

The public health response to new and future pandemics: lights and shadows from COVID -19



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on Highly Infectious Diseases**

Conflict of interest declaration

Giuseppe Ippolito

has no financial interests or relationships to disclose with regard to the subject matter of this presentation

SPIEGEL

Ausgabe 2/2020

EDITION

Das Beste aus SPIEGEL GESCHICHTE



The plague was nothing;
the fear of the plague
was much more
formidable

Raymond Poincaré
(1860 – 1934)

Impact of the coronavirus pandemic on the global economy

**FORECASTED GLOBAL GDP DUE TO
COVID-19 IN 2020**

2.4%

**MONETARY GDP LOSS IN BEST CASE
COVID-19 SCENARIO**

76.69bn USD

**FORECASTED GDP LOSS IN U.S. IN A
GLOBAL PANDEMIC SCENARIO**

-2.4%

Agenda

- A. Pandemics are not unexpected
- B. The problem of numbers
- C. Dealing with a new virus:
 - Challenges of the research during a pandemic
 - Rush publication of preliminary uncontrolled data
 - Inflation of dedicated calls
 - Use of drugs without data from clinical trials
- D. Politics and Science
- E. Change the model of health care
- F. Learn from past experiences
- G. HIV/AIDS lesson learnt

A. Pandemic are not unexpected - 1

2003



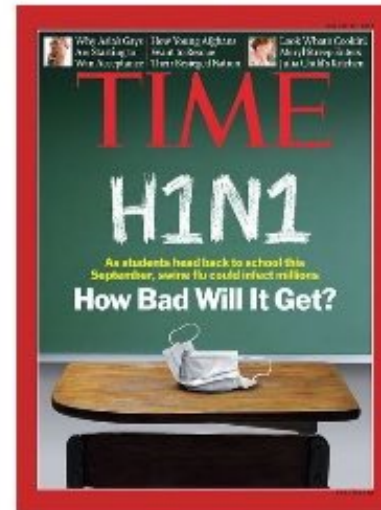
2004



2005



2007



2009



2017



A. Pandemics are not unexpected - 2

TED 2015: Bill Gates warns on future disease epidemic

By Jane Wakefield
Technology reporter, Vancouver

🕒 19 March 2015



Bill Gates used his time at Ted to call for the world to prepare for next health epidemic

“Governments should learn from how nations prepare for war....

Nato plays war games to check that people are well-trained and prepared. Now we need germ games”

March 2015

COVID-19 pandemic raises questions on preparedness for biological threats

- The Global Health Security Index, 2019 assessed 195 countries on their readiness to deal with the threat of an epidemic or pandemic
- According to the study, **no country or health system worldwide was fully prepared for a globally catastrophic biological event of any sort**

The NEW ENGLAND JOURNAL of MEDICINE

EDITORIALS



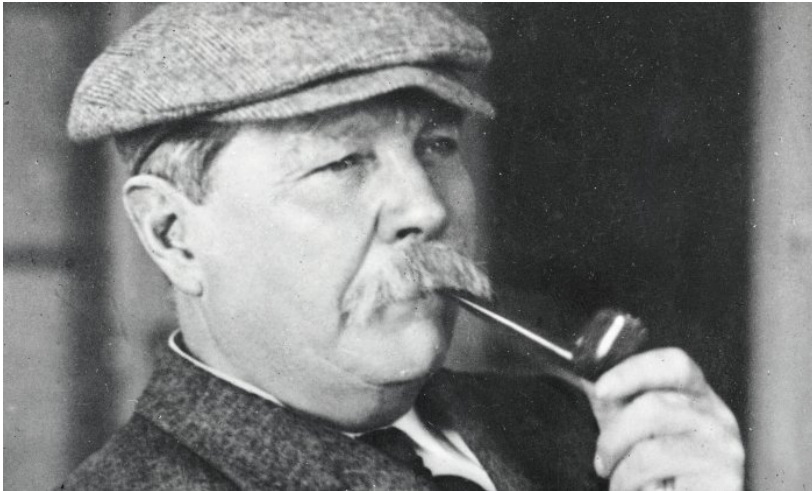
Dying in a Leadership Vacuum

The Editors

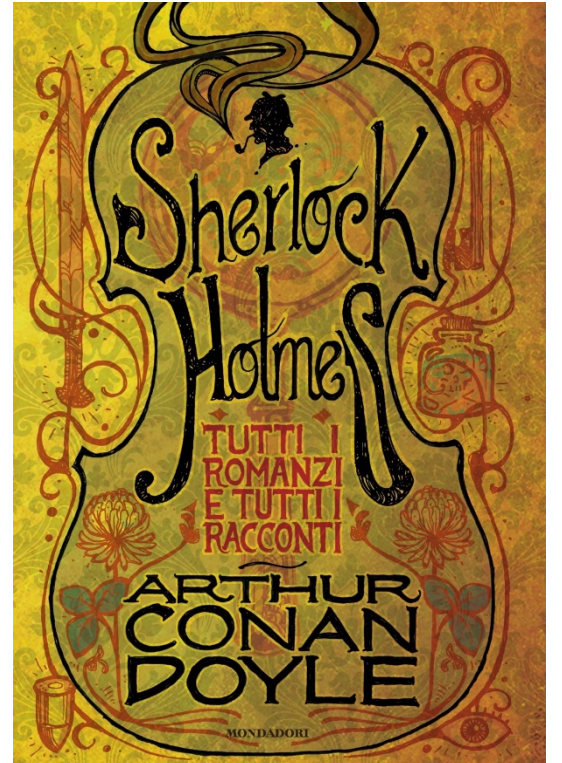
N ENGL J MED 383;15 NEJM.ORG OCTOBER 8, 2020

B. The problem of numbers - 1

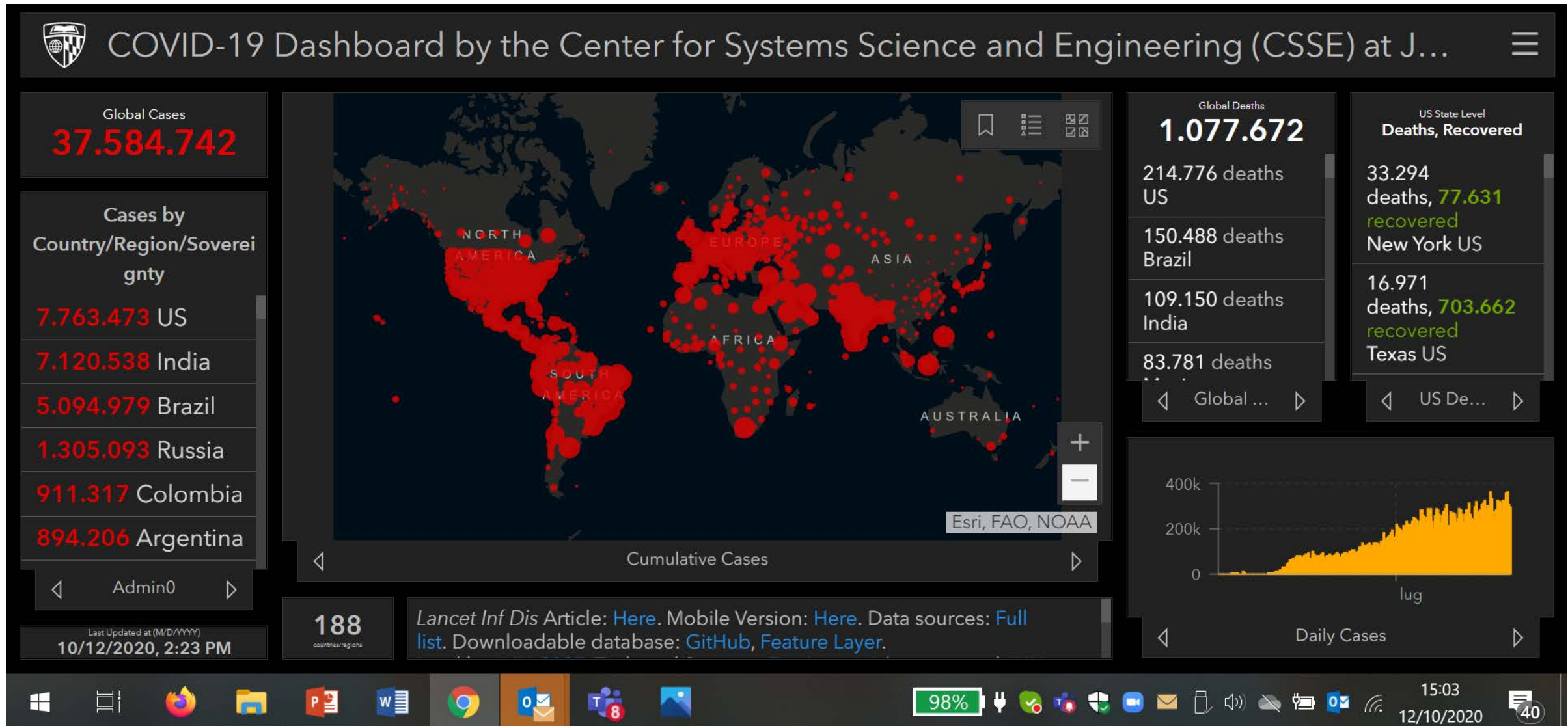
“It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts.”



Sir Arthur Conan Doyle
Sherlock Holmes



B. The problem of numbers - 1

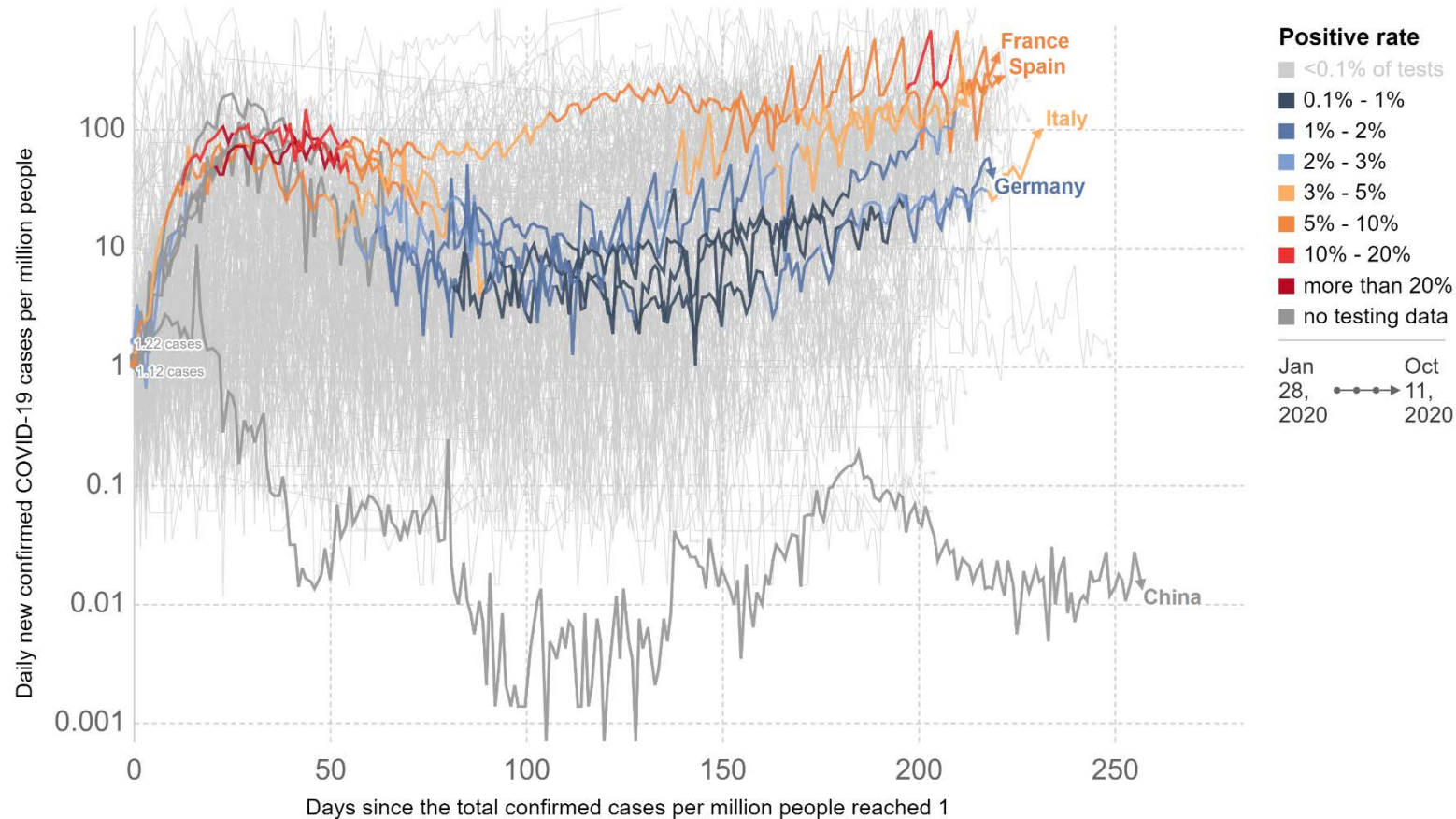


B. The problem of numbers - 1

Daily new confirmed COVID-19 cases per million people

The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

Our World
in Data



Source: European CDC – Situation Update Worldwide – Last updated 11 October, 10:04 (London time), Official data collated by Our World in Data
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A cross-country database of COVID-19 testing

Hasell J et al [Nature Sci Data 7, 345 \(2020\)](#)

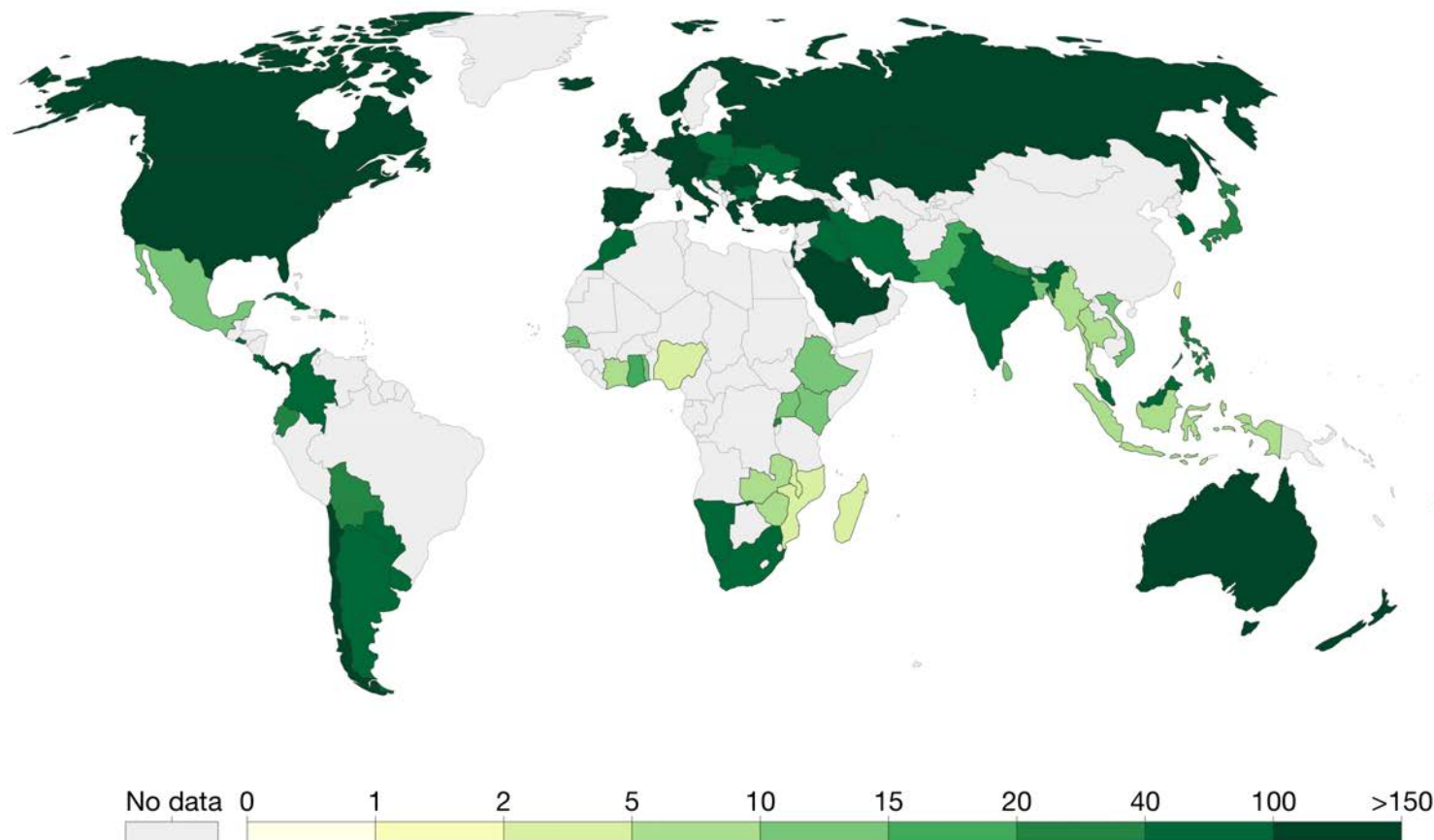
Joe Hasell^{1,2,3}✉, Edouard Mathieu², Diana Beltekian^{1,2,4}, Bobbie Macdonald^{2,5}, Charlie Giattino^{1,2}, Esteban Ortiz-Ospina^{1,2}, Max Roser^{1,2} & Hannah Ritchie^{1,2}

Our understanding of the evolution of the COVID-19 pandemic is built upon data concerning confirmed cases and deaths. This data, however, can only be meaningfully interpreted alongside an accurate understanding of the extent of virus testing in different countries. This new database brings together official data on the extent of PCR testing over time for 94 countries. We provide a time series for the daily number of tests performed, or people tested, together with metadata describing data quality and comparability issues needed for the interpretation of the time series. The database is updated regularly through a combination of automated scraping and manual collection and verification, and is entirely replicable, with sources provided for each observation. In providing accessible cross-country data on testing output, it aims to facilitate the incorporation of this crucial information into epidemiological studies, as well as track a key component of countries' responses to COVID-19.

Total COVID-19 tests per 1,000 people, Oct 9, 2020

The figures shown relate to the closest date for which we have data, with a maximum of 10 days' difference.

Our World
in Data



Source: Official sources collated by Our World in Data

OurWorldInData.org/coronavirus • CC BY

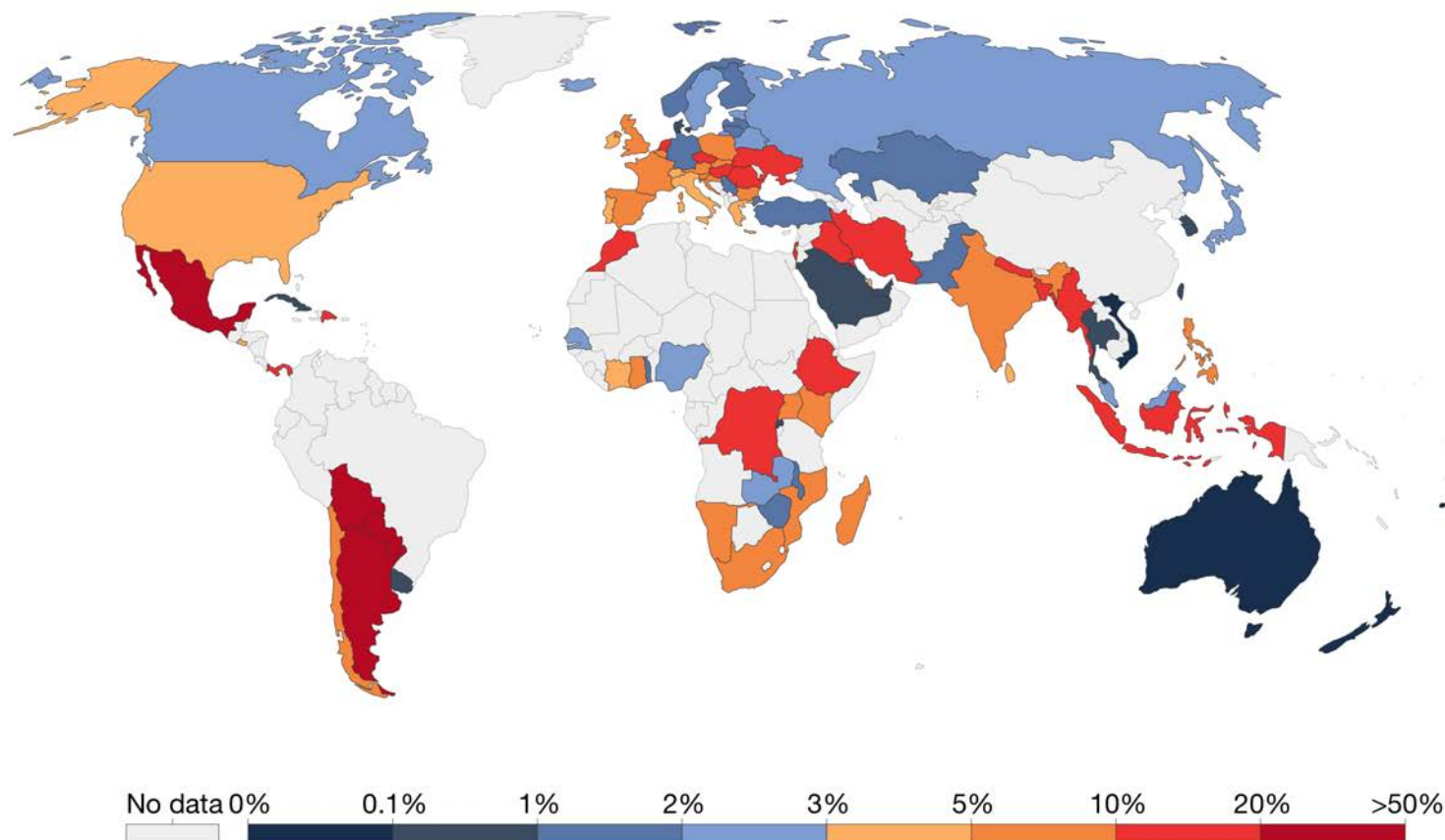
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Details can be found at our Testing Dataset page.

Fonte: Hasell, J., Mathieu, E., Beltekian, D. *et al.* [A cross-country database of COVID-19 testing. *Sci Data* 7, 345 \(2020\)](#)

The share of COVID-19 tests that are positive, Oct 9, 2020

The daily positive rate, given as a rolling 7-day average.

