2e Kamer briefing nCoV-Wuhan 20 febr 2020

Jaap Van Dissel

Cib-RIVM

2019-nCoV Wuhan

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en Milieu
*Ministerie van Volksgezondheid,
Welzijn en Sport*

- cluster longontstekingen in Wuhan
- isolatie nieuw coronavirus
- verloop uitbraak in en buiten China
  - case definitie
  - gebied
- essentiele parameters
- vergelijking met SARS en MERS

Update Update Update

- [illegible]asus definitie
- [illegible]percentage
- [illegible]regeling maatschappij

esmettelijkheid en overdracht

- mogelijkheid bestrijden

- organisatie publieke gezondheid
- organisatie crisis structuur
  - responseteam
  - outbreak management team
  - bestuurlijk afstemmingsoverleg
- meldingsplicht

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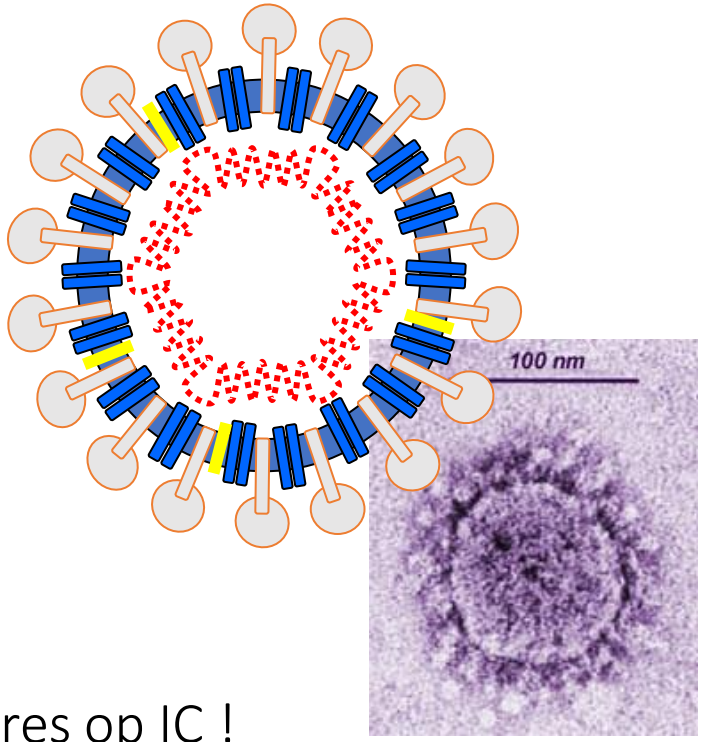
nCoV Wuhan en COVID-19 | overzicht

- Wat is het:
  - Novel Coronavirus-Infected Pneumonia (COVID-19)
- De symptomen:
  - incubatietijd: 6 dagen (range 2-12 dagen)
  - hoesten en griepachtig ziektebeeld | lagere luchtwegen
  - shocklong (‘ARDS’) in 5-20% opgenomen patienten

Backer et al, Eurosurveillance 2020



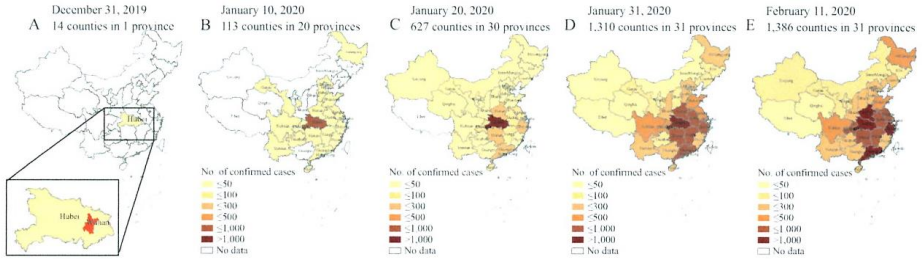
- De oorzaak:
  - nieuw Coronavirus (2019-nCoV)
- Hoe verspreidt het virus:
  - druppel en contact (?fecaliën); aërosol-genererende procedures op IC !
  - onzekerheid over verspreiding vanuit asymptomatische contacten
  - R_0 ~2.68 > 1.60; verdubbelingstijd ~5-6 dagen; generatietijd ~4-5 dagen
- Preventie en behandeling:
  - handen wassen!
  - hygiënische maatregelen gericht tegen druppel- en contactinfectie
  - handalcohol | ziekenhuis: onderdruk isolatie kamer, oogbescherming

nCoV – Wuhan december 2019/januari 2020

epidemiologische gegevens over alle patienten tot 11 februari jl.

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

The Novel Coronavirus Pneumonia Emergency Response Epidemiology Team

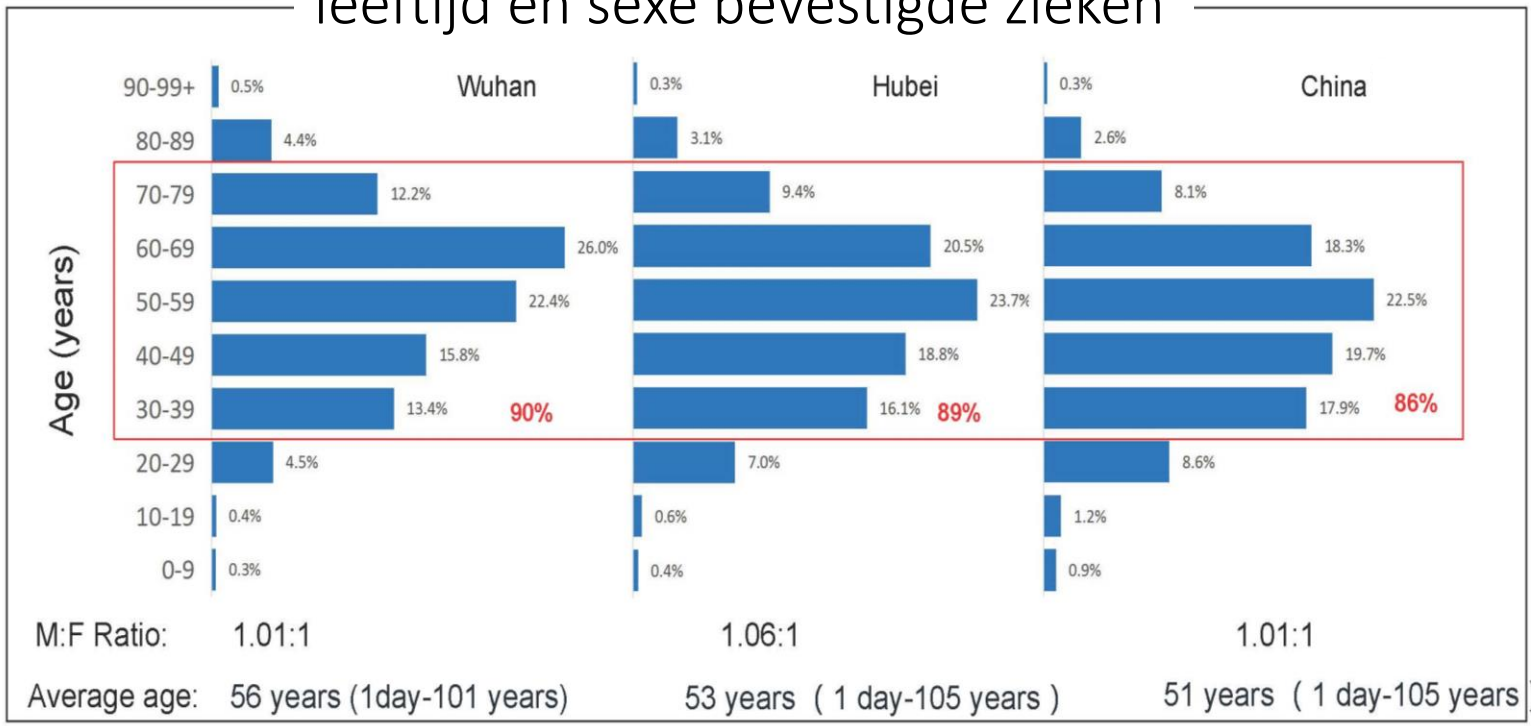


72.314 patienten

- 44.672 RT-PCR bevestigd
- 16.186 vermoedelijke gevallen
- 10.567 klinisch-vastgesteld
- 889 asymptomatische gevallen

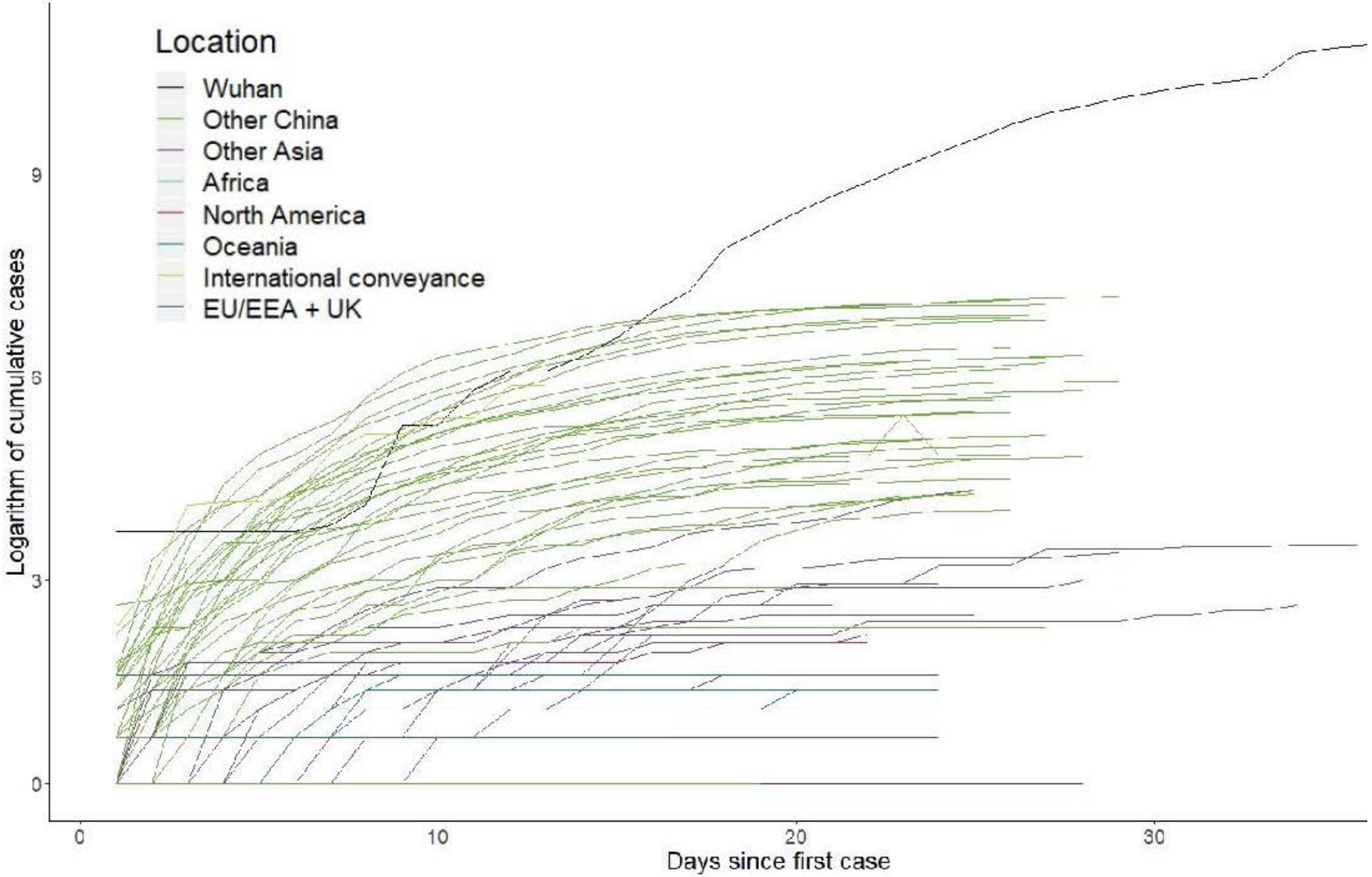
overleden(bevestigd): 1,023 (2.3%)

