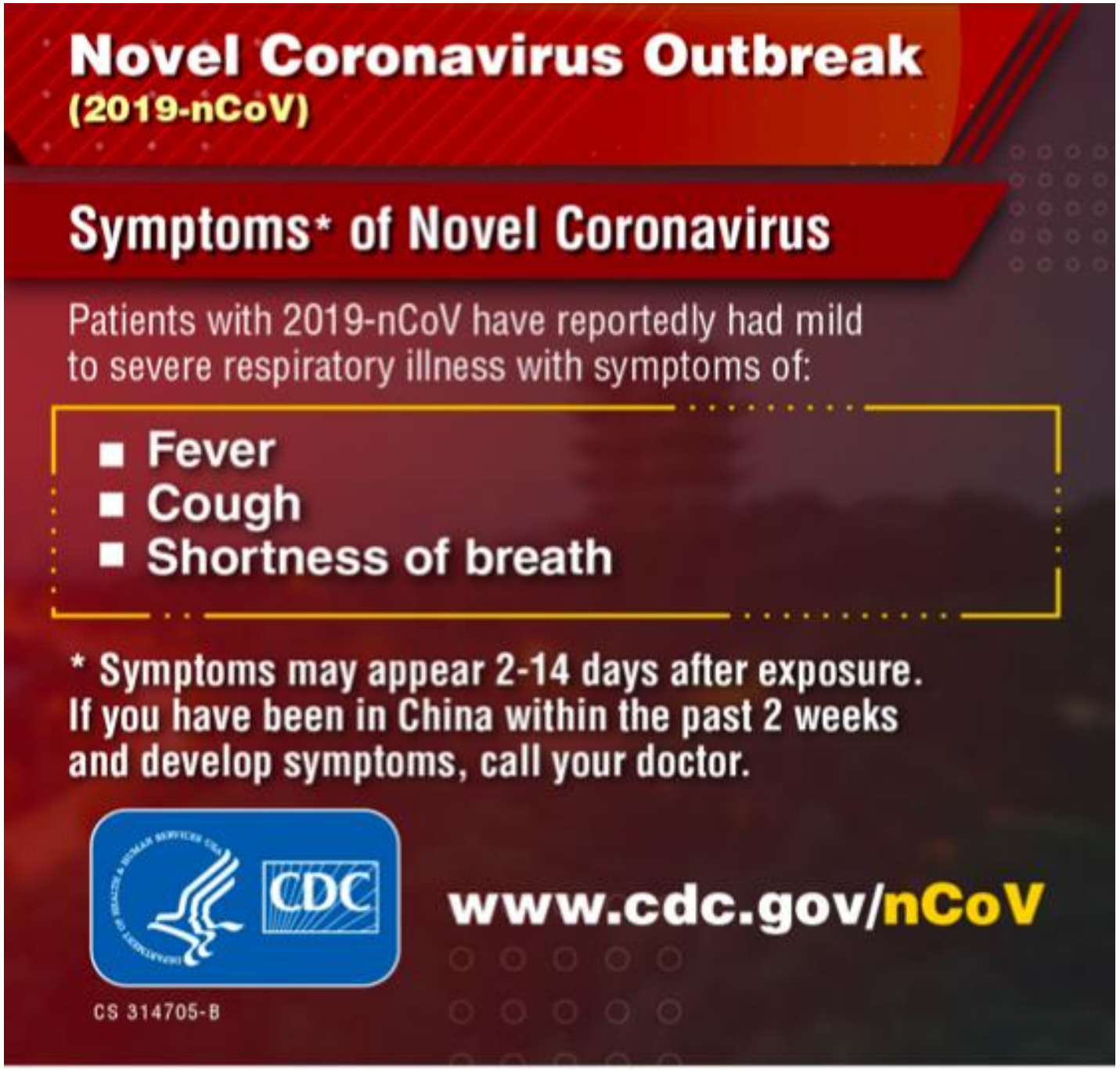
AGE	DEATH RATE
80+ years old	**14.8%**
70-79 years old	**8.0%**
60-69 years old	**3.6%**
50-59 years old	**1.3%**
40-49 years old	**0.4%**
30-39 years old	**0.2%**
20-29 years old	**0.2%**
10-19 years old	**0.2%**
0-9 years old	**no fatalities**

A


China CDC publicly shared the gene sequence of the novel coronavirus
A novel coronavirus was isolated by China CDC
NHC issued diagnosis and control technical protocols
Emergency monitoring, case investigation, close contact management and market investigation initiated, technical protocols for Wuhan released
NHC notified WHO and relevant countries and regions
Gene sequencing completed by China CDC
NCIP incorporated as a notifiable disease in the Infectious Disease Law and Health and Quarantine Law in China
NHC started officially daily disease information release
State council initiated joint multisectoral mechanism
Wuhan implemented strict traffic restrictions
WHO announced PHEIC
Mild
Pneumonia
Severe
Critical
Unknown
Huanan seafood wholesale market closed
Two new hospitals were established in Wuhan
Enhanced admission and isolated treatment of cases in Hubei
Resumption of labor and rehabilitation
Outbreak announced by WHC. NHC and China CDC involved in investigation and response
Strategy and response adjustment
Number of cases
4000
3500
3000
2500
2000
1500
1000
500
0
12/8
12/10
12/12
12/14
12/16
12/18
12/20
12/22
12/24
12/26
12/28
12/30
1/1
1/3
1/5
1/7
1/9
1/11
1/13
1/15
1/17
1/19
1/21
1/23
1/25
1/27
1/29
1/31
2/2
2/4
2/6
2/8
2/10
2/12
2/14
2/16
2/18
2/20
Date of onset
First Stage
(before Jan. 19, 2020)
Second Stage
(Jan. 20-Feb. 7, 2020)
Third Stage
(after Feb. 8, 2020)



References:
1. The Incubation Period of Coronavirus Disease 2019 (COVID-19) From Publicly Reported Confirmed Cases: Estimation and Application. Lauer SA et al. Ann Intern Med. 2020 Mar 10.
2. Impact of non-pharmaceutical interventions (NPIs) to reduce COVID19 mortality and healthcare demand. Neil M Ferguson et al. Imperial College COVID-19 Response Team. 16 March 2020.
3. Viral dynamics in mild and severe cases of Covid-19. Yang Liu et al. The Lancet, March 19, 2020.


Novel Coronavirus Outbreak
(2019-nCoV)
Symptoms* of Novel Coronavirus
Patients with 2019-nCoV have reportedly had mild to severe respiratory illness with symptoms of:
Fever
Cough
Shortness of breath
* Symptoms may appear 2-14 days after exposure. If you have been in China within the past 2 weeks and develop symptoms, call your doctor.
CDC
www.cdc.gov/nCoV
CS 314705-B

Features of Confirmed Cases in China

Data source: 43,113 confirmed cases from China Information System for Disease Control and Prevention

- **Asymptomatic cases 2% (n=724)**

  -laboratory testing positive but without symptoms

- **Mild cases 81% (n=34869)**

  -including non-pneumonia cases and mild pneumonia cases

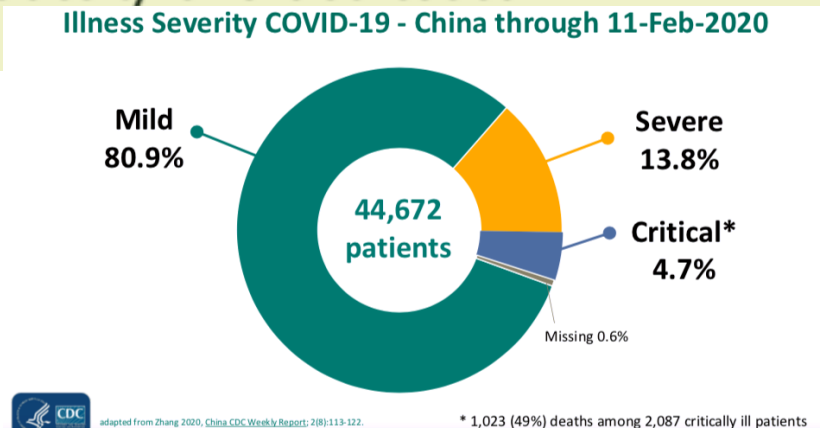
- **Severe cases 14% (n=6210)**

  - Difficulty in breathing, respiratory rate ≥ 30 times/min, Oxygen saturation ≤ 93%, PaO2/FiO2≤300, the area of diffuse patchy infiltration greater than 50% of the lungs in 24 to 48h.