Our World
in Data



Source: Official data collated by Our World in Data

OurWorldInData.org/coronavirus • CC BY

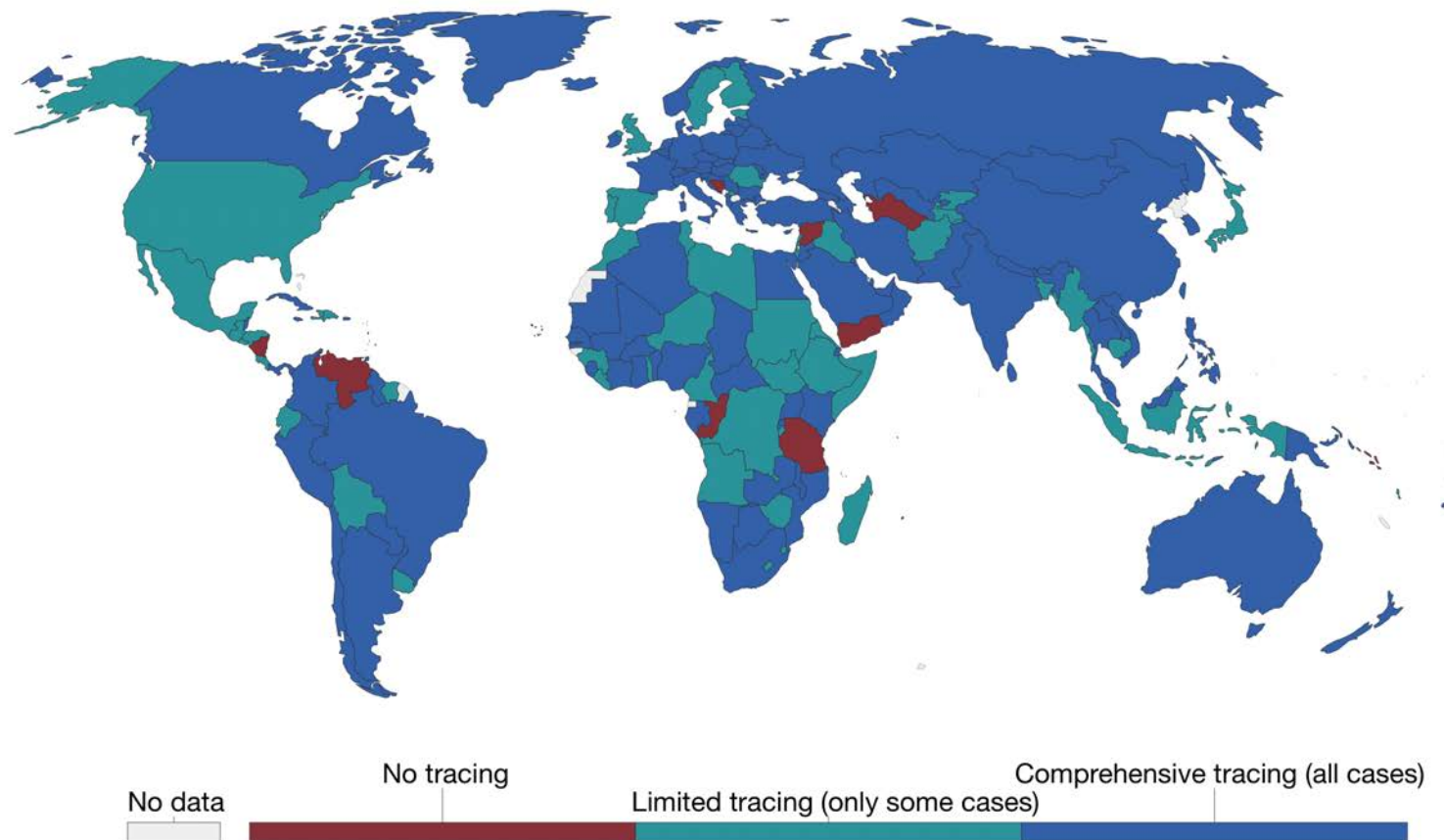
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page

Fonte: Hasell, J., Mathieu, E., Beltekian, D. *et al.* [A cross-country database of COVID-19 testing. *Sci Data* 7, 345 \(2020\)](#)

Which countries do COVID-19 contact tracing?, Oct 10, 2020

Our World
in Data

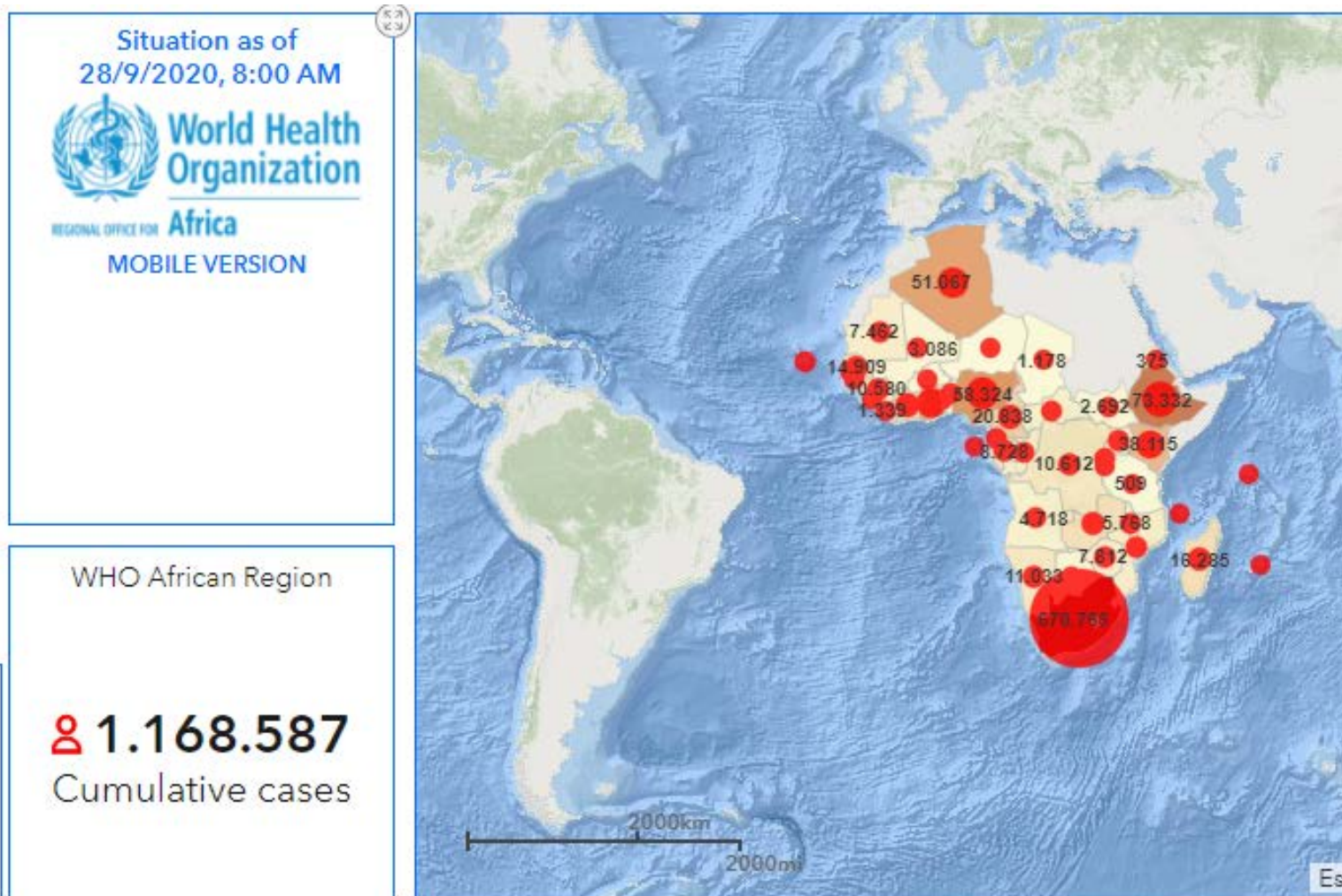
'Limited' contact tracing means some, but not all, cases are traced. 'Comprehensive' tracing means all cases are traced.



Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker – Last updated 10 October, 17:30 (London time)
OurWorldInData.org/coronavirus • CC BY

Fonte: Hasell, J., Mathieu, E., Beltekian, D. *et al.* [A cross-country database of COVID-19 testing. *Sci Data* 7, 345 \(2020\)](#)

B. The problem of numbers - 2



Three ways to estimate COVID-19's real toll in Africa

The true case count may be 10M, not the 1M reported



Surgo Foundation [Follow](#)

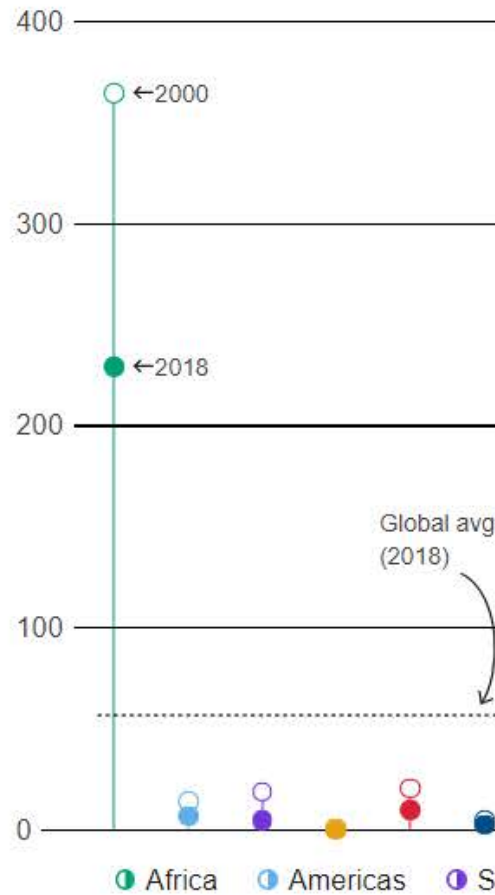
Aug 12 · 6 min read



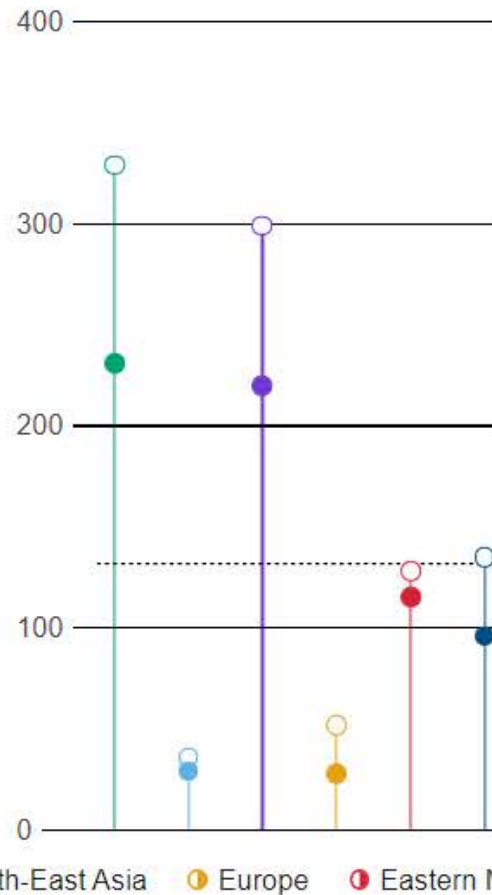
COVID-19: the only health problem?

Malaria, tuberculosis and HIV incidence rates globally

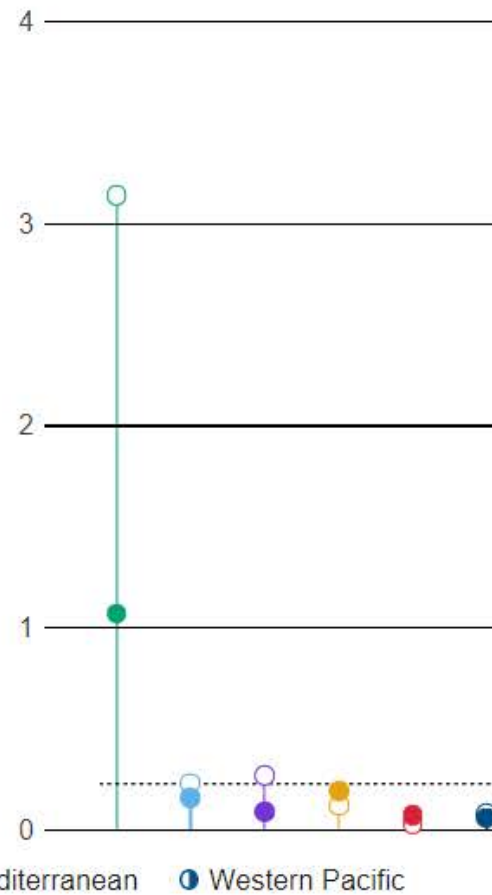
Malaria incidence, per 1000 at risk people