leeftijd en sexe bevestigde zieken



nCoV –december 2019/februari 2020

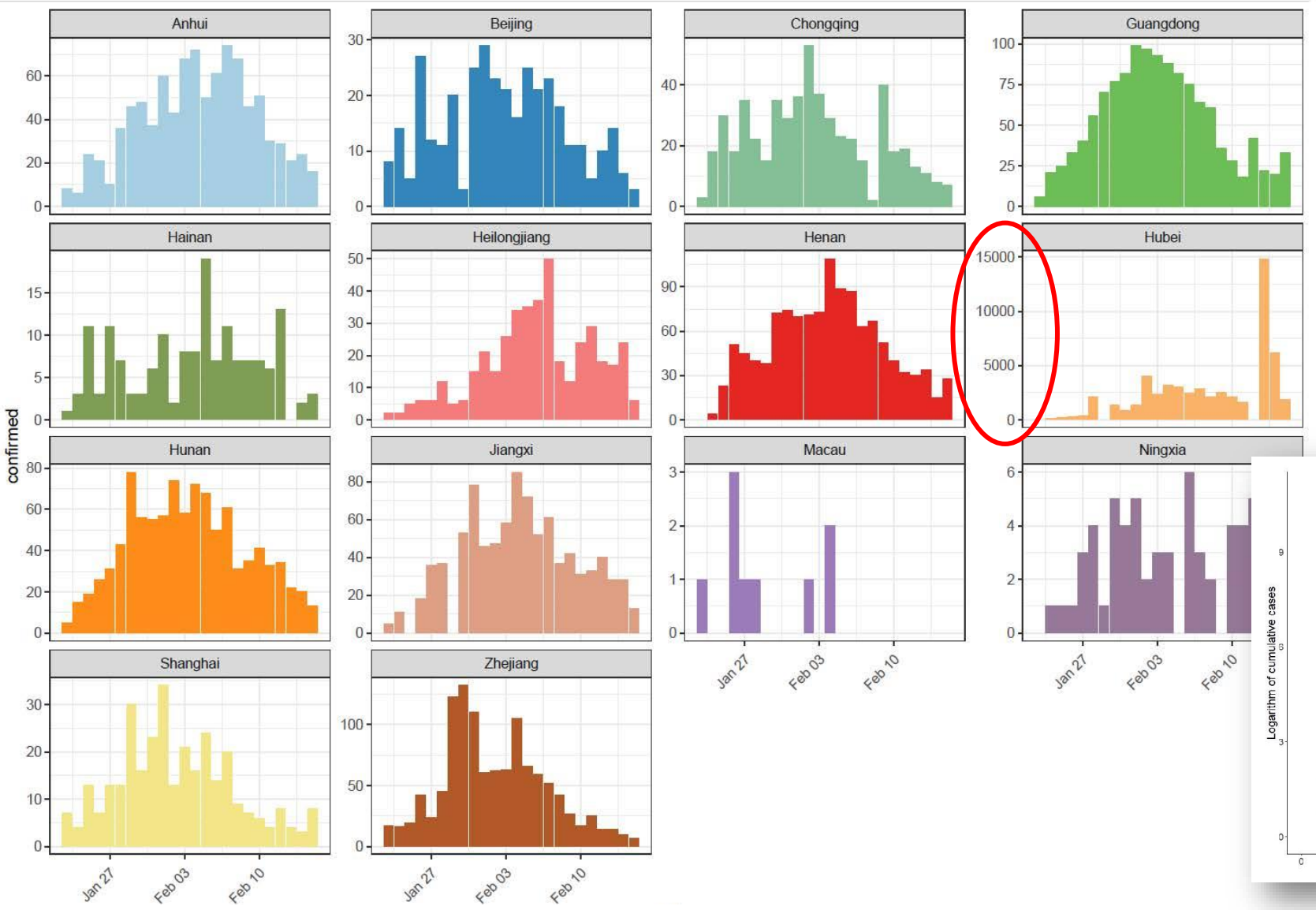
cluster groei rate (logaritmisch) naar locatie

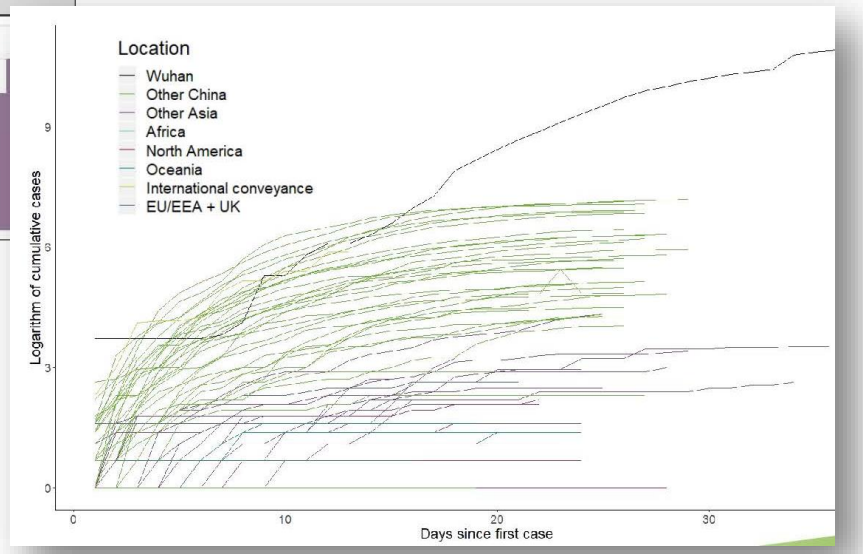


- uitbraak groeisnelheid is langzamer buiten dan binnen China
- herkenning, isolatie geimporteerde gevallen en contactonderzoek
- naarmate globale prevalentie toeneemt kunnen niet herkende importgevallen de groei snelheid sterk gaan beinvloeden!

nCoV – Wuhan december 2019/januari 2020

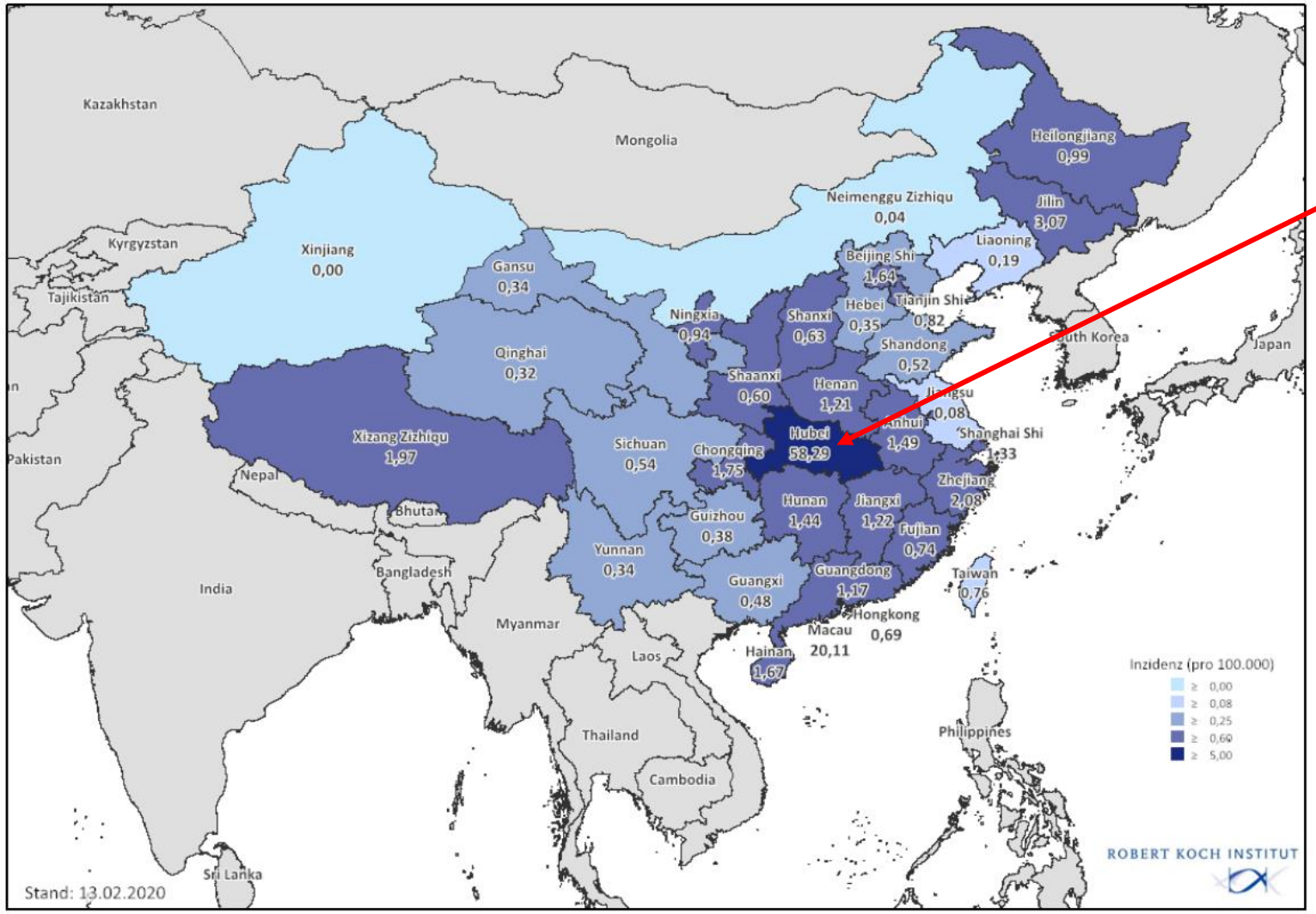
cumulatieve incidentie in provincies in China





nCoV – Wuhan december 2019/januari 2020

incidentie per 100.000 in provincies in China – NB per 13 febr jl.