- **Critical cases 3% (n=1310)**

  - Respiratory failure, septic shock, MODS/MOF

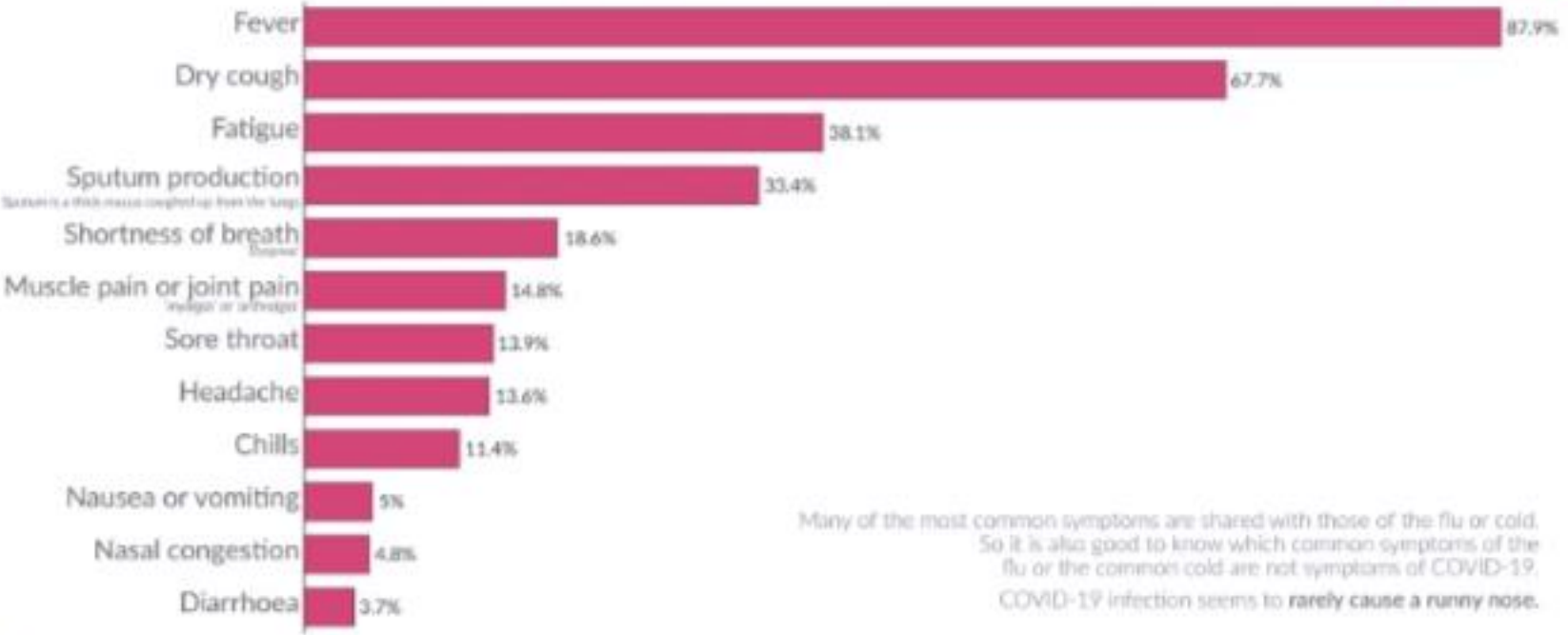
- Elderly, patients with underlying diseases, obesity or a decreased lymphocyte count face poor prognosis



The symptoms of coronavirus disease [COVID-19]

Our World in Data

The most common signs and symptoms of 55,924 laboratory confirmed cased of COVID-19.
Reported from China in the period up to February 22, 2020



Many of the most common symptoms are shared with those of the flu or cold.
So it is also good to know which common symptoms of the flu or the common cold are not symptoms of COVID-19.

COVID-19 infection seems to **rarely cause a runny nose.**

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.

GEJALA KLINIS

Symptoms near the time of presentation in various cohorts

	Guan et al. NEJM (largest cohort)	Shi et al Lancet	Yang et al. Lancet (critically ill pts)	Chen et al.	Huang et al.	Xu et al. BMJ
Constitutional						
Fever	473/1081 (43%)	18/21 (86%)	46/52 (88%)	82/99 (83%)	40/41 (98%)	48/62 (77%)
Myalgia	164/1081 (15%)		6/52 (12%)	11/99 (11%)		
Headache	150/1081 (14%)	2/21 (10%)	3/52 (6%)	8/99 (8%)	2/38 (8%)	21/62 (34%)
Upper respiratory						
Rhinorrhea	53/1081 (5%)	5/21 (24%)	3/52 (6%)	4/99 (4%)		
Sore throat	153/1081 (14%)			5/99 (5%)		
Lower respiratory						
Dyspnea	205/1081 (19%)	9/21 (43%)	33/52 (64%)	31/99 (31%)	22/40 (55%)	2/62 (3%)
Chest tightness		5/21 (24%)				
Cough	745/1081 (68%)	15/21 (71%)	40/52 (77%)	81/99 (82%)	31/41 (76%)	50/62 (81%)
Sputum	370/1081 (34%)	3/21 (14%)			11/39 (28%)	35/62 (56%)
Hemoptysis	10/1081 (1%)				2/39 (5%)	2/62 (3%)
Gastrointestinal						
Nausea/Vomiting	55/1081 (5%)	2/21 (10%)	2/52 (6%)	1/99 (1%)		
Diarrhea	42/1081 (4%)	1/21 (5%)		2/99 (2%)	1/38 (3%)	3/62 (8%)

The most common symptoms are:[20] [21] [39] [136] [137] [138]

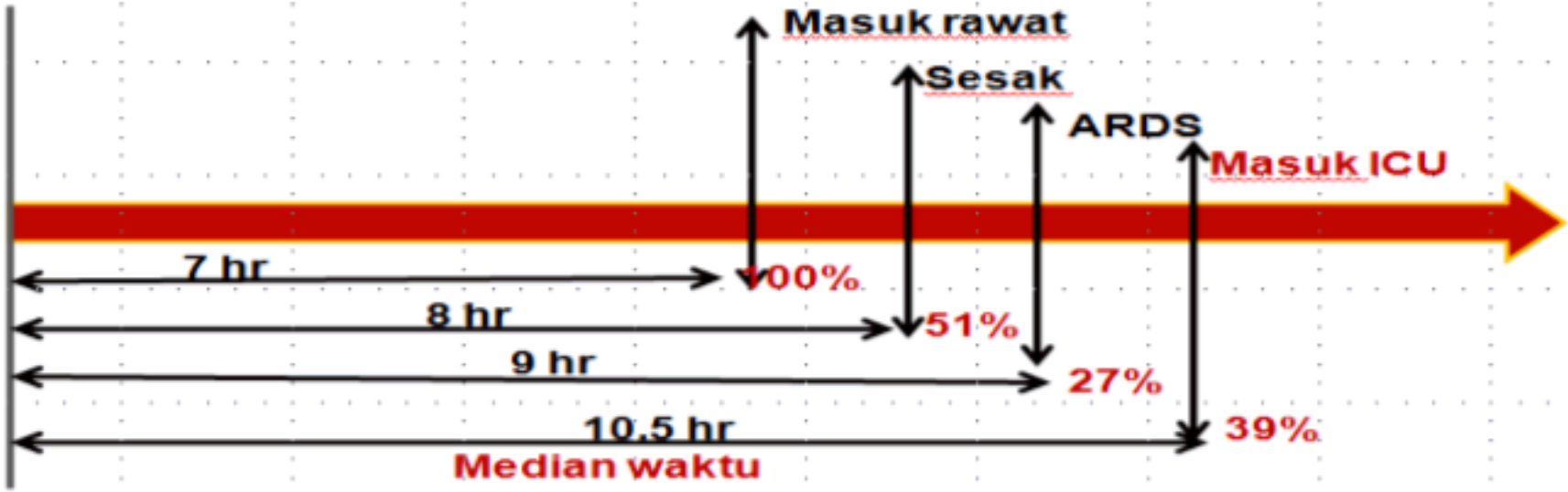
- Fever
- Cough
- Dyspnoea
- Myalgia
- Fatigue
- Anosmia/dysgeusia