TB incidence, per 100 000 people

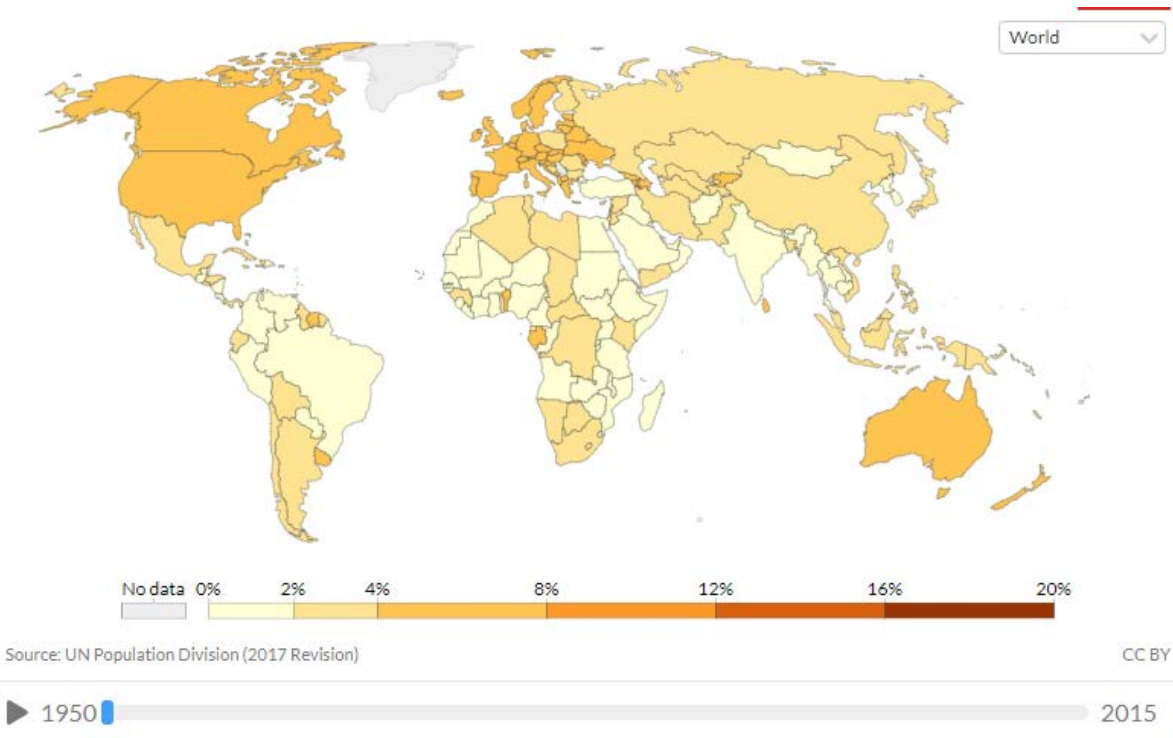


New HIV infections, per 1000 uninfected people

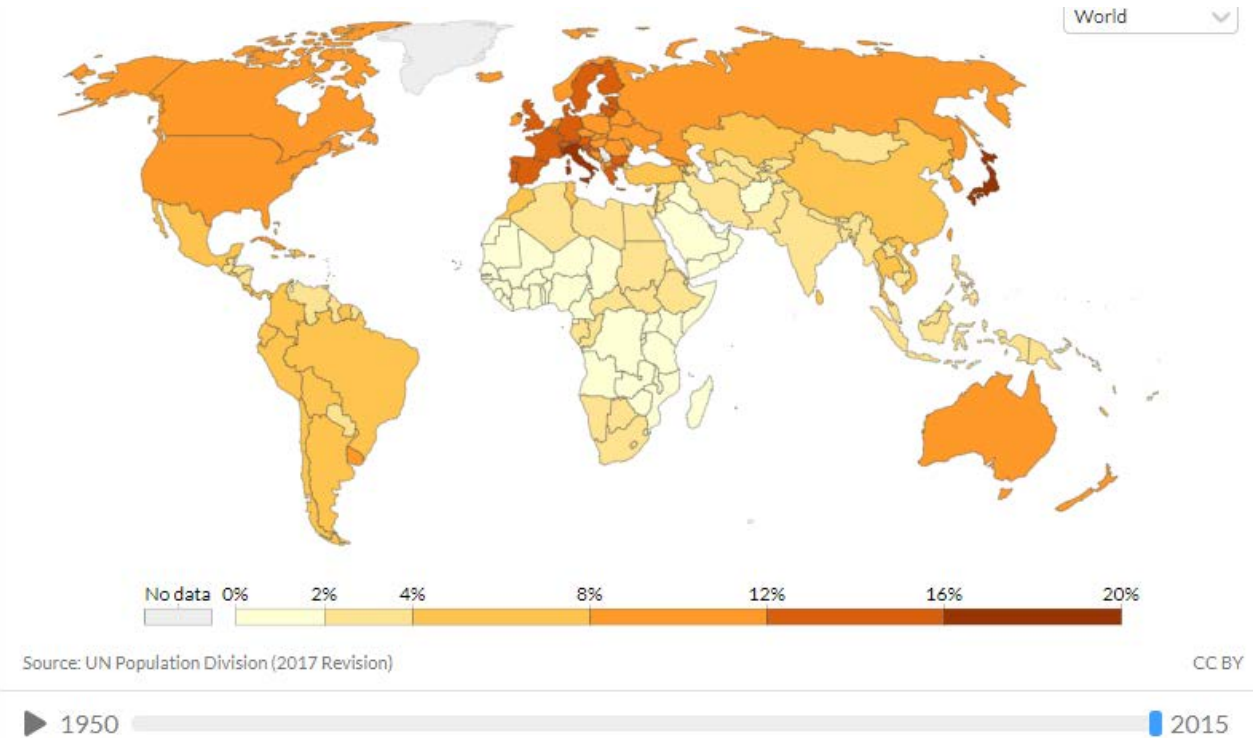


Countries with more elderly people may be hardest hit

1950



2015



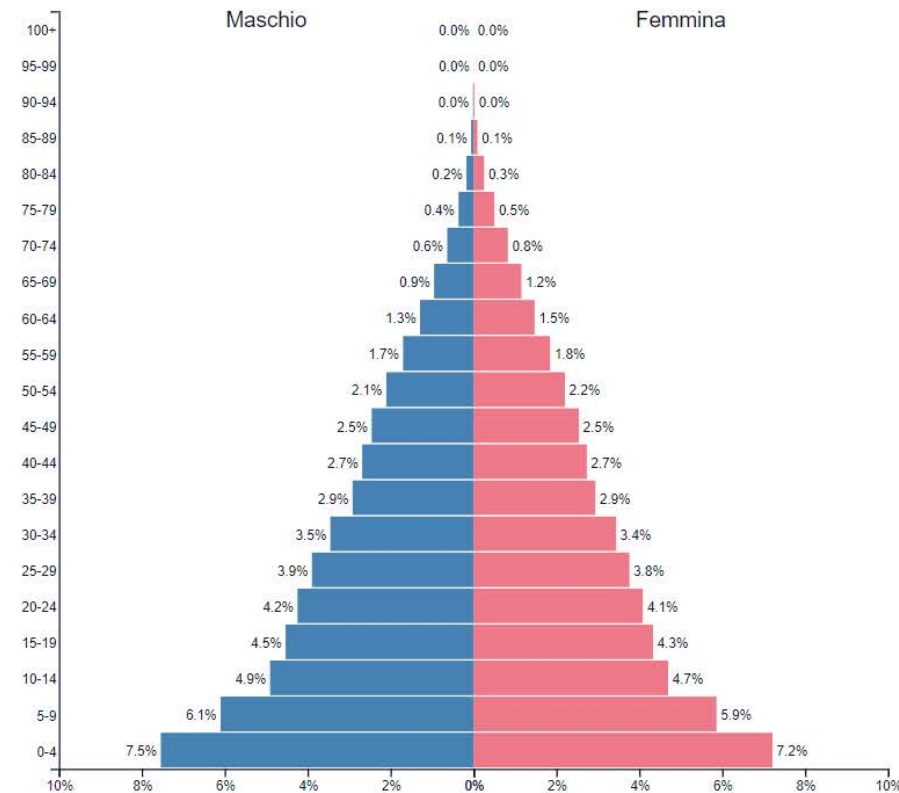
Share of the Population > 70 years old

World Population pyramid

Differences by time

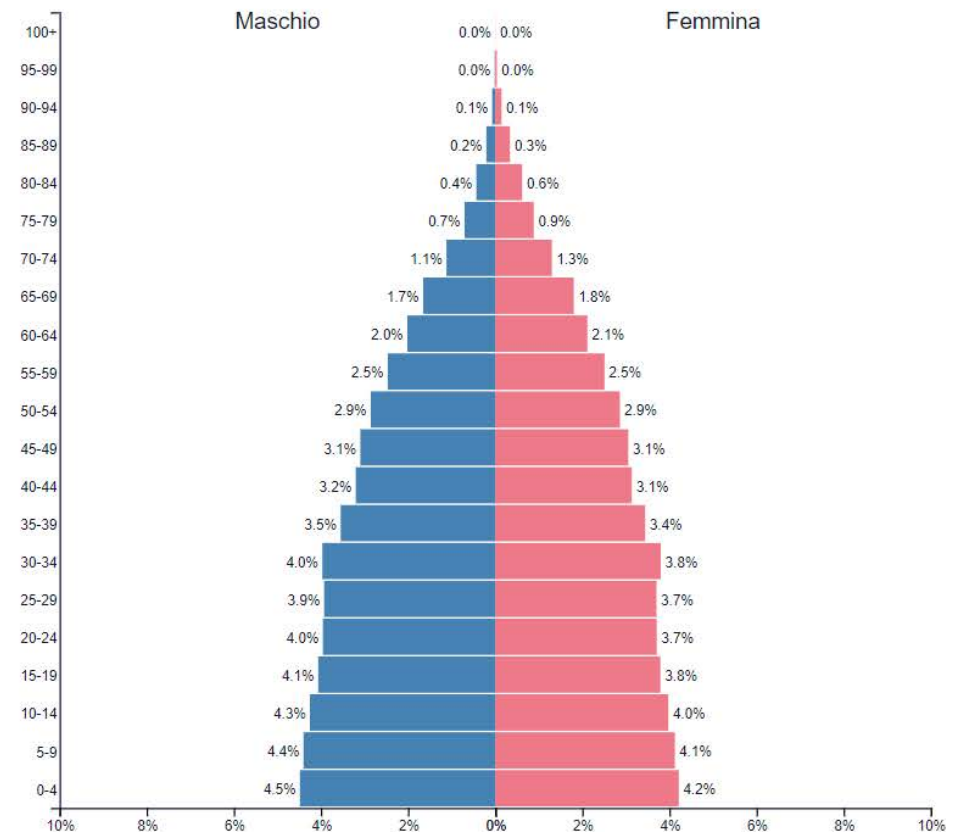
1957

Popolazione: 2,873,306,058



2020

Popolazione: 7,794,798,729

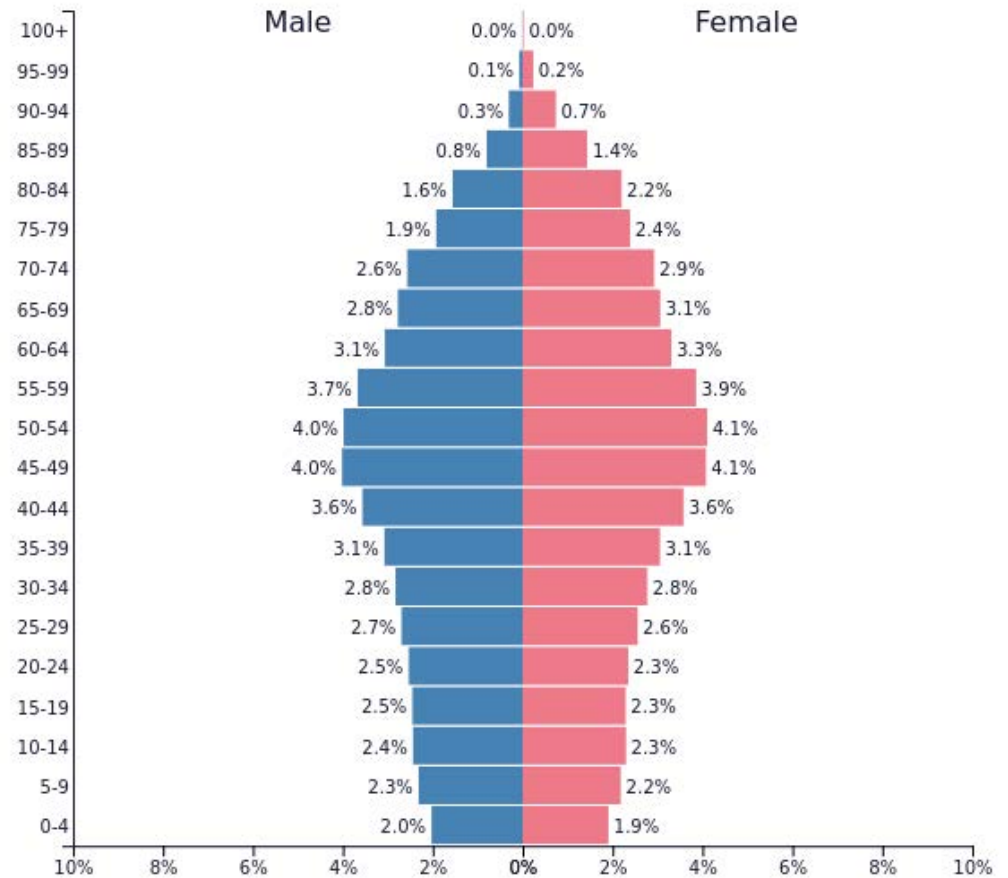


Population affected 20% Deaths 2 000 000

<https://www.populationpyramid.net/>

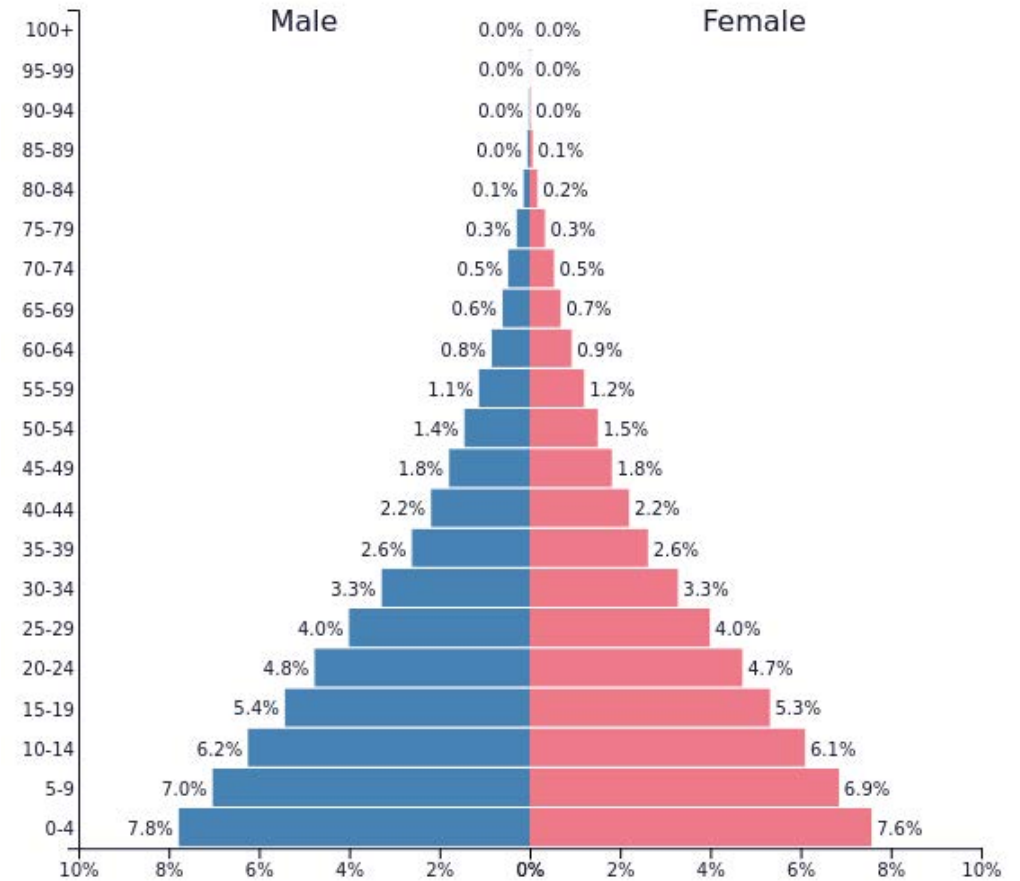
Population pyramid

Differences by geographical regions



Italy - 2019
Population: 60,550,092

ITALY



South Sudan - 2019
Population: 11,062,113

South Sudan

Case fatality rate of the ongoing COVID-19 pandemic

The Case Fatality Rate (CFR) is the ratio between confirmed deaths and confirmed cases. During an outbreak of a pandemic the CFR is a poor measure of the mortality risk of the disease. We explain this in detail at OurWorldInData.org/Coronavirus

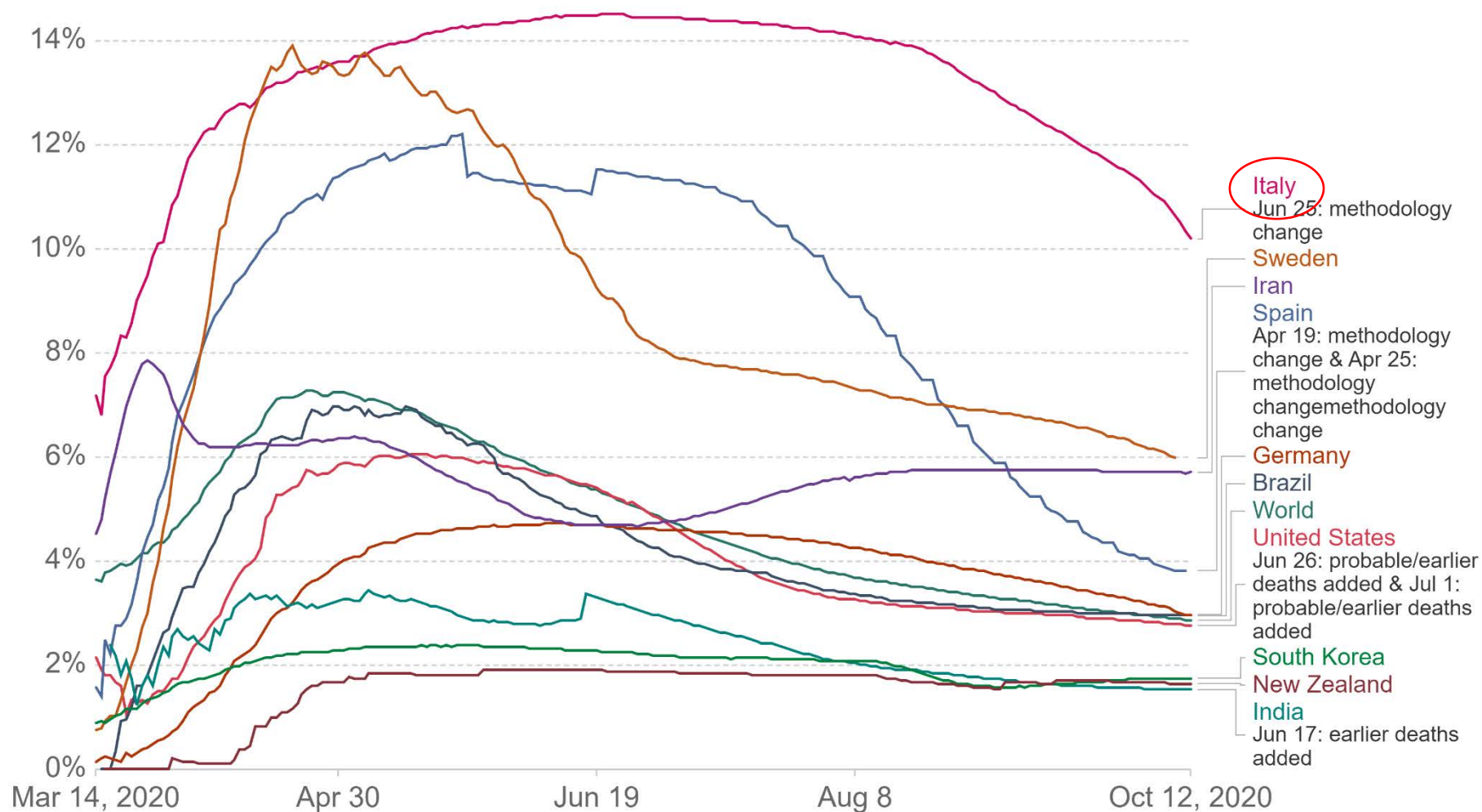
Our World
in Data

12° CONGRESSO
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Italian Conference on
AIDS and Antiviral Research

12-16 ottobre 2020

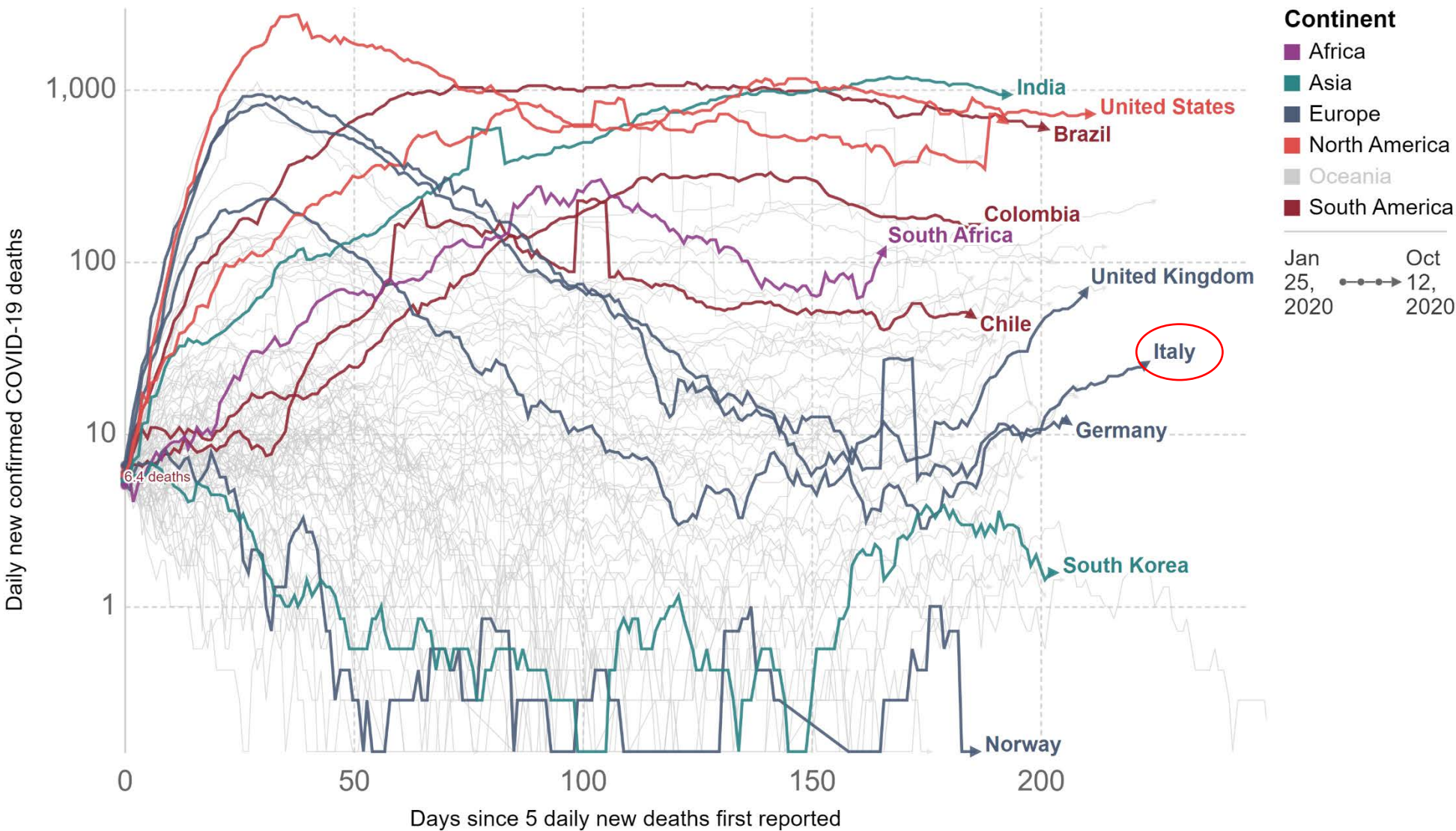


Source: European CDC – Situation Update Worldwide – Last updated 12 October, 10:05 (London time)

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Daily new confirmed COVID-19 deaths

Shown is the rolling 7-day average. Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true number of deaths from COVID-19.



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Excess mortality during COVID-19: The number of deaths from all causes compared to previous years, all ages

Shown is how the number of weekly deaths in 2020 differs (as a percentage) from the average number of deaths in the same week over the previous five years (2015–2019). This metric is called the P-score. Note that deaths in recent weeks might be undercounted due to reporting lags.

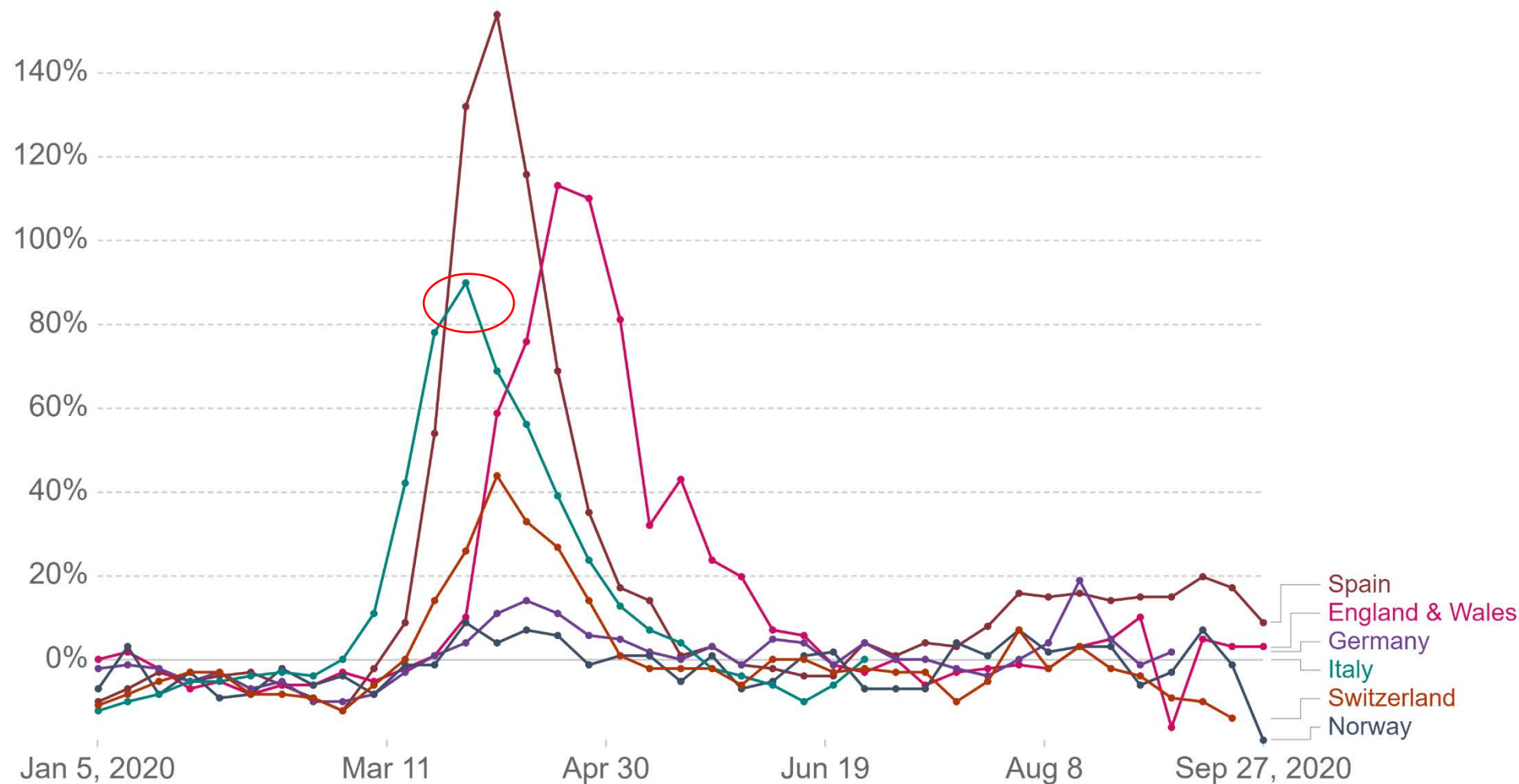
Our World
in Data

2° CONGRESSO
NAZIONALE



Italian Conference on
AIDS and Antiviral Research

16 ottobre 2020



Source: Human Mortality Database (2020), UK Office for National Statistics (2020)

OurWorldInData.org/coronavirus • CC BY

Note: Dates refer to the last day in each week for most but not all countries. More details can be found in the Sources tab.

Excess mortality during COVID-19: The number of deaths from all causes compared to previous years, by age

Shown is how the number of weekly deaths in 2020 – broken down by broad age groups – differs (as a percentage) from the average number of deaths in the same week over the previous five years (2015–2019). This metric is called the P-score. Note that deaths in recent weeks might be undercounted due to reporting lags.

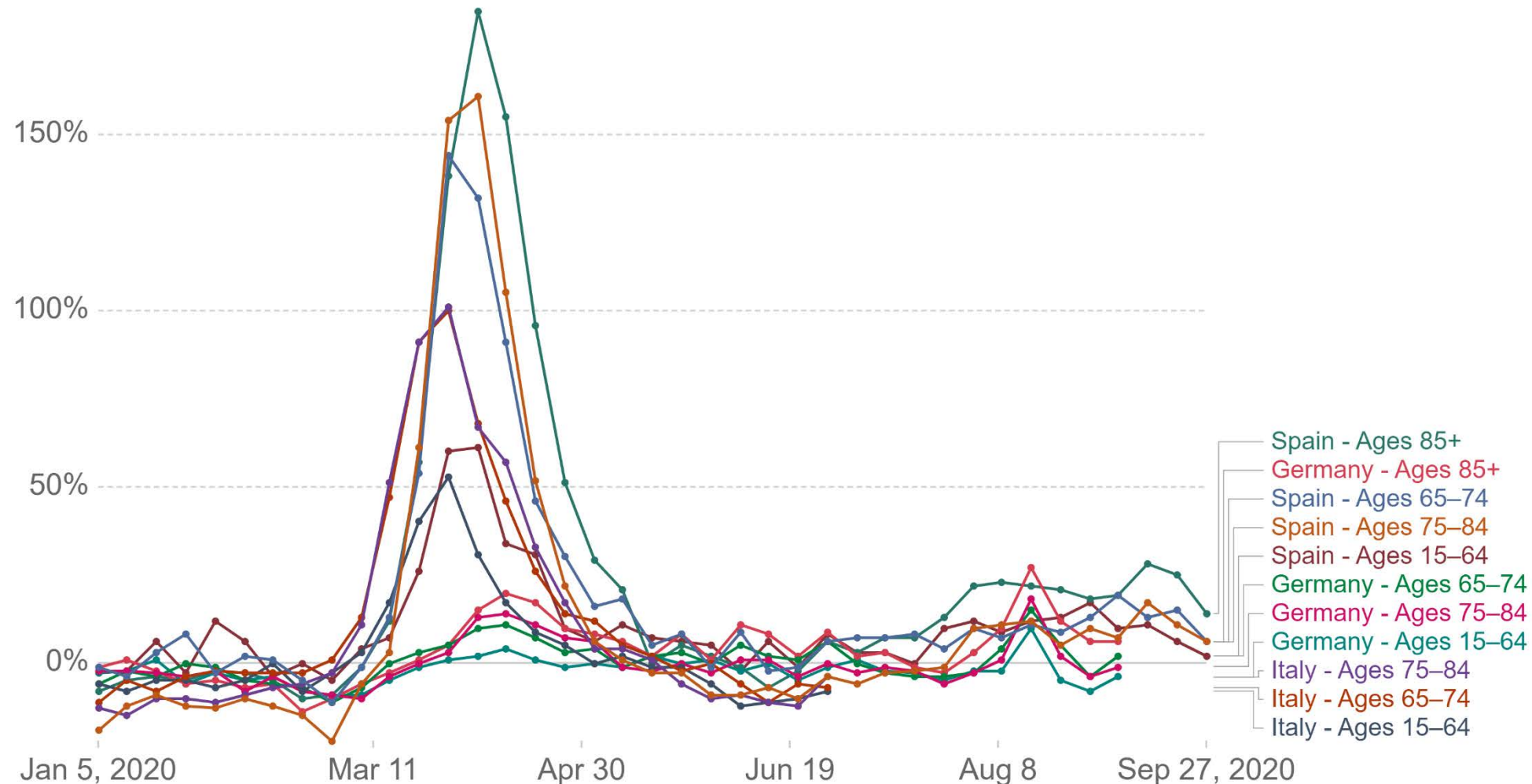
Our World
in Data

2° CONGRESSO
NAZIONALE



Italian Conference on
Data Science and Antiviral Research

-16 ottobre 2020



Source: Human Mortality Database (2020)

OurWorldInData.org/coronavirus • CC BY

Note: Dates refer to the last day in each week for most but not all countries. More details can be found in the Sources tab.

Excess mortality during COVID-19: The raw number of deaths from all causes compared to previous years, Italy

Shown is how the raw number of weekly deaths in 2020 differs from the average number of deaths in the same week over the previous five years (2015–2019). Note that deaths in recent weeks might be undercounted due to reporting lags.

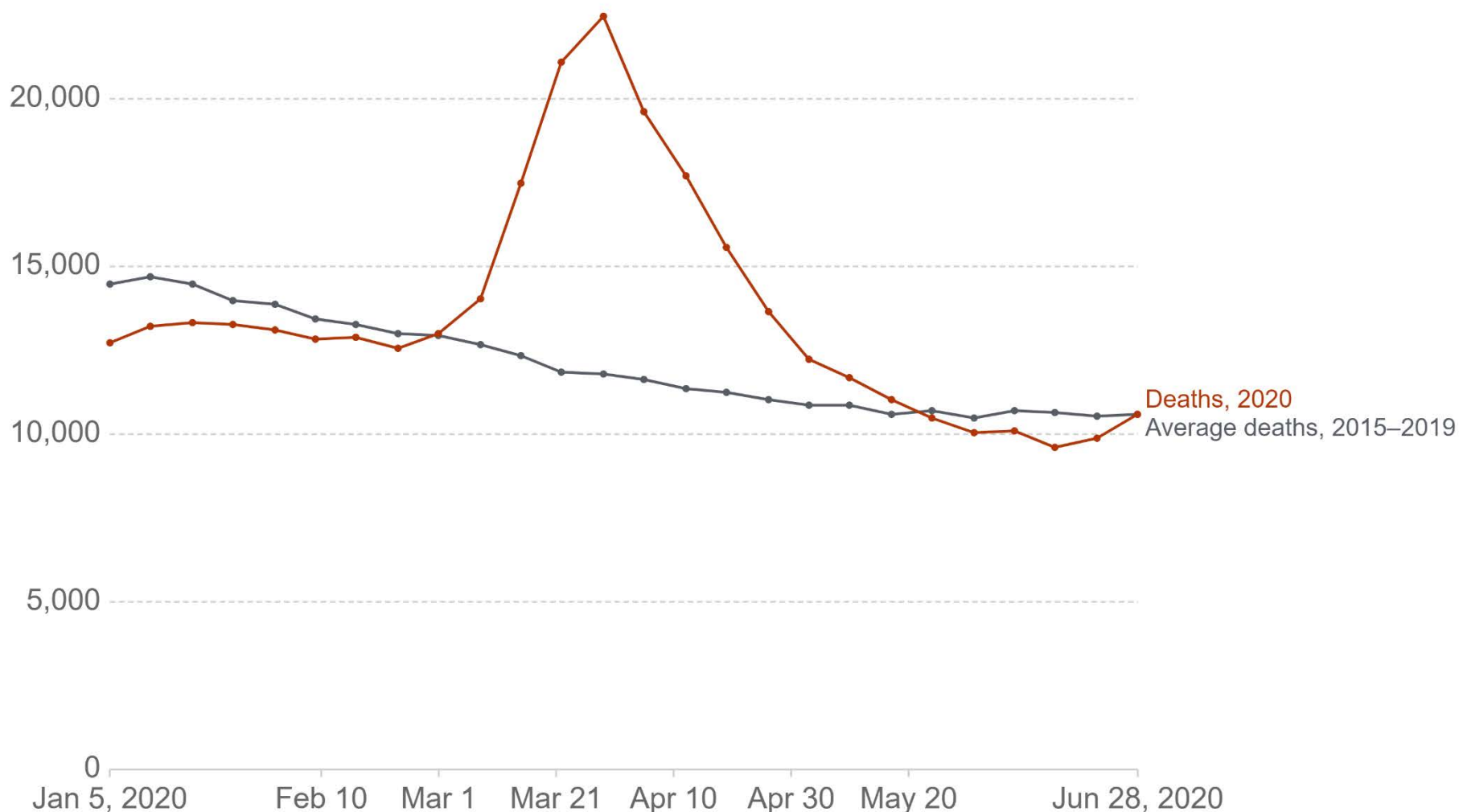
Our World
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2° CONGRESSO
NAZIONALE



Italian Conference on
AIDS and Antiviral Research

2-16 ottobre 2020



Source: Human Mortality Database (2020)

Note: Dates refer to the last day in each week for most but not all countries. More details can be found in the Sources tab.

