

BİR PANDEMİ, İNSAN, VİRUS VE YERKÜRE



esin
şenol

EVERYTHING IS ALIVE EVERYTHING IS INTERRELATED

Cicero 106BC

Antonie van Leeuwenhoek



Antonie van Leeuwenhoek

Doğum

24 Ekim 1632

Delft, Hollanda

Ölüm

26 Ağustos 1723

>330 yıldır biliyoruz, ama “biyom” un genetik tanımlanması≈7 yıldır

Clinical Infectious Diseases 2008; 46:155–64

DÜNYADA 100 MİLYON CANLI
TÜRÜ İLE BİRLİKTE YAŞIYORUZ

Table 1. Microbes versus humans.

Variable	Microbes	Humans	Factor
No. on earth	5×10^{31}	6×10^9	$\sim 10^{22}$
Mass, metric tons	5×10^{16}	3×10^8	$\sim 10^8$
Generation time	30 min	30 years	$\sim 5 \times 10^5$
Time on earth, years	3.5×10^9	4×10^6	$\sim 10^3$

BİZ YILDIZ TOZU DEĞİL MİKROP TOZUYUZ





A Microbial Anthropologist in the
Jungle

Maria Gloria Dominguez-Bello

MODERN İMMUN VE METABOLİK HASTALIKLARIN- MİKROBİYEL TEMELİNİ ANLAMAK İÇİN

- ❑ ANTROPOLOJİ
- ❑ EKOLOJİ
- ❑ EVRİMSEL ÇALIŞMALAR

- ✓ **SOLUCANDAN DAHA KÜÇÜK**
- ✓ **BARSAK, AĞIZ, CİLT, VAJEN**
- ✓ **ÇOĞU İYİ BAZILARI KÖTÜ**
- ✓ **HALA FONKSİYONLARINI
BİLMİYORUZ**

SON SÖZÜ MİKROPLAR SÖYLEYECEKTİR

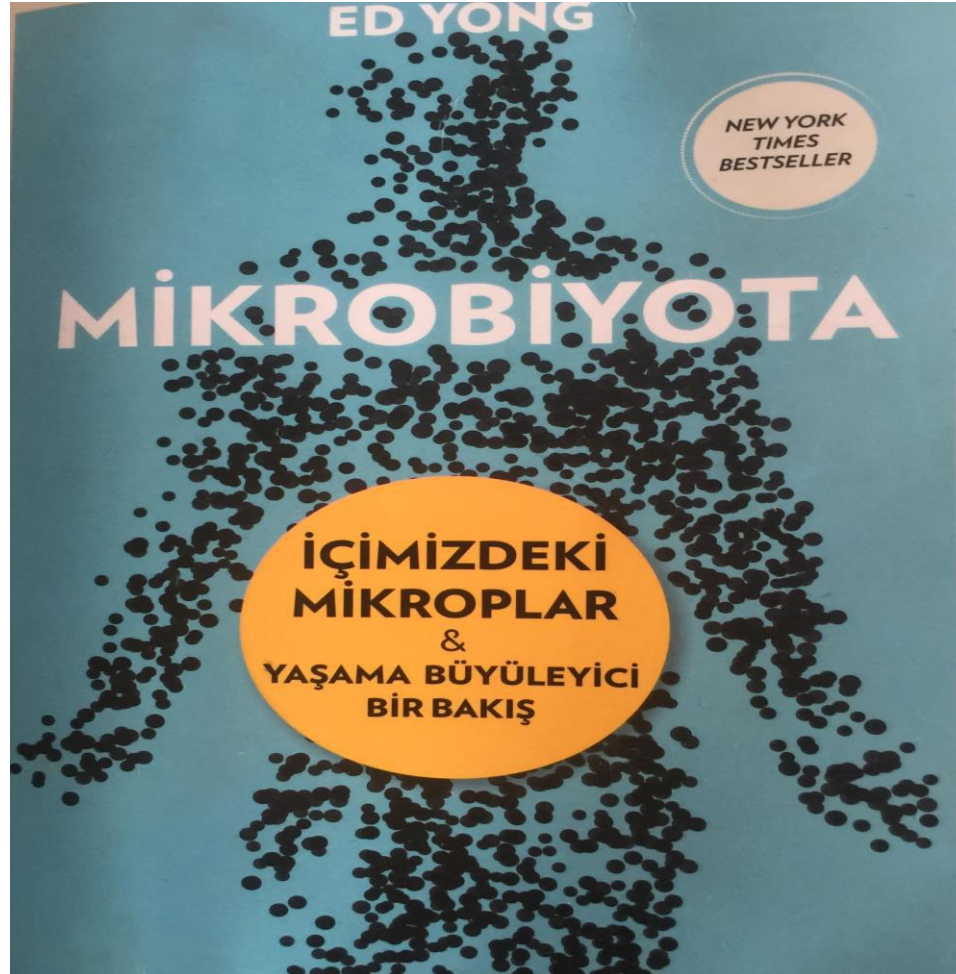


Quorum sensing: the many languages of bacteria

Nicola C. Reading & Vanessa Sperandio

DÜNYADA HER ŞEYİN HER ORGANİZMANIN KENDİ «MİKROBİYOM» U VAR

ONLARI GÖZ ARDI
ETMEK HAYATA
ANAHTAR
DELİĞİNDEN
BAKMAK GİBİDİR

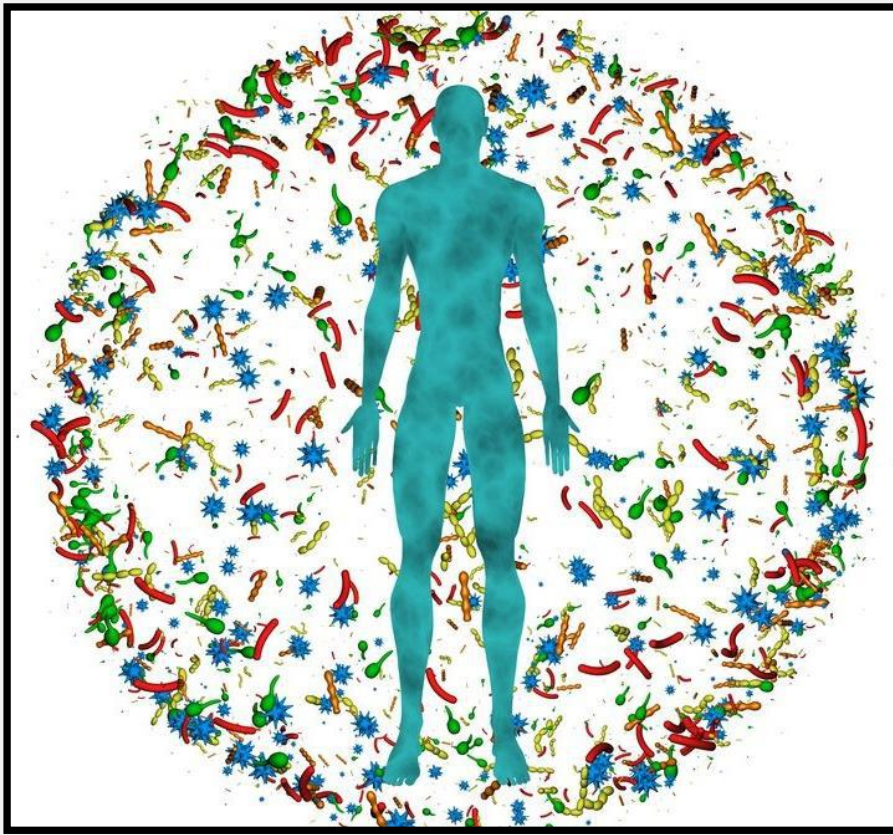


TEK
BAŞINAYKEN
BİLE YALNIZ
DEĞİLİZ

İÇİMİZDE
TRİLYONLAR
YAŞIYOR

HER MİKROORGANİZMA TOPLULUĞU , BİYOLOJİK VE BİYOLOJİK OLMAYAN FİLTRELERDEN GEÇMİŞ «BÖLGESEL BİR TÜRLER HAVUZU»





Mikrobiyota :

Bireylerin / Canlıların
simbiyotik ilişki geliştirdiği
bakteri, arkea, virus,
mantarların,
çok büyük sayılarından
oluşan kompleks
biyolojik topluluklar
 10^{14}

Mikrobiyom (total gen sayısı olarak alırsak):

Yalnızca bağırsaklarda ve bakterilerde: **3 milyon**

İnsanda ~ **20 bin**

Oransal olarak : **minimum 150 kat** daha fazla
'kendi dışımızdan' gen sahibiyiz

İNSAN GENOMUNDA≈
100.000VİRUS GENOM
PARÇASI

Mikrobiyota :>%70 bağırsaklarda yer alıyor
İmmün hücrelerin de ~%80'i bağırsaklarda

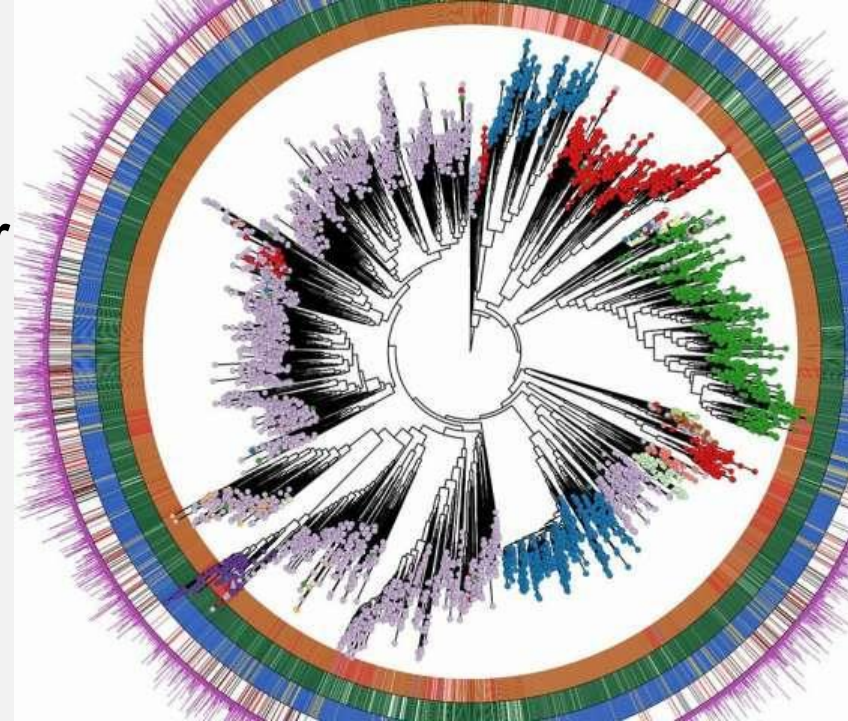
Simbiyoz

Mikrobiyota & İnsan simbiyozunun 'anlamı' :

- ❖ Besinlerin **sindirimi**
- ❖ **Vitamin** sentezi
- ❖ Kolonizasyon **direnci** (bariyer etkisi)
- ❖ **Epigenetik** deęişiklikler*
- ❖ **İmmün sistem gelişimi**
- ❖ Enterositler için doğrudan **enerji kaynağı**

<https://phys.org/>

→ **İnsan için** önemli bir:
sağkalım avantajı oluşturmıştır



«*Philosophers and theologians regard humans as the crown of creation, but to the microbes we are no more – and no less – than the proverbial free lunch*».

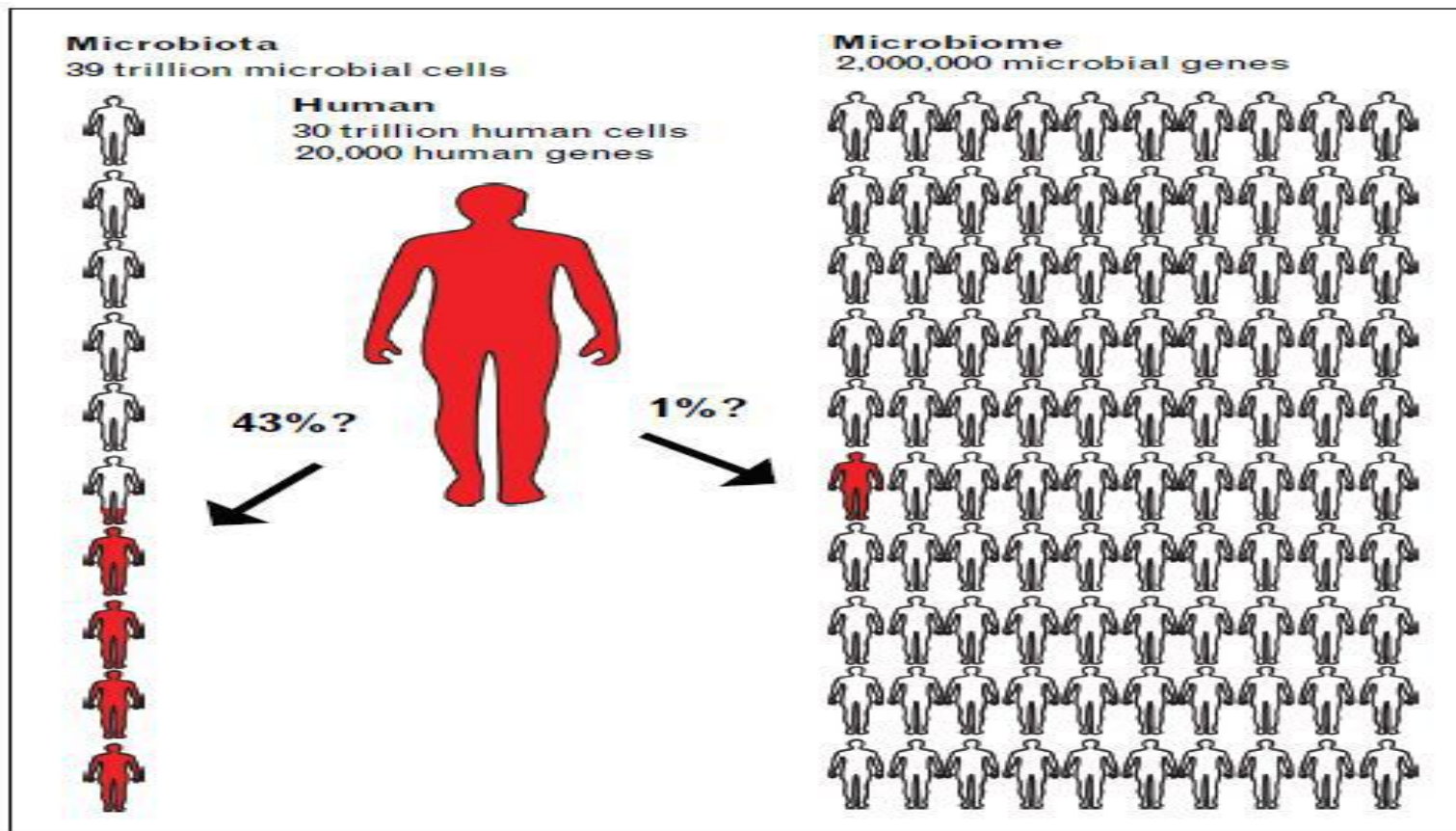


FIGURE 1. Ratio of microbial to human cells and genes in human body.