Less common symptoms include:

- Anorexia
- Sputum production
- Conjunctivitis
- Gastrointestinal symptoms
- Sore throat
- Confusion
- Dizziness
- Headache
- Rhinorrhoea or nasal congestion
- Chest pain
- Haemoptysis
- Cutaneous manifestations.

Demam	4-13 hr (median 10 hr)
Batuk	12-23 hr (median 19 hr), mungkin masih batuk sp discharge
Sesak	Mulai hr 3-8
Pneumonia	Mulai hr 3-7
Rawat Inap	Lama rawat 11- 16 hr
Sepsis	Muncul mulai hr 7-13
ARDS	Muncul mulai hr 8-12
Masuk ICU	Median rawat 8 hr (4-12)
Miokarditis	Muncul hr 10-17
AKI	Muncul hr 13-19
Median dari gejala sp meninggal 18.5 hr (15-22 hr)	

Dimodifikasi dari Susilo A. dkk. J Penyakit Dalam Indonesia 2020;7(3):45-67



Dikutip dari Huang CL et al. Lancet 2020; 395: 497–506

RESPIRATORY MANIFESTATIONS

- UPPER RESPIRATORY INFECTIONS (Cold, Pharyngitis)
- LOWER RESPIRATORY INFECTIONS PNEUMONIA :
  - CAP : Infection of the pulmonary parenchyma acquired from exposure in the community

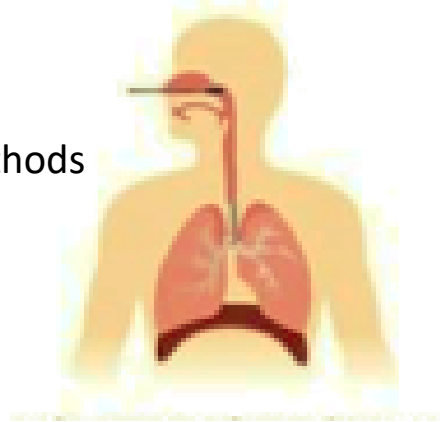
    Classically divided into “typical” and “atypical” syndromes:

I. <u>“Typical” CAP:</u>

- presents with “typical” severe, acute infection
- infectious agent (usually *S. pneumo* or *H. flu*) is culturable/ identifiable
- responsive to cell-wall active antibiotics

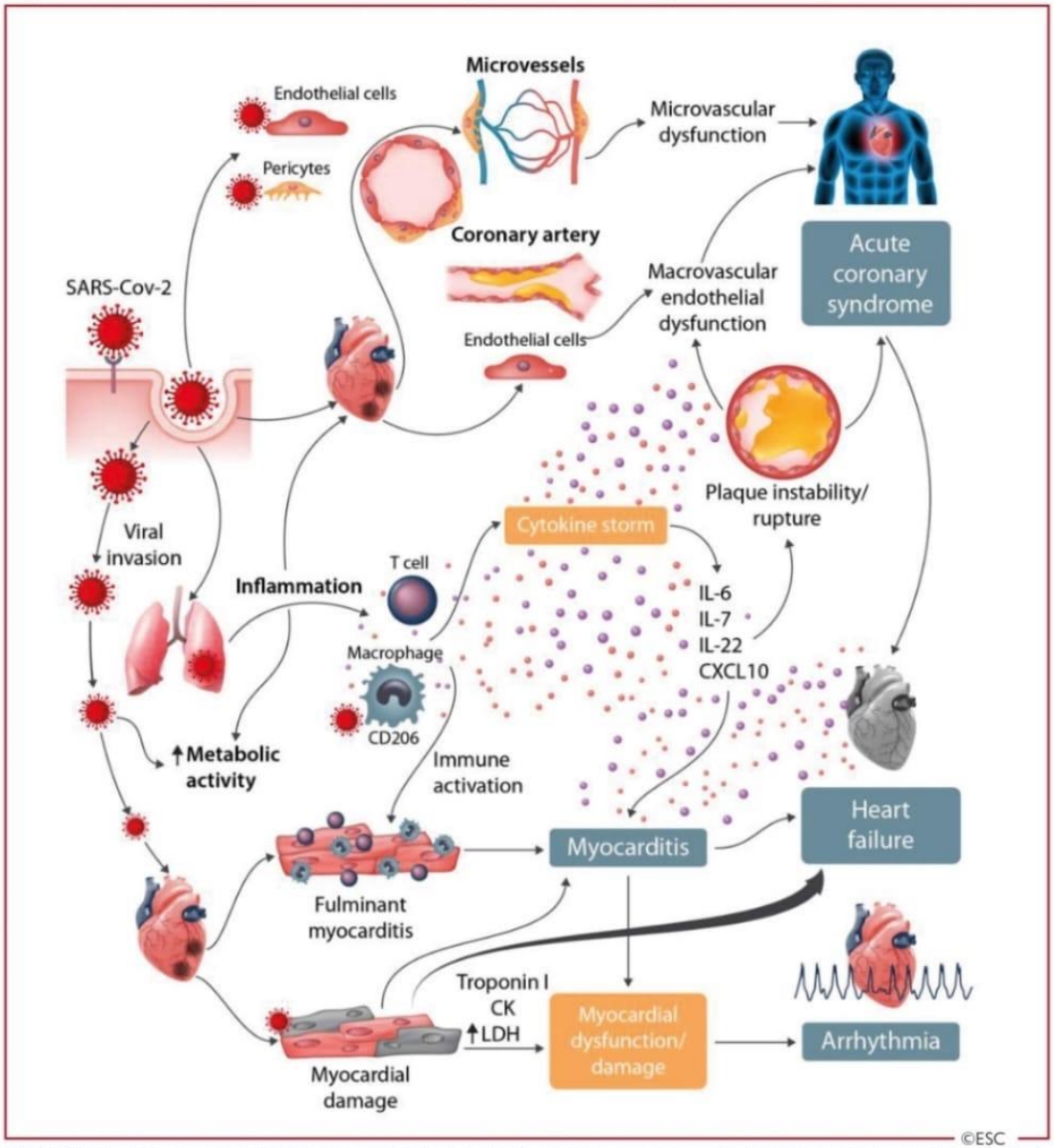
II. <u>“Atypical” CAP:</u>

- presentation is usually sub-acute
- causative pathogens are difficult to culture/identify by standard methods
- not responsive to penicillins
- Viral pneumonia



MANIFESTASI KARDIO VASKULER

Figure 3 Cardiovascular involvement in COVID-19 – key manifestations and hypothetical mechanisms