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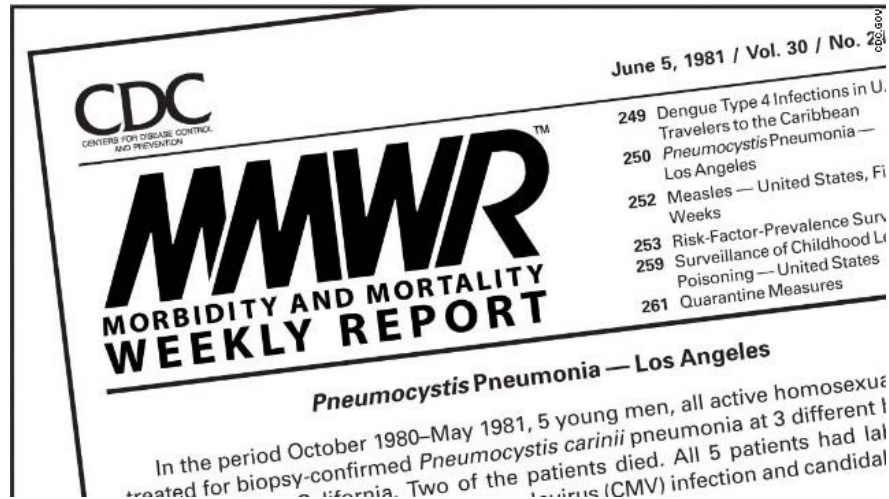
COVID-19 Mortality in the US and 18 Comparison Countries

Country	Date COVID-19 cases surpassed 1 per million	COVID-19 deaths per 100 000			Excess US COVID-19 deaths (% of reported deaths)		
		Since the start of the pandemic	Since May 10, 2020	Since June 7, 2020	Since the start of the pandemic	Since May 10, 2020	Since June 7, 2020
Low mortality (COVID-19 deaths, <5/100 000)							
South Korea	2/20/20	0.7	0.2	0.2	196 161 (99)	120 625 (61)	88 771 (45)
Japan	2/23/20	1.2	0.7	0.5	194 711 (98)	119 090 (60)	87 939 (44)
Australia	3/1/20	3.3	2.9	2.9	187 661 (94)	111 747 (56)	79 849 (40)
Moderate mortality (COVID-19 deaths, 5-25/100 000)							
Norway	2/29/20	5.0	1.0	0.5	182 099 (92)	118 074 (59)	87 655 (44)
Finland	3/2/20	6.1	1.4	0.3	178 373 (90)	116 698 (59)	88 432 (45)
Austria	3/1/20	8.6	1.7	1.0	170 247 (86)	115 874 (58)	86 066 (43)
Denmark	3/4/20	10.9	2.1	0.8	162 600 (82)	114 438 (58)	86 669 (44)
Germany	3/1/20	11.3	2.4	0.9	161 393 (81)	113 422 (57)	86 521 (44)
Israel	3/2/20	14.0	11.2	10.6	152 393 (77)	84 676 (43)	54 529 (27)
Switzerland	2/29/20	20.6	2.8	1.2	130 654 (66)	112 205 (57)	85 402 (43)
Canada	3/6/20	24.6	12.4	4.0	117 622 (59)	80 631 (41)	76 235 (38)
High mortality (COVID-19 deaths, >25/100 000)							
The Netherlands	3/3/20	36.2	5.2	1.5	79 318 (40)	104 177 (52)	84 514 (43)
France	3/1/20	46.6	7.5	3.2	45 142 (23)	96 763 (49)	78 947 (40)
Sweden	2/29/20	57.4	23.5	10.3	9581 (5)	44 210 (22)	55 607 (28)
Italy	2/23/20	59.1	9.1	3.1	4136 (2)	91 604 (46)	79 120 (40)
United Kingdom	3/3/20	62.6	16.3	5.0	-7459 (-4)	67 927 (34)	73 103 (37)
Spain	2/29/20	65.0	8.6	4.6	-15 204 (-8)	93 247 (47)	74 163 (37)
Belgium	3/2/20	86.8	12.4	4.2	-87 057 (-44)	80 475 (41)	75 572 (38)
United States	3/7/20	60.3	36.9	27.2			

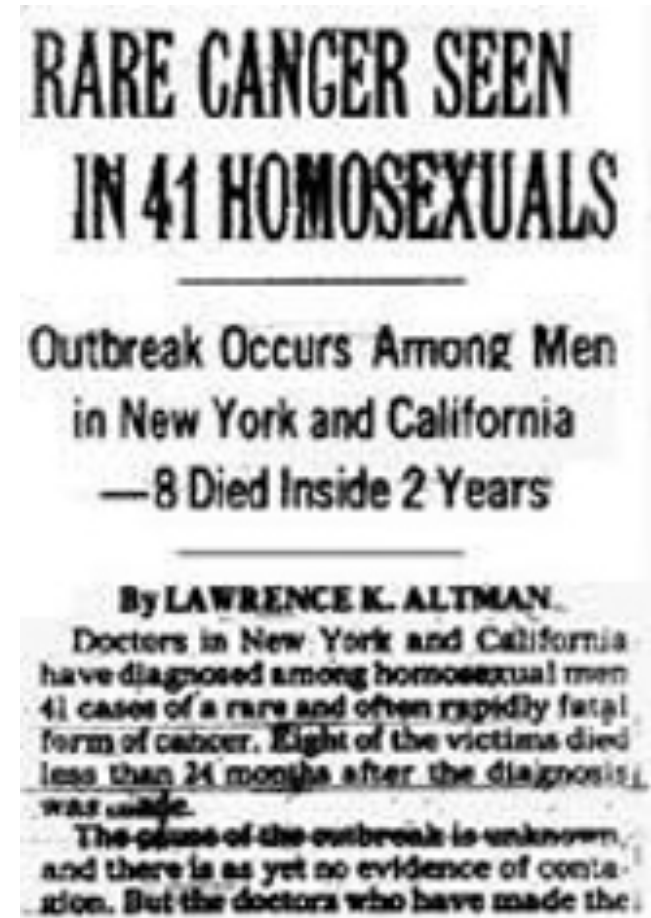
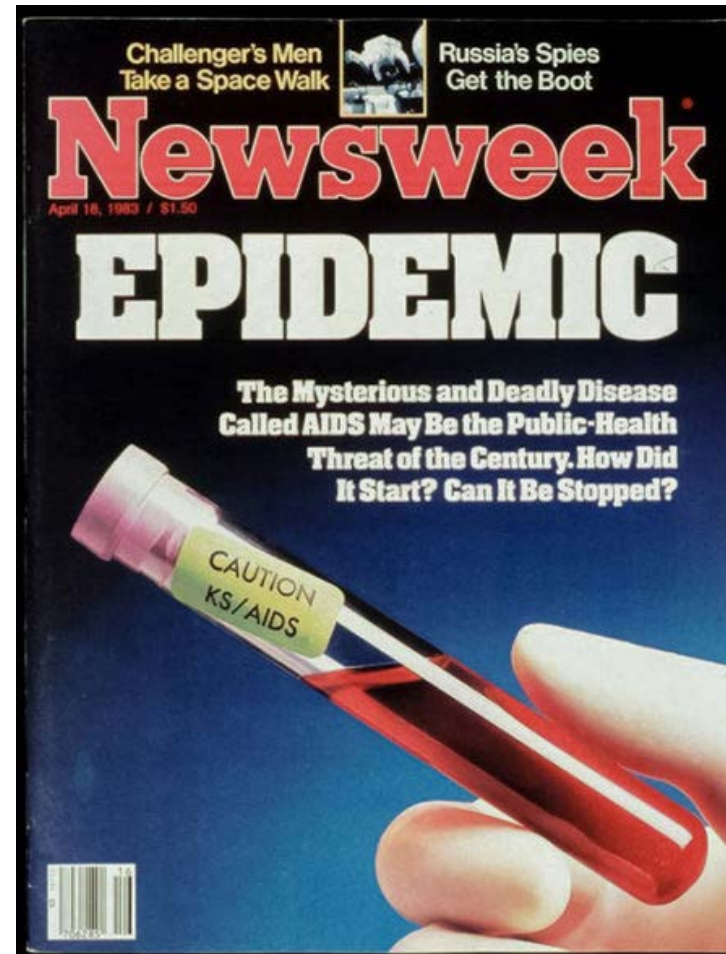
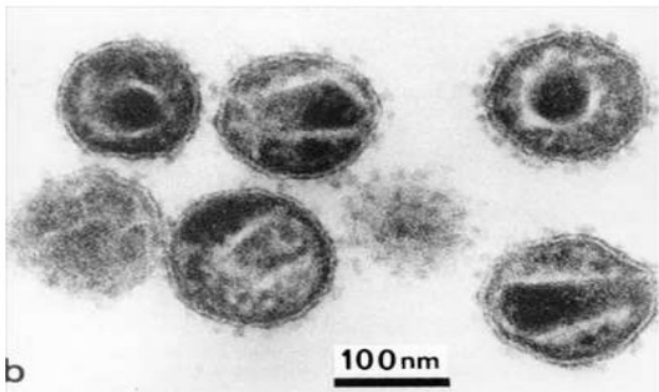
COVID-19 and Excess All-Cause Mortality in the US and 18 Comparison Countries

Country	Excess all-cause mortality per 100 000			Excess US deaths from all causes (% of reported deaths)		
	Since the start of the pandemic	Since May 10, 2020	Since June 7, 2020	Since the start of the pandemic	Since May 10, 2020	Since June 7, 2020
Moderate mortality (COVID-19 deaths, 5-25/100 000)						
Norway	-2.6	-4.3	-2.1	235 610 (100)	102 598 (44)	63 952 (27)
Denmark	5.1	1.9	1.8	218 664 (93)	96 375 (41)	57 910 (25)
Israel	8	7.5	5.4	209 376 (89)	77 932 (33)	46 091 (20)
Germany	10.0	1.4	-0.2	202 547 (86)	97 905 (42)	63 952 (27)
Canada	13.3	-3.7	-7.6	192 009 (81)	102 598 (44)	63 952 (27)
Switzerland	17.0	-3.6	-2.7	179 545 (76)	102 598 (44)	63 952 (27)
Austria	17.1	3.2	1.4	179 208 (76)	92 042 (39)	59 375 (25)
Finland	19.1	8.7	5.4	172 706 (73)	74 116 (31)	46 264 (20)
High mortality (COVID-19 deaths, >25/100 000)						
Sweden	50.8	14.9	3.7	68 540 (29)	53 429 (23)	51 864 (22)
France	51.5	5.9	2.6	66 167 (28)	83 301 (35)	55 512 (24)
The Netherlands	55.1	0.1	-0.7	54 282 (23)	102 157 (43)	63 952 (27)
Belgium	67.8	-4.6	-6.4	12 638 (5)	102 598 (44)	63 952 (27)
United Kingdom	94.5	13.7	-1.2	-75 196 (-32)	57 659 (24)	63 952 (27)
Spain	102.2	2.1	1.8	-100 768 (-43)	95 784 (41)	57 948 (25)
United States	71.6	31.2	19.4			

C. Dealing with a new virus in 1981



Electron Micrograph of a HIV virus



C. Dealing with a new virus in 2020



HEALTH

What we've learned about the coronavirus — and what we still need to know

By HELEN BRANSWELL @HelenBranswell / MARCH 26, 2020

The New York Times

Opinion

When Will Life Be Normal Again? We Just Don't Know

COVID-19: What We Know, and What We Don't

April 3, 2020 | Shanoor Seervai

'What we thought we knew, we don't know,' doctors say of COVID-19



Laura Clawson for Daily Kos
Daily Kos Staff

Sunday April 19, 2020 · 5:40 PM

HEALTH

Everything we know about coronavirus immunity and antibodies — and plenty we still don't

By ANDREW JOSEPH @DrewQJoseph / APRIL 20, 2020

C. Challenges of the research during a pandemic

Coronavirus Disease (COVID-19) –
Statistics and Research

by Max Roser, Hannah Ritchie, Esteban Ortiz-Ospina and Joe Hasell

Our World
in Data

For established problems we can refer to well-established research and data. **But COVID-19 is different. All data and research on the virus is preliminary**; researchers are rapidly learning more about a new and evolving problem. The research we present today will be revised in the future. We present clearly what the current research and data tells us about this emerging problem and we provide an understanding of what can and cannot be said based on this available knowledge.

<https://ourworldindata.org/coronavirus#about-this-page>

“Push” and “Pull” Mechanisms

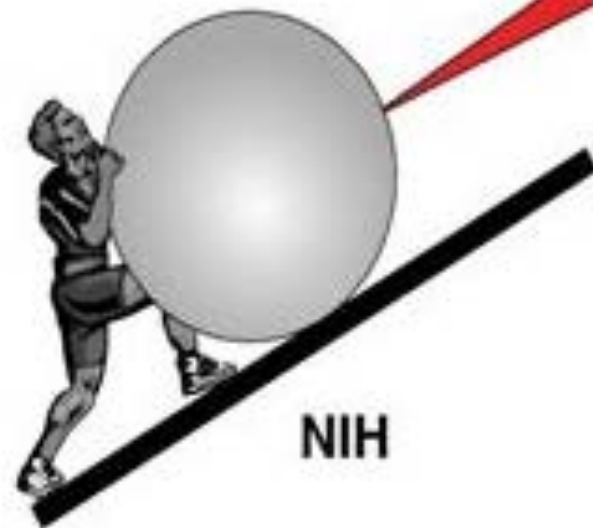
Supply = Push

Research provides new opportunities that lead to innovation.

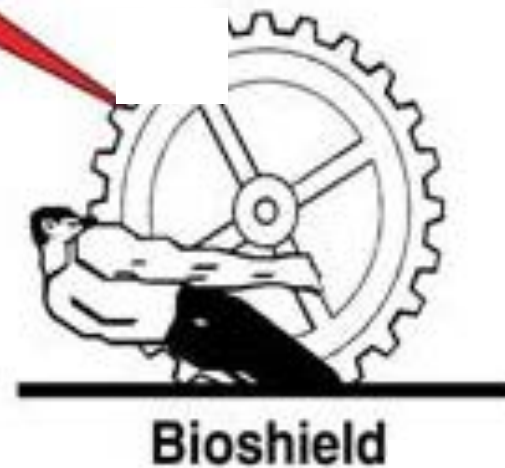


Demand = Pull

Respond to the needs of the marketplace. Need to be flexible, contractual, committable, not to be subject to political change.



\$\$



THE LANCET

Number 9214 • Founded 1823 • Published weekly

Volume 348

October 12, 1996

Biomedical Research in an Era of Unlimited Aspirations and Limited Resources

Anthony S. Fauci

"Resources for biomedical research in general are unlikely to increase substantially in the foreseeable future, and in some areas will be constrained. Yet the opportunities for advances in knowledge and the practical application of these advances will surely increase. Hence, the dichotomy between aspirations and resources will probably widen."

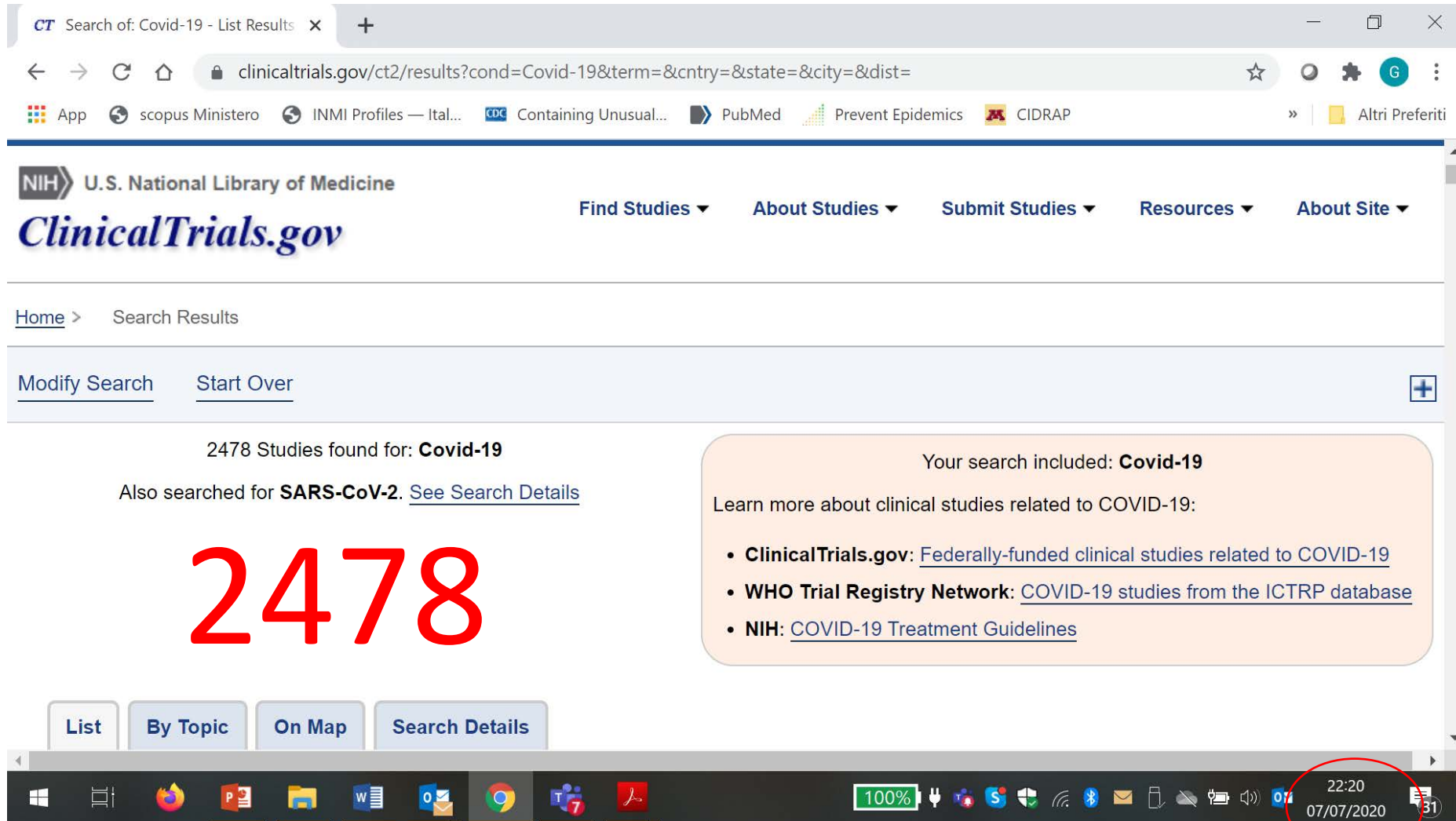
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12-16 ottobre 2020

Rush publication of preliminary uncontrolled data



The screenshot shows a web browser window displaying the ClinicalTrials.gov search results for "Covid-19". The browser's address bar shows the URL: `clinicaltrials.gov/ct2/results?cond=Covid-19&term=&cntry=&state=&city=&dist=`. The ClinicalTrials.gov header includes the NIH logo and navigation links: "Find Studies", "About Studies", "Submit Studies", "Resources", and "About Site". Below the header, the search results section shows "2478 Studies found for: Covid-19" and "Also searched for SARS-CoV-2. See Search Details". A large red number "2478" is overlaid on the page. To the right, a box titled "Your search included: Covid-19" lists links to "Federally-funded clinical studies related to COVID-19", "COVID-19 studies from the ICTRP database", and "COVID-19 Treatment Guidelines". At the bottom, a taskbar shows the Windows operating system with various application icons and a system clock indicating 22:20 on 07/07/2020.

CT Search of: Covid-19 - List Results x +

clinicaltrials.gov/ct2/results?cond=Covid-19&term=&cntry=&state=&city=&dist=

App scopus Ministero INMI Profiles — Ital... CDC Containing Unusual... PubMed Prevent Epidemics CIDRAP Altri Preferiti

NIH U.S. National Library of Medicine

ClinicalTrials.gov

Find Studies About Studies Submit Studies Resources About Site

Home > Search Results

Modify Search Start Over

2478 Studies found for: **Covid-19**

Also searched for **SARS-CoV-2**. [See Search Details](#)

2478

Your search included: **Covid-19**

Learn more about clinical studies related to COVID-19:

- **ClinicalTrials.gov:** [Federally-funded clinical studies related to COVID-19](#)
- **WHO Trial Registry Network:** [COVID-19 studies from the ICTRP database](#)
- **NIH:** [COVID-19 Treatment Guidelines](#)

List By Topic On Map Search Details

100% 22:20 07/07/2020

Rush publication of preliminary uncontrolled data

The screenshot shows the ClinicalTrials.gov website with search results for COVID-19. The browser address bar shows the URL: clinicaltrials.gov/ct2/results?cond=COVID-19&term=&cntry=&state=&city=&dist=. The page header includes a blue banner with COVID-19 information and links to CDC and NIH. The ClinicalTrials.gov logo and navigation menu are visible. The search results section shows 3567 studies found for COVID-19, with links to modify the search or start over. A sidebar on the right lists related resources: ClinicalTrials.gov, WHO Trial Registry Network, and NIH COVID-19 Treatment Guidelines. The Windows taskbar at the bottom shows the time as 17:01 on 11/10/2020.

COVID-19 is an emerging, rapidly evolving situation.
Get the latest public health information from CDC: <https://www.coronavirus.gov>.
Get the latest research information from NIH: <https://www.nih.gov/coronavirus>.