50 BİN VERTEBRALİ TÜRÜ VAR
20 VİRUS/TÜR:1 MİLYON VİRUS
1500 İNSAN PATOJENİNİN: %60 ZOONOZ
 10^{31} VİRUS VAR $\approx$ 100 MİLYON IŞIK YILI

PANDEMIC POTENTIAL



Zoonozlar



- 1500 insan patojenin %60'ı zoonoz
- Yeni viral infeksiyonların >%70'i zoonoz
 - HIV, KKA, Ebola, SARS, MERScov, Zika, 2019-nCoV...
- 50.000 vertebralı tür var, 20 virus/tür, yaklaşık 1.000.000 virus
- İnsanoğlunun doğada yaptığı değişiklikler etkili
 - Vahşi hayvan habitatının kaybı, vahşi hayvan eti tüketimi, küresel ısınma

2000'den itibaren Yeni Virüsler

2001	Metapnömovirus
2003	Maymun çiçeği
2003	SARS
2004	Bocavirus
2008	Merkelcell polyoma virus
2009	İnfluenza H1N1
2012	MERS-CoV
2013	H7N9
2015	H5N6
2019	2019-nCoV

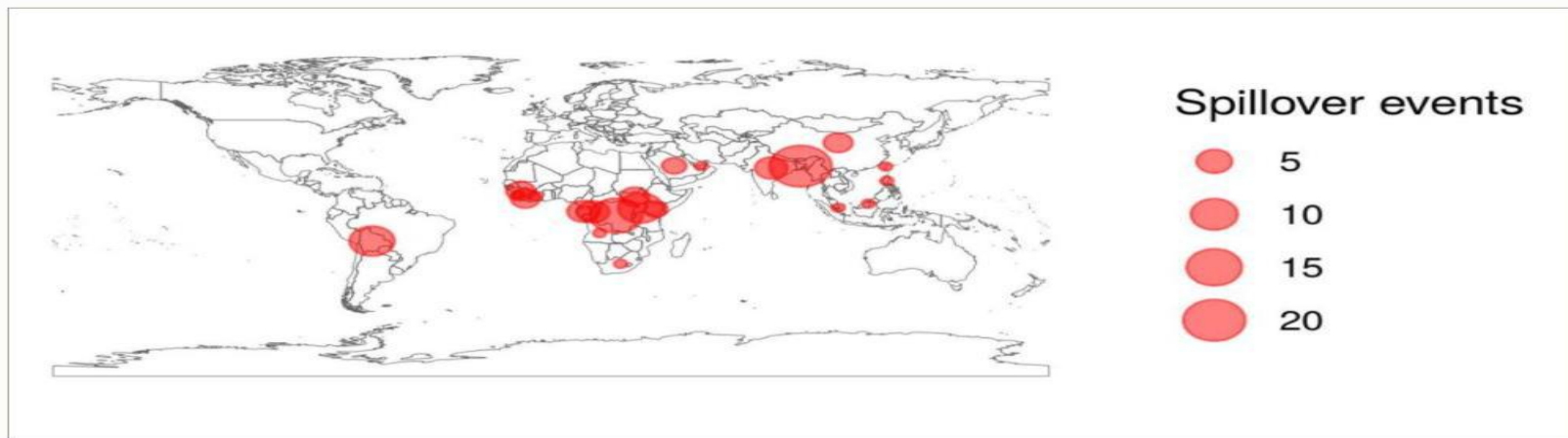


Portrait of David Quammen in the backcountry of Yellowstone National Park. Image courtesy of Ronan Donovan

In 2012, author David Quammen wrote a book, *Spillover: Animal Infections and the Next Human Pandemic*, that was the result of five years of research on scientists who were looking into the possibility of another Ebola-type disease emerging. The consensus: There would indeed be a new disease, likely from the coronavirus family, coming out of a bat, and it would likely emerge in or around a wet market in China.

But what was not predictable was how unprepared we would be. In this interview, the *Bulletin's* Dan Drollette Jr talks with the author, who lives in Bozeman, Montana, about what drew him to this topic, the nature of new viruses, why more are expected to emerge, and what makes some viruses more likely to infect humans than others. Quammen also talks a little about his next book (still untitled, but about the coronavirus). He cautions against being overly optimistic about the development of a vaccine, saying the coronavirus that causes COVID-19 will likely be around in some form for generations: "This virus is never going to be gone."

Figure 2. Geographic distribution of 88 reported spillover events since 1960



Source: Metabiota, Human Epidemic Database, 2021. (For a description of the approach to epidemiological data collection and structuring, see [here](#).)

Çin'deki "WET MARKET"



Improvised table for cutting meat

Live frogs for sale

Fish and frog remains

Frog being slaughtered for client

Nylon industrial gloves

Unwashed buckets

Dirty scale



Albrecht Durer, Mahşerin Dört Atlısı
SAVAŞ SALGIN KITLIK ÖLÜM



**„Sana attığım email'i
almadın mı?**



Çin'de ;15 ilde yaklaşık 60 milyon kişi karantina altında



COVID-19: Tears, hugs and laughter at Sydney airport as Australia reopens border

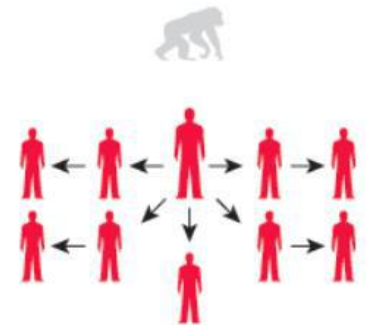
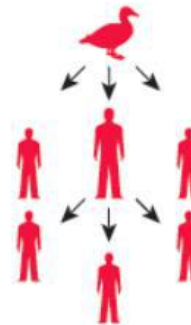
The new freedoms mean that fully vaccinated Australian permanent residents and citizens can leave the country without asking the government for an exemption from a travel ban that has trapped most at home since March 2020.

🕒 Monday 1 November 2021 09:06, UK



EMERGING THREATS

The size and severity of disease outbreaks depends on where the causal agent sits in an evolutionary spectrum, ranging from animal viruses that have yet to leap to humans, to pathogens that have evolved to spread easily between humans.



1. Animals only
Potential threats, including pathogens from families that have caused human disease in the past.

Examples:
poxviruses, paramyxoviruses.

2. Limited spread
Pathogens that pass from animals to humans but do not spread further.

Examples:
H5N1 flu, Nipah, rabies.

3. Small outbreaks
Pathogens that spill over and then spread between just a few people.

Examples:
MERS, Marburg.

4. Large outbreaks and epidemics
Pathogens that spill over into large numbers of people, or spread between many people.

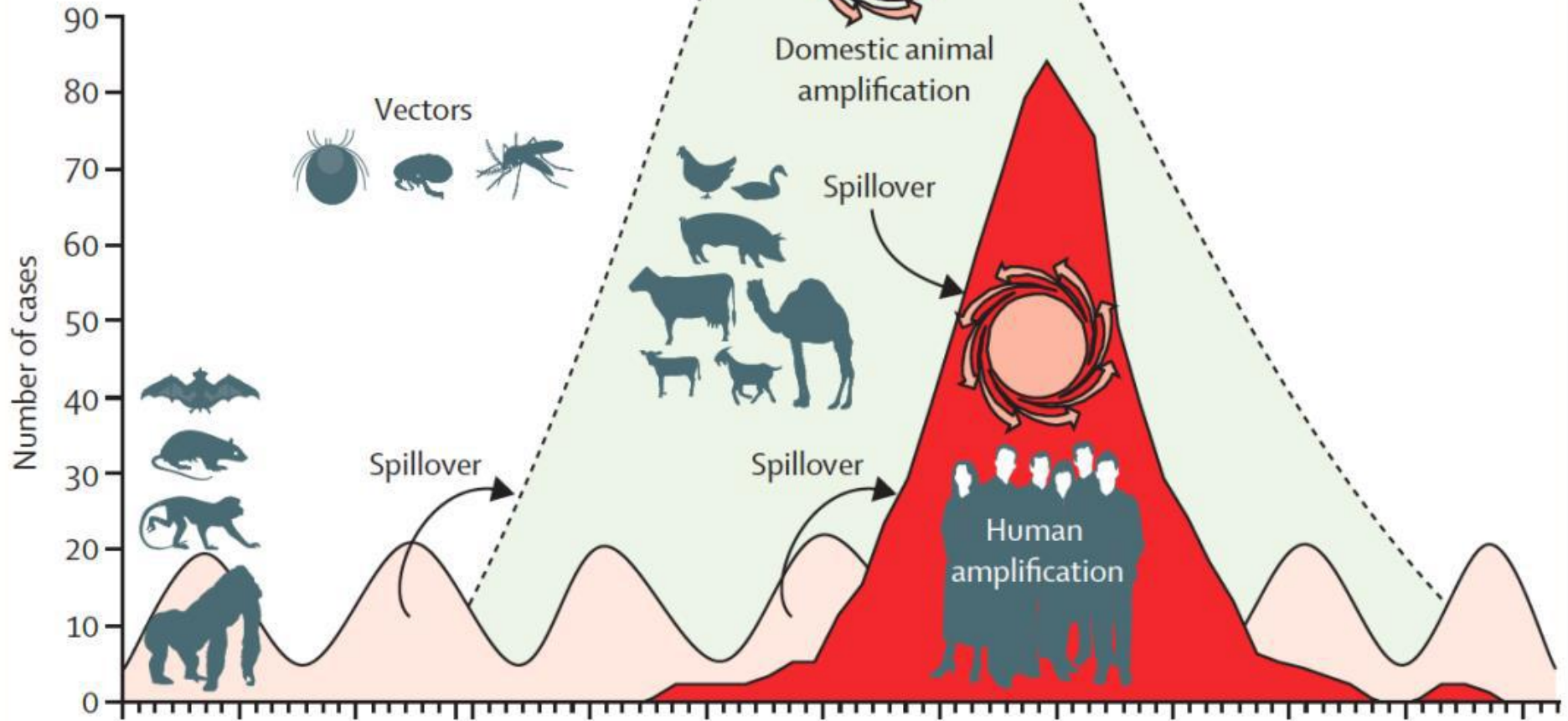
Examples:
Chagas disease, cholera, Ebola.