incidentie/100.000

Hubei 58.3
Macau 20.1
Beijing 1.6
Hong Kong 0.69
Rest China <1.0

vergelijk Nederland
epidemische
drempel griep >58

NB. dynamiek,
hoe betrouwbaar getallen?!

nCoV – Wuhan december 2019/januari 2020

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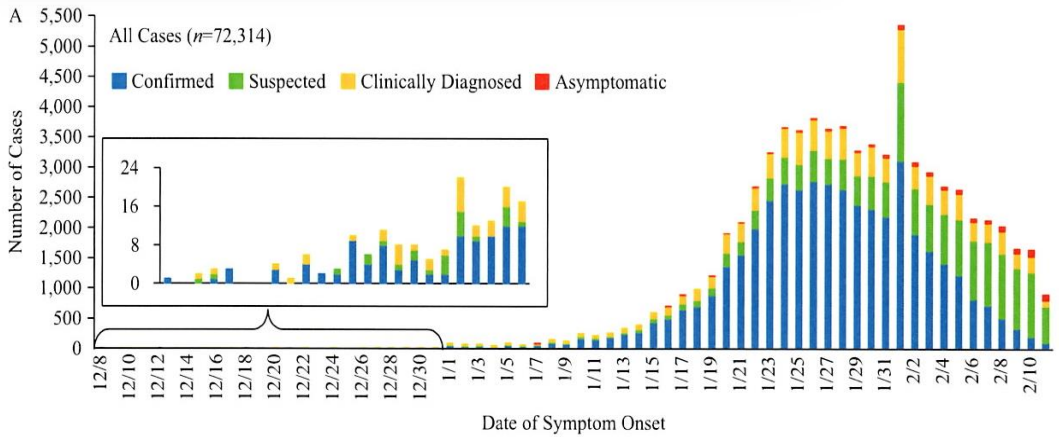
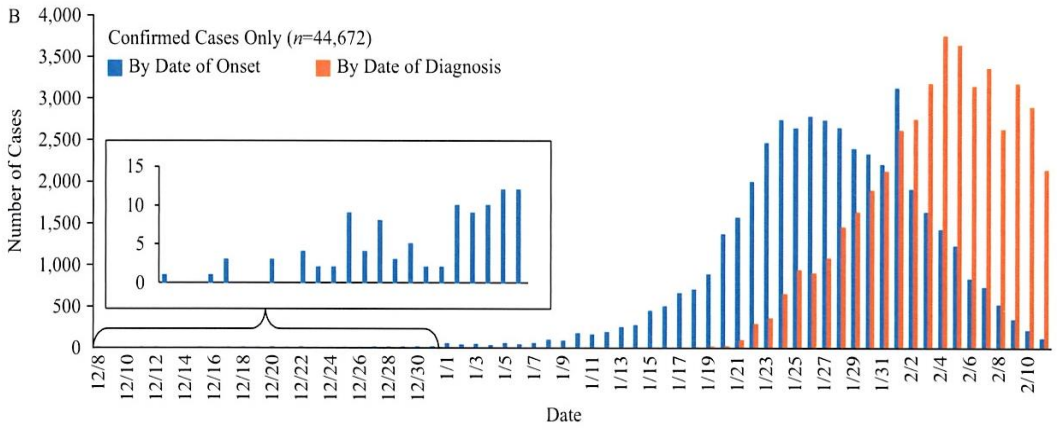
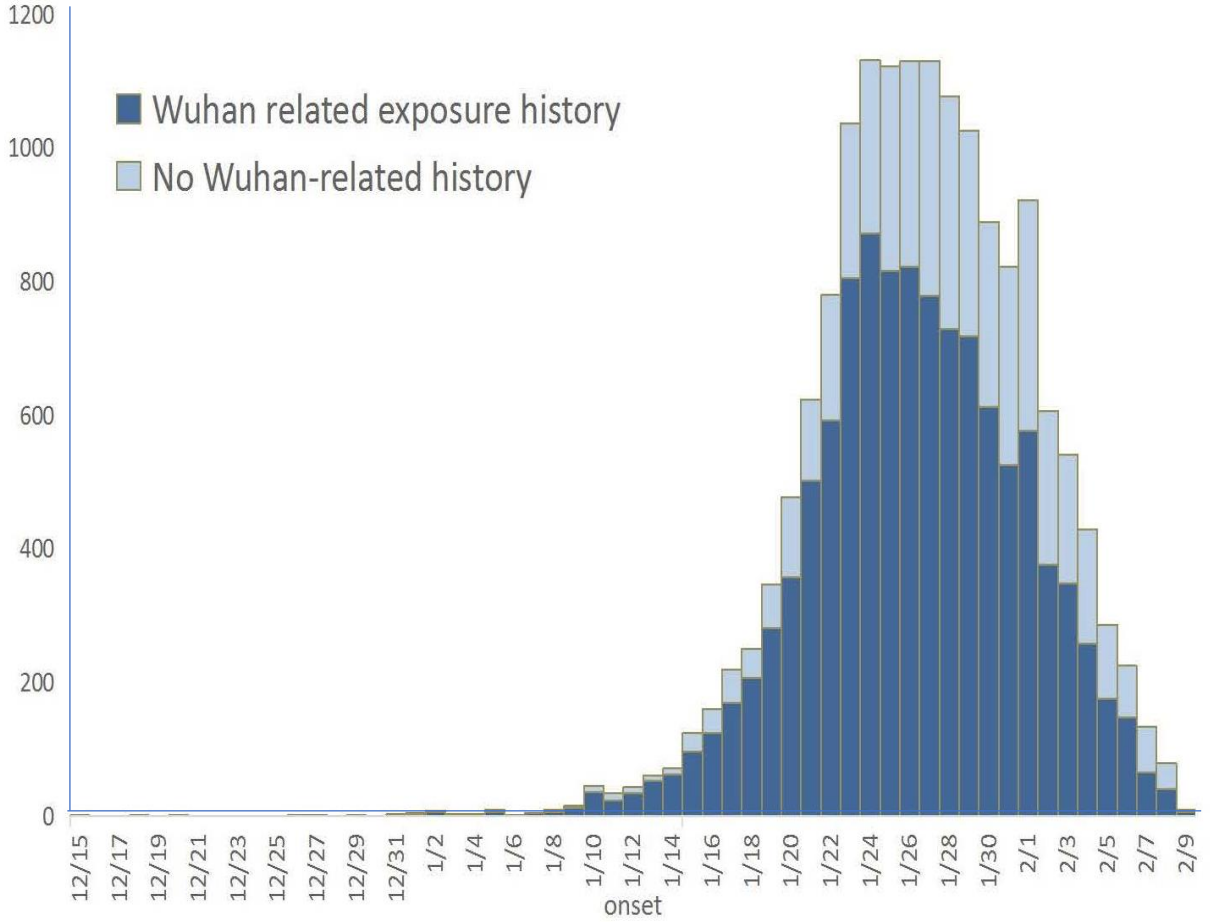




COVID-19 buiten Hubei



nCoV – Wuhan december 2019/januari 2020

epidemiologische gegevens over alle patienten tot 11 februari jl.

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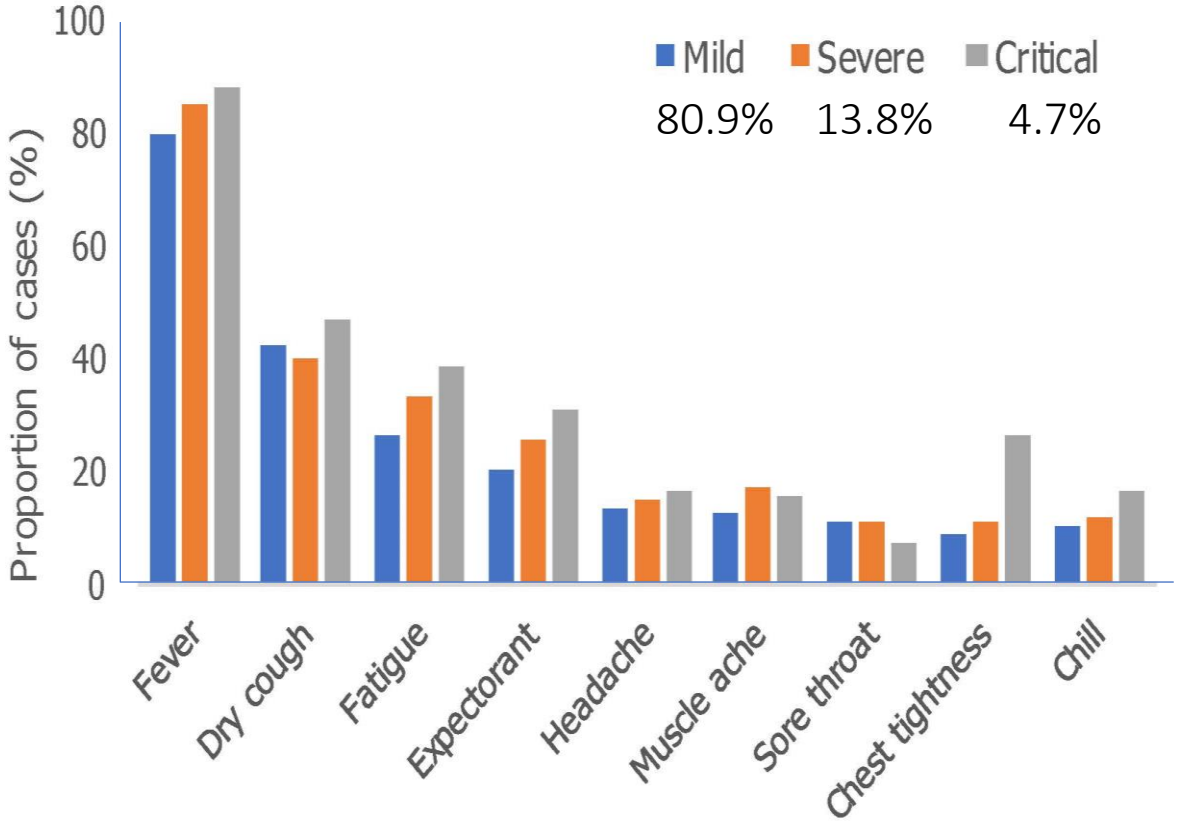
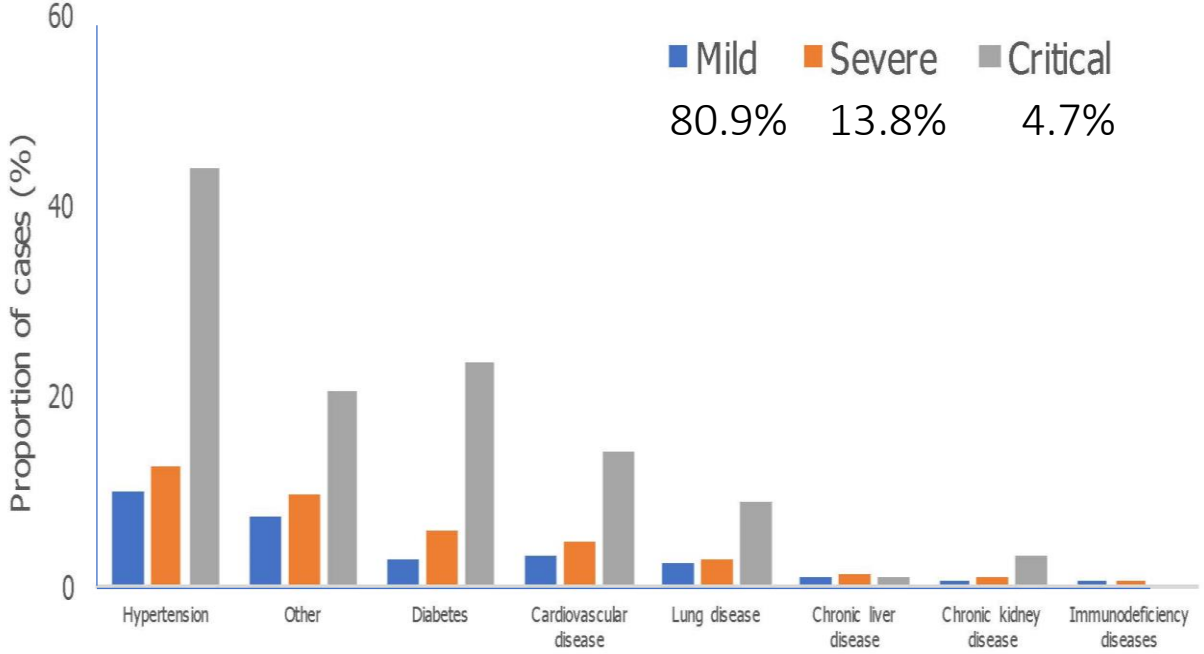
Symptomen 2019-nCoV gevallen