NIH U.S. National Library of Medicine
ClinicalTrials.gov

Find Studies ▾ About Studies ▾ Submit Studies ▾ Resources ▾ About Site ▾ [PRS Login](#)

[Home](#) > Search Results

[Modify Search](#) [Start Over](#)

3567 Studies found for: **COVID-19**

Also searched for **COVID** and **SARS-CoV-2**. [See Search Details](#)

Your search included: **COVID-19**

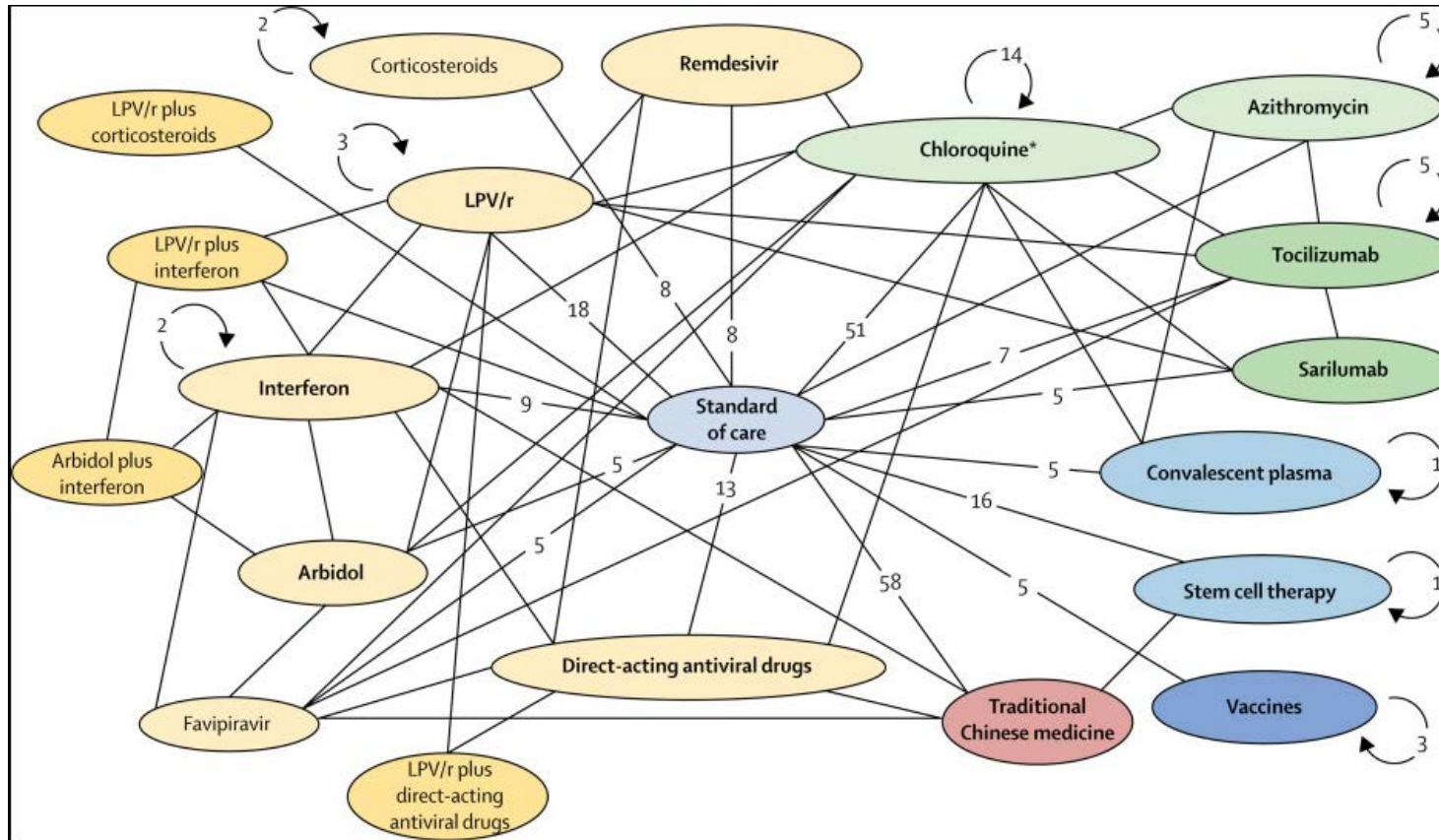
Learn more about clinical studies related to COVID-19:

- **ClinicalTrials.gov:** [Federally-funded clinical studies related to COVID-19](#)
- **WHO Trial Registry Network:** [COVID-19 studies from the ICTRP database](#)
- **NIH:** [COVID-19 Treatment Guidelines](#)

3567

17:01
11/10/2020

Unprecedented rate of clinical trial research on efficacy and safety of clinical candidate interventions against COVID-19



Evidence network of COVID-19 clinical trials of 15 therapeutic candidates.

Circles represent interventions or intervention groups (categories). Lines between two circles indicate comparisons in clinical trials.



COVID-19 Clinical trials: Quality matters more than quantity

Sergio Bonini¹  | Giuseppe Maltese^{2,3} 

Clinical research should be oriented:

- by guidelines for more harmonized high-quality studies
- by a united commitment of the scientific community to share personal knowledge and data

January 30, 2020, at NEJM.org.

THE NEW ENGLAND JOURNAL OF MEDICINE

CORRESPONDENCE

Transmission of 2019-nCoV Infection
from an Asymptomatic Contact in Germany



Study claiming new coronavirus can be transmitted by people without symptoms was flawed

By Kai Kupferschmidt | Feb. 3, 2020 , 5:30 PM

NEJMc2001468_appendix.pdf



HEALTH

It's Estimated 1 in 4 Coronavirus Carriers Could Be Asymptomatic. Here's What We Know



AYLIN WOODWARD, BUSINESS INSIDER
3 APRIL 2020

NEJM, Lancet place expressions of concern on controversial studies of drugs for COVID-19

This article has been retracted.



ORIGINAL ARTICLE

Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19

Mandeep R. Mehra, M.D., Sapan S. Desai, M.D., Ph.D., SreyRam Kuy, M.D., M.H.S., Timothy D. Henry, M.D., and Amit N. Patel, M.D.

RETRACTED

RETRACTED: Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis

Prof Mandeep R Mehra, MD •   • Sapan S Desai, MD • Prof Frank Ruschitzka, MD • Amit N Patel, MD

Published: May 22, 2020 • DOI: [https://doi.org/10.1016/S0140-6736\(20\)31180-6](https://doi.org/10.1016/S0140-6736(20)31180-6) •



<https://retractionwatch.com/2020/06/02/nejm-places-expression-of-concern-on-controversial-study-of-drugs-for-covid-19/>

Il pasticciaccio brutto di London Wall



- 22 maggio 2020 Lancet pubblica studio su cloroquina. Risultati: non evidente beneficio rispetto agli altri trattamenti. Raccolta dati di [Surgisphere](#)
- 23 maggio 2020:OMS → temporanea sospensione del braccio di studio con idrossicloroquina per motivi precauzionali (studio Solidarity)
- 26 maggio 2020: AIFA sospende l'autorizzazione all'uso di cloroquina/idrossicloroquina al di fuori di sperimentazioni
- 28 maggio 2020 : lettera aperta di 17 ricercatori mette in dubbio la credibilità di società capace di raccogliere in poco tempo così tanti dati di pazienti ricoverati in ospedali nel continente africano
- 28 maggio 2020: The Guardian evidenzia incongruenze nello studio tra cui un numero di morti per covid-19 in Australia maggiore di quanto non fosse stato ufficialmente denunciato dalle autorità
- 3 giugno 2020: *Lancet* in una *Expression of concern* avverte i lettori delle importanti questioni che sono state segnalate alla rivista in merito all'articolo
- 4 giugno 2020: *NEJM* ritira l'articolo *Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19* basato su dati raccolti da [Surgisphere](#)
- 5 giugno 2020 il *Lancet* ritira l'articolo *Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19*

NEJM, Lancet place expressions of concern on controversial studies of drugs for COVID-19

RETRACTED

This article has been retracted.

ORIGINAL ARTICLE

Cardiovascular Disease, Drug Therapy, and Mortality in Covid-19

Mandeep R. Mehra, M.D., Sapan S. Desai, M.D., Ph.D., SreyRam Kuy, M.D., M.H.S., Timothy D. Henry, M.D., and Amit N. Patel, M.D.

RETRACTED: Hydroxychloroquine or chloroquine with or without a macrolide for treatment of COVID-19: a multinational registry analysis

Prof Mandeep R Mehra, MD • Sapan S Desai, MD • Prof Frank Ruschitzka, MD • Amit N Patel, MD

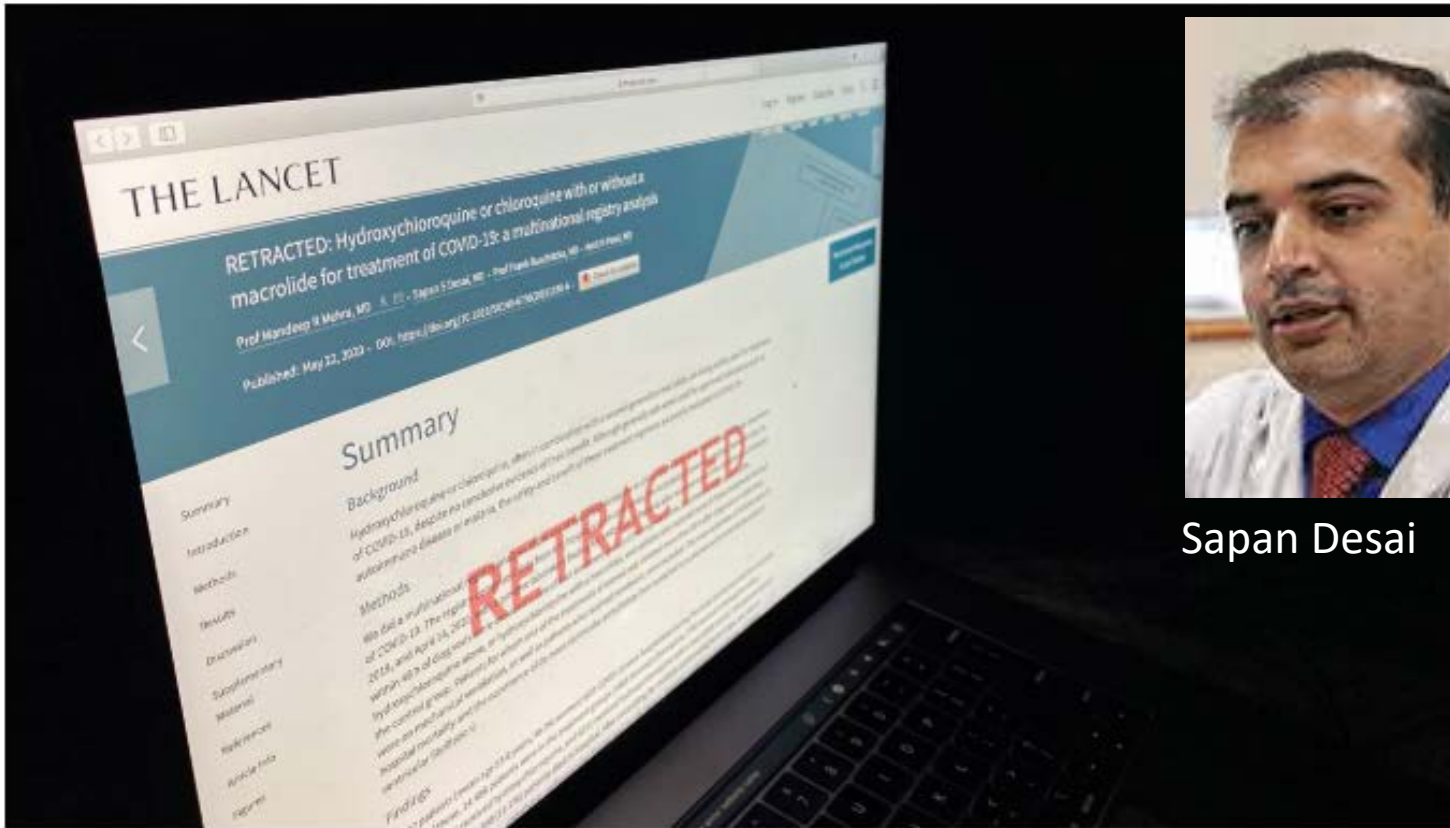
Published: May 22, 2020 • DOI: [https://doi.org/10.1016/S0140-6736\(20\)31180-6](https://doi.org/10.1016/S0140-6736(20)31180-6) •  Check for updates

A man with short dark hair, wearing a dark suit, a light-colored checkered shirt, and a patterned tie, is speaking into a microphone. He is looking slightly to his right. The background is a blurred image of a document with text.

We always aspire to perform our research in accordance with the highest ethical and professional guidelines. We can never forget the responsibility we have as researchers to scrupulously ensure that we rely on data sources that adhere to our high standards. Based on this development, we can no longer vouch for the veracity of the primary data sources. Due to this unfortunate development, the authors request that the paper be retracted.

*Mandeep R Mehra, mehra@bwh.harvard.edu
Brigham and Women's Hospital, Boston, MA
School, Boston, MA
Hospital Zurich, Switzerland
Engineering, University of
Research Institute

Correspondence Copyright © 2000 Massachusetts Medical Society.



Sapan Desai



Mandeep Mehra



Amit Patel

E. PETERSEN/SCIENCE

Who's to blame? These three scientists are at the heart of the Surgisphere COVID-19 scandal

By Charles Piller | Jun. 8, 2020 , 7:00 PM


<https://www.sciencemag.org/news/2020/06/whos-blame-these-three-scientists-are-heart-surgisphere-covid-19-scandal>

Enquête exhaustive concernant la société Surgisphere qui a fourni les données à l'étude publiée dans la revue scientifique The Lancet



Surgisphere



Type	Private
Industry	Healthcare analytics
Founded	2008 ^[1]
Headquarters	Palatine, Illinois, US ^[2]
Key people	Sapan Desai (CEO and founder)
Website	surgisphere.com  [dead link]

Dead link since June 2020



How A Pornstar & Sci-Fi Writer Influenced WHO Policies On Hydroxychloroquine With Fake Data

By **GreatGameIndia** - June 6, 2020

Surgisphere, whose employees appear to include a sci-fi writer and adult content model, provided database behind Lancet and New England Journal of Medicine hydroxychloroquine studies



Ariane Anderson, Surgisphere Seller director alias Skye Daniels

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WE NEED SCIENCE— and *SCIENCE*.



“Ignoring evidence can harm lives during a crisis.
That’s why [we] are working harder than ever to
ensure we are a sound voice for science.”

Sudip Parikh, AAAS CEO

Inflation of dedicated calls



European Research Area (ERA) corona platform

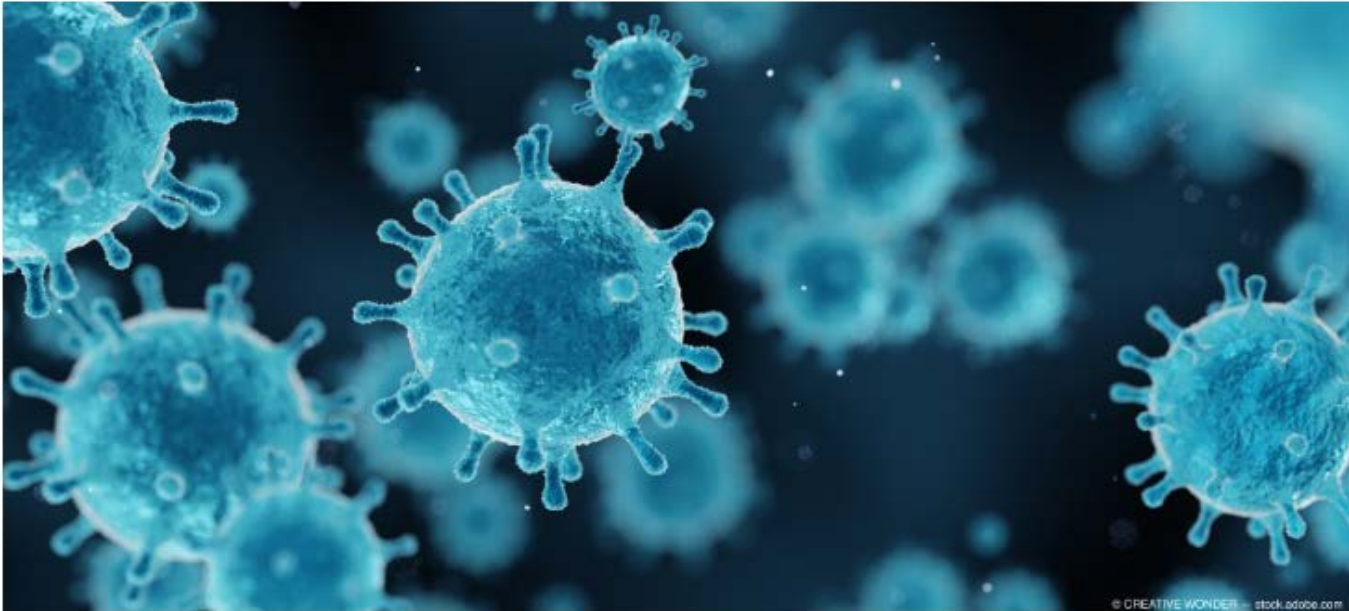
#EUvsVirus
challenge

can you hack it?

“Solidarity” clinical trial for COVID-19 treatments

Use of drugs without data from clinical trials

Off-label prescribing in the era of COVID-19



By Joseph M. Geskey, DO, MBA, MS-PopH

April 14, 2020

1. Medical issues

- Efficacy
- Safety

2. Legal issues

3. Ethical issues

Assessment of Evidence for COVID-19-Related Treatments (Updated 10/8/2020)

ANTIVIRAL AGENTS	SUPPORTING AGENTS	OTHER
<ul style="list-style-type: none"> • BALOXAVIR UPDATED • CHLOROQUINE PHOSPHATE UPDATED • FAVPIRAVIR (Avigan®, Avifavir®, Favilavir) • HIV PROTEASE INHIBITORS (e.g., LPV/RTV, Kaletra®) UPDATED • HYDROXYCHLOROQUINE (Plaquenil®) • NEURAMINIDASE INHIBITORS (e.g., oseltamivir) UPDATED • REMDESIVIR (Veklury®) NEW • SARS-CoV-2-SPECIFIC MONOCLONAL ANTIBODIES • UMIFENOVIR (Arbidol®) 	<ul style="list-style-type: none"> • ANAKINRA (Kineret®) UPDATED • ASCORBIC ACID UPDATED • AZITHROMYCIN • BARICITINIB (Olumiant®) • COLCHICINE • CORTICOSTEROIDS (systemic) UPDATED • CORTICOSTEROIDS (inhaled) • INHALED PROSTACYCLINS • INTERFERONS • NITRIC OXIDE (inhaled) UPDATED • RUXOLITINIB (Jakafi®) • SARILUMAB (Kevzara®) • SILTUXIMAB (Sylvant®) • SIROLIMUS (Rapamune®) • TOCILIZUMAB (Actemra®) • VITAMIN D • ZINC 	<ul style="list-style-type: none"> • ACE INHIBITORS, ANGIOTENSIN II RECEPTOR BLOCKERS (ARBs) • ANTICOAGULANTS • COVID-19 CONVALESCENT PLASMA • FAMOTIDINE • HMG-CoA REDUCTASE INHIBITORS (statins) • IMMUNE GLOBULIN • IVERMECTIN • NEBULIZED DRUGS • NICLOSAMIDE UPDATED • NITAZOXANIDE • NONSTEROIDAL ANTI-INFLAMMATORY AGENTS (NSAIDs) • THROMBOLYTIC AGENTS (t-PA [alteplase], tenecteplase)

FDA STATEMENT

**FDA on Signing of the COVID-19 Emergency Relief Bill,
Including Landmark Over-the-Counter Drug Reform and
User Fee Legislation**

For Immediate Release:

March 30, 2020

Statement From:

Commissioner of Food and Drugs - Food and Drug Administration
Stephen M. Hahn M.D.

Ethical Values to Guide Rationing of Absolutely Scarce Health Care Resources in a Covid-19 Pandemic

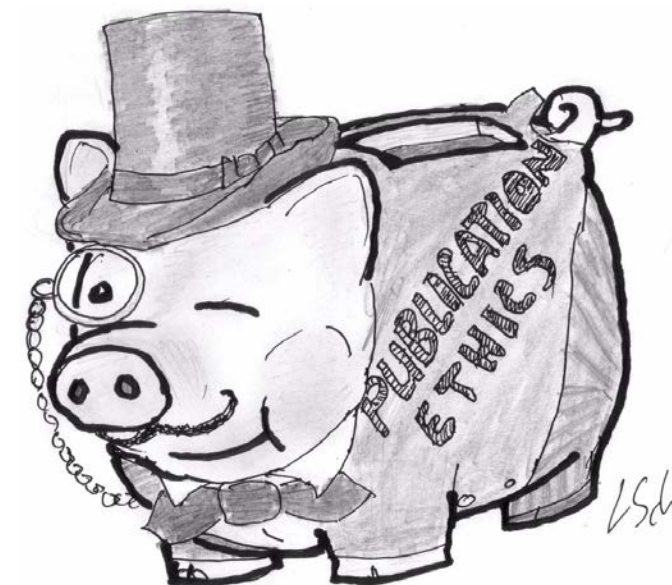
12° CONGRESSO
NAZIONALE



Italian Conference on
AIDS and Antiviral Research

12-16 ottobre 2020

Ethical Values and Guiding Principles	Application to COVID-19 Pandemic
Maximize benefits	
Save the most lives	Receives the highest priority
Save the most life-years — maximize prognosis	Receives the highest priority
Treat people equally	
First-come, first-served	Should not be used
Random selection	Used for selecting among patients with similar prognosis
Promote and reward instrumental value (benefit to others)	
Retrospective — priority to those who have made relevant contributions	Gives priority to research participants and health care workers when other factors such as maximizing benefits are equal
Prospective — priority to those who are likely to make relevant contributions	Gives priority to health care workers
Give priority to the worst off	
Sickest first	Used when it aligns with maximizing benefits
Youngest first	Used when it aligns with maximizing benefits such as preventing spread of the virus



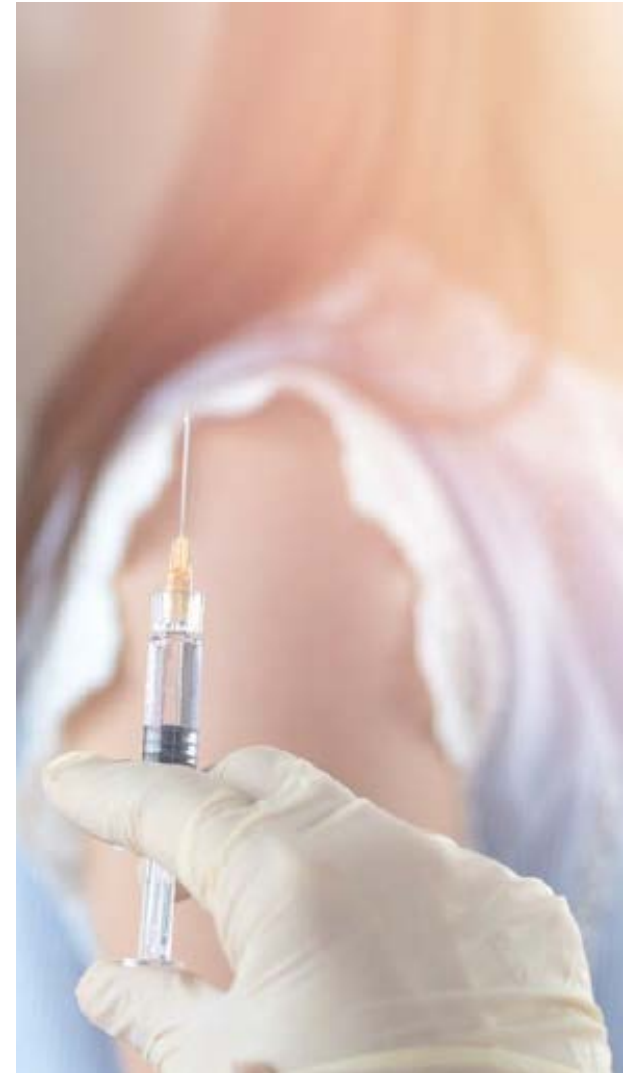
Research on vaccines - 1

Coronavirus vaccines: five key questions as trials begin

Some experts warn that accelerated testing will involve some risky trade-offs.

- Do people develop immunity?
- If humans do develop immunity, how long does it last?
- What kind of immune response should vaccine developers look for?
- How do we know if a vaccine is likely to work?
- Will it be safe?