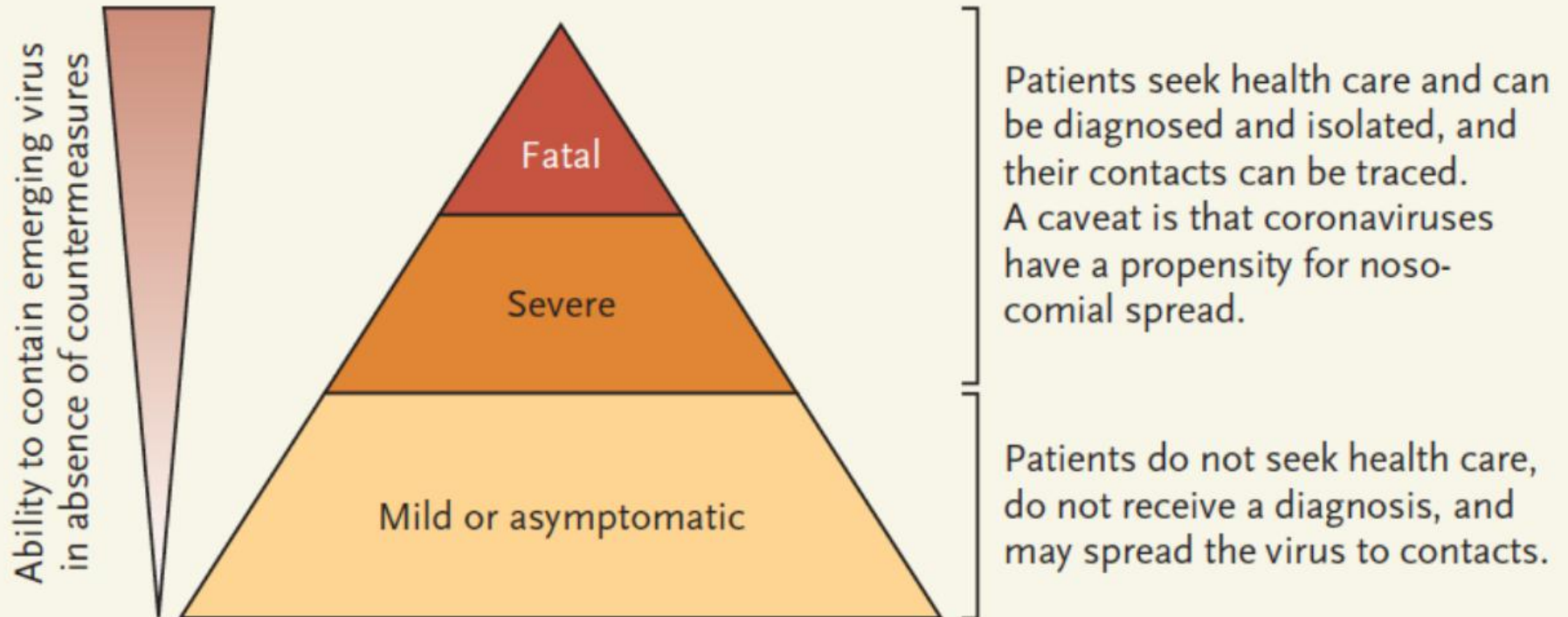
5. Human only
Animal pathogens that have evolved to become human viruses.

Examples:
HIV/AIDS, measles, tuberculosis.

A

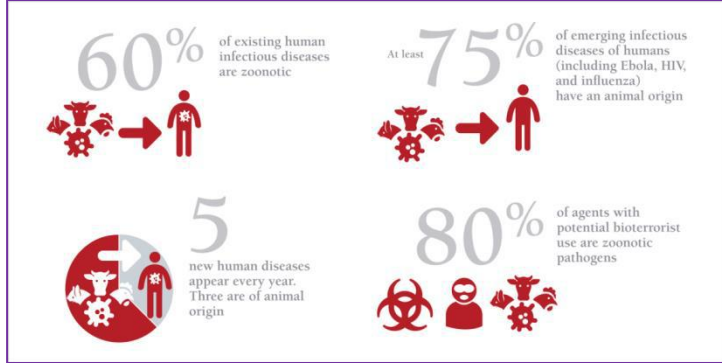
- Wild animal cases
- Domestic animal cases
- Human cases





TEK SAĞLIK Yaklaşımı:

İnsan, hayvan ve çevre sağlığı bir arada ele alınmalı



- İnsanlardaki enfeksiyon hastalıklarının %60'ı zoonotik yani hayvan hastalıkları ile ilişkili
- Yeni ortaya çıkan enfeksiyon hastalıklarının %75'i zoonotik
- Yılda ortalama 3 tane hayvanlarla ilişkili YENİ HASTALIK ortaya çıkıyor

2019-nCoV Hastalarının Özellikleri

Patients (n=99)

Age, years	
Mean (SD)	55.5 (13.1)
Range	21-82
≤39	10 (10%)
40-49	22 (22%)
50-59	30 (30%)
60-69	
≥70	

Sex	
Female	
Male	

Occupation	
Agricultural worker	
Self-employed	
Employee	
Retired	

Exposure to Huanan seafood market*	49 (49%)
Long-term exposure history	47 (47%)
Short-term exposure history	2 (2%)

Chronic medical illness	50 (51%)
Cardiovascular and cerebrovascular diseases	40 (40%)
Digestive system disease	11 (11%)
Endocrine system disease†	13 (13%)
Malignant tumour	1 (1%)

Yaş ortalaması 55

%68 erkek

%49'u hayvan pazarında bulunmuş

%51'inde komorbidite var

%23'ünde YBÜ gerekmiş

%11'i ölmüş

2019-nCoV Hastalarının Özellikleri

Case 1

1A First chest x-ray

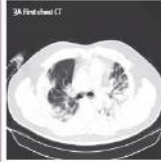


1B Second chest x-ray



Case 2

2A First chest CT

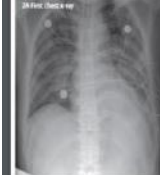


2B Second chest CT



Case 3

3A First chest x-ray

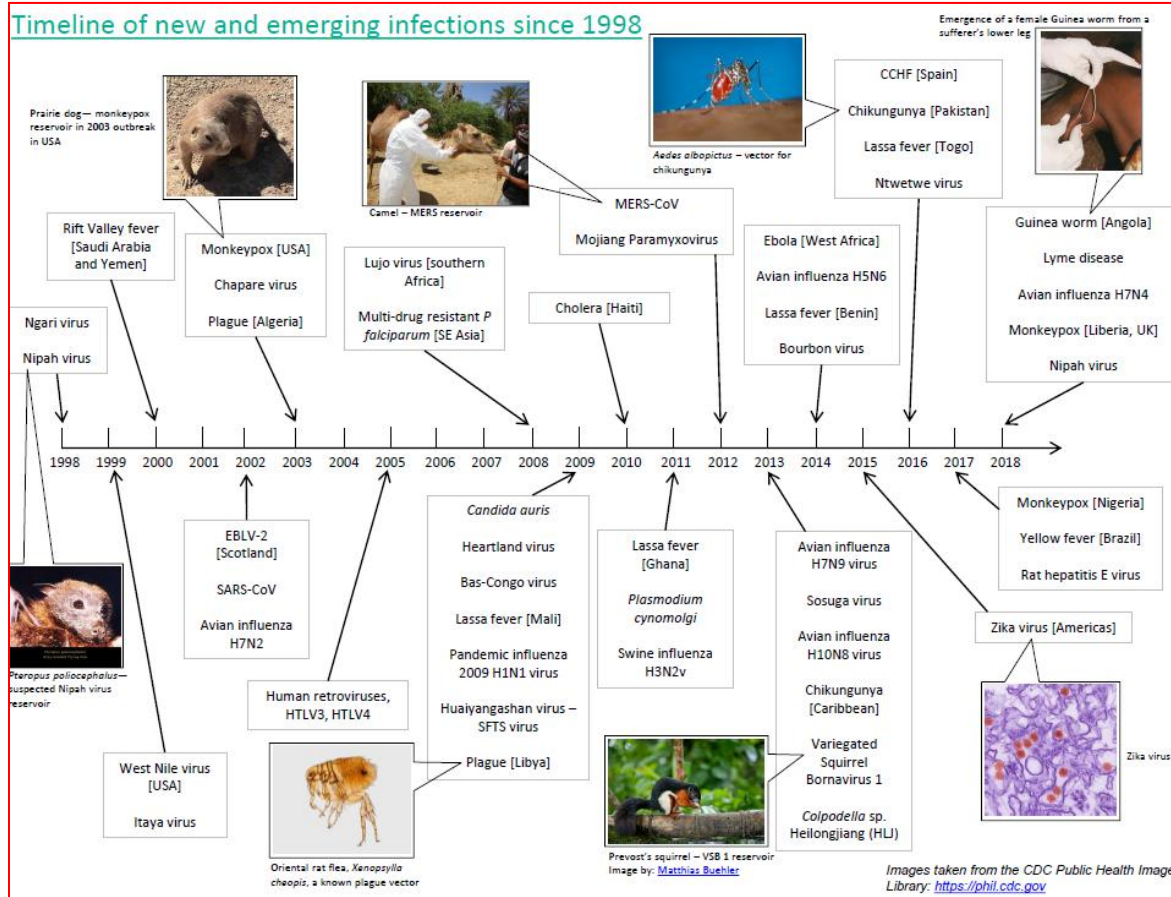


3B Second chest x-ray



Olgu 1: AC gölgeleri difüz olarak azalmış
Olgu 2: Yamalı infiltrasyonlar ve buzlu cam
Olgu 3: Bilateral dens infiltrasyonlar

Yeni ve Yeniden Ortaya Çıkan Enfeksiyonlar



SARS-CoV-2 emergence very likely resulted from at least two zoonotic events,
<https://t.co/VR4NfmZmDC>

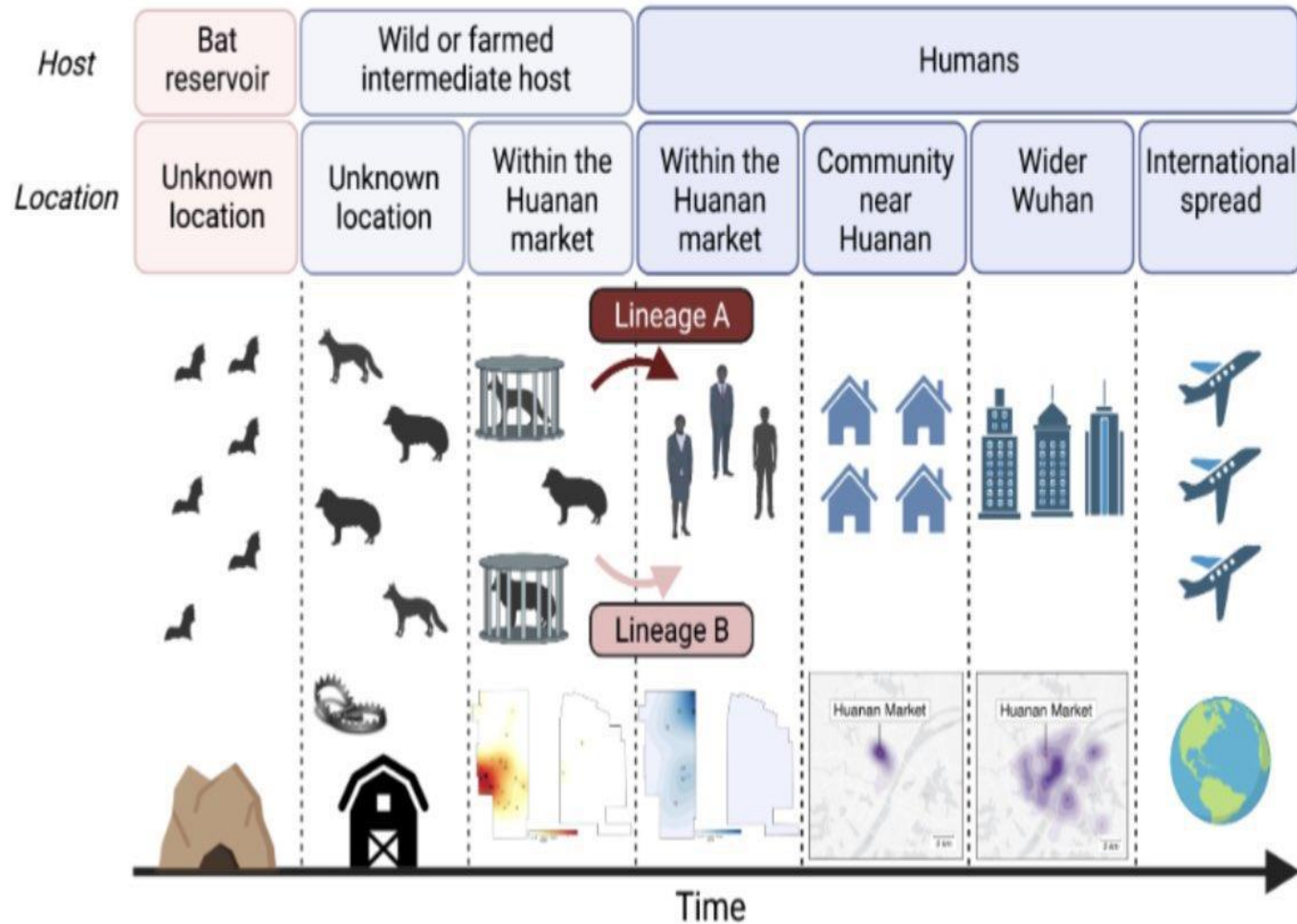


Table 2. Live mammals traded at the Huanan market, November and December 2019

Species (Susceptibility*)	Family (Susceptibility*)	Order (Susceptibility*)	Observed at Huanan market November 2019
Raccoon dog (<i>Nyctereutes procyonoides</i>) (Y)	Canidae (Y)	Carnivora (Y)	Y
Amur hedgehog (<i>Erinaceus amurensis</i>)	Erinaceidae	Eulipotyphla	Y
Hog badger (<i>Arctonyx albogularis</i>) (Y)	Mustelidae (Y)	Carnivora (Y)	Y
Asian badger (<i>Meles leucurus</i>)	Mustelidae (Y)	Carnivora (Y)	Y
Chinese hare (<i>Lepus sinensis</i>)	Leporidae (Y)	Lagomorpha (Y)	Y
Chinese bamboo rat (<i>Rhizomys sinensis</i>) (Y)	Spalacidae (Y)	Rodentia (Y)	Y
Malayan porcupine (<i>Hystrix brachyura</i>)	Hystriidae	Rodentia (Y)	Y
Chinese muntjac (<i>Muntiacus reevesi</i>)	Cervidae (Y)	Artiodactyla (Y)	Y
Marmot (<i>Marmota himalayana</i>)	Sciuridae	Rodentia (Y)	Y
Red fox (<i>Vulpes vulpes</i>) (Y)	Canidae (Y)	Carnivora (Y)	Y
Siberian weasel (<i>Mustela sibirica</i>)	Mustelidae (Y)	Carnivora (Y)	N****
Pallas's squirrel (<i>Callosciurus erythraeus</i>)	Sciuridae	Rodentia (Y)	N
Masked palm civet (<i>Paguma larvata</i>) (Y)	Viverridae (Y)	Carnivora (Y)	N

HAVAYOLLARI AĞI



Table 4: Top 10 passenger destination cities from Guangzhou, China, between February through April, 2019, inclusive, and corresponding Infectious Disease Vulnerability Index (IDVI) value for destination countries.