Onderliggende Medische condities



nCoV – Wuhan december 2019/januari 2020

ziekenhuis: 57 van 138 (41.3%) patienten besmetting in ziekenhuis!

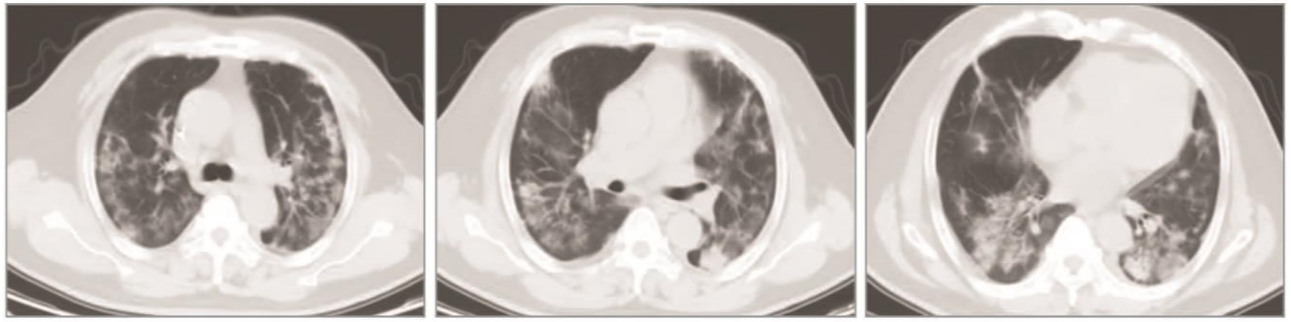
JAMA | Original Investigation | CARING FOR THE CRITICALLY ILL PATIENT

Clinical Characteristics of 138 Hospitalized Patients With 2019 Novel Coronavirus–Infected Pneumonia in Wuhan, China

Dawei Wang, MD; Bo Hu, MD; Chang Hu, MD; Fangfang Zhu, MD; Xing Liu, MD; Jing Zhang, MD; Binbin Wang, MD; Hui Xiang, MD; Zhenshun Cheng, MD; Yong Xiong, MD; Yan Zhao, MD; Yirong Li, MD; Xinghuan Wang, MD; Zhiyong Peng, MD

A Computed tomography images on day 5 after symptom onset

B Computed tomography images after treatment on day 19 after symptom onset



A, Chest computed tomographic images obtained on January 7, 2020, show ground glass opacity in both lungs on day 5 after symptom onset. B, Images taken on January 21, 2020, show the absorption of bilateral ground glass opacity after the treatment of extracorporeal membrane oxygenation from January 7 to 12 in the intensive care unit.

Presumed Hospital-Related Transmission and Infection

Of the 138 patients, 57 (41.3%) were presumed to have been infected in hospital, including 17 patients (12.3%) who were already hospitalized for other reasons and 40 health care workers (29%). Of the hospitalized patients, 7 patients were from the surgical department, 5 were from internal medicine, and 5 were from the oncology department. Of the infected health care workers, 31 (77.5%) worked on general wards, 7 (17.5%) in the emergency department, and 2 (5%) in the ICU. One patient in the current study presented with abdominal symptoms and was admitted to the surgical department. More than 10 health care workers in this department were presumed to have been infected by this patient. Patient-to-patient transmission also w[illegible] and at least 4 hospitalized superspreader event [illegible]fected, and all presented with atypical abdominal symptoms. One of the 4 patients had fever and was diagnosed as having nCoV infection during hospitalization. Then, the patient was isolated. Subsequently, the other 3 patients in the same ward had fever, presented with abdominal symptoms, and were diagnosed as having nCoV infection.

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nCoV – Wuhan coronavirus versus SARS

zieken en sterftepercentage

Wuhan coronavirus
2019-2020

44.672

1.023 doden

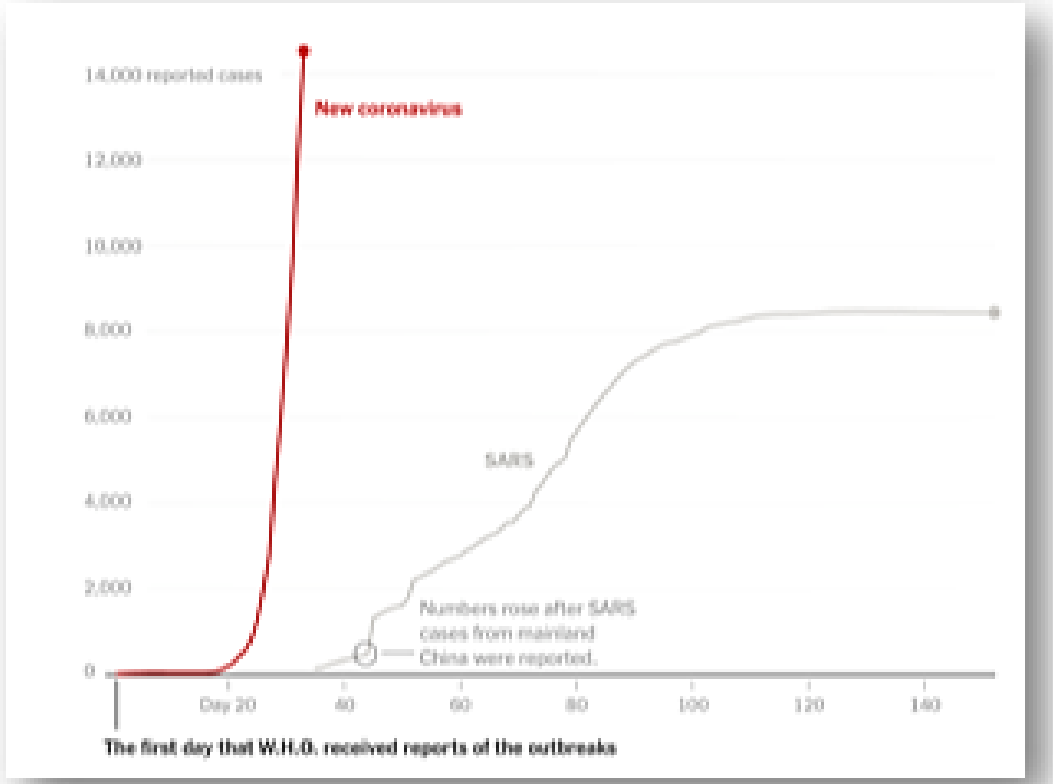
sterfte 2.3%
opname ziekenhuis ?