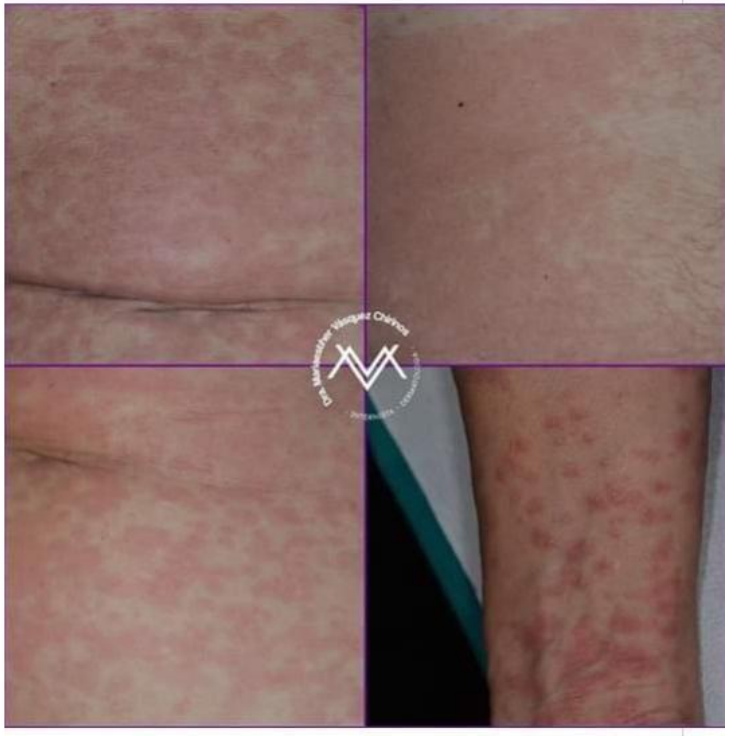


SARS-CoV-2 anchors on trans-membrane ACE2 to enter the host cells including type-2 pneumocytes, macrophages, endothelial cells, pericytes and cardiac myocytes leading to inflammation and multi-organ failure. Infection of endothelial cells or pericytes is of particular importance because this could lead to severe microvascular and macrovascular dysfunction. In addition, immune over-reactivity can potentially destabilize atherosclerotic plaques and explain the development of acute coronary syndromes. Infection of the respiratory tract, particularly type-2 pneumocytes, by SARS-CoV-2 is manifested by the progression of systemic inflammation and immune cell over-activation leading to "cytokine storm", resulting in increased levels of cytokines such as IL-6, IL-7, IL-22 and CXCL10. Subsequently, it is possible that activated T cell and macrophages may infiltrate infected myocardium resulting in the development of fulminant myocarditis and severe cardiac damage. This process may be further intensified by a cytokine storm. Similarly, the viral invasion may cause cardiac myocyte damage directly leading to myocardial dysfunction and contribute to the development of arrhythmias. From Guzik et al., COVID-19 and the cardiovascular system - implications for risk assessment, diagnosis and treatment options. Cardiovasc Res., 2020, doi: 10.1093/cvr/cvaa106.[42]

MANIFESTASI SISTIM KULIT

20.4%Cutaneus manifestations:
- Erythrmatous rash
- Urticaria
- Chicken –pox like vesicle

(Dr. S . Recalcati, Italy)



MANIFESTASI SISTIM KULIT

Clinical manifestations and outcome of SARS-CoV-2 infection during pregnancy

Yangli Liu#, Haihong Chen#, Kejing Tang, Yubiao Guo*

13 patients :3 pts discharged uncomplicated pregnancy

10 pts SC (5 emergency due to : with multidicipline approach)

- 3 Fetal distress
- 1 Premature rupture of membrane
- 1 stillbirth

- 6 pts (46%) , preterm labour 32-36 weeks due to
  - MOF, ARDS, ARF, ALF, septic shock
- 12 pts discharged
- 1 pts severe pneumonia

MANIFESTASI PADA KEHAMILAN

Clinical features and obstetric and neonatal outcomes of pregnant patients with COVID-19 in Wuhan, China: a retrospective, single-centre, descriptive study

Nan Yu*, Wei Li *, Qingling Kang, Zhi Xiong, Shaoshuai Wang, Xingguang Lin, Yanyan Liu, Juan Xiao, Haiyi Liu, Dongrui Deng, Suhua Chen, Wanjiang Zeng, Ling Feng, Jianli Wu

7 pts , 37-41 weeks

- All SC
- 2 pts chronic ilness hypothyroid & POS
- 3 uterine scraring
- Multidisicipline approach
- Good outcome for mothers and child

Review Article

Central nervous system manifestations of COVID-19: A systematic review

Ali A. Asadi-Pooya[a,b,*], Leila Simani[c]

[a] Epilepsy Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
[b] Jefferson Comprehensive Epilepsy Center, Department of Neurology, Thomas Jefferson University, Philadelphia, USA
[c] Skull Base Research Center, Loghman Hakim Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Neurological manifestations :

febrile seizures, convulsions, change in mental status, and encephalitis, nasal infection,, causing inflammation and demyelination [

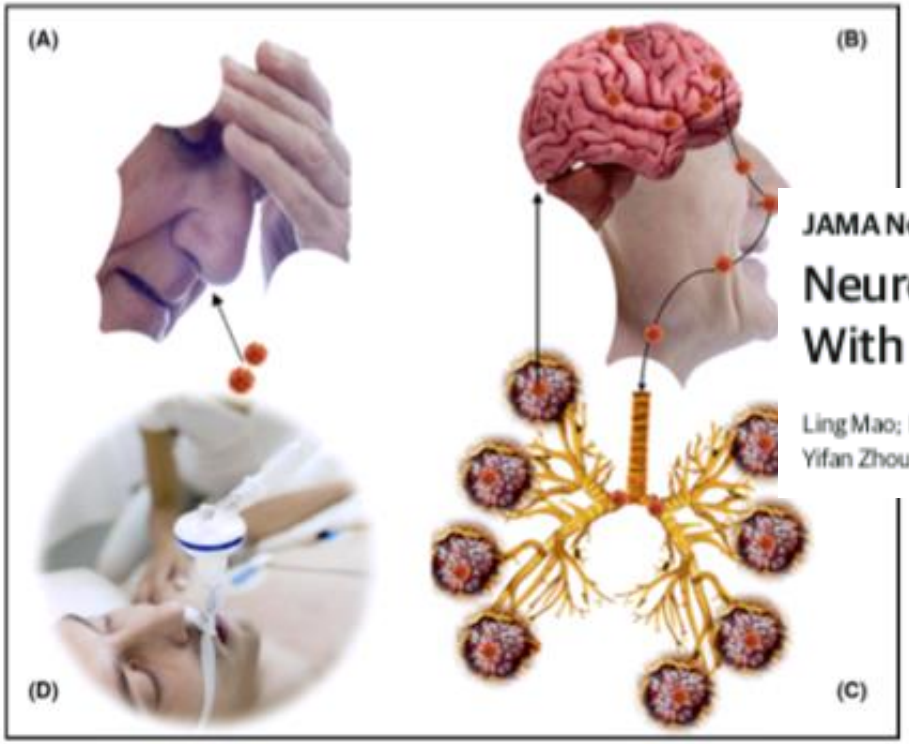


FIGURE 1 Neurological manifestations in COVID-19. Fever with headaches (A) may occur early in COVID-19 patients. Specific manifestations related to neurological deficits like loss of smell, taste, ataxia and convulsions have been

MANIFESTASI SISTIM SARAF

JAMA Neurology | Original Investigation

Neurologic Manifestations of Hospitalized Patients With Coronavirus Disease 2019 in Wuhan, China

Ling Mao; Huijuan Jin; Mengdie Wang; Yu Hu; Shengcai Chen; Quanwei He; Jiang Chang; Candong Hong; Yifan Zhou; David Wang; Xiaoping Miao; Yanan Li, MD, PhD; Bo Hu, MD, PhD

214 pts, 36.4% had neurological manifestations :

- CNS : Headache, dizziness, convulsion, 24.8%
- Peripheral Nervous S: 8.9%, taste & smell impairment
- Skeletal muscle injury: 10,7%

Review article: gastrointestinal features in COVID-19 and the possibility of faecal transmission

Yuan Tian | Long Rong | Weidong Nian | Yan He

Incidence of 3% (1/41)-79% (159/201), gastrointestinal symptoms of COVID-19 included:

- anorexia 39.9% (55/138)-50.2% (101/201),
- diarrhoea 2% (2/99)-49.5% (146/295),
- vomiting 3.6% (5/138)-66.7% (4/6),
- nausea 1% (1/99)-29.4% (59/201),
- abdominal pain 2.2% (3/138)-6.0% (12/201) and
- gastrointestinal bleeding 4% (2/52)-13.7% (10/73).