Destination city	Destination province / state	Destination country	IDVI	Direct volume**	Total volume**
Bangkok	Bangkok Metropolis	Thailand	0.711	164,665	165,896
Singapore	Singapore	Singapore	0.878	73,706	77,045
Seoul	Seoul	Korea (South)	0.879	75,814	76,903
Tokyo	Tokyo	Japan	0.926	67,675	69,787
Kuala Lumpur	WP Kuala Lumpur	Malaysia	0.761	61,010	64,026
Phnom Penh	Phnom Penh	Cambodia	0.355	60,934	63,412
Taipei	Taipei	Taiwan	0.710	55,521	56,259
Ho Chi Minh City	Ho Chi Minh City	Viet Nam	0.626	44,175	45,986
Manila	Manila	Philippines	0.545	41,154	44,700
Denpasar Bali	Bali	Indonesia	0.563	40,728	43,213
Kathmandu	Bagmati	Nepal	0.404	6,615	8,172
Tehran	Tehran	Iran	0.568	7,478	7,965
Rome	Lazio	Italy	0.822	4,912	7,682
Lagos	Lagos	Nigeria	0.271	0	7,564
Manado	Sulawesi Utara	Indonesia	0.563	7,112	7,123

*United Nations 2018 Revision of World Urbanization Prospects.

**Data from the International Air Travel Association (IATA), February through April, inclusive, 2019.

30 JAN 2020 , WUHAN
WHO-10.000 CASES, 213 DEATH
PUBLIC HEALTH EMERGENCY

The Atlantic

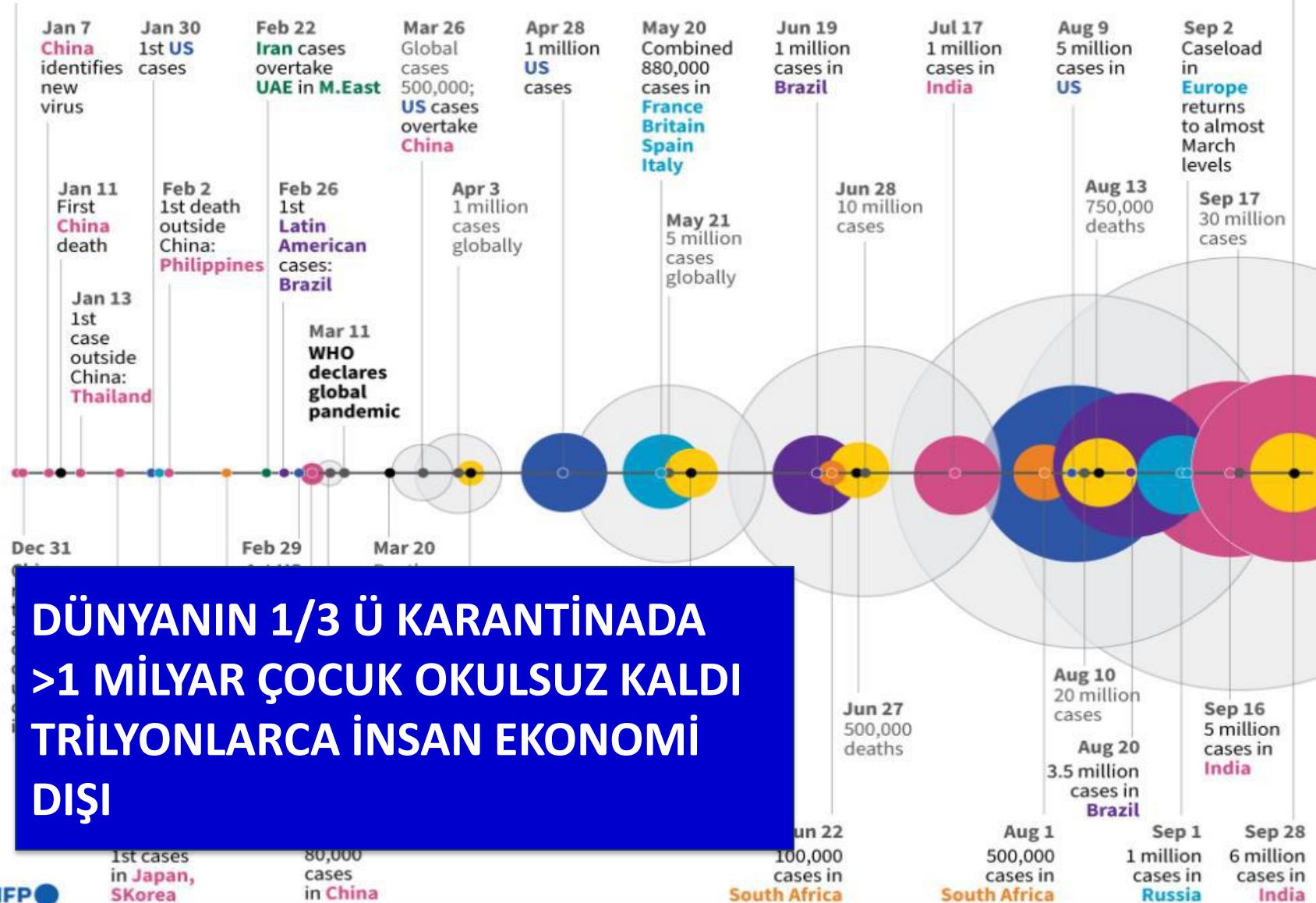


Covid-19 timeline: development of a pandemic

Dec 30, 2019

34 year old medic Li Wenliang posts message on WeChat alerting fellow doctors to a new disease at his hospital

Sep 28
1,000,000+ deaths



DÜNYANIN 1/3 Ü KARANTİNADA
>1 MİLYAR ÇOCUK OKULSUZ KALDI
TRİLYONLARCA İNSAN EKONOMİ
DIŞI

Dünya nüfusunun %40-70'i etkilenebilir!

DELTA –R:4-6 ; DEĞERİ İÇİN %60-80



Salgın 20-40 yař arasındakileri öldürdü



Alaska “Yetimleri”, 1919

İNFLUENZA PANDEMİLERİ



Yıl	Glikoprotein yapısı	Pandemi şiddeti	Ölüm
1889	H3N2	Orta	?
1918	H1N1 ("İspanyol")	Ağır	20-100 milyon
1957	H2N2 ("Asya")	Orta	1 milyon
1968	H3N2 ("Hong Kong")	Hafif	1 milyon
2009	H1N1	Hafif	+ 36.000



ESNEKLİK EN ÖNEMLİ GÜÇ !

Nazım Hikmet – Kuvayı Milliye Destanı 2. Bap

Yıl Yine 1919

Ve

İstanbul'un Hali

Ve

Erzurum Ve Sivas Kongreleri

Ve

Kambur Kerim'in Hikayesi

Biz ki İstanbul şehriyiz,

Seferberliği görmüşüz :

Kafkas, Galiciya, Çanakkale, Filistin,

vagon ticareti, tifüs ve İspanyol nezlesi

bir de İttihatçılar,

bir de uzun konçlu Alman çizmesi

914'ten 18'e kadar

yedi bitirdi bizi.

Mücevher gibi uzak ve erişilmezdi şeker

erimiş altın pahasında gazyağı

ve namuslu, çalışkan, fakir İstanbullular

sidiklerini yaktılar 5 numara lambalarında.

Yedikleri mısır koçıyanıydı ve arpa



"It kept people apart... You had no community life, you had no school life, you had no church life, you had nothing... People were afraid to kiss one another, people were afraid to eat with one another, they were afraid to have anything that made contact because that's how you got the flu... It destroyed those contacts and destroyed the intimacy that existed amongst people... There was an aura of constant fear that you lived through from getting up in the morning to going to bed at night."

—William Sandoz Jr., Washington, DC



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Yedikleri mısır koçıyanıydı ve arpa

Tao Porchon-Lynch: 101 yaş



With great sorrow and heavy hearts, letting you know that our beloved Tao passed away peacefully on February 21, 2020. As she would say, she is now dancing her way to the next planet.



THERE IS NOTHING YOU CANNOT DO.