SARS
2002-2003

8,098

774 doden

sterfte 9.6%
opname ziekenhuis 100%



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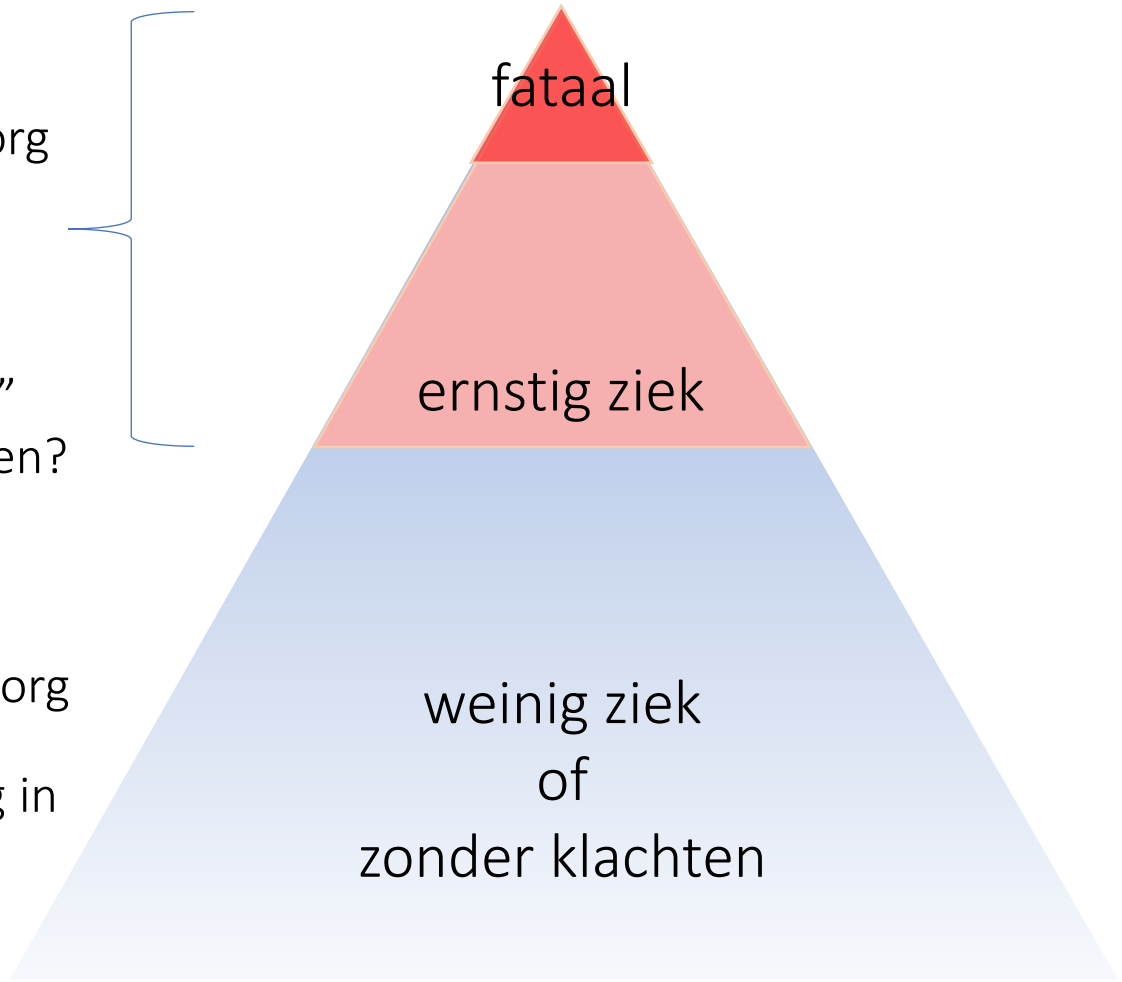
nCoV – Wuhan coronavirus

onzekerheid nCoV ziektebeeld en mogelijkheid tot bestrijding

veel mensen in zorg

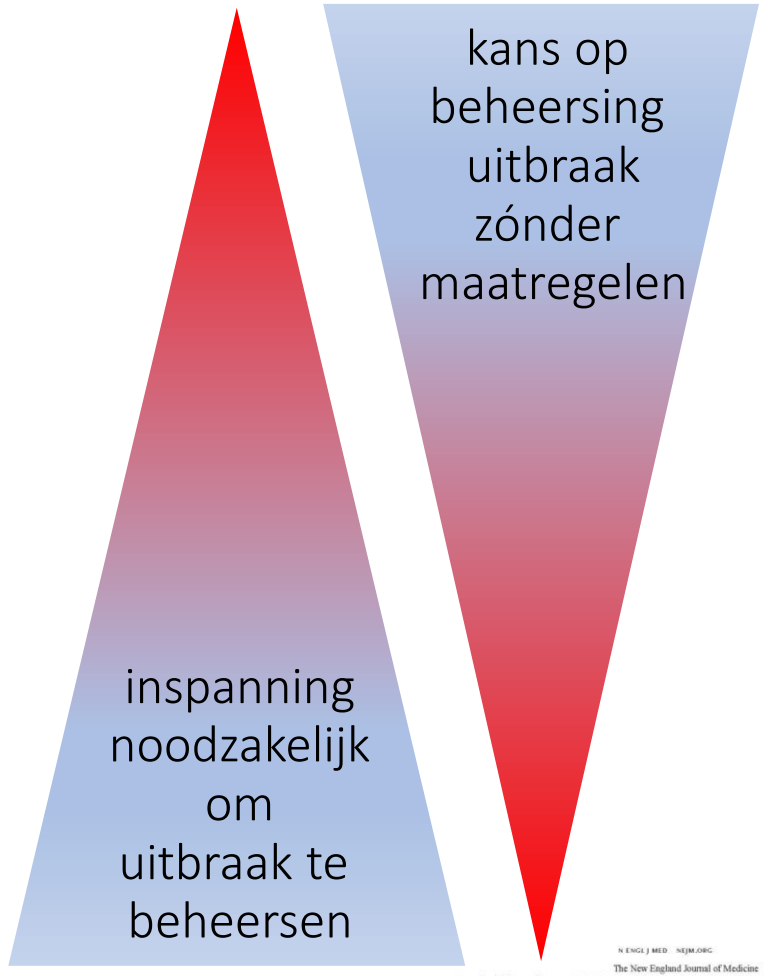
verspreiding in ziekenhuis

"superspreaders" specifiek kwetsbaren?



weinig mensen in zorg

brede verspreiding in bevolking



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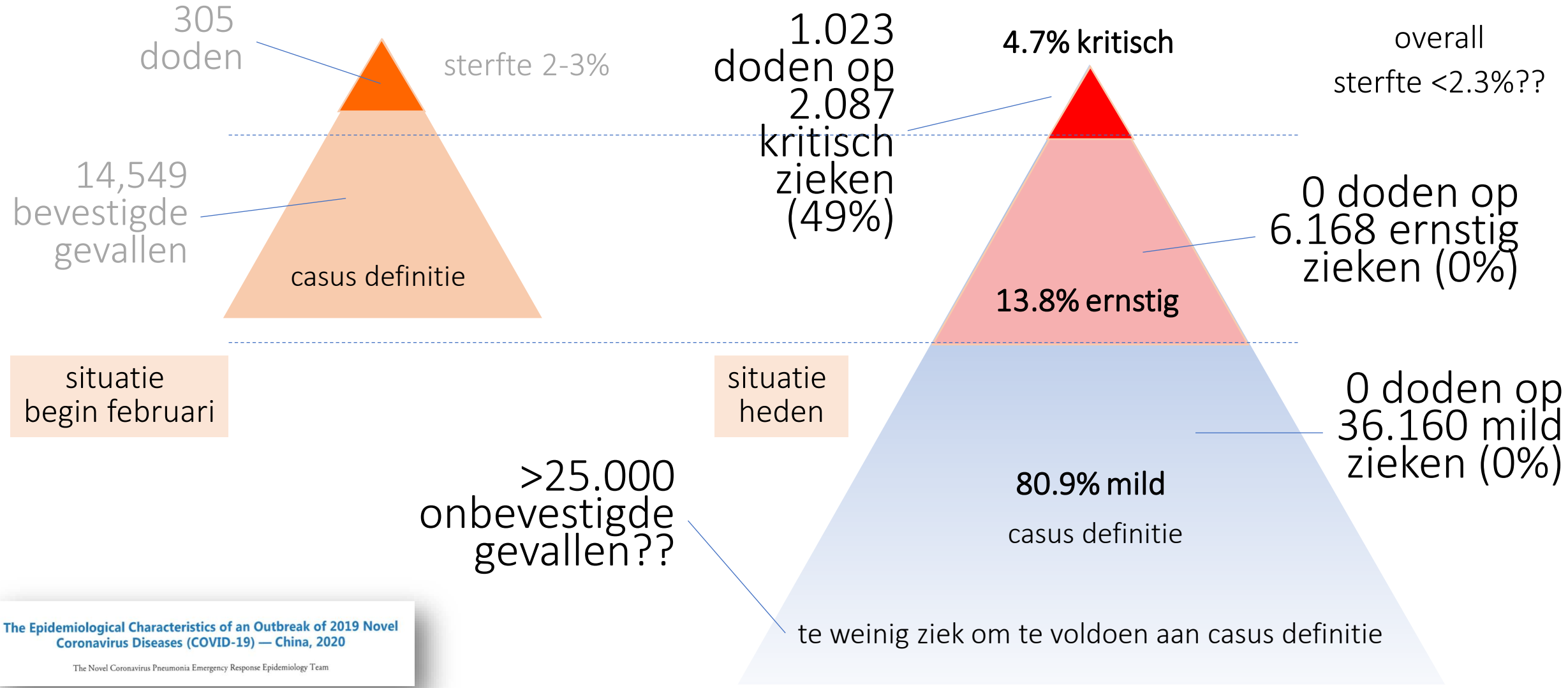
nCoV – Wuhan december 2019/januari 2020

epidemiologische gegevens over alle (?) patienten tot 11 februari jl.



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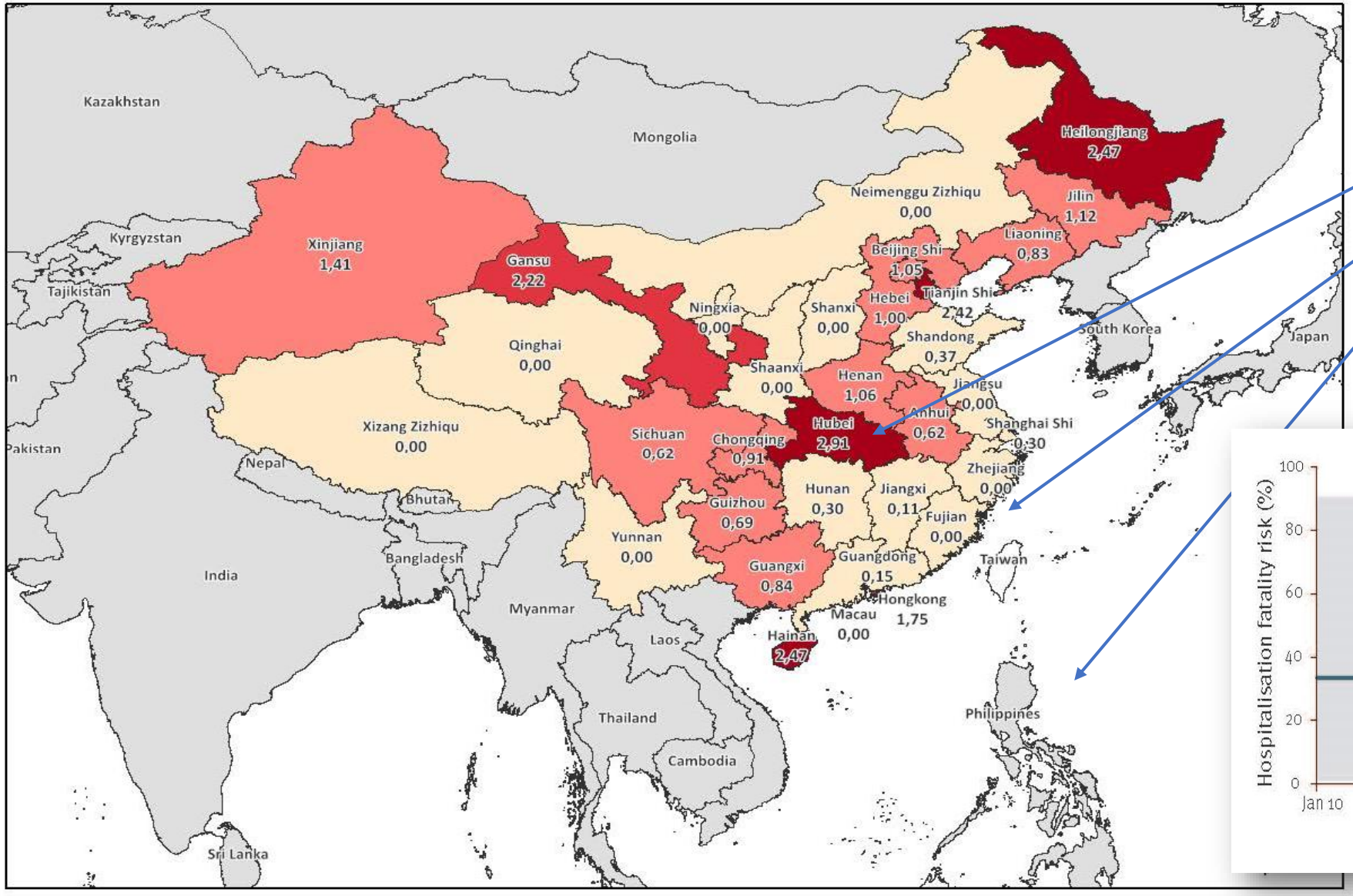
nCoV – Wuhan december 2019/januari 2020