MANIFESTASI GASTRO INTESTINAL & HATI

Gastrointestinal and liver manifestations in patients with COVID-19

I-Cheng Lee[a,b], Teh-Ia Huo[a,c,d,*], Yi-Hsiang Huang[a,b,e,*]

[a]Division of Gastroenterology and Hepatology, Department of Medicine, Taipei Veterans General Hospital, Taipei,
[b]Faculty of Medicine, National Yang-Ming University School of Medicine, Taipei, Taiwan, ROC; [c]Department of Me

- 2 – 11% Liver co morbid
- 16 -53% Abnormal ALT and AST
- The more severe covid-19, the more higher liver abnormality

Hematology's Indispensable Role in COVID-19 Diagnosis & Prognosis

Blood test for COVID-19

A. WBC: normal or increased (24-3 patients)[3,4]

B. Lymphocyte count and percenta decreased(63% of 41 patients)[3]

C. CRP: increased (86% of 73 pati

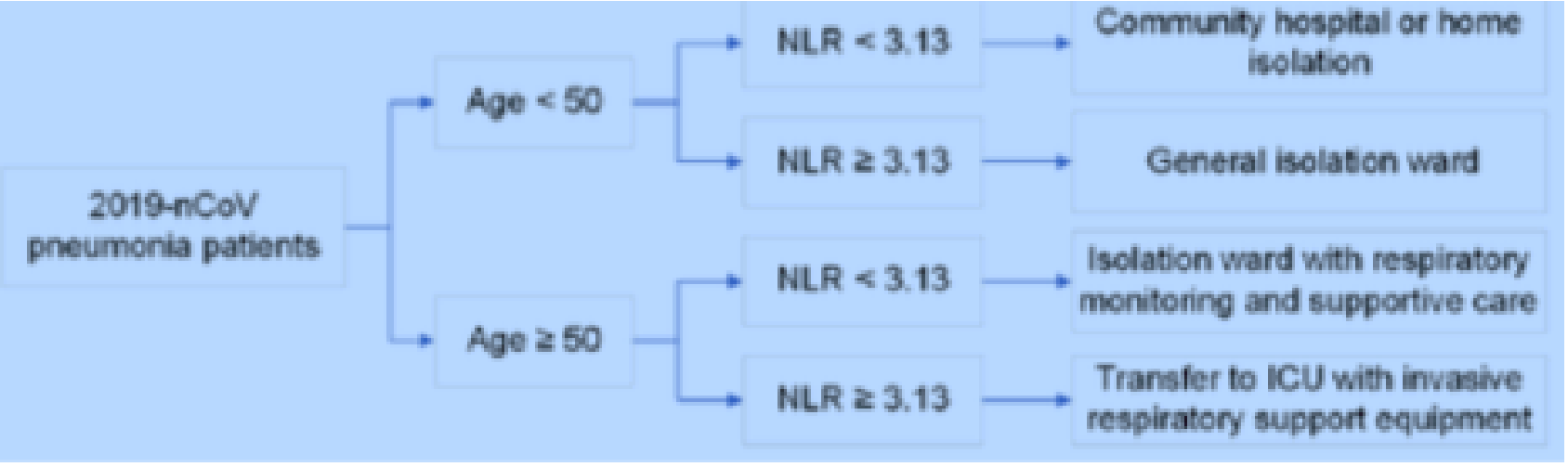
D. Eosinophil count: decreased[5]

A new prognosis indicator - NLR

NLR is **N**eutrophil to **L**ymphocyte count **R**atio, it's calculated from CBC result, easy-to-use parameter.

Study[6] in Beijing showed that cut-off value of NLR is 3.13, sensitivity is 0.875 and specificity is 0.717.

Patients should be transferred to ICU with age >50 and NLR>3.13. If NLR<3.13 and age<50, the patients could isolate at home or community hospita



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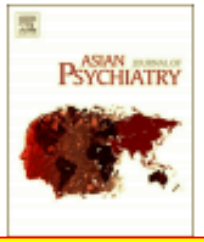


COVID-19 and mental health: A review of the existing literature

Ravi Philip Rajkumar

Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Pondicherry, 605 006, India

Psychiatric Manifestation in Covid-19

- Occur in patient, public & health workers
- Anxiety 44.7%
- Stress 73.4%
- Depression 50.7
- Emotion
- Insomnia 36.1%

Patients with mental health disorders in the COVID-19 epidemic

Article

Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China

Cuiyan Wang [1], Riyu Pan [1], Xiaoyang Wan [1], Yilin Tan [1], Linkang Xu [1], Cyrus S. Ho [2,3] and Roger C. Ho [1,3,4,*]

Endocrine Manifestation in Covid-19

COVID-19 and endocrine diseases. A statement from the European Society of Endocrinology

M. Puig-Domingo[1] · M. Marazuela[2] · A. Giustina[3,4]

Keywords Covid-19 · Diabetes mellitus · Obesity · Malnourishment · Hypoadrenalism

- DIABETES increased mortality & morbidity
- OBESITY
- UNDERNOURISHMENT
- HYPOADRENALISM

Ophthalmic Manifestations Of Coronavirus (COVID-19)

Katherine Hu; Jay Patel; Bhupendra C. Patel.

▸ Author Information

Last Update: April 13, 2020.

Ocular manifestations of COVID-19 are overall rare in the published literature. Only 9 (0.8%) out of 1,099 patients from 552 hospitals across 30 provinces in China were reported to have "conjunctival congestion."[7]

A recent case series reported ocular symptoms in 12 (31.6%) of 38 hospitalized patients with COVID-19 in Hubei province, China.[8] These 12 of 39 patients had conjunctival hyperemia (3 patients), chemosis (7 patients), epiphora (7 patients), or increased secretions (7 patients). Of note is that one patient who had epiphora presented with epiphora as the first symptom of COVID-19. Of those with ocular manifestations, 2 (16.7%) patients had positive results of SARS-CoV-2 on reverse-transcriptase polymerase chain reaction (RT-PCT) by a conjunctival swab as well as by nasopharyngeal swabs. Only one patient in this study presented with conjunctivitis as the first symptom.[8] The authors noted that patients with ocular symptoms had higher white blood cell and neutrophil counts, C-reactive protein, and higher levels of procalcitonin and lactate dehydrogenase compared to patients without ocular abnormalities.