Nature 579, 481 (2020), doi: 10.1038/d41586-020-00798-8



Research on vaccines – 1

The latest in the COVID-19 vaccine race

- *Last updated: 9 October 2020*
- 249 candidates, 51 clinical phases

The COVID-19 vaccine race candidates in phase 3



sinovac®

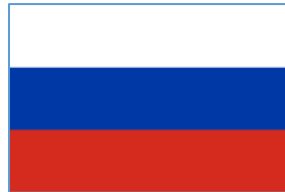
Virus inattivato



Virus inattivato
(2 candidati)



Vettore virale



ФНИЦ эпидемиологии
и микробиологии
имени Н.Ф. Гамалеи

Vettore virale



moderna™

RNA

Johnson & Johnson

Vettore virale

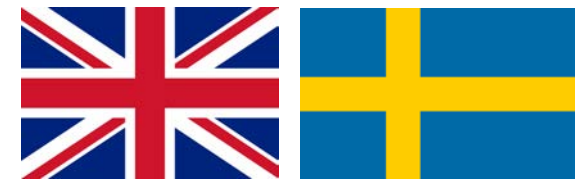
NOVAVAX

Proteine



BIONTECH

RNA



AstraZeneca



Vettore virale

Research on vaccines – 1

The latest in the COVID-19 vaccine race

- *Last updated: 9 October 2020*
- 249 candidates, 51 clinical phases
 - 19 based on DNA (5 in clinical phase: 4 in 2 or 1/2, 1 in 1)
 - 33 based on RNA (7 in clinical phase: 2 in 3, 2 in 2 or 1/2, 3 in 1)
 - 52 based on viral vector (11 in clinical phase: 4 in 3, 7 in 1)
 - 18 based on virus attenuated or inactivated (7 in clinical phase: 3 in 3, 3 in 2 or 1/2, 1 in 1)
 - 76 based on proteins (14 in clinical phase: 1 in 3, 5 in 2 or 1/2, 8 in 1)
 - 15 based on virus-like particles (VLP) (2 in clinical phase: 1 in 2 or 1/2, 1 in 1)
 - 36 based on other platforms (5 in clinical phase: 2 in 2 or 1/2, 3 in 1)

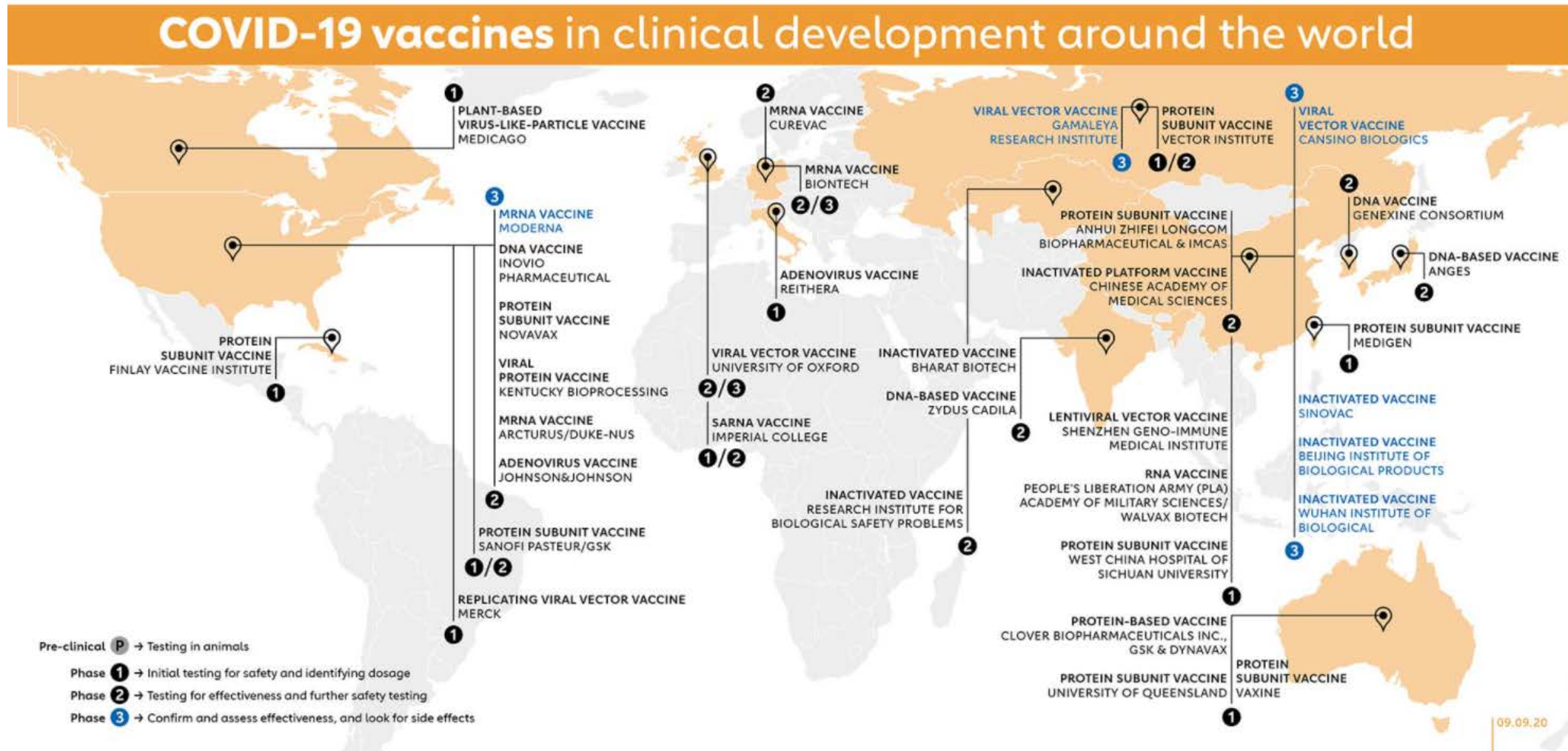
The COVID-19 vaccine race

candidates in clinical phase per country

Nazione	N. Candidates
USA	19
Cina	14
UK	7
Germania	4
Canada	3
India	3
Australia	2
Corea del Sud	2
Francia	2
Russia	2
Taiwan	2

Country	N. Candidates
Thailandia	2
Austria	1
Brasile	1
Cuba	1
Giappone	1
Israele	1
Italia	1
Kazakhstan	1
Olanda	1
Singapore	1
Svezia	1

Research on vaccines – 1



Research on vaccines - 2



- Data quality
 - If participants get exposed to SARS-CoV-2 during the trial, adverse events and immune response may have been caused by vaccine or by infection
- How to prove efficacy?
- Platform technologies accelerate process development and manufacturing
 - May need tweaking or verification for new product
- How to manufacture up to billion doses of vaccine?
- Who gets the vaccine doses?

ABC/Good Morning America



CORONAVIRUS PANDEMIC

GLOBALY

TOTAL CASES

25,579,140

DEATHS

852,561

IN THE UNITED STATES

TOTAL CASES

6,062,162

DEATHS

184,270

SOURCE: JOHNS HOPKINS UNIVERSITY

GMA

COVID-19

LIVE ON GMA

DR. FAUCI ON CORONAVIRUS CRISIS

SHOULD FDA AUTHORIZE VACCINE BEFORE PHASE 3 TRIALS END?



CORONAVIRUS PANDEMIC

NEWS 770-POUND CROCODILE CA

FAUCI: A VACCINE SHOULD BE "SHOWN TO BE SAFE & EFFECTIVE"

Dr. Anthony Fauci | Director, National Institute of Allergy and Infection Diseases



NAS ▲ 164.21

THE LEAD

©CBS
EVENING
NEWS
WITH NORAH
O'DONNELL



©CBS NEWS RACING TO A CURE

FDA COMMISSIONER ON COVID-19 VACCINE DEVELOPMENT AND SAFETY

CORONAVIRUS PANDEMIC

HAHN SAYS RESIGNATION IS AN "OPTION" IF HE'S
PRESSURED TO RELEASE A VACCINE BEFORE IT'S READY

CORONAVIRUS PANDEMIC

GLOBALLY

TOTAL CASES
25,579,140

DEATHS
852,561

IN THE UNITED STATES

TOTAL CASES
6,062,162

DEATHS
184,270

SOURCE: JOHNS HOPKINS UNIVERSITY

CNN

4 4:17 PM

THE LEAD

Research on vaccines - 3



NEWS • 09 APRIL 2020

If a coronavirus vaccine arrives, can the world make enough?

Researchers warn production constraints and hoarding could limit SARS-CoV-2 vaccine supplies.

<https://www.nature.com/articles/d41586-020-01063-8>

Research on treatments

22 of the most-talked-about treatments for the coronavirus.



We are following **22 coronavirus treatments** for effectiveness and safety:



<https://www.nytimes.com/interactive/2020/science/coronavirus-drugs-treatments.html>

Fraudulent Coronavirus Disease 2019 (COVID-19) Products



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Tweet



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Email



Print

Health Fraud Scams

[El Fraude en la Salud](#)

The U.S. Food and Drug Administration is issuing **warning letters** to firms for selling fraudulent products with claims to prevent, treat, mitigate, diagnose or cure coronavirus disease 2019 (COVID-19). We are actively monitoring for any firms evention and treatment claims.

Content current as
of:
10/08/2020

<https://www.fda.gov/consumers/health-fraud-scams/fraudulent-coronavirus-disease-2019-covid-19-products#>



23:07

12/10/2020

36

Operation Warp Speed

Public–private partnership, initiated by the Federal Government of the US, to facilitate and accelerate the development, manufacturing, and distribution of COVID-19 vaccines, therapeutics and diagnostics



Drastic reduction of the time needed to develop a new vaccine:

→ about 300 million doses available to all American citizens by the end of 2020/early 2021

Ensuring equity and coverage for future coronavirus vaccinations

DANIEL H. LOW, MD, AMISH DAVE, MD, MPH, RAJNEET LAMBA, MD, AND NANCY BELCHER, PHD | [CONDITIONS](#) | JUNE 26, 2020

“We have a moral imperative to ensure equitable vaccine coverage against this pandemic. To do so, we must commit to not only developing a vaccine, but also to pay for everyone to receive it.”

Development and Licensure of Vaccines to Prevent COVID-19

Guidance for Industry

U.S. Department of Health and Human Services
Food and Drug Administration
Center for Biologics Evaluation and Research
June 2020

Home / News & Opinion

FDA to Require 50 Percent Efficacy for COVID-19 Vaccines

50 % efficacy:
too low or too demanding?



The New Normal for Clinical Trials and Planning for the Future

Live webinar October 6th & on-demand

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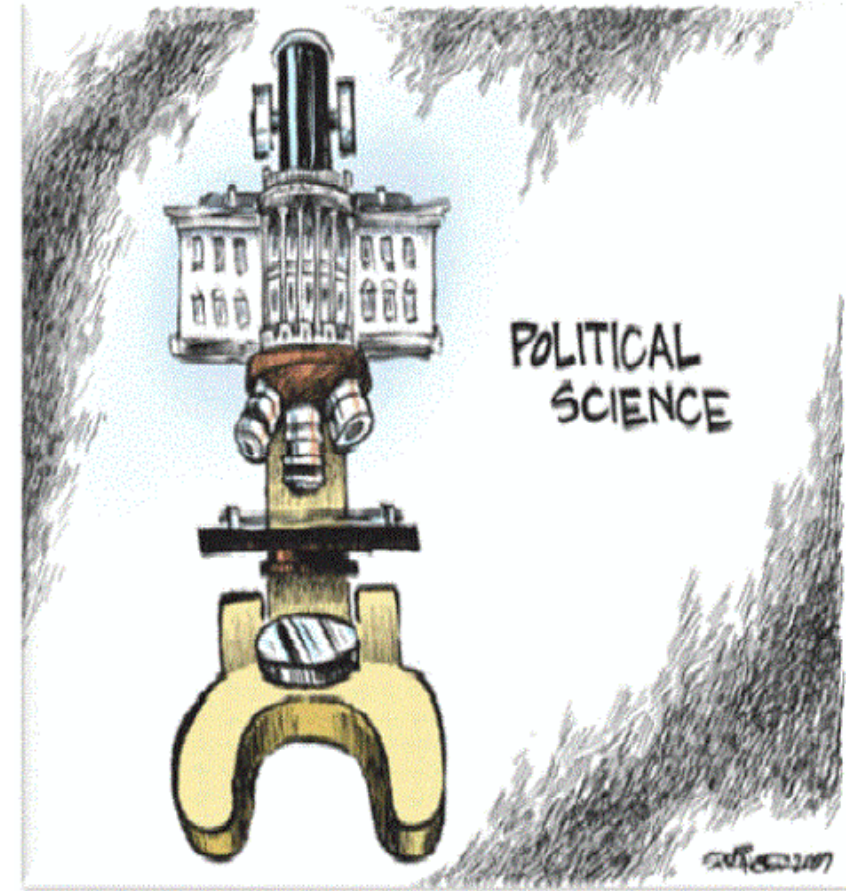
D. Politics and science

What the Pandemic Is Telling Us About Science, Politics, and Values

The novel coronavirus offers up a powerful and extremely clear lesson about the appropriate role of science in helping to guide us toward a better future.

By DANIEL SAREWITZ
MARCH 24, 2020 • 7:07 PM

- COVID 19 pandemic put the relation between science and politics at the center of the world stage
- COVID19: powerful and clear lesson about the role of science in helping to guide politics



Science's place in politics is determined not by the logic of facts, but by the fundamental influence of human values



Interview

The Lancet's editor: 'The UK response to coronavirus is the greatest science policy failure for a generation'

Andrew Anthony

Richard Horton does not hold back in his criticism of the UK's response to the pandemic and the medical establishment's part in backing fatal government decisions



Science 'risks coronavirus backlash' as it is drawn into politics

Policy experts express fears that public and politicians will hold scientists responsible for the economic and social damage of lockdown

May 14, 2020

By [David Matthews](#) (/author/david-matthews)

POLITICO

OPINION

Scientists get a politics lesson from COVID-19

The epidemiologists and virologists helping governments are now thrust into the public eye — which also makes them targets.

By **RICHARD BLACK** | 5/7/20, 4:00 AM CET | Updated 5/7/20, 2:26 PM CET



Scientists become figures to be shot at if their advice runs counter to your business interests or ideology.

There's no such thing as just 'following the science' – coronavirus advice is political

Jana Bacevic



Coronavirus survival comes with a \$1.1 million, 181-page price tag

June 12, 2020 at 4:53 pm | Updated June 13, 2020 at 11:00 am



Health care workers applaud Michael Flor upon his release from Swedish Issaquah last month Pushing the wheelchair is Dr. Anne Lipke, Flor's critical... (Ken Lambert / The Seattle Times) [More](#) ▾

Live Updates

Fauci says coronavirus task force was never told to slow down testing, seemingly contradicting Trump



Anthony S. Fauci and other Trump administration health officials are expected to caution that coronavirus activity could continue for "some time" as they testify at a high-profile congressional hearing Tuesday at a key juncture in the country's response to the pandemic. (The Washington Post)

By John Wagner, Felicia Sonmez, Yasmeen Abutaleb, Lena H. Sun and Laurie McGinley

June 23, 2020 at 10:02 p.m. GMT+2

↻ Refresh for updates

- Fauci, who reiterated that the country is still in the first wave of the pandemic,
- Robert Redfield, director of the Centers for Disease Control and Prevention;
- Stephen Hahn, head of the Food and Drug Administration;
- Brett Giroir, assistant secretary for health.



23 April 2020

NIH Panel Warns Against Drug Trump Promoted

April 21, 2020 at 5:00 pm EDT By [Taegan Goddard](#) —
[478 Comments](#)

“A panel of experts convened by the National Institute of Allergy and Infectious Diseases recommends against doctors using a combination of hydroxychloroquine and azithromycin for the treatment of COVID-19 patients because of potential toxicities,” [NPR](#) reports.



“Politicians don’t like uncomfortable scientists, they always want servile scientists,” Ippolito told the AP.
“The value of science instead is to say uncomfortable things too, in all contexts and always, because the principle is to defend science, not to please politicians.”
“The world needs Fauci. America needs Fauci,”

Daily new confirmed COVID-19 cases per million people

Shown is the rolling 7-day average. The number of confirmed cases is lower than the number of actual cases; the main reason for that is limited testing.

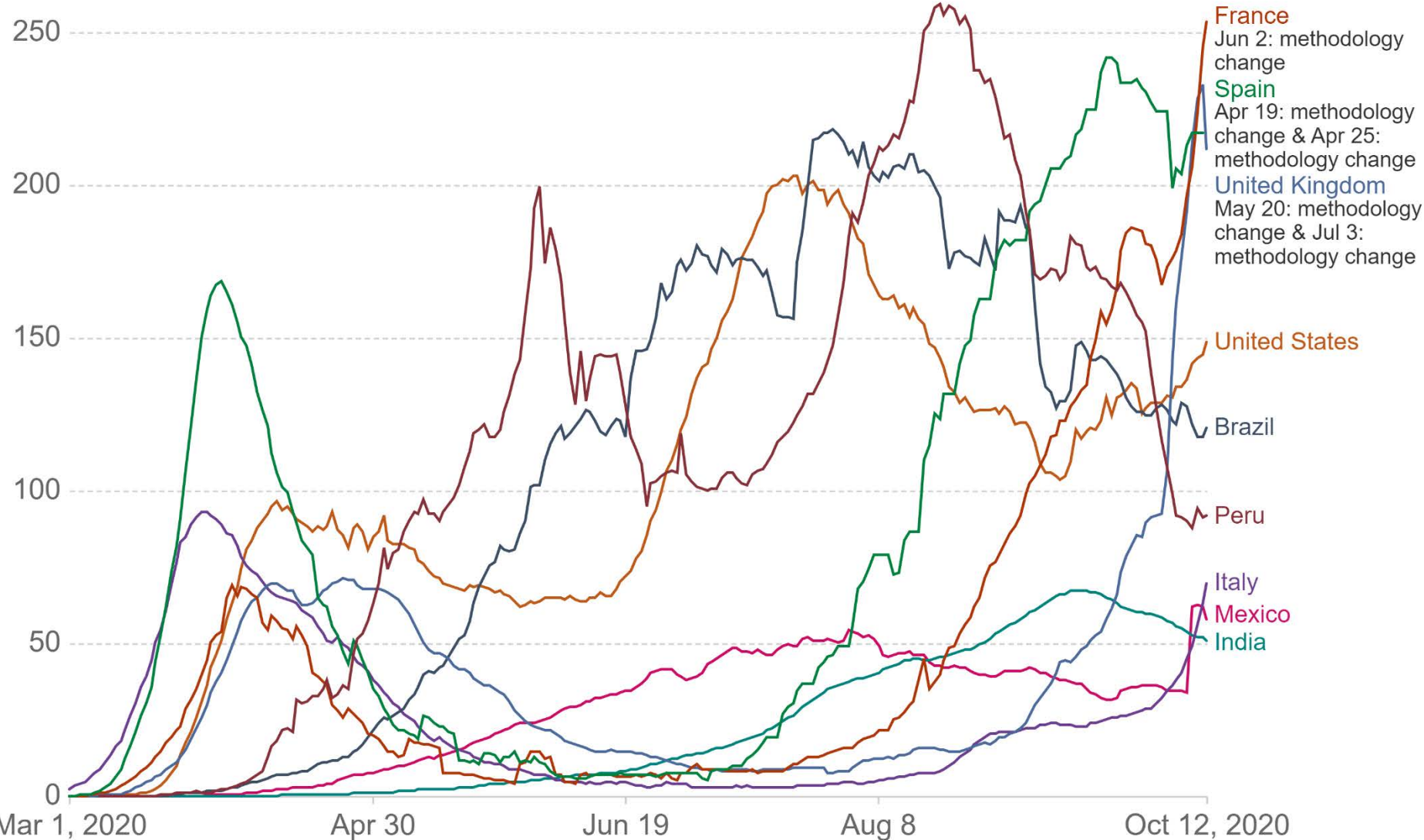
Our World
in Data

12° CONGRESSO
NAZIONALE



Italian Conference on
AIDS and **Antiviral Research**

12-16 ottobre 2020



Source: European CDC – Situation Update Worldwide – Last updated 12 October, 10:05 (London time)

CC BY

Total COVID-19 tests, Oct 9, 2020

The figures shown relate to the closest date for which we have data, with a maximum of 10 days' difference.

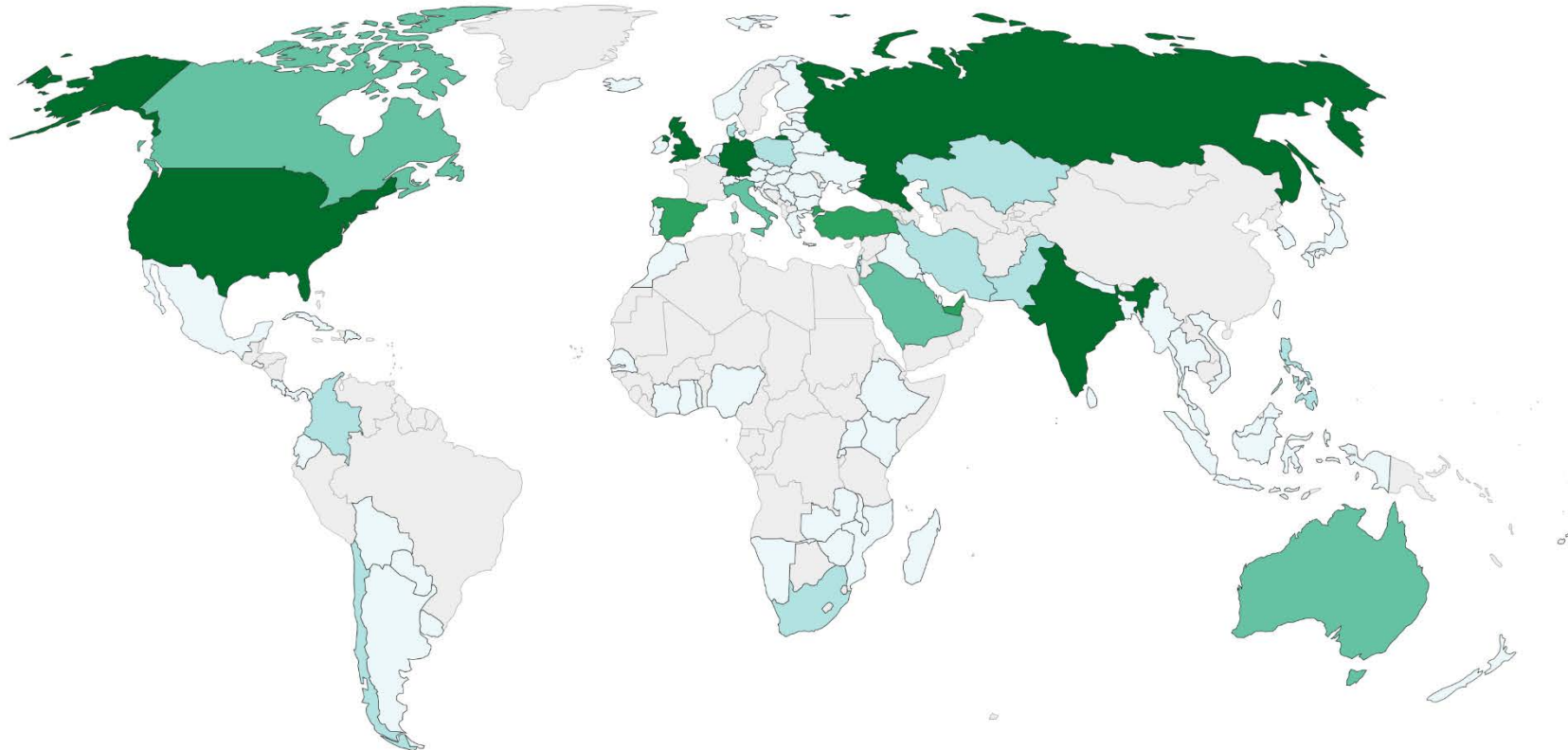
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Source: Official sources collated by Our World in Data

OurWorldInData.org/coronavirus • CC BY

Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Details can be found at our [Testing Dataset](#) page.

Daily new estimated infections of COVID-19, Italy

Mean estimates from epidemiological models of the true number of infections. Estimates differ because the models differ in data used and assumptions made. For comparison, confirmed cases are infections that have been confirmed with a test.