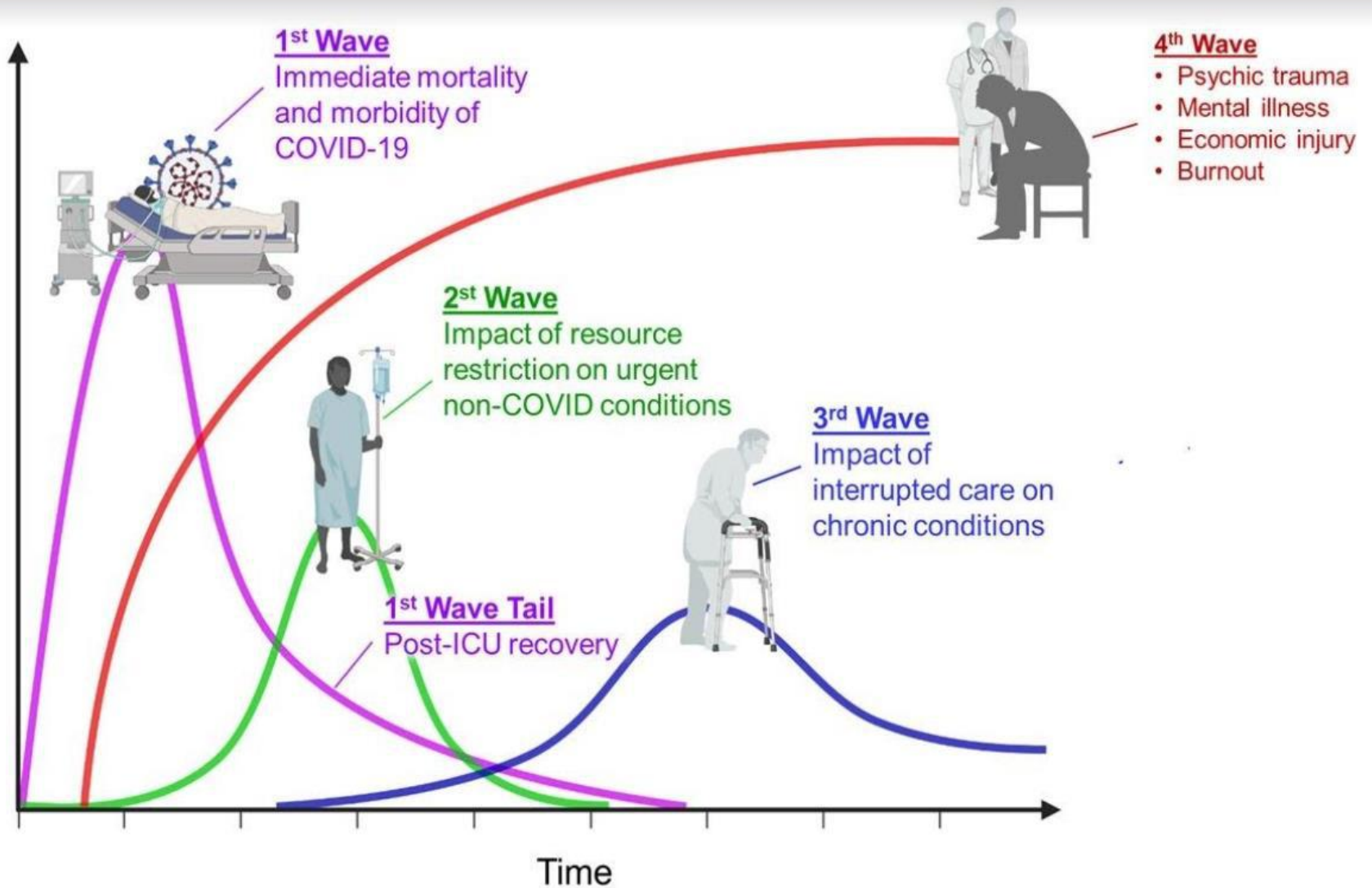




May Only the Birds Migrate



Health Footprint of Pandemic



THE YEAR AHEAD

HOLLYWOOD'S
NEW DIRECTION
BY JANICE MIN

AFTER TRUMP
BY MOLLY BALL

THE SOCIAL
MEDIA MILITIA
BY SIMON SHUSTER
& BILLY PERRIGO



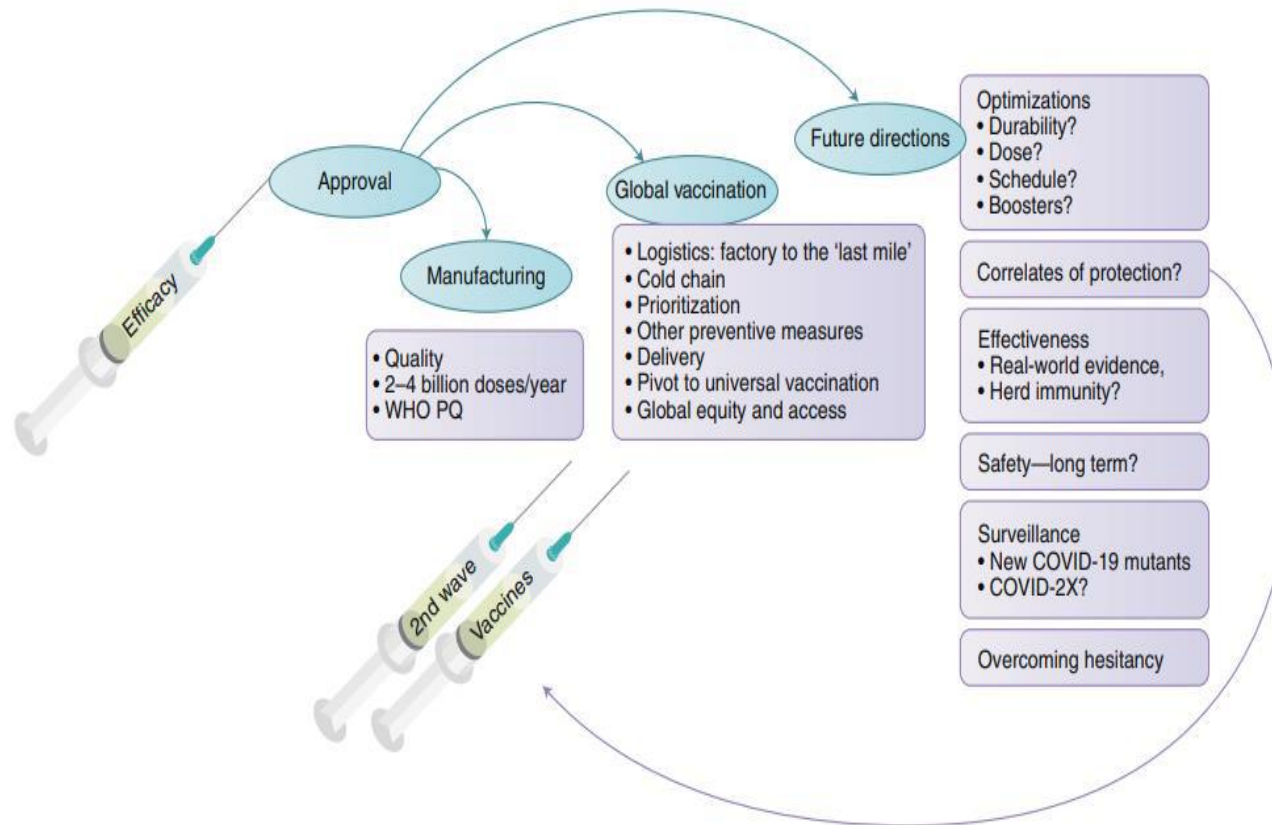
THE VACCINE REVOLUTION

BY WALTER ISAACSON

RACING TO BEAT THE VIRUS
BY ALICE PARK

PERSPECTIVE

NATURE MEDICINE



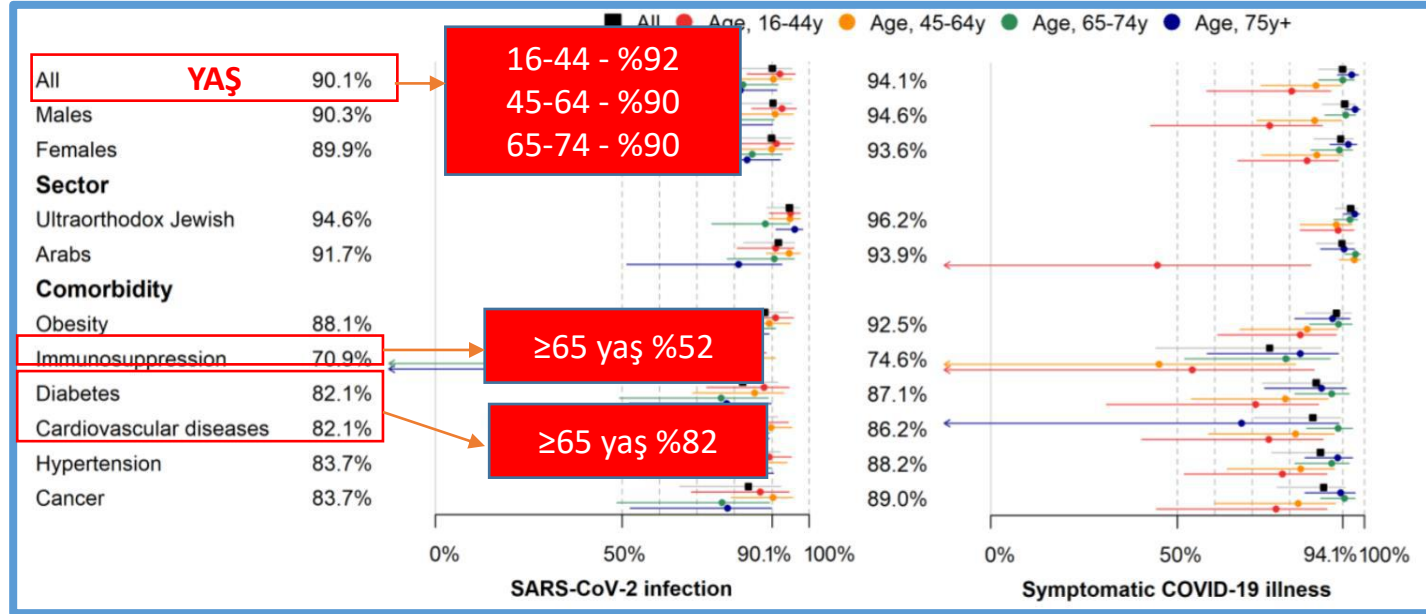
mRNA-BNT162b2-Etkinlik Gerçek Yaşam Verisi

➤ Clin Infect Dis. 2021 May 17;ciab438. doi: 10.1093/cid/ciab438. Online ahead of print.

The effectiveness of the TWO-DOSE BNT162b2 vaccine: analysis of real-world data

Gabriel Chodick^{1 2}, Lilac Tene¹, Ran S Rotem^{1 3}, Tal Patalon¹, Sivan Gazit¹, Amir Ben-Tov^{1 2}, Clara Weil¹, Inbal Goldshtein^{1 2}, Gilad Twig^{2 4 5 6}, Dani Cohen², Khitam Muhsen²

Etkinlik ileri yaşta, immünsüpresyon ve kronik hastalık varlığında azalmakta





Esin Davutoğlu Şenol @esenol · Feb 27

Salgın nedeniyle öksüz/ yetim kalan çocuklar..

20 ülkede duruma örnek

Almanya:2400 çocuk

Hindistan; 1.917.000 çocuk

Salgın hasar bilançosu

Global, regional, and national minimum estimates of children affected by COVID-19-associated orphanhood and caregiver death, by age and family circumstance up to Oct 31, 2021: an updated modelling study



H Juliette T Unwin*, Susan Hillis*, Lucie Cluver, Seth Flaxman, Philip S Goldman, Alexander Butchart, Gretchen Bachman, Laura Rawlings, Christl A Donnelly, Oliver Ratmann, Phil Green, Charles A Nelson, Alexandra Blenkinsop, Samir Bhatt, Chris Desmond, Andrés Villaveces†, Lorraine Sherr†

Summary

Background In the 6 months following our estimates from March 1, 2020, to April 30, 2021, the proliferation of new coronavirus variants, updated mortality data, and disparities in vaccine access increased the amount of children experiencing COVID-19-associated orphanhood. To inform responses, we aimed to model the increases in numbers of children affected by COVID-19-associated orphanhood and caregiver death, as well as the cumulative orphanhood age-group distribution and circumstance (maternal or paternal orphanhood).

Methods We used updated excess mortality and fertility data to model increases in minimum estimates of COVID-19-associated orphanhood and caregiver deaths from our original study period of March 1, 2020–April 30, 2021, to include the new period of May 1–Oct 31, 2021, for 21 countries. Orphanhood was defined as the death of one or both parents; primary caregiver loss included parental death or the death of one or both custodial grandparents; and secondary caregiver loss included co-residing grandparents or kin. We used logistic regression and further incorporated a fixed effect for western European countries into our previous model to avoid over-predicting caregiver loss in that region. For the entire 20-month period, we grouped children by age (0–4 years, 5–9 years, and 10–17 years) and maternal or paternal orphanhood, using fertility contributions, and we modelled global and regional extrapolations of numbers of orphans. 95% credible intervals (CrIs) are given for all estimates.

Findings The number of children affected by COVID-19-associated orphanhood and caregiver death is estimated to have increased by 90·0% (95% CrI 89·7–90·4) from April 30 to Oct 31, 2021, from 2 737 300 (95% CrI 1 976 100–2 987 000) to 5 200 300 (3 619 400–5 731 400). Between March 1, 2020, and Oct 31, 2021, 491 300 (95% CrI 485 100–497 900) children aged 0–4 years, 736 800 (726 900–746 500) children aged 5–9 years, and 2 146 700 (2 120 900–2 174 200) children aged 10–17 years are estimated to have experienced COVID-19-associated orphanhood. Globally, 76·5% (95% CrI 76·3–76·7) of children were paternal orphans, whereas 23·5% (23·3–23·7) were maternal orphans. In each age group and region, the prevalence of paternal orphanhood exceeded that of maternal orphanhood.

Lancet Child Adolesc Health 2022

Published Online

February 24, 2022

[https://doi.org/10.1016/S2352-4642\(22\)00005-0](https://doi.org/10.1016/S2352-4642(22)00005-0)

See Online/Comment

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Centre for Evidence-Based

MUTASYON YAPMAK VİRÜS OLMANIN KAÇINILMAZ SONUCUDUR EVİRİM=MUTASYON +SEÇİLİM BASKISI

- Varyantlar- bulaşma hızını artırabilir
- Aşı veya doğal enfeksiyon bağışıklığını aşır
reenfeksiyonlar yapabilir
- Pandeminin sürüp gitmesine yol açarken ,
çoğalma avantajı kazanabilir .

mRNA Aşı Etkinliği - Varyant

N4.	Reference (date)	Country	Design	Population	Dominant Variants	History of COVID	Vaccine Product	Outcome Measure	1 st Dose VE % (95%CI)	Days post 1st dose ²	2 nd Dose VE % (95% CI)	Days post 2nd dose	Max Duration of follow up after fully vaccinated
189	Filon et al* (February 15, 2022)	Italy	Retrospective cohort	4251 HCWs	Non-VOC and Alpha ⁷⁷	Excluded	BNT162b2	Documented infection(March)	—	—	95(92-98)	14+	~16 weeks
								Documented infection(April)			95(92-98)		
								Documented infection(May)			80(70-84)		
188	Gazit et al* (February 15, 2022)	Israel	Retrospective cohort	107,413 members	Alpha and Delta ⁶	Included	BNT162b2	Documented infection	—	—	82(80-85)	14+	~40 weeks
								Symptomatic infection			76(71-80)		
181	Butt et al* (February 9, 2022)	USA	Test-negative case control	4,229 cases and controls on haemodialysis	Delta ⁶	Excluded	BNT162b2 mRNA-1273	Documented infection	60.6 (25.5-79.2) 37.2 (27.1-69.0)	14+	68.9 (61.9-74.7) 66.7 (58.9-73.0)	14+	~31 weeks



mRNA aşı etkinliği Omicron (B.1.1.529)

Ferdinands JM. MMWR Morb Mortal Wkly Rep 2022;71:255–263.