case fatality rate in Hubei en daarbuiten

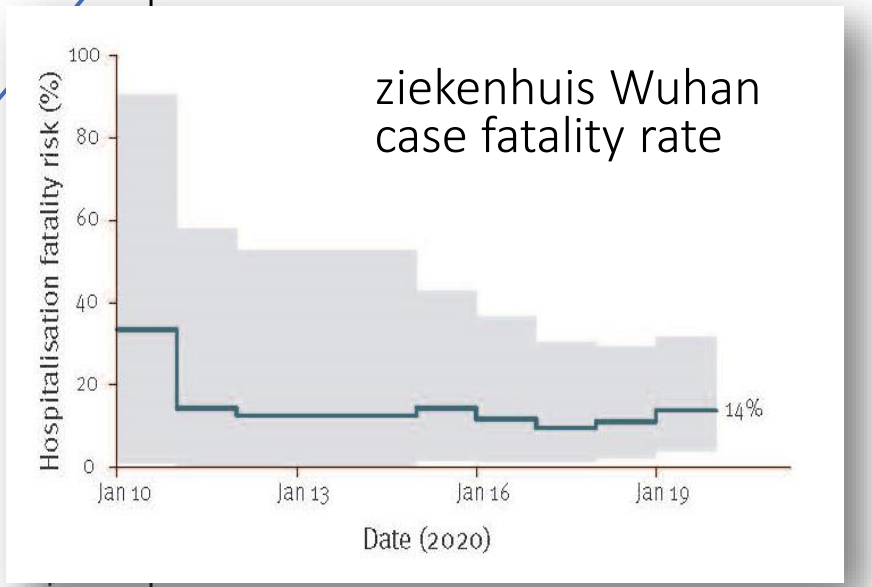


Case fatality rate:

Hubei 2.91%

Rest China 0.71%

Buiten China 0.40%



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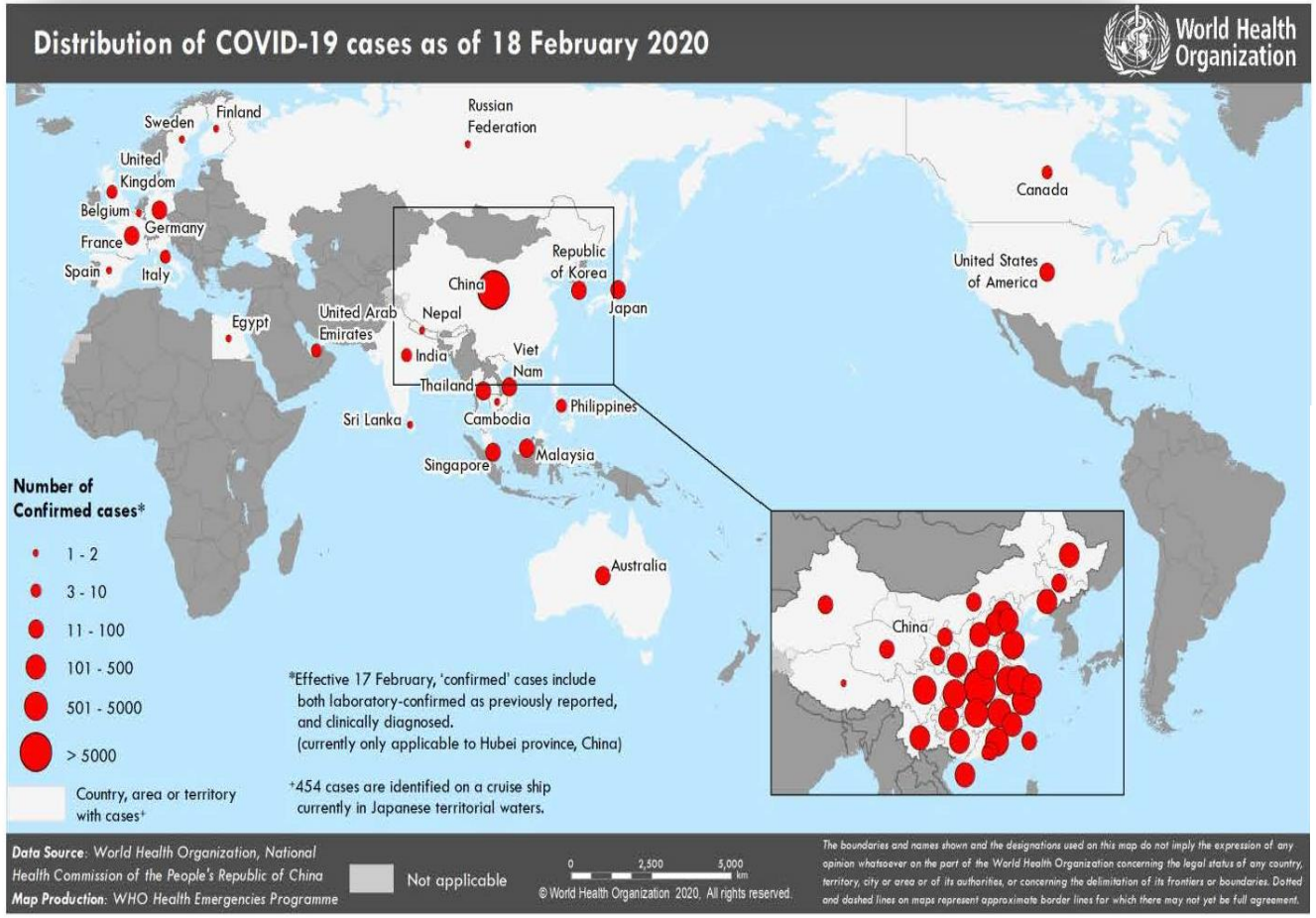
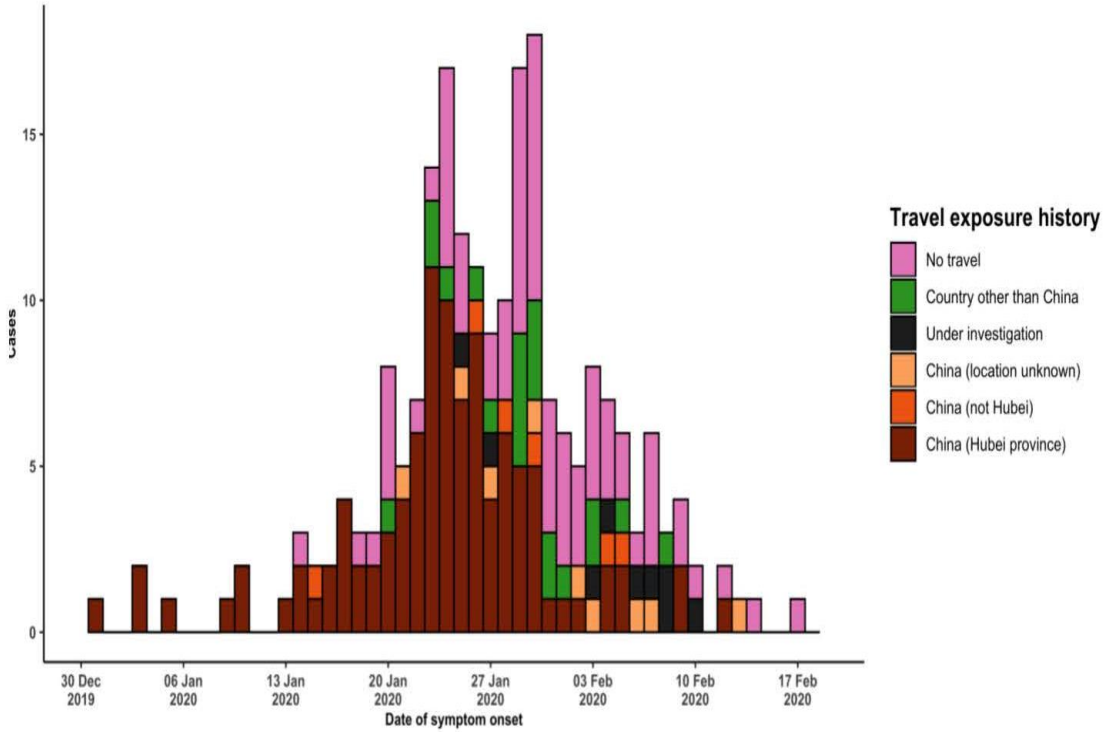
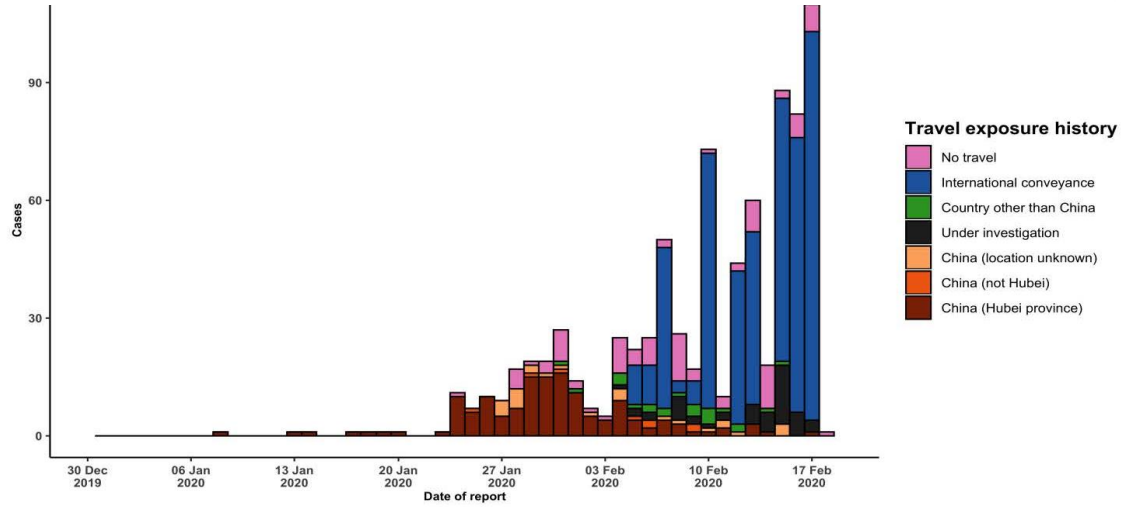
nCoV – Wuhan coronavirus
internationaal