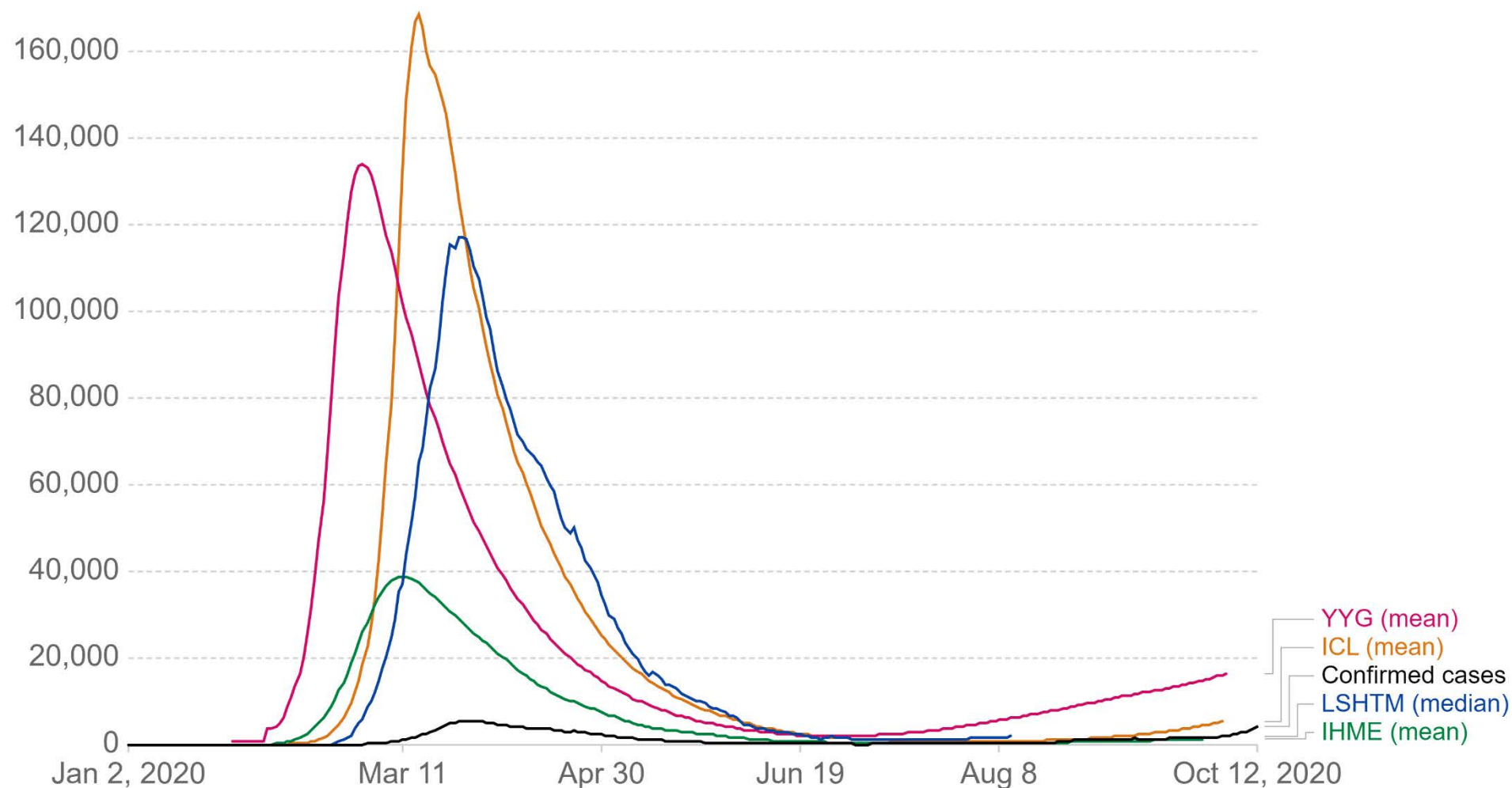
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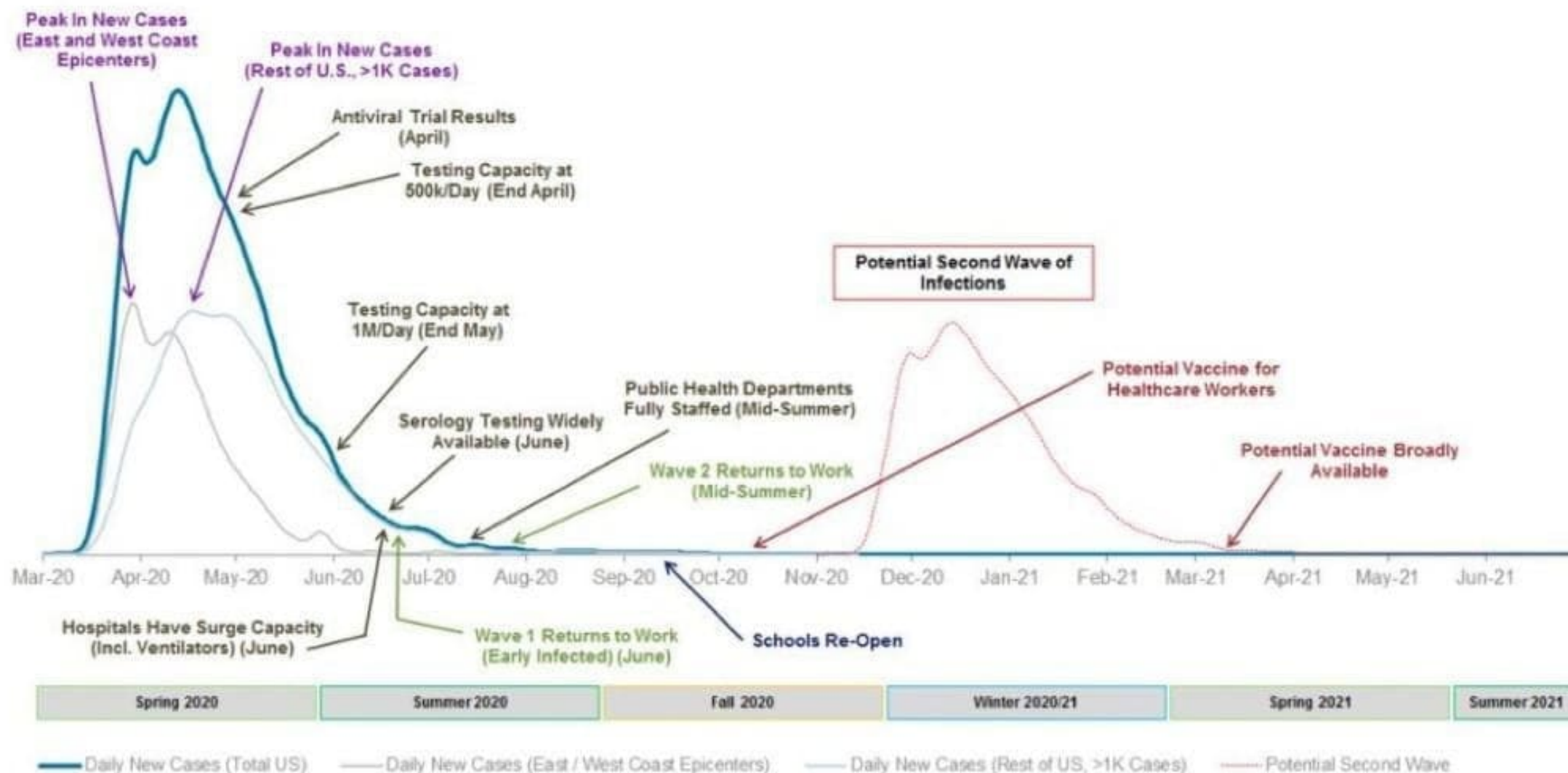


Source: ICL (2020), IHME (2020), YYG (2020), LSHTM (2020), ECDC (2020)

OurWorldInData.org/covid-models • CC BY

Note: This chart shows the latest available model estimates as of 6 October 2020 (03:30 London time). The uncertainty range for each estimate — which can be large — is not shown here but can be found in the individual model charts.

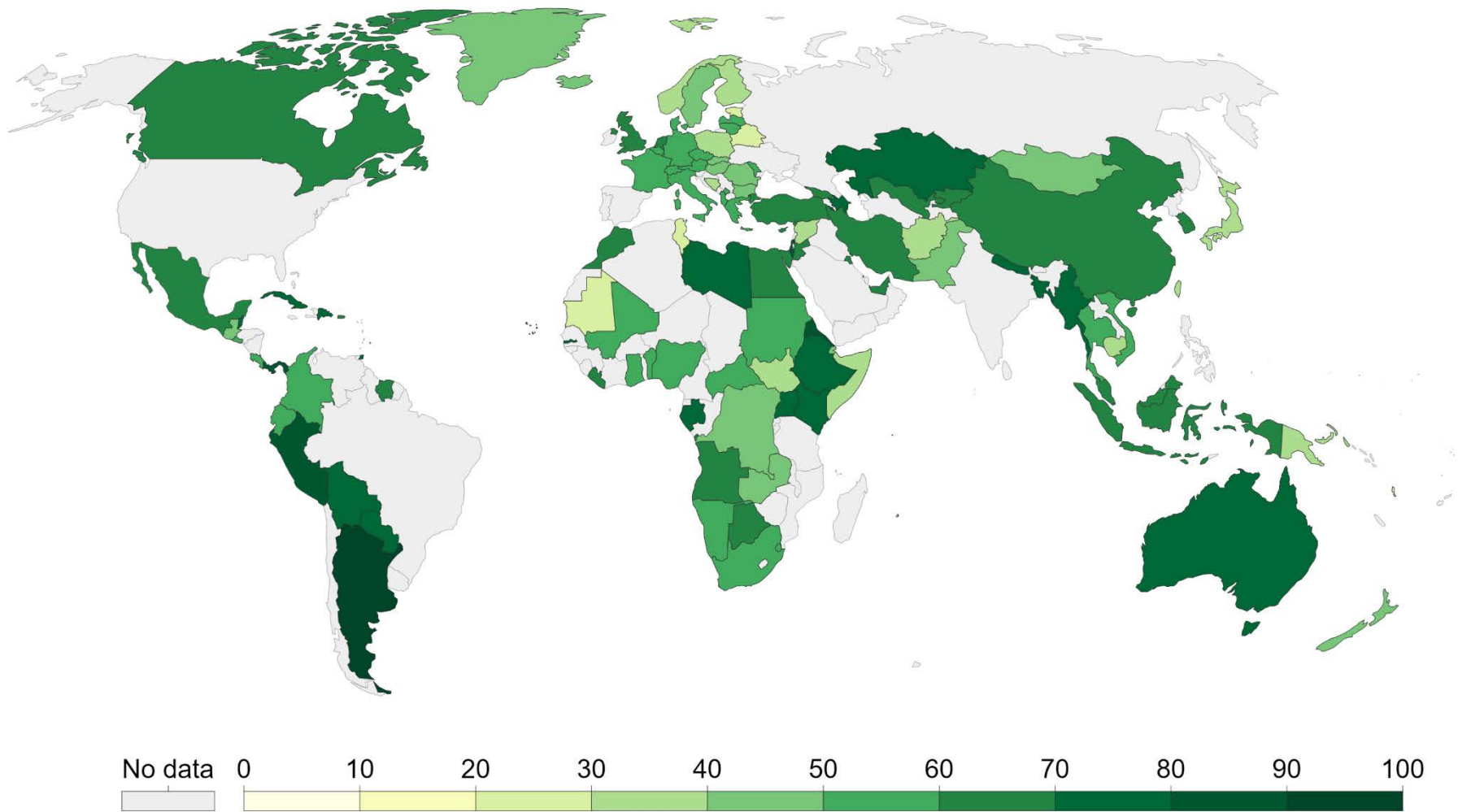
Actual/Estimated New Case Count (United States, Non-Cumulative)





COVID-19: Containment and Health Index, Oct 12, 2020

This is a composite measure based on eleven policy response indicators including school closures, workplace closures, travel bans, testing policy and contact tracing, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.



Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker – Last updated 12 October, 09:30 (London time)

OurWorldInData.org/coronavirus • CC BY

COVID-19: Government Response Stringency Index, Oct 12, 2020

This is a composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.

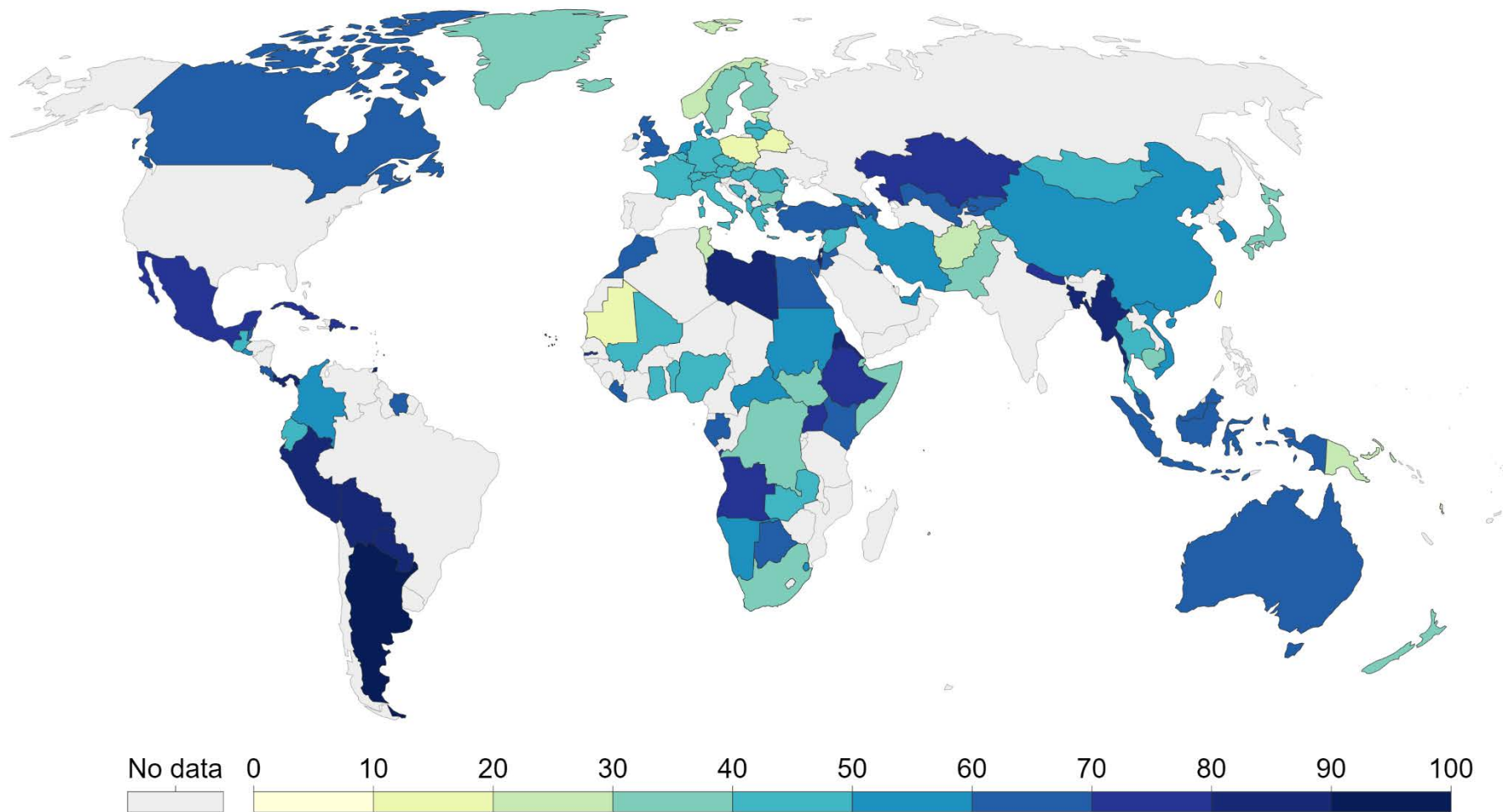
Our World
in Data

12° CONGRESSO
NAZIONALE



Italian Conference on
AIDS and Antiviral Research

2-16 ottobre 2020



Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker – Last updated 12 October, 09:30 (London time)

Note: This index simply records the number and strictness of government policies, and should not be interpreted as ‘scoring’ the appropriateness or effectiveness of a country’s response.

OurWorldInData.org/coronavirus • CC BY

Debt or contract relief during the COVID-19 pandemic, Oct 12, 2020

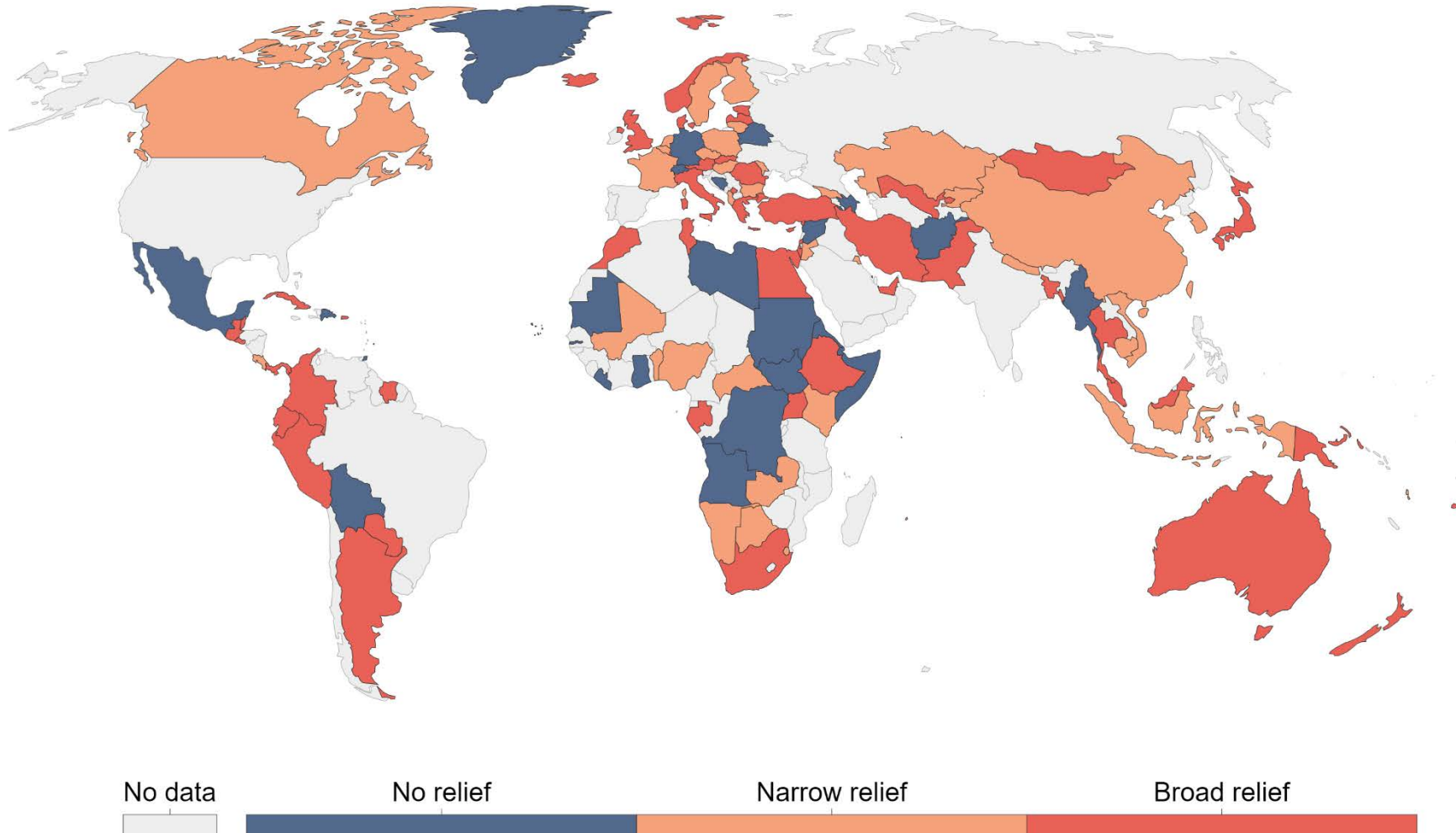
Debt or contract relief captures if the government is freezing financial obligations during the COVID-19 pandemic, such as stopping loan repayments, preventing services like water from stopping, or banning evictions.

Our World
in Data

12° CONGRESSO
NAZIONALE

Italian Conference on
AIDS and **Antiviral Research**

12-16 ottobre 2020

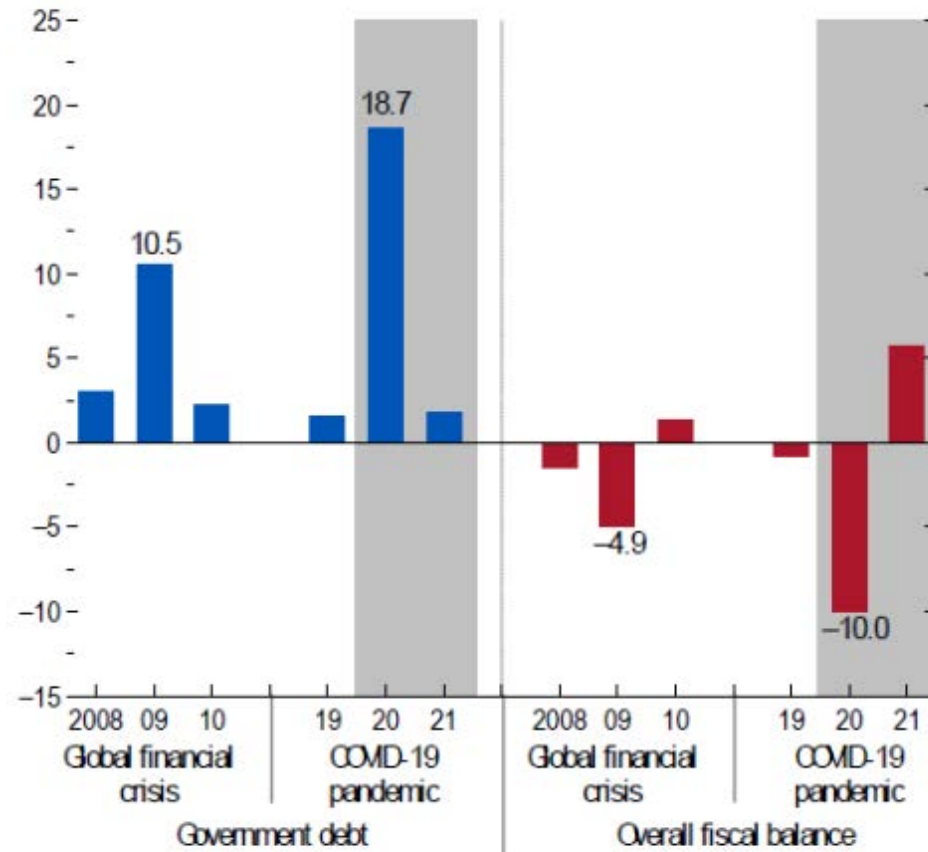


Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker – Last updated 12 October, 10:30 (London time)

OurWorldInData.org/coronavirus • CC BY

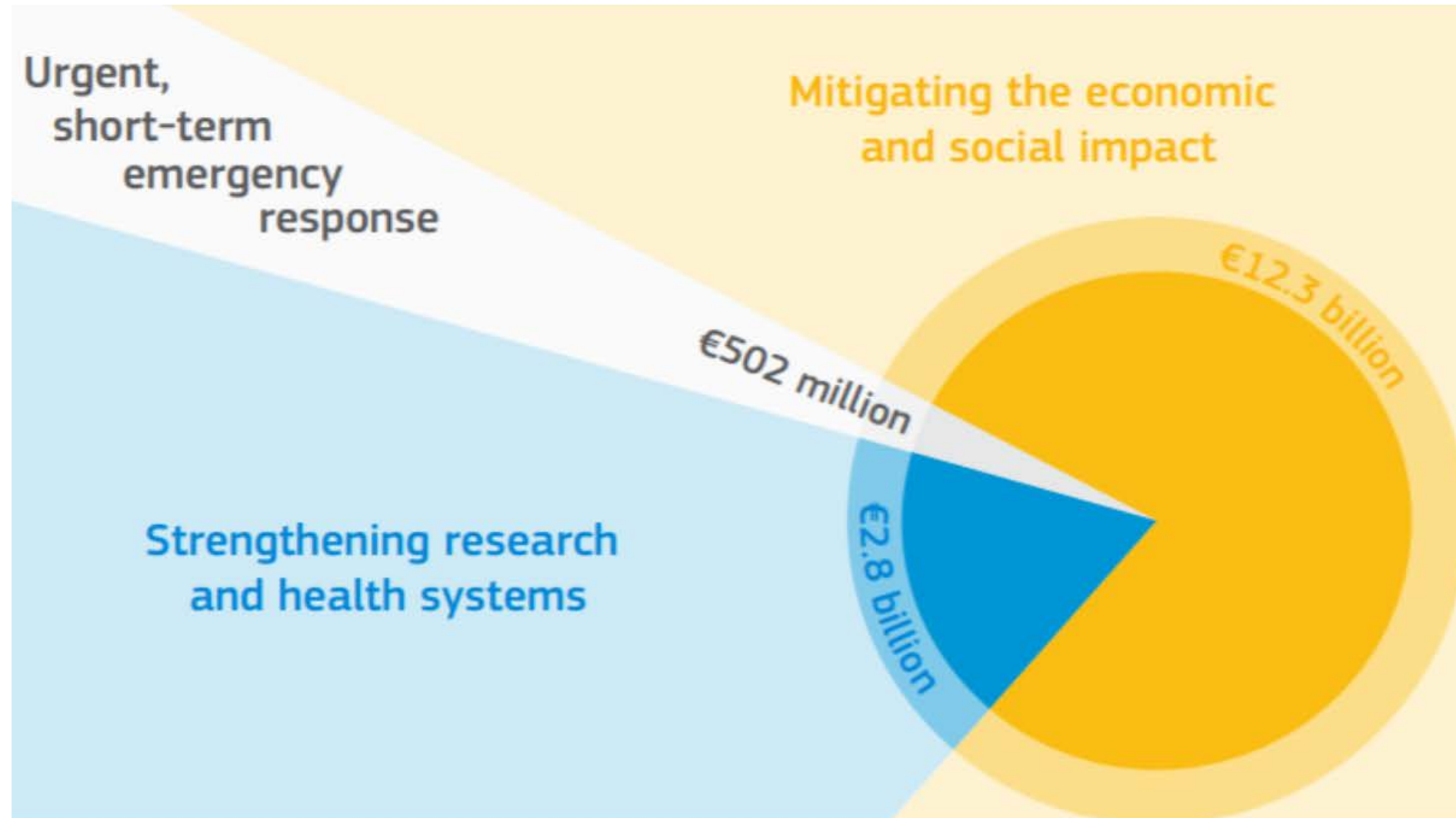
Change in Global Government Debt and Overall Fiscal Balance (% of GDP)

Government debt and deficits are set to rise globally, more so than during 2008–10 following the global financial crisis.