MANIFESTASI PADA MATA

“ Conjunctival congestion “
Conjunctival hyperaemia
Chemosis
Epiphora
Increased secretions

MANIFESTASI SISTIM MUSCULO-SKELETAL

Clinical Rheumatology
https://doi.org/10.1007/s10067-020-05073-9

PERSPECTIVES IN RHEUMATOLOGY

Check for updates

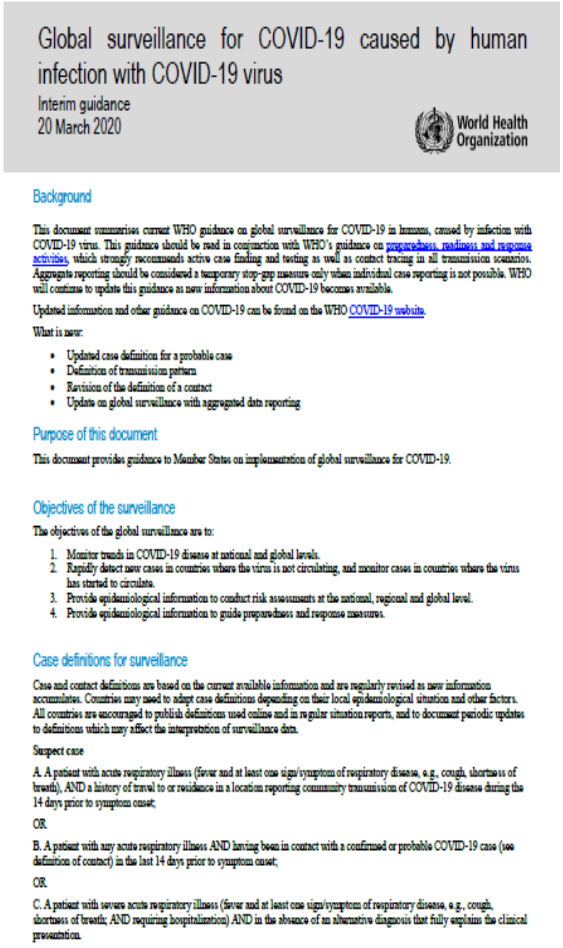
Rheumatologists' perspective on coronavirus disease 19 (COVID-19) and potential therapeutic targets

Durga Prasanna Misra [1] · Vikas Agarwal [1] · Armen Yuri Gasparyan [2] · Olena Zimba [3]

Table 1 Manifestations associated with coronavirus disease 19 (COVID-19) mimicking rheumatic syndromes

1. Arthralgias and Myalgias
2. Cytopenias: leucopenia (predominantly lymphopenia); thrombocytopenia
3. Acute interstitial pneumonia-like presentation
4. Myocarditis
5. Secondary hemophagocytic lymphohistiocytosis and cytokine storm
6. Possible greater risk of venous thromboembolism

Case Definition And Surveillance



Global surveillance for COVID-19 caused by human infection with COVID-19 virus

Interim guidance
20 March 2020

World Health Organization

Background

This document summarises current WHO guidance on global surveillance for COVID-19 in humans, caused by infection with COVID-19 virus. This guidance should be read in conjunction with WHO's guidance on preparedness, readiness and response activities, which strongly recommends active case finding and testing as well as contact tracing in all transmission scenarios. Aggregate reporting should be considered a temporary stop-gap measure only when individual case reporting is not possible. WHO will continue to update this guidance as new information about COVID-19 becomes available.

Updated information and other guidance on COVID-19 can be found on the WHO COVID-19 website.

What is new:

- Updated case definition for a probable case
- Definition of transmission pattern
- Revision of the definition of a contact
- Update on global surveillance with aggregated data reporting

Purpose of this document

This document provides guidance to Member States on implementation of global surveillance for COVID-19.

Objectives of the surveillance

The objectives of the global surveillance are to:

1. Monitor trends in COVID-19 disease at national and global levels.
2. Rapidly detect new cases in countries where the virus is not circulating, and monitor cases in countries where the virus has started to circulate.
3. Provide epidemiological information to conduct risk assessments at the national, regional and global level.
4. Provide epidemiological information to guide preparedness and response measures.

Case definitions for surveillance

Case and contact definitions are based on the current available information and are regularly revised as new information accumulates. Countries may need to adapt case definitions depending on their local epidemiological situation and other factors. All countries are encouraged to publish definitions used online and in regular situation reports, and to document periodic updates to definitions which may affect the interpretation of surveillance data.

Suspect case

A. A patient with acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset;

OR

B. A patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case (see definition of contact) in the last 14 days prior to symptom onset;

OR

C. A patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation.

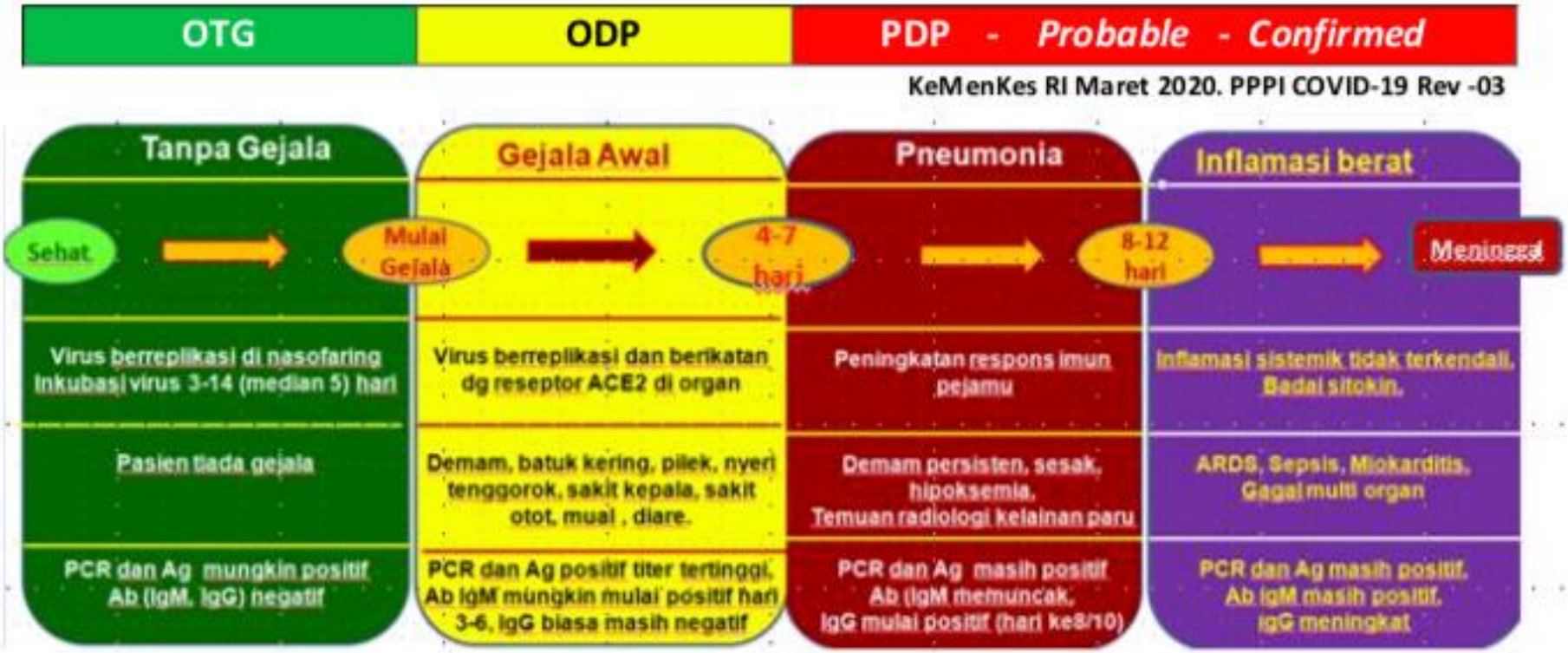
- ILI and Pneumonia surveillance have to be strengthened AND ensure all ILI and/or pneumonia cases being asked for travel history, residences and possible close contact-→ meet case definition
- If suspected case found, immediately contact local authority for further follow up on case investigation and contact tracing as containment measure.