Coronavirus disease 2019 (COVID-19)
Situation Report – 29
World Health Organization
Data as reported by 18 February 2020*



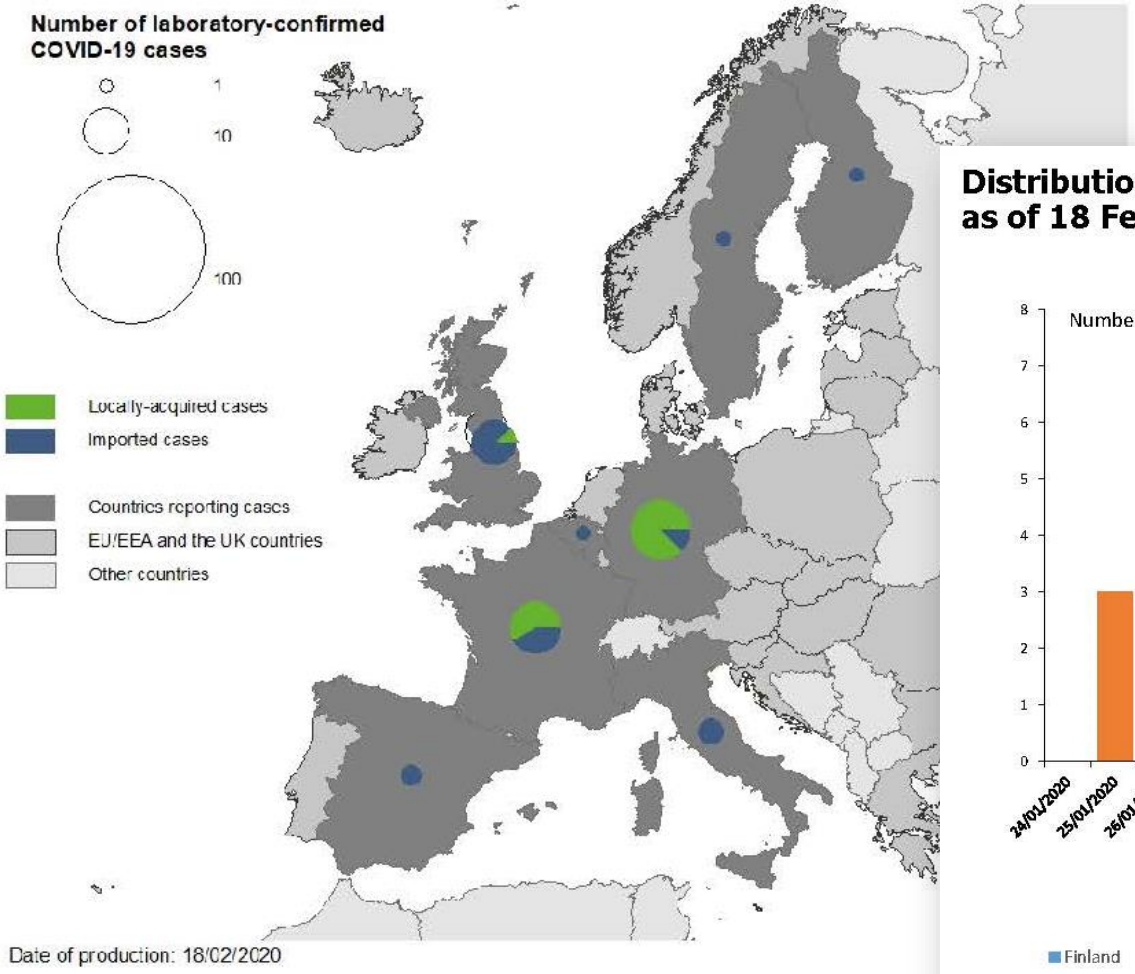




nCoV – Wuhan december 2019/januari 2020

epidemiologische gegevens Europa en VK

Geographical distribution of laboratory-confirmed cases of COVID-19 in the EU/EEA and the UK, as of 18 February 2020



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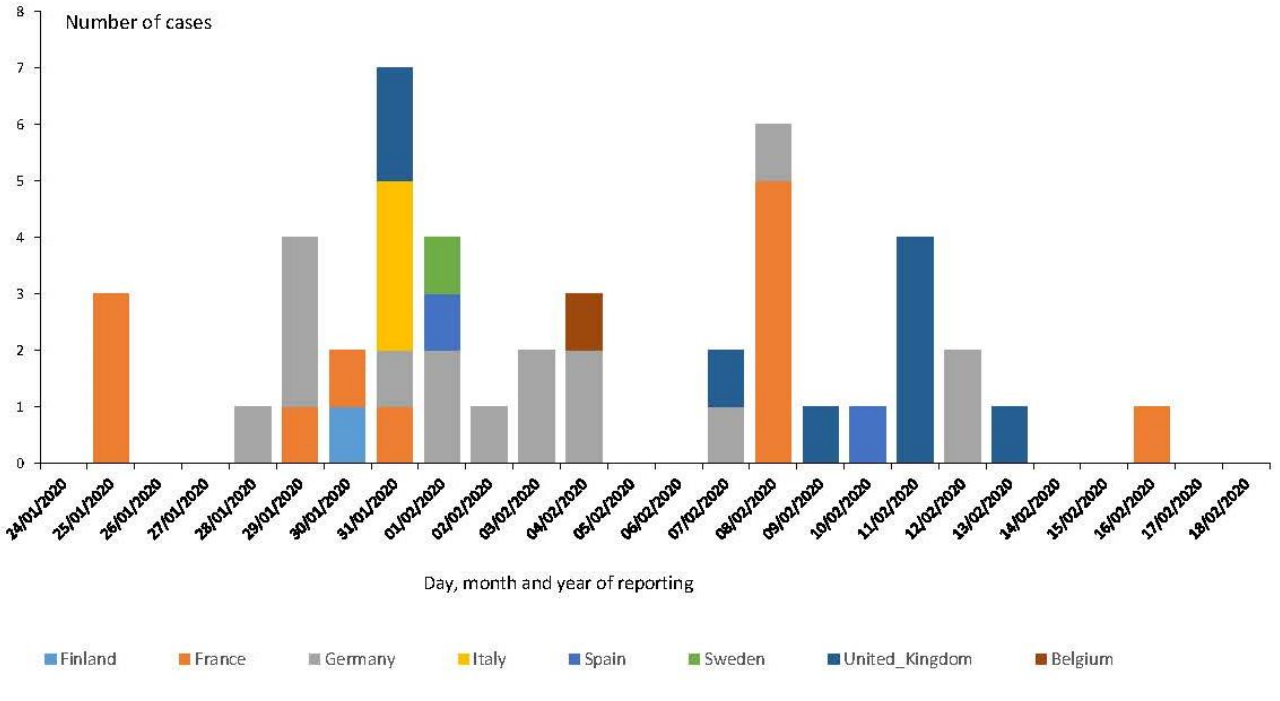


nCoV – Wuhan december 2019/januari 2020

mogelijke interventies – allen weinig effectief in publieke domein!?

1. Personal protective measures	2. Social distancing measures	3. Environmental controls	4. Travel-related measures
Hand hygiene	Isolation of ill	Surface cleaning	Travel advice
Respiratory etiquette	Quarantine of exposed	Ventilation	Border ...sures
Facemasks	School closures		...y and exit ...creening
Respirators	Workplace measures		Domestic travel restrictions
Other PPE	Mass gathe... measures		

information

Individual → Population

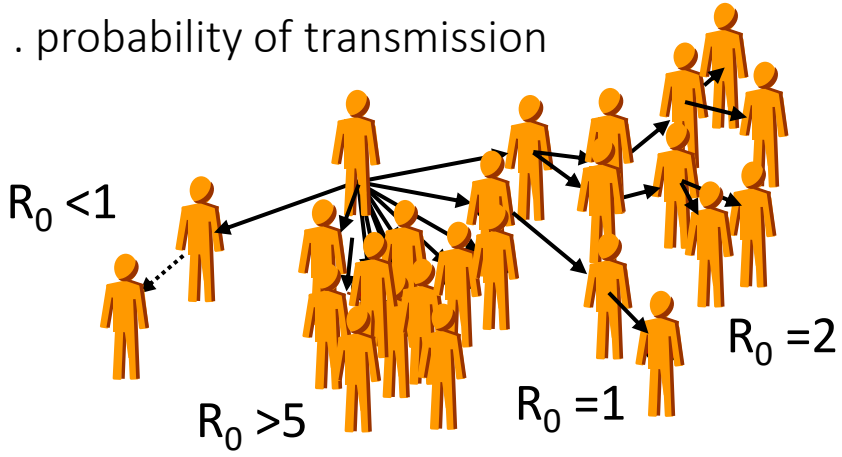
Wuhan nCoV – wat bepaalt verdere verspreiding?

verspreiding
via druppel en contact
1.5-2.0 meter

verspreiding
via aerosol
10-30 meter

Infection chain | reproductive number R_0

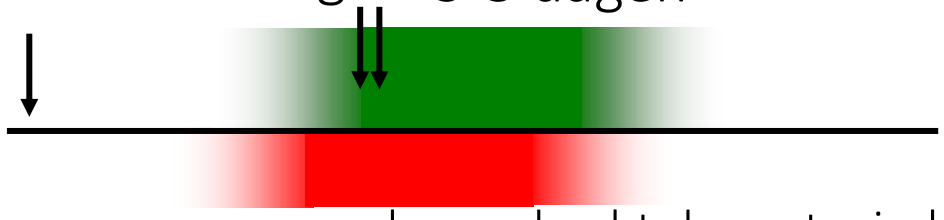
R_o = duration of infectiousness . contact rate . probability of transmission



virale load

1-3 dagen 3-5 dagen

Influenza



R_0 1-2

ook overdracht door atypische en asymptomatische gevallen !!