DOI: <http://dx.doi.org/10.15585/mmwr.mm7107e2>

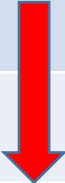
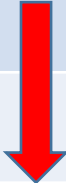
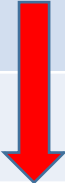
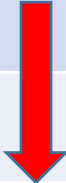
3. DOZ AŞI	Hastane Başvurusu	Hastaneye Yatış
2 ay	%87 	%91 
4 ay	%66 	%78 

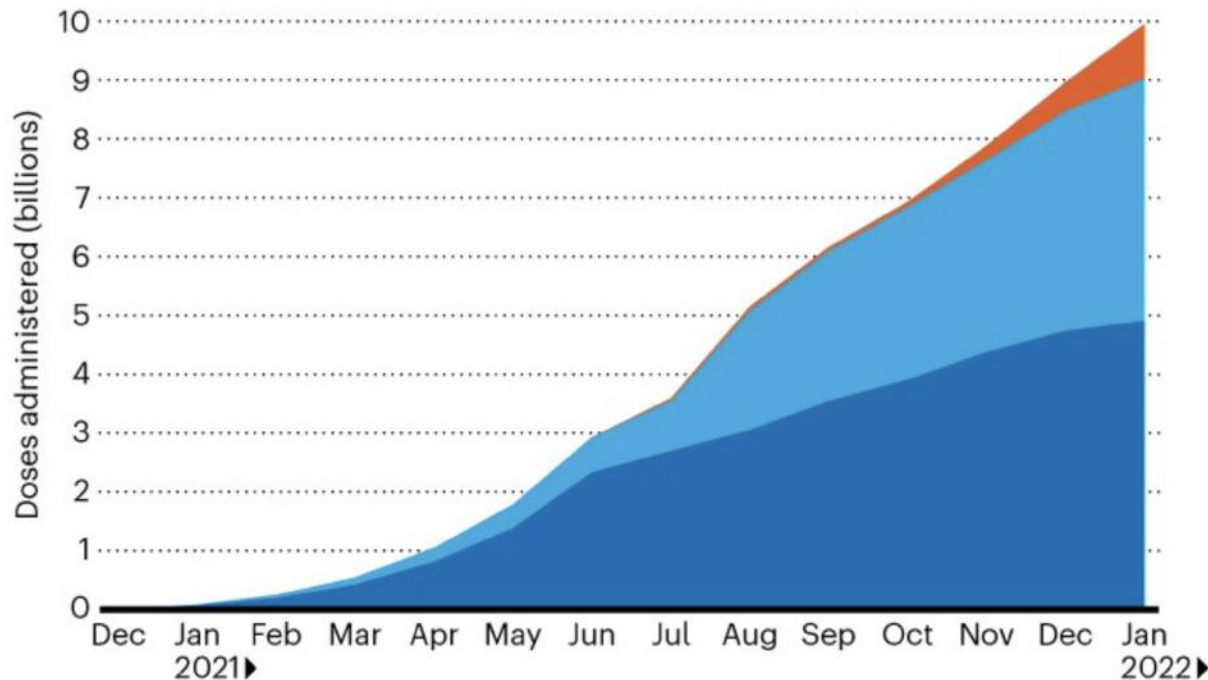
Table 1 | Metrics for previously approved vaccines

Infection	Basic reproduction number (R_0)	Herd immunity threshold (%)	Vaccine efficacy (%)	Effectiveness (%)	References
Diphtheria	6–7	85	97	>95	74,75
Measles	12–18	55–94	94	90–95	75
Mumps	4–7	75–86	95	78	75
Pertussis	12–17	92–94	70–90	75–85	75
Polio	12–15	50–93	80–90	>90	75
Rubella	6–7	83–85	94–95	>95	75
Smallpox	5–7	80–85	90–97	?	75
Ebola	1.5–2.5	33–60	95–100	70	71
Varicella	8–10	87–90	90–98	>95	75
Spanish flu 1918	2–3	50–67	NA	NA	76
Cholera	1–2	50	42–66	86	77–79
SARS-CoV-2	2.5–5.8	60–83	60–95	?	76,80

THE PATH TO TEN BILLION

It took four months after COVID-19 vaccines began to be rolled out to reach one billion vaccinations, but only another nine months to reach ten billion. Almost one billion of these were boosters, raising questions about the inequity facing the large number of people globally who are yet to access even a single dose.

■ First doses ■ Second doses ■ Booster doses



Coronavirus (COVID-19) Vaccinations

[Home](#) > [Coronavirus](#) > Vaccinations

65.7% of the world population has received at least one dose of a COVID-19 vaccine.

11.74 billion doses have been administered globally, and **7.03 million** are now administered each day.

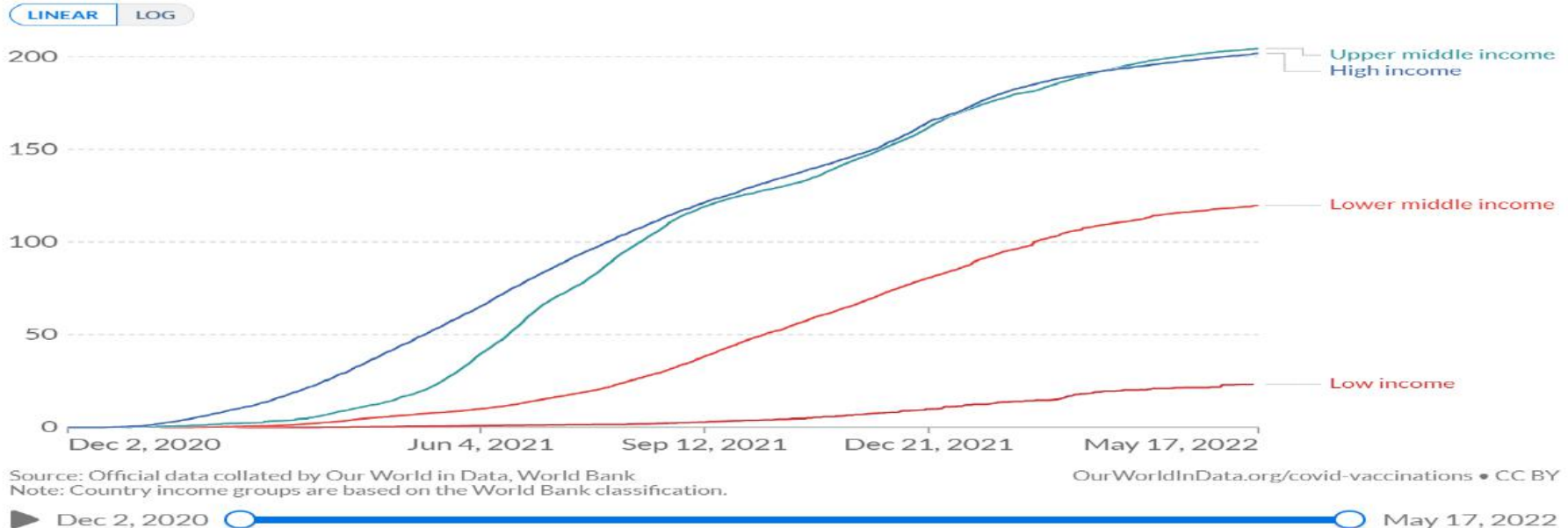
Only **15.9%** of people in low-income countries have received at least one dose.

18 May 2022

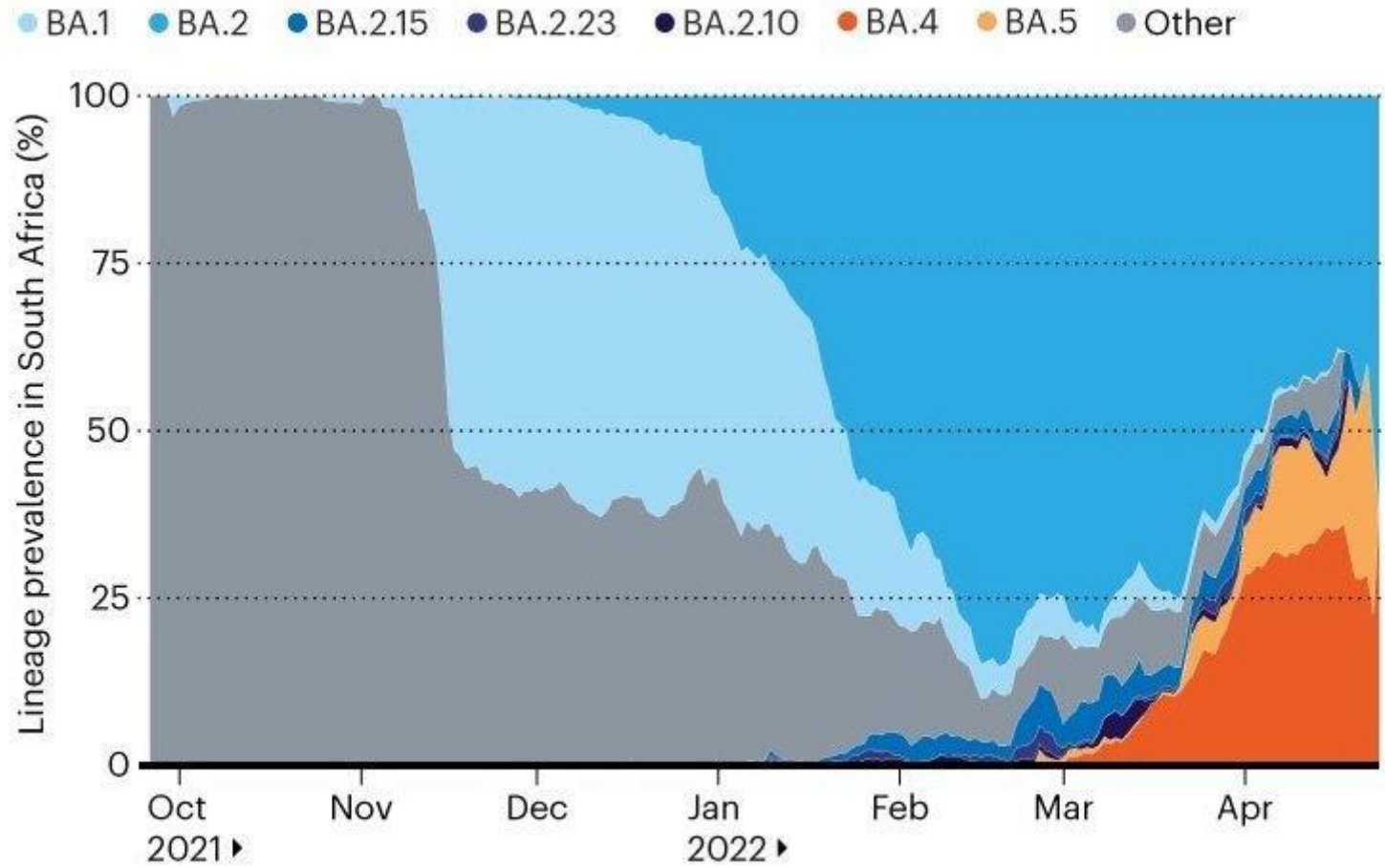
COVID-19 vaccine doses administered per 100 people, by income group

All doses, including boosters, are counted individually

Our World
in Data

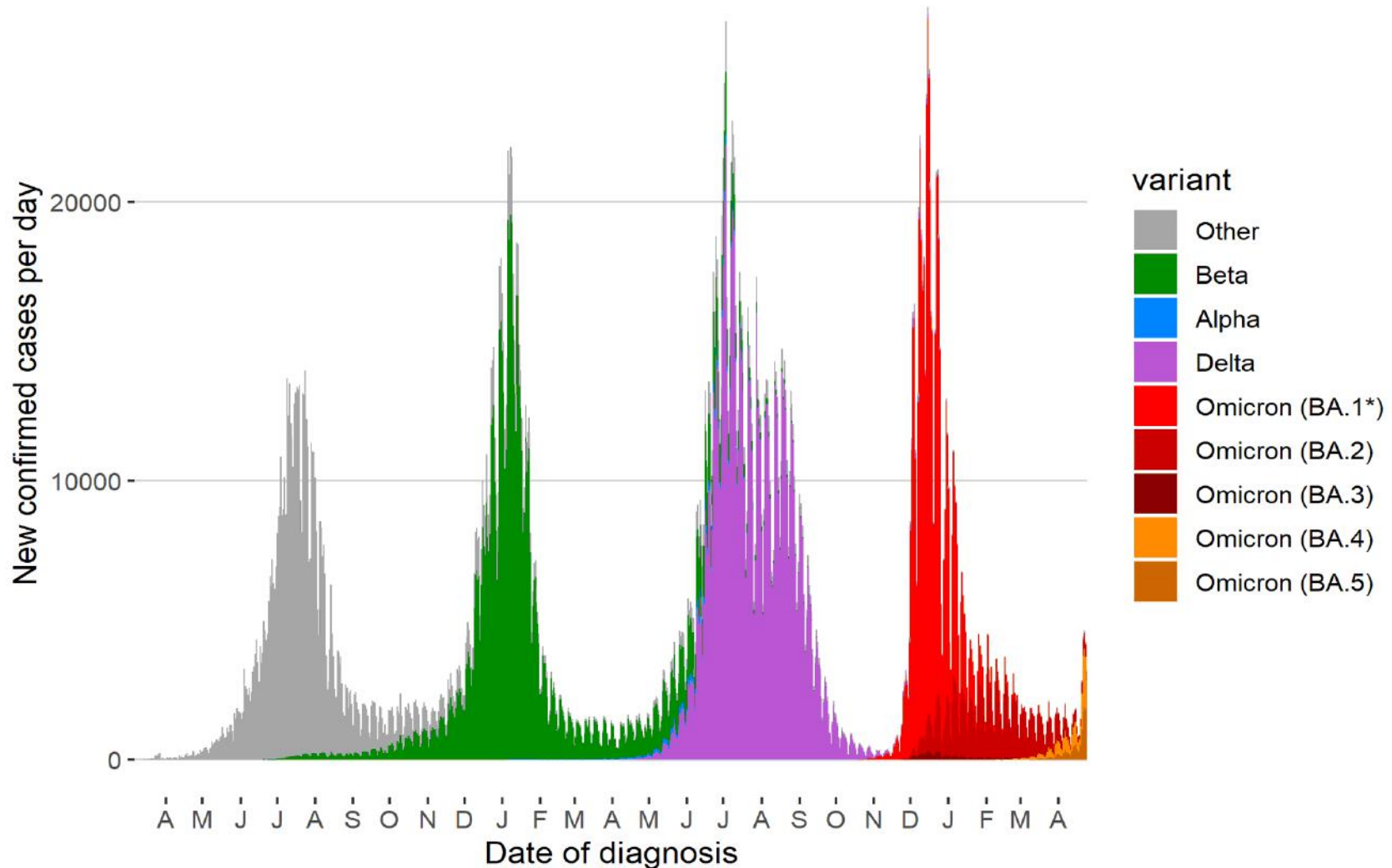


GÜNEY AFRİKA -6.DALGA



NEW CONFIRMED SARS-CoV2 CASES PER DAY BY VARIANT IN SOUTH AFRICA

(case data NICD plus multinomial spline fit to GISAID data)