Case Definitions:

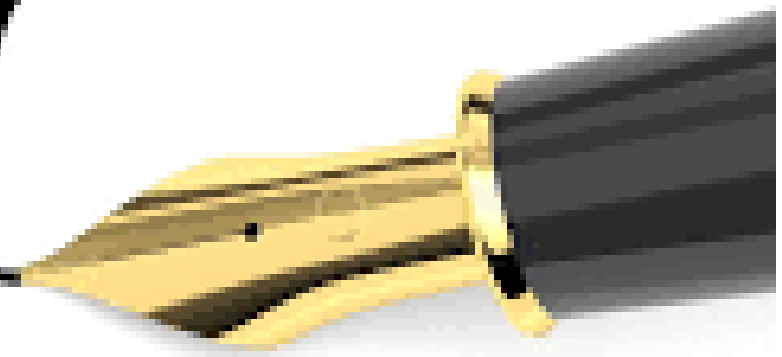
Case Definition Surveillance	
Close Contact:	• Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes; • Direct physical contact with a probable or confirmed case; • Direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment; • Other situations as indicated by local risk assessments.
Suspect:	• Patient with acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath), AND a history of travel to or residence in a location reporting community transmission of COVID-19 disease during the 14 days prior to symptom onset • Patient with any acute respiratory illness AND having been in contact with a confirmed or probable COVID-19 case in the last 14 days prior to symptom onset • Patient with severe acute respiratory illness (fever and at least one sign/symptom of respiratory disease, e.g., cough, shortness of breath; AND requiring hospitalization) AND in the absence of an alternative diagnosis that fully explains the clinical presentation

Case Definitions:

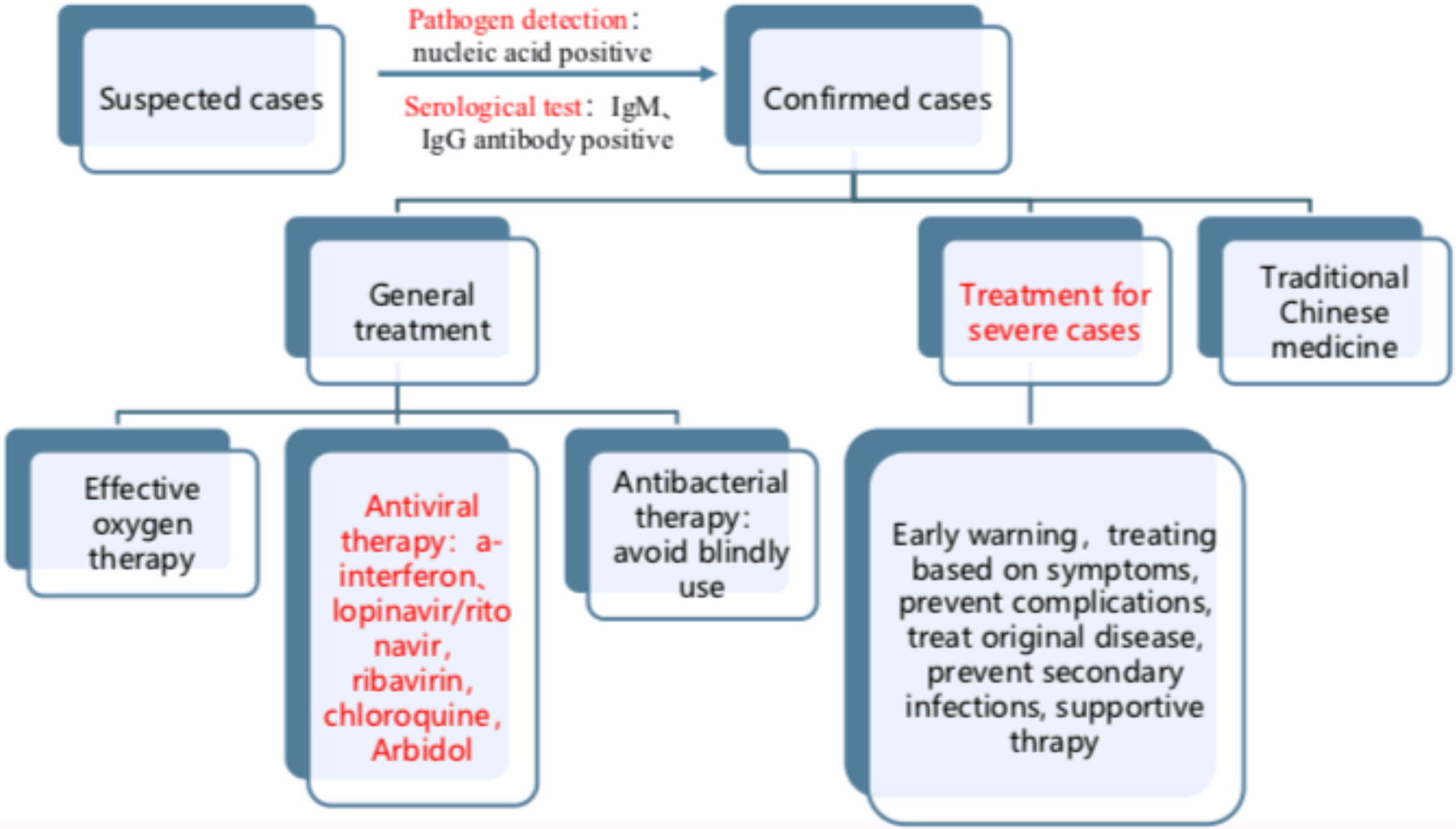
Case Definition After Testing Performed	
Confirmed:	• A person with laboratory confirmation of COVID-19 infection, irrespective of clinical signs and symptoms
Probable:	• A suspect case for whom testing for the COVID-19 virus is inconclusive. • A suspect case for whom testing could not be performed for any reason


OTG
ODP
PDP - Probable - Confirmed
KeMenKes RI Maret 2020. PPPI COVID-19 Rev -03
Tanpa Gejala
Gejala Awal
Pneumonia
Inflamasi berat
Sehat
Mulai Gejala
4-7 hari
8-12 hari
Meninggal
Virus berreplikasi di nasofaring
Inkubasi virus 3-14 (median 5) hari
Virus berreplikasi dan berikatan dg reseptor ACE2 di organ
Peningkatan respons imun pejamu
Inflamasi sistemik tidak terkendali.
Badai sitokin.
Pasien tiada gejala
Demam, batuk kering, pilek, nyeri tenggorok, sakit kepala, sakit otot, mual , diare.
Demam persisten, sesak, hipoksemia,
Temuan radiologi kelainan paru
ARDS, Sepsis, Miokarditis,
Gagal multi organ
PCR dan Ag mungkin positif
Ab (IgM, IgG) negatif
PCR dan Ag positif titer tertinggi,
Ab IgM mungkin mulai positif hari 3-6, IgG biasa masih negatif
PCR dan Ag masih positif
Ab (IgM memuncak,
IgG mulai positif (hari ke8/10)
PCR dan Ag masih positif,
Ab IgM masih positif,
IgG meningkat

Thank you



Current diagnosis and treatment of COVID-19



Archives of Academic Emergency Medicine. 2020; 8(1): e46

OPEN ACCESS

CASE REPORT

COVID-19 Pneumonia in Asymptomatic Trauma Patients; Report of 8 Cases

Majid Samsami[1], Javad Zebarjadi Bagherpour[1 *], Behzad Nematihonar[1], Hamed Tahmasbi[1]

1. Department of General Surgery, Imam Hossein Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Received: April 2020; Accepted: April 2020; Published online: 6 April 2020

Hu et all :