2-10 dagen 20-40 dagen

SARS

R_0 2-3

symptomen – duur

besmettelijkheid

isolatie

nCoV – Wuhan december 2019/januari 2020

verspreiding, entry-screening en neus-keel swabs

The NEW ENGLAND JOURNAL of MEDICINE

CORRESPONDENCE

Evidence of SARS-CoV-2 Infection in Returning Travelers from Wuhan, China

voorspellende waarde van uitslag keelswab?

interpretatie onzeker – onderzoek gewenst

- (fout-)positieven
  - hoelang positief?
  - wordt iedereen ook ziek – neen!
  - besmettelijkheid?
- (fout-)negatieven
  - neus/keel ≠ diep in long
  - sample error

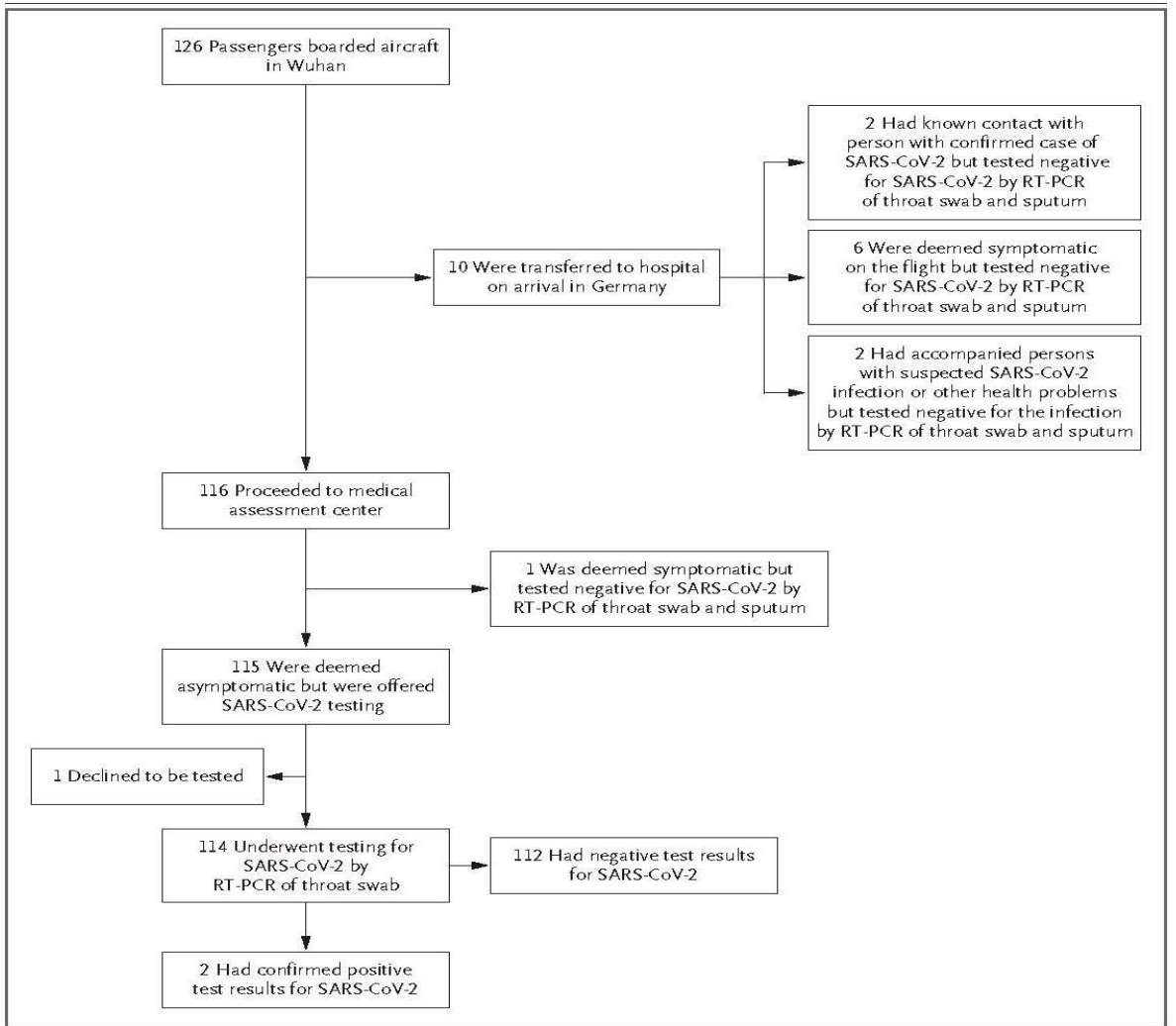
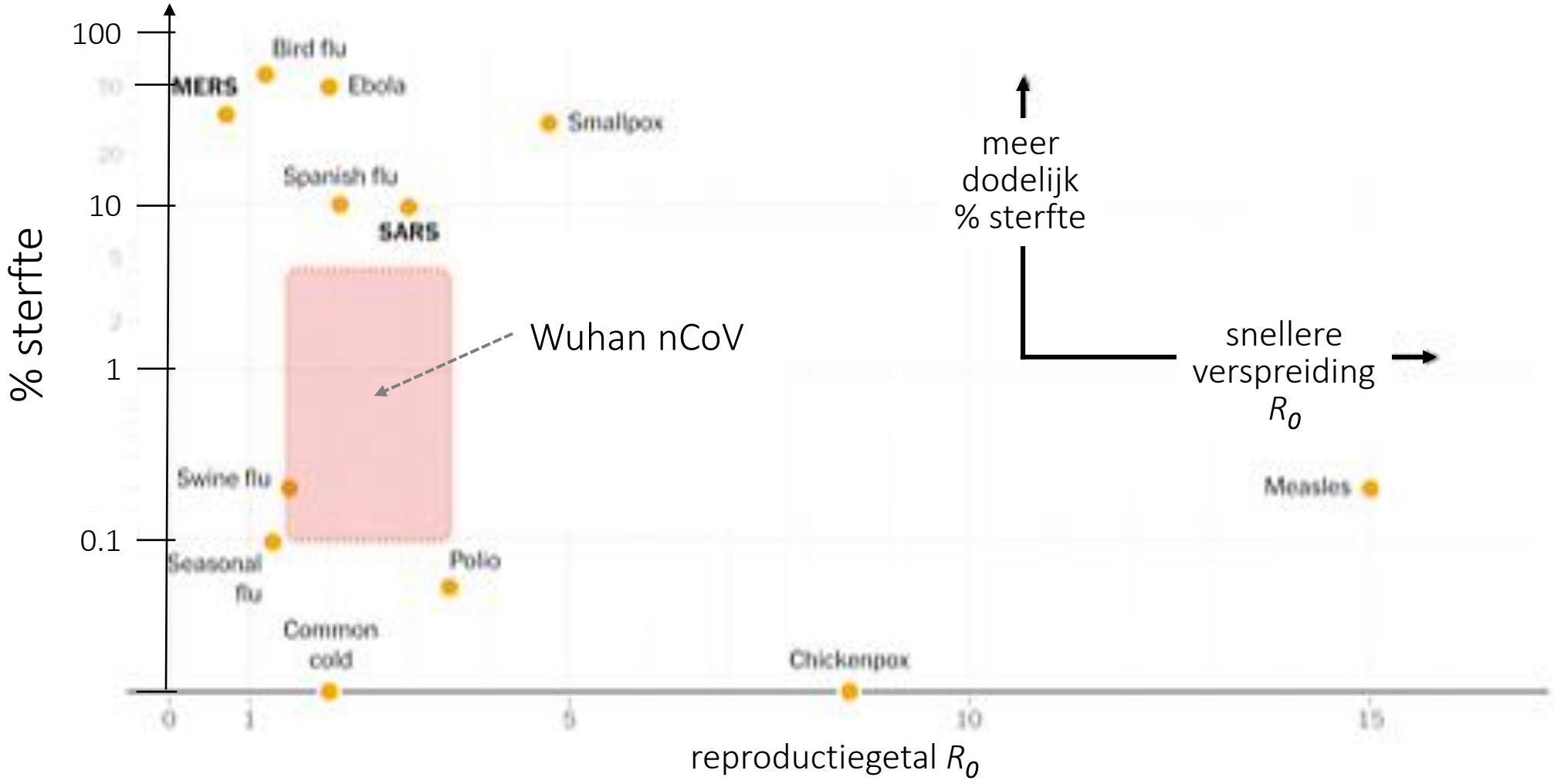


Figure 1. Evaluation and Testing of Passengers.
Passengers were evaluated to detect infection with the novel coronavirus (SARS-CoV-2) after their flight from Wuhan, China, to Frankfurt, Germany. All tests were targeted to detect SARS-CoV-2.

Wuhan nCoV – wat bepaalt verdere verspreiding?



Note: Average case-fatality rates and transmission numbers are shown. Estimates of case-fatality rates can vary, and numbers for the new coronavirus are preliminary estimates.

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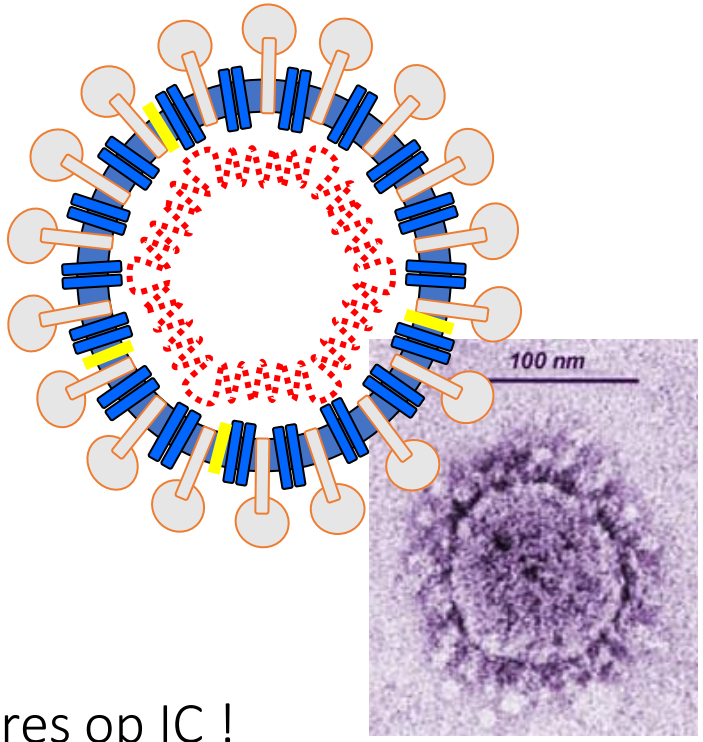

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