Source: IMF staff estimates.

EU's response combining resources from the EU, its Member States and financial institutions, including the EIB and EBRD



Italy's incredible 'floating ship' bridge reaches for the sky

Jacopo Frisco, CNN • Published 3rd May 2020



(CNN) — High above the Polcevera valley, the final section of a majestic new bridge was hoisted into place this week, signaling the imminent completion of a remarkable engineering project against seemingly impossible odds.

More importantly, it was built on the scene of tragedy, replacing an earlier structure, the Morandi bridge, which collapsed on August 14, 2018, killing 43 people.

That the replacement has arrived less than two years after the disaster is something of an achievement.

It was constructed rapidly, in a country rarely considered an exemplar of efficiency. Some of the most challenging work was carried out amid Europe's worst coronavirus outbreak.

"Genoa is a shipmaking city, so it's not bizarre to make the bottom of the bridge look like a ship's hull," Renzo Piano, who designed the new bridge, tells CNN Travel.

"I wanted this bridge to tell a story about Genoa," says Piano. "A famous Genoese poet, Giorgio Caproni, wrote beautifully that Genoa is made of steel and breeze. This bridge will be a portrait of the city. It's made of steel, but it's also flirting with the breeze. It will be flying over the valley. It will be strong and powerful, but simple, like a beautiful song."

Some good example: the experience of Canada

Politicians and scientists need strong connections during the coronavirus crisis — and beyond

April 17, 2020 2.25pm BST



Participants in the first meeting of the 'Science Meets Parliament' program with Mona Nemer, Canada's Chief Science Advisor. (Canadian Science Policy Centre), Author provided

1. Integrate public policy communication into academic training
2. Develop incentives for policy engagement
3. Establish and support forums for public engagement training
4. Create a research chair at the Chief Science Advisor's office
5. Establish science literacy opportunities for Parliamentarians
6. Extend Science Meets Parliament to other levels of government

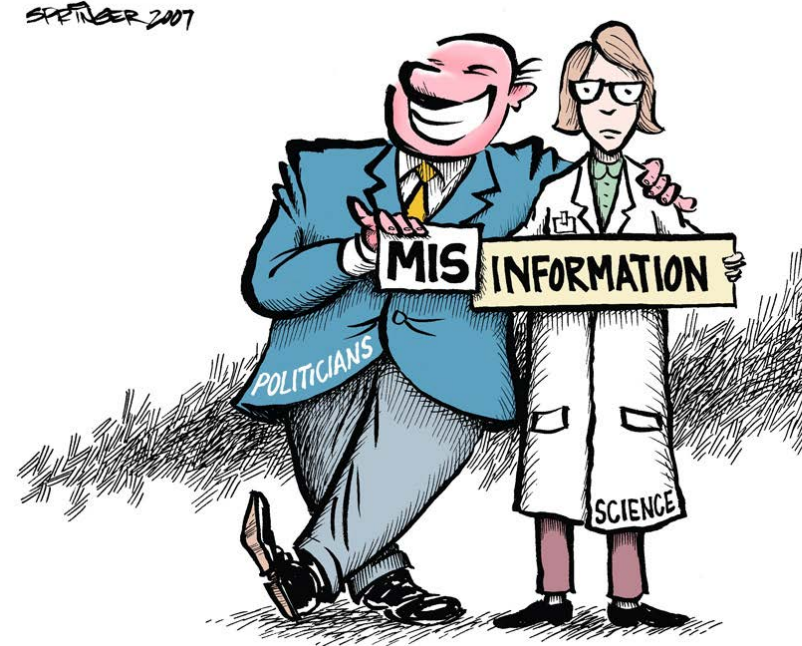
Toward Behaviorally Informed Policy Making and Communication

Important goals of governance are:

- to mitigate the effects of these biases on public policy
- to effectively communicate the reasons for difficult decisions to the public

COVID-19 pandemic could:

- provide the impetus for ascendancy of **public health ethics over clinical ethics**
- serve, paradoxically, as a **stimulus to improve population health**



GOOD COMMUNICATION TO AVOID A NEW
«NO VAX» GENERATION

JAMA June 29, 2020

Global health – Inequalities

The AIDS experience

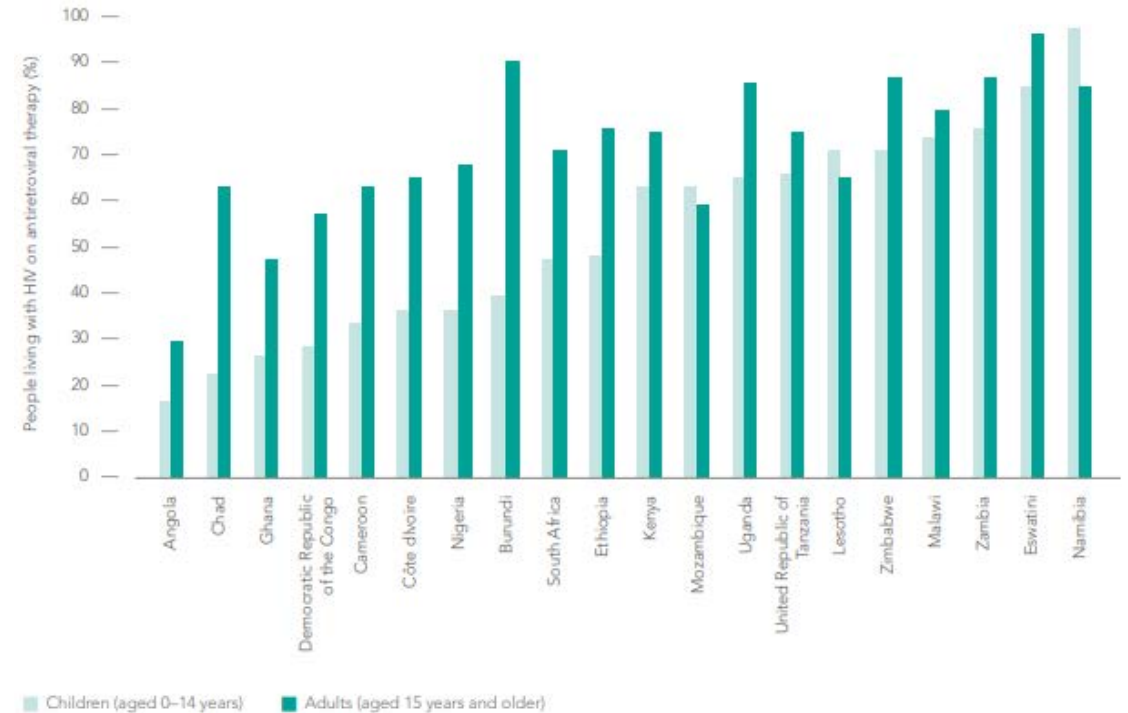
**SEIZING
THE
MOMENT**

Global AIDS Update 2020
6 July 2020

Tackling entrenched inequalities to end epidemics



Antiretroviral therapy coverage among children and adults, sub-Saharan African, focus countries of the Start Free, Stay Free, AIDS Free initiative, 2019



- 2020 targets will not be met because of deeply unequal success
- COVID-19 risks blowing HIV progress way off course.
- Missed targets resulted in 3.5 million more HIV infections and 820 000 more AIDS-related deaths since 2015
- The response could be set back further, by 10 years or more, if the COVID-19 pandemic results in severe disruptions to HIV services



WHEN HIV EMERGED AS
A GLOBAL PANDEMIC,
CHANGE TOOK YEARS.

FOR COVID-19, THE TIME
FRAME FOR DEBATE AND
CHANGE HAS BEEN
COMPRESSED FROM YEARS TO
WEEKS.

WHEN HIV EMERGED AS
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CHANGE TOOK YEARS. FOR
COVID-19, THE TIME FRAME
FOR DEBATE AND CHANGE
HAS BEEN COMPRESSED
FROM YEARS TO WEEKS.

Credit: Ericky Boniphace/AFP

E. Change the model of health care



From individual patient care to public health/community care

Not enough has been done in term of public health
→ all the efforts are put on the development of
therapeutics and vaccines



Cognitive Bias and Public Health Policy During the COVID-19 Pandemic

Errors in human cognition prioritize the readily imaginable over the statistical, the present over the future, and the direct over the indirect

- strategies to prevent spread of disease
- earlier, aggressive physical distancing
- testing
- contact tracing



- expanding critical care capacity
- treatment with drugs with little evidence of effectiveness
- ventilators

These cognitive errors:

- Distract leaders from optimal policy making
- Distract citizens from taking steps to promote their own and others' interests

New virus new approaches

THE LANCET

WORLD REPORT | VOLUME 395, ISSUE 10231, P1180-1181, APRIL 11, 2020

Virtual health care in the era of COVID-19

Paul Webster

Published: April 11, 2020 • DOI: [https://doi.org/10.1016/S0140-6736\(20\)30818-7](https://doi.org/10.1016/S0140-6736(20)30818-7) •



COVID-19 Virtual Health Toolkit



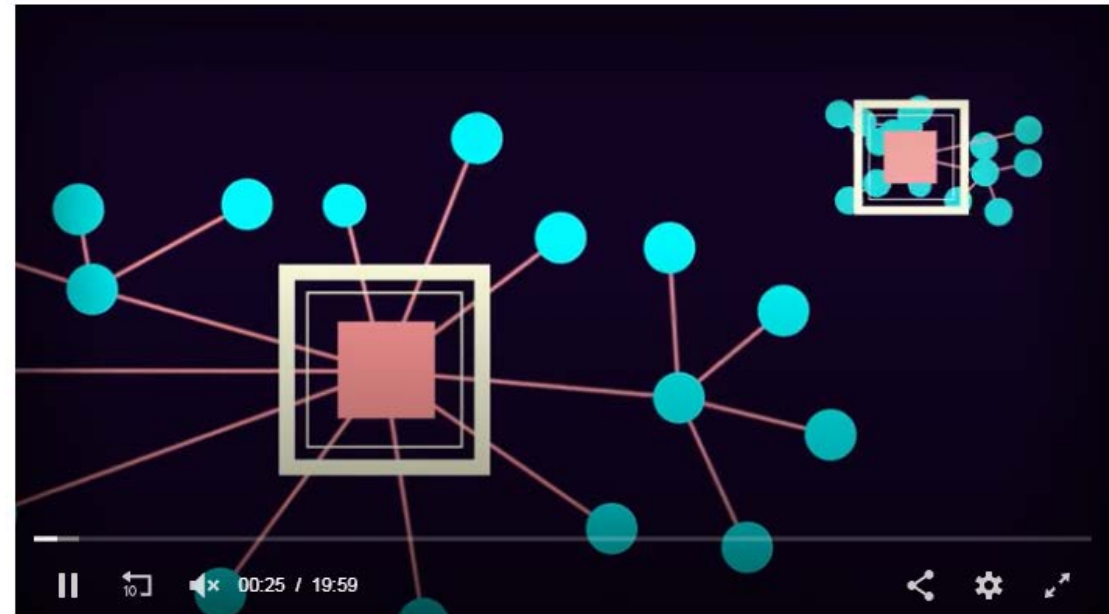
Telehealth Virtual Care Providers (COVID-19)

HEALTH TECH

STAT+

Covid-19 spreads too fast for traditional contact tracing. New digital tools could help

By SHARON BEGLEY @sxbegley / APRIL 2, 2020



During an epidemic other diseases don't stop- 1

Because of reduced access to health services during the Ebola outbreak, an estimated additional 10,600 lives were lost to HIV, TB and malaria in Guinea, Liberia and Sierra Leone.

“Ebola’s ripple effects are extending to everything else, from children unable to receive care for malaria to women unable to deliver babies in a hospital... Preventable ailments like typhoid and dysentery, might be killing more West Africans than Ebola” (Andrew Maccalla, Medical Aid organization Direct Relief)



During an epidemic other diseases don't stop- 2

THE LANCET

HIV

Volume 7, Issue 5, May 2020, Pages e308-e309

Comment

Maintaining HIV care during the COVID-19 pandemic

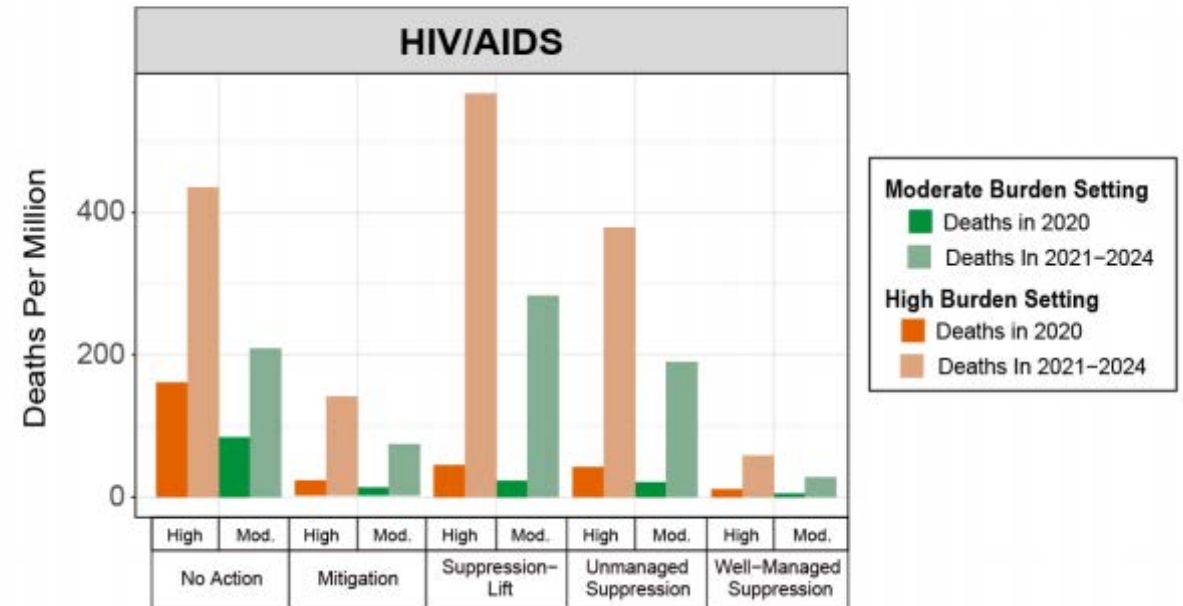
Hongbo Jiang^a, Yi Zhou^b, Weiming Tang^{c, d}✉



The Potential Impact of the COVID-19 Epidemic on HIV, TB and Malaria in Low- and Middle-Income Countries

COVID-19 epidemic and its response induce:

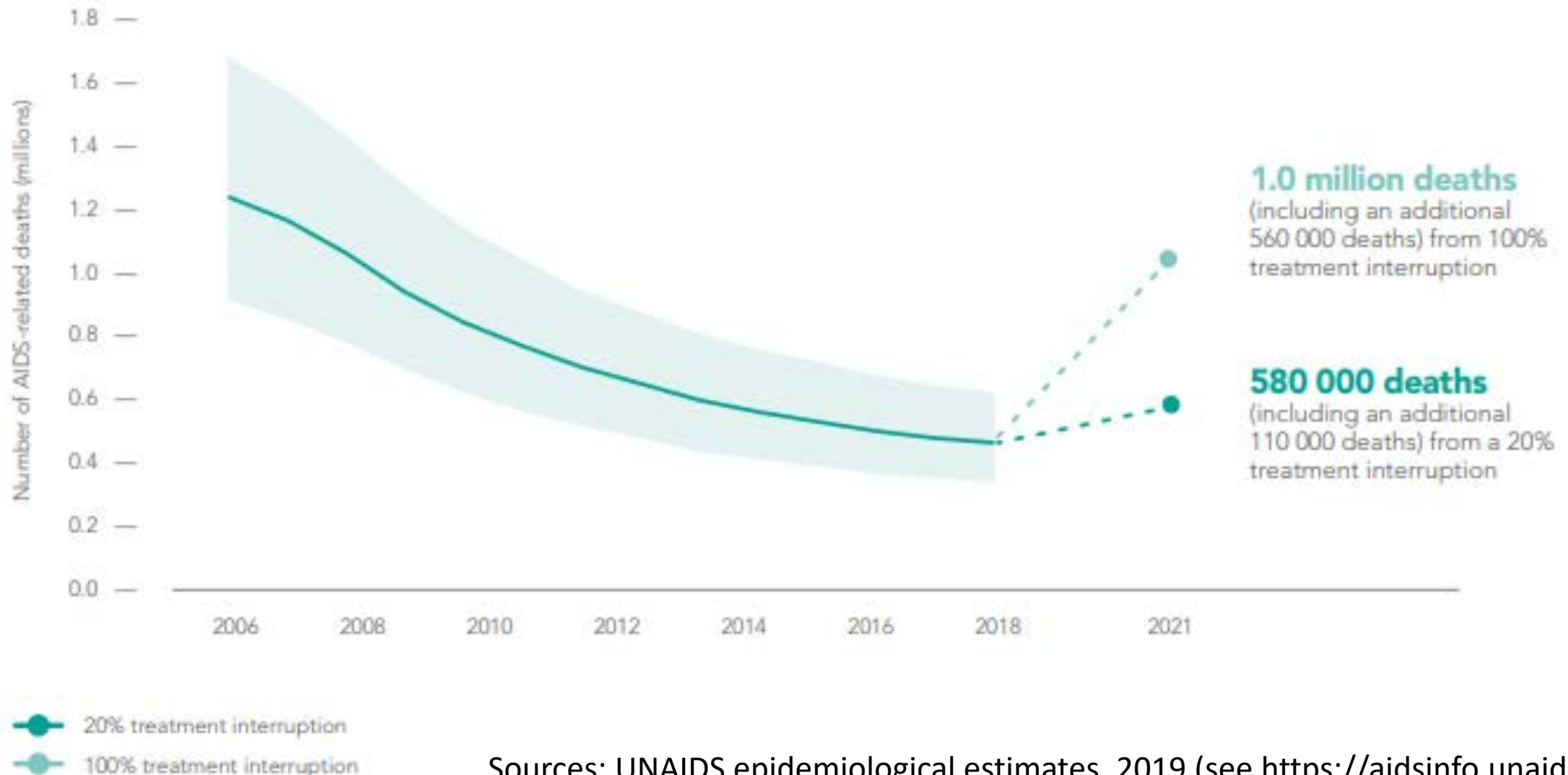
- disruptions in the services for HIV, TB and malaria
- substantial number of additional deaths and lifeyears lost



Major priorities to reduce the overall impact of the COVID-19 epidemic:

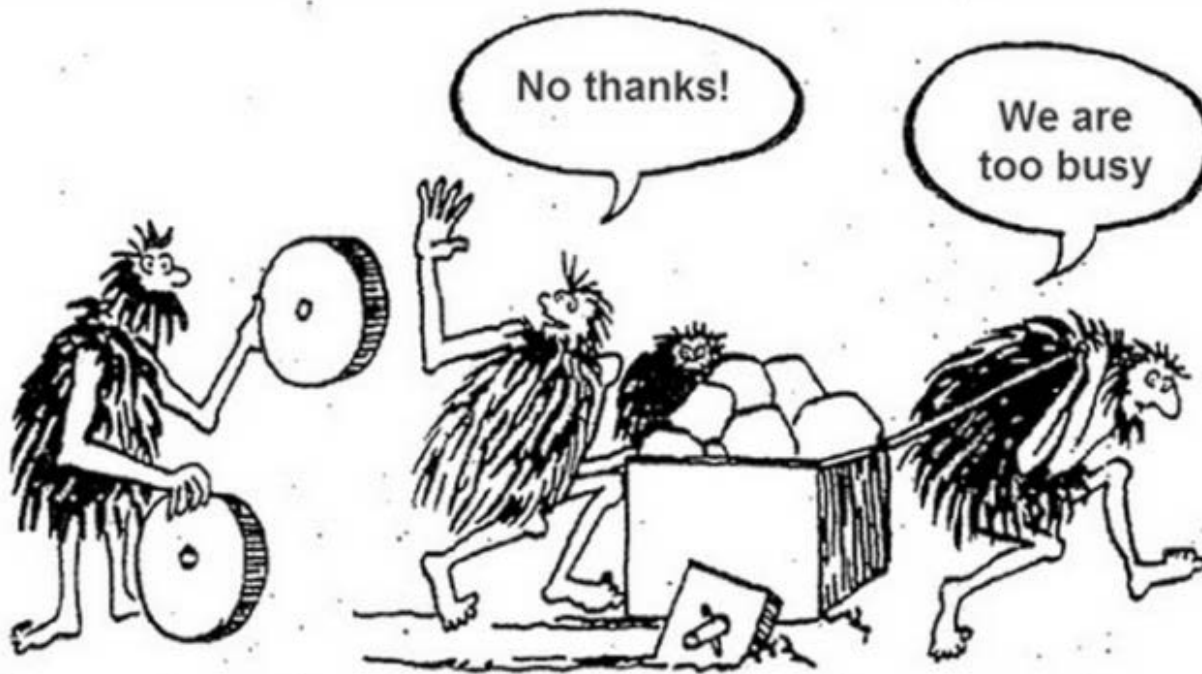
1. maintain services for HIV and TB and resuming vector control for malaria
2. improve the resilience of the health system to cope with shocks


The impact of six months of varying levels of treatment interruption on AIDS-related deaths, sub-Saharan Africa, 2020–2021



Sources: UNAIDS epidemiological estimates, 2019 (see <https://aidsinfo.unaids.org/>)

Learn from past experiences - 1



[Previous Version:
FluSurge V 2.0](#)[Special
Edition?](#)[Problem
Running?](#)[Disclaimer](#)[Citation](#)[Contact](#)

FluSurge

Special Edition: 2009 H1N1 Pandemic

A Software to Estimate the Impact of 2009 H1N1 Influenza Pandemic on
Hospital Surge Capacity