Covid-19 overtakes 1918 Spanish flu as deadliest disease in American history



By [Helen Branswell](#)  Sept. 20, 2021

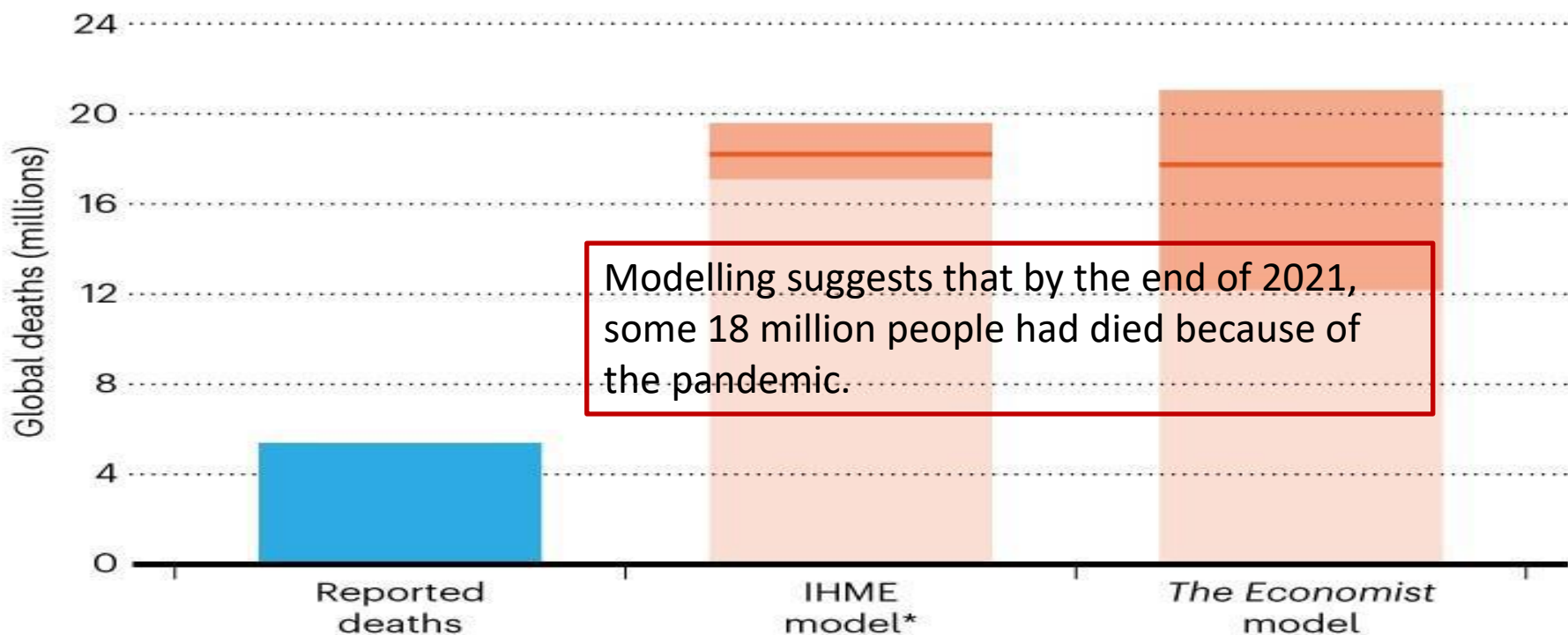
[Reprints](#)



COVID'S TRUE TOLL

The number of confirmed deaths (blue bar) caused by COVID-19 is far smaller than tallies of 'excess deaths' (pink bars), which are those above what is expected, during the pandemic.

— Excess deaths estimate ■ 95% confidence interval



The Concept of Classical Herd Immunity May Not Apply to COVID-19

David M. Morens,¹ Gregory K. Folkers,¹ and Anthony S. Fauci¹

¹National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland, USA

Keywords. COVID-19; SARS-CoV-2; herd immunity; history.



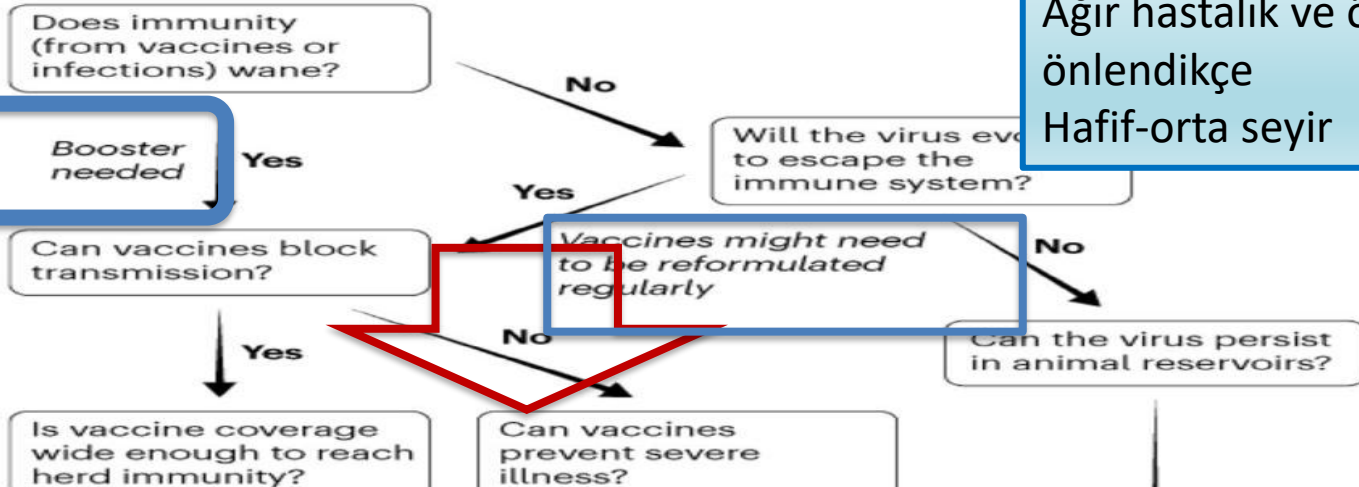
The coronavirus is here to stay – here's what that means

A *Nature* survey shows many scientists expect the virus that causes COVID-19 to become endemic, but it could pose less danger over time.

Nicky Phillips

CORONAVIRUS: HERE TO STAY?

SARS-CoV-2 has spread so far around the world that it is very unlikely to be eradicated. Here are some of the key factors that are likely to lead to it becoming endemic.



Virus hep dolaşımda olacak
Ağır hastalık ve ölüm önlenmiş
Hafif-orta seyir

Yes: rather like measles, the virus might be eliminated in regions that reach herd immunity, with the threat of re-introduction from other regions.

No: the virus will continue to circulate. But once people are protected from severe illness, it might cause only mild to moderate disease.

Yes: the virus will continue to circulate. But once people are protected from severe illness, it might cause only mild to moderate disease.

No: the virus will continue to circulate and could continue to cause severe illnesses.

Yes: the virus could spill back into people and cause future outbreaks.

No: might be eradicated.



1.En iyi durum senaryosu

- Başıııkılıktan kaçamayan
- Őu anki hastalık Őiddetine sahip varyanta
- Aşı, etkinliđini korur.
- Antiviral ilaçlar etkilidir,

2022/23 SONBAHAR-KIŐINDA HAFİF SEYİRLİ VE KÜÇÜK MEVSİMSEL/BÖLGESEL DALGA(LAR) OLABİLİR.

2. Merkezi iyimser senaryo

- Azalan başıııklık
- Omikron veya diđer soylardan gelen, yeni varyantlar,
- Antiviral ilaçlara karşı direnç var.
- “İyi ve kötü yıllarımız” olacak.
- Kötü yıllarda maske

2022/23 SONBAHAR-KIŐINDA ŐU ANKİ OMİKRON DALGASINA BÜYÜK BİR DALGA

3.Merkezi kötümser senaryo

- Yayılımı yüksek
- Başıııklılıktan kaçan
- Hastalık Őiddeti Delta gibi olan varyant.
- Antiviral ilaçlara karşı direnç yaygın.

**12-18 ay içinde Őimdikinden büyük, yıkıcı dalga(lar)
Ölümler genel olarak aşısızlar, yaşı & risk grubunda
Her yıl aşı!**

4. En kötü senaryo

- Eksik küresel aşılama
- Yüksek insidans
- Rekombinasyon ve/ya ters zoonoz yüzünden çok bulaşıcı, bağışıklıktan kaçan
- Hastalık şiddeti daha yüksek olan varyant(lar)

12-18 ay içinde çok büyük dalgalar

Nüfus genelinde ciddi hastalanma

Uzun vadeli etki

**İSTİKRARLI BİR DÖNEME GEÇİŞİMİZİN 2 İLA 10 YIL
SÜRECEĞİNİ öngörüyor:**

“Son derecede dinamik ve tahmin edilemez.”

**Suudi Arabistan'daki
Yarasalarda 47 Kişiyi Öldüren
Gizemli Virus (MERS-CoV)
Saptandı**



Waking up to monkeypox

Emmanuel Nakoune,¹ Piero Olliaro²

In the past couple of weeks, the world has discovered monkeypox, an otherwise neglected infection caused by an orthopoxvirus related to the now eradicated smallpox. Monkeypox has been causing regular outbreaks in poorer, neglected communities in Central and West Africa, possibly with increasing frequency and geographic extent.¹

It is frustrating to see the same pattern repeating itself again. Attention is only paid when certain diseases hit high-income countries—exemplifying our collective failure to properly address “epidemic preparedness” and “global health,”—though they are nominally on top of our agenda with the covid-19 pandemic. It also illustrates the double standard applied to how people’s health is valued between wealthy countries and the rest of the world.

Monkeypox is a typical example of the potentially volatile combination of zoonotic spillover and anthropogenic drivers that constitute most of the epidemic potential in the world. Consider that nearly two-thirds of all pathogens and three-quarters of emerging pathogens are zoonotic, against the geographical distribution of some 5,000 mammals species carrying one or more zoonotic disease.^{8,9}

Gearing up for epidemic preparedness and global health means acting now on the many ongoing outbreaks where and when they occur, not waiting for when they might spill over elsewhere. Providing access to medical innovation to those who can benefit most is not just a matter of health justice and equity, but is also critical for global health security because it is in everyone’s interest to solve a problem before

¹ Institut Pasteur Bangui, Central African Republic

² International Severe Acute Respiratory and emerging Infection Consortium, Pandemic Sciences Institute, University of Oxford, UK

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<http://dx.doi.org/10.1136/bmj.o1321>

Published: 25 May 2022



Summary of Monkeypox: Current Knowledge as of May 2022

What is monkeypox?

Infectious disease caused by the monkeypox virus

What kind of virus is monkeypox?

Virus family: *Poxviridae* (double-stranded DNA virus)

Virus genus: *Orthopoxvirus* (also includes smallpox virus)

Origins of monkeypox

Discovered in 1958 in monkeys used for research; 1970: first human case in the Democratic Republic of Congo

Epidemiology

Most cases occur in Africa. The natural reservoir is unknown, but monkeypox virus infection has been detected in many animals, such as rodents and monkeys.

2003: Outbreak of 47 cases in the U.S. (first instance of human monkeypox outside of Africa). Result of imported animals harboring the virus. All case-patients had contact with infected pet prairie dogs.

2021: 1 travel-associated case in Texas → no additional cases
Smallpox vaccination 3–19 years prior provides 85% protection; in 2003 outbreak, ~20% of case-patients had received smallpox vaccination >25 years prior

Previous knowledge of transmission

The virus enters the human body through the respiratory tract, broken skin, and mucous membranes.

Animal-to-human: Bite, scratch, direct contact with body fluids or lesion fluid, indirect contact through contaminated fomites, preparation of bush meat

Human-to-human: Large respiratory droplets which typically do not travel long distances, direct contact with body fluids or lesion fluid, indirect contact through contaminated fomites

Current 2022 outbreak suggests close contact via sexual exposure is possibly a more efficient mode of transmission.

Incubation period (time from infection to symptom onset)

5–21 days

Clinical manifestations

Prodrome: Fever (>90%), chills, malaise, headache, myalgias, lymphadenopathy (~70%) (different from smallpox)

Rash after 1–3 days (100%, evolves in the same stage): macules → papules → vesicles → pustules → scabs; often starts on face → spreads to body; can last up to 4 weeks.

Syphilis and chickenpox can appear similar; monkeypox rash often painful but important to keep a high index of suspicion.