- *24 cases asymptomatic :*
  - *20.8% developed stmptom fever, cough*
  - *50 % typical GGO*
  - *20.8% strip shadowing in the lung*
  - *29.2% normal CT scan & symptoms*

- None have symptoms fever, cough, breathless, headache
- 62.5% had history of contact cases Covid-19
- Physical exam no abnormality of pneumonia
- CT scan strongly pneumonia
- 25 % developed symptom
- 50% CRP increased

TABLE 1. (continued)

Baseline characteristics	Confirmed cases, N (%)	Deaths, N (%)	Case fatality rate, %	Observed time, PD	Mortality, per 10 PD
Province					
Hubei	33,367 (74.7)	979 (95.7)	2.9	496,523	0.020
Other	11,305 (25.3)	44 (4.3)	0.4	165,086	0.003
Wuhan-related exposure*					
Yes	31,974 (85.8)	853 (92.8)	2.7	486,612	0.018
No	5,295 (14.2)	66 (7.2)	1.2	71,201	0.009
Missing	7,403	104	2.8	103,796	0.010
Comorbid condition†					
Hypertension	2,683 (12.8)	161 (39.7)	6.0	42,603	0.038
Diabetes	1,102 (5.3)	80 (19.7)	7.3	17,940	0.045
Cardiovascular disease	873 (4.2)	92 (22.7)	10.5	13,533	0.068
Chronic respiratory disease	511 (2.4)	32 (7.9)	6.3	8,083	0.040
Cancer (any)	107 (0.5)	6 (1.5)	5.6	1,690	0.036
None	15,536 (74.0)	133 (32.8)	0.9	242,948	0.005
Missing	23,690 (53.0)	617 (60.3)	2.6	331,843	0.019
Case severity§					
Mild	36,160 (80.9)	–	–	–	–
Severe	6,168 (13.8)	–	–	–	–
Critical	2,087 (4.7)	1,023 (100)	49.0	31,456	0.325
Missing	257 (0.6)	–	–	–	–

COVID-19

- On January 30, 2020, the International Health Regulations Emergency Committee of the World Health Organization declared the outbreak a “public health emergency of international concern external icon” (PHEIC).

- On January 31, 2020, Health and Human Services Secretary Alex M. Azar II declared a public health emergency (PHE) for the United States to aid the nation’s healthcare community in responding to COVID-19.

Clinical manifestations

- The incubation period: the incubation period is 1-14 days, mostly 3-7 days.
- Clinical Features:
  - *Fever, dry cough, fatigue as the main performance.*
  - *A small number of patients have symptoms such as stuffy nose, runny nose, sore throat, myalgia and diarrhea.*
  - *In severe cases, dyspnea and/or hypoxemia usually occur one week after the onset of the disease, and dyspnea and/or hypoxemia may rapidly progress to acute respiratory distress syndrome, septic shock, metabolic acidosis that is difficult to correct, bleeding and coagulation dysfunction, and multiple organ failure.*
- The patients with severe or critical illness may have moderate or low fever, or even no significant fever.
- The mild patients showed only low fever, mild fatigue, and no pneumonia.
- Most patients have a good prognosis, a few patients are in critical condition. The elderly and those with chronic underlying diseases have poor prognosis.

Findings from the Huang et al study published on The Lancet and based on 41 hospitalized patients [3]

COMMON SYMPTOMS AT ONSET OF ILLNESS (Huang et al study) [3]	
Fever	98%
Cough	76%
Myalgia (muscle pain) **or Fatigue**	44%
LESS COMMON SYMPTOMS:	
Sputum production (coughing up material)	28%
Headache	8%
Haemoptysis (coughing up blood)	5%
Diarrhea	3%

Full list of symptoms from the Wang study:

Table 1. Baseline Characteristics of Patients Infected With 2019-nCoV

	No. (%)			
	Total (N = 138)	ICU (n = 36)	Non-ICU (n = 102)	*P* Value[a]
Signs and symptoms				
Fever	136 (98.6)	36 (100)	100 (98.0)	>.99
Fatigue	96 (69.6)	29 (80.6)	67 (65.7)	.10
Dry cough	82 (59.4)	21 (58.3)	61 (59.8)	.88
Anorexia	55 (39.9)	24 (66.7)	31 (30.4)	<.001
Myalgia	48 (34.8)	12 (33.3)	36 (35.3)	.83
Dyspnea	43 (31.2)	23 (63.9)	20 (19.6)	<.001
Expectoration	37 (26.8)	8 (22.2)	29 (28.4)	.35
Pharyngalgia	24 (17.4)	12 (33.3)	12 (11.8)	.003
Diarrhea	14 (10.1)	6 (16.7)	8 (7.8)	.20
Nausea	14 (10.1)	4 (11.1)	10 (9.8)	>.99
Dizziness	13 (9.4)	8 (22.2)	5 (4.9)	.007
Headache	9 (6.5)	3 (8.3)	6 (5.9)	.70
Vomiting	5 (3.6)	3 (8.3)	2 (2.0)	.13
Abdominal pain	3 (2.2)	3 (8.3)	0 (0)	.02
Onset of symptom to, median (IQR), d				
Hospital admission	7.0 (4.0-8.0)	8.0 (4.5-10.0)	6.0 (3.0-7.0)	.009
Dyspnea	5.0 (1.0-10.0)	6.5 (3.0-10.8)	2.5 (0.0-7.3)	.02

7A Case Definition [55]

Suspected case

Based on the epidemiologic characteristics observed so far in China, everyone is assumed to be susceptible, although there may be risk factors increasing susceptibility to infection.

1) A patient with acute respiratory tract infection (sudden onset of at least one of the following: cough, fever, shortness of breath) AND with no other aetiology that fully explains the clinical presentation AND with a history of travel or residence in a country/area reporting local or community transmission during the 14 days prior to symptom onset;

OR

2) A patient with any acute respiratory illness AND having been in close contact with a confirmed or probable COVID-19 case in the last 14 days prior to onset of symptoms;

OR

3) A patient with severe acute respiratory infection (fever and at least one sign/symptom of respiratory disease (e.g., cough, fever, shortness breath)) AND requiring hospitalisation (SARI) AND with no other aetiology that fully explains the clinical presentation.

Probable case

A suspected case for whom testing for virus causing COVID-19 is inconclusive (according to the test results reported by the laboratory) or for whom testing was positive on a pan-corona virus assay.

Confirmed case

A person with laboratory confirmation of virus causing COVID-19 infection, irrespective of clinical signs and symptoms

Close contact of a probable or confirmed case is defined as

- A person living in the same household as a COVID-19 case;
- A person having had direct physical contact with a COVID-19 case (e.g. shaking hands);
- A person having unprotected direct contact with infectious secretions of a COV ID-19 case (e.g. being coughed on, touching used paper tissues with a bare hand);
- A person having had face-to-face contact with a COVID-19 case within 2 metres and > 15 minutes;
- A person who was in a closed environment (e.g. classroom, meeting room, hospital waiting room, etc.) with a COVID-19 case for 15 minutes or more and at a distance of less than 2 metres;
- A healthcare worker (HCW) or other person providing direct care for a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case without recommended personal protective equipment (PPE) or with a possible breach of PPE;
- A contact in an aircraft sitting within two seats (in any direction) of the COVID-19 case, travel companions or persons providing care, and crew members serving in the section of the aircraft where the index case was seated (if severity of symptoms or movement of the case indicate more extensive exposure, passen gers seated in the entire section or all passengers on the aircraft may be consid ered close contacts). [56]

CLINICAL COURSE & DISCHRGE / MORTALITY

◆ Lancet: Clinical course and risk factors for mortality of adult inpatients with COVID-19 in Wuhan, China: a retrospective cohort study https://buff.ly/2W63buS