Case-fatality rate: Historically 1–10% depending upon specific clade (but potentially lower with early supportive care)



Diagnosis

PCR of material from skin lesions (ideally >1 sample) at specialized public health laboratories

Treatment

- No specific proven treatment exists for monkeypox; most individuals recover with supportive care.
- Potential options include post-exposure prophylaxis (PEP) with smallpox vaccine depending upon exposure risk
- Cidofovir, brincidofovir, and tecovirimat evaluated *in vitro* and in animal studies; no efficacy data available in humans.
- Vaccinia immune globulin: could be considered for patients with severe immunodeficiency who cannot receive smallpox vaccine as PEP; role in treatment of active disease unclear.
- Vaccinia immune globulin and tecovirimat are administered as an Investigational New Drug (IND).

Infection control and personal protective equipment (PPE) for clinicians:

- Proper hand hygiene before and after patient contact
- Single-person, airborne-infection isolation room (AIIR)
- Disposable gown + gloves + eye protection
- NIOSH-certified, fit-tested N-95 respirator
- Case-patient isolation from initial symptom onset until all lesions have crusted and a new layer of skin has developed

Previous approaches to outbreak response:

Contact tracing, vaccination of close contacts with high-risk exposure with smallpox vaccine, isolation of case-patients, quarantine of close contacts (in some instances)

If suspecting a case of monkeypox:

Contact hospital infection-control team, local and state public health authorities, and CDC (Emergency Operations Center number: 770-488-7100)

Clinical features and management of human monkeypox: a retrospective observational study in the UK



Hugh Adler, Susan Gould, Paul Hine, Luke B Snell, Waison Wong, Catherine F Houlihan, Jane C Osborne, Tommy Rampling, Mike BJ Beadsworth, Christopher JA Duncan, Jake Dunning, Tom E Fletcher, Ewan R Hunter, Michael Jacobs, Saye H Khoo, William Newsholme, David Porter, Robert J Porter, Libuše Ratcliffe, Matthias L Schmid, Malcolm G Semple, Anne J Tunbridge, Tom Wingfield*, Nicholas M Price* on behalf of the NHS England High Consequence Infectious Diseases (Airborne) Network†

Summary

Background Cases of human monkeypox are rarely seen outside of west and central Africa. There are few data regarding viral kinetics or the duration of viral shedding and no licensed treatments. Two oral drugs, brincidofovir and tecovirimat, have been approved for treatment of smallpox and have demonstrated efficacy against monkeypox in animals. Our aim was to describe the longitudinal clinical course of monkeypox in a high-income setting, coupled with viral dynamics, and any adverse events related to novel antiviral therapies.

Methods In this retrospective observational study, we report the clinical features, longitudinal virological findings, and response to off-label antivirals in seven patients with monkeypox who were diagnosed in the UK between 2018 and 2021, identified through retrospective case-note review. This study included all patients who were managed in dedicated high consequence infectious diseases (HCID) centres in Liverpool, London, and Newcastle, coordinated via a national HCID network.

Findings We reviewed all cases since the inception of the HCID (airborne) network between Aug 15, 2018, and Sept 10, 2021, identifying seven patients. Of the seven patients, four were men and three were women. Three acquired monkeypox in the UK: one patient was a health-care worker who acquired the virus nosocomially, and one patient who acquired the virus abroad transmitted it to an adult and child within their household cluster. Notable disease features included viraemia, prolonged monkeypox virus DNA detection in upper respiratory tract swabs, reactive low mood, and one patient had a monkeypox virus PCR-positive deep tissue abscess. Five patients spent more than 3 weeks (range 22–39 days) in isolation due to prolonged PCR positivity. Three patients were treated with brincidofovir (200 mg once a week orally), all of whom developed elevated liver enzymes resulting in cessation of therapy. One patient was treated with tecovirimat (600 mg twice daily for 2 weeks orally), experienced no adverse effects, and had a shorter duration of viral shedding and illness (10 days hospitalisation) compared with the other six patients. One patient experienced a mild relapse 6 weeks after hospital discharge.

Interpretation Human monkeypox poses unique challenges, even to well resourced health-care systems with HCID networks. Prolonged upper respiratory tract viral DNA shedding after skin lesion resolution challenged current infection prevention and control guidance. There is an urgent need for prospective studies of antivirals for this disease.

Lancet Infect Dis 2022

Published Online

May 24, 2022

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This online publication has been corrected. The corrected version first appeared at [thelancet.com/infection](https://www.thelancet.com/infection) on May 26, 2022

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Tekrardaki mucize gülüm Tekrarın tekrarsızlığı N Hikmet

SCIENCE

FRIDAY, MAY 30, 1919

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THE LESSON

THE pandemic of the earth has been have been more have been more been epidemics al have been less dea quakes and volcan their stories in t almost too terrib never before has once so sudden, e versal.

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The fact is tha of the oldest knov it is the least und patient and pain much to drive oth extinction has thu it. There is doub and the predisposi There has been a g these matters, and common agreemen spect to them.

The measures the control of the the slenderest of that the influenza employment of me would stop the This double assum

THE PITTSBURGH PRESS

THURSDAY EVENING, MAY 29, 1919



Before eating—
When you come home from work—
Whenever you come in from the street,
—you must wash properly

Three times when washing your hands is of special importance

THE HEALTH SOAP

SPRINTZING INFLUENZA

THE HEALTH SOAP

IN HER REALM

Christmas Gift Suggestions

AT THE PITTSMOUTH

THE HEALTH SOAP

THE HEALTH SOAP

Before eating—
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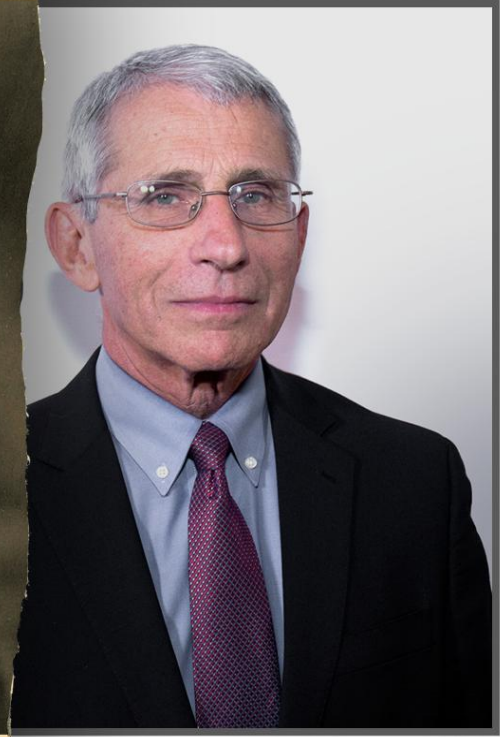
Three times when washing your hands is of special importance

THE HEALTH SOAP

Quality is insurance

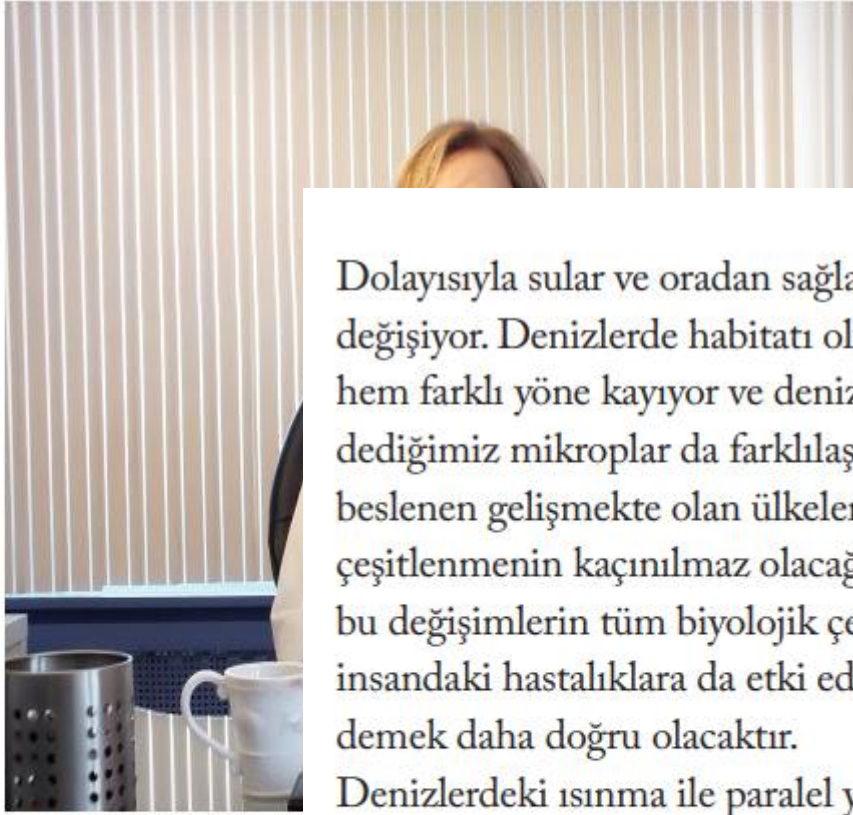
THE HEALTH SOAP

THE
DR. FAUCI
OF THE 1918
SPANISH
FLU



Epidemiyolog Dr.Thomas Tuttle –maske ve sosyal mesafe önererek influenza salgınını önlemişti, Kaynak:Alex Knapp,Forbes





GAZİ ÜNİVERSİTESİ Tİ
ANABİLİM DALI Ö

"DENİZ, İN YİTİRDİKİ

"DENİZ KOKUSU DAHA DENİZİ DÜŞÜNMEYE BAŞLADIĞIM AN, BELLEĞİMİN UZAK
KÖŞELERİNDEN, ZAMANSIZ BİR BOYUTTAN SIZARAK BURNUMU SIZLATMAYA
BAŞLADI. SONRALARI, ÇOK YOĞUN ÇALIŞMA ZAMANLARIMDA VE KALABALIK BİR
ŞEHRİN İSSİZLIĞINDA, TÜM ÖZLEMLERİM BU KOKUYLA ÖZDEŞLEŞTİ."

Dolayısıyla sular ve oradan sağlanan yiyecekler ile ilişkili dinamikler değişiyor. Denizlerde habitatı oluşturan tür çeşitliliği hem azalıyor hem farklı yöne kayıyor ve denizlerdeki canlıları hastalandıran patojen dediğimiz mikroplar da farklılaşıyor. Bu sebeple, başta denizlerden beslenen gelişmekte olan ülkeler olmak üzere, hastalıklarda artma ve çeşitlenmenin kaçınılmaz olacağını ve kabaca özetlemeye çalıştığım bu değişimlerin tüm biyolojik çeşitliliğe, atmosfere ve dolayısıyla insandaki hastalıklara da etki edeceğini biliyoruz ya da öngörüyoruz demek daha doğru olacaktır.

Denizlerdeki ısınma ile paralel yer altı kaynak sularındaki azalma ise, kolera gibi su kaynaklı, sıtma, kanamalı ateşler gibi vektör kaynaklı hastalıkların artmasına, bulundukları coğrafyayı genişletmesine yol açacaktır.

Sonuç olarak, böyle süregiderse, pek çok egzotik mikrop ve hastalık ile tanışacağız demektir.

Denizin mesleğinize olan katkılarını nasıl değerlendirirsiniz? Hobiniz olan bu dünya, çalışmalarınıza katkı sunuyor mu?

Benim mesleğim hem çok teknik hem bir yandan çok ruhani. Bir iyileştirici olarak, iyileşmek sürecini sizinle geçirmek için başvurmuş kişi/kişiler ile anlaşmak durumundasınız. Zihniniz berrak, ufkunuz ve kalbiniz açık olmalı. Ayrıca, insanın olağan yaşamında unutmak istediği ne varsa -hastalık, ölüm ve dert- hekimseniz, sürekli üzerinize

İklim değişikliği ve denizlerin ısınması gibi etkiler nedeniyle; okyanuslardaki



öğütüyoruz. Yoğun bir stres ve telaş halindeyiz. Deniz, doğadan bu denli kopmuş olan insanı doğaya, aslında yitirdiklerini anımsatıyor ve onları geri vermeye nasıl da hazır olduğunu fısıldıyor. Benim yaptığım bir çalışma olmamakta birlikte, iyi dergilerde, iyi yöntemlerle yapılmış bilimsel ve nicel çalışmalar var. Aşağıda kaynağını da belirttiğim çalışmada, ciddi bir analiz yöntemi kullanılarak deniz kenarında yaşamak ya da bulunmanın, zihin sağlığına ve ölçülebilir iyilik haline katkılarını analiz edilmiş ve potansiyel olarak olumlu sonuçları gösterilmiş. Son yıllarda, artan sayıda benzer çalışmanın yapılması, denizler ya da benzeri mavi alanların ilginçliğimize daha çok girdiğini gösteriyor. *Outdoor blue spaces, human health and well-being: A systematic review of quantitative studies*, Mireia Gasconab, Wilma Zijlemaab, Yristina Vertab, Matthew P. WhitedMark, Nicușorbuşijienab 20; 8, 2017, 1207-1221 <https://doi.org/10.1016/j.jbeh.2017.08.000> 'on yıllarda hem denizlerde artan irtilik hem de iklimlerde meydana gelen değişiklikler, denizler ve deniz canlıları üzerinde birtakım olumsuz durumlara r. Bunun insana yansımalarına tanıklık mu? , biyolojik çeşitliliğin merkezindeki denizler etkilerini görüyoruz. Denizlerdeki ısınmanın, deki biyolojik çeşitliliğe önemli etkileri olduğunu r nedeniyle; okyanuslardaki verimlilik azaldı.



... teşekkür ederim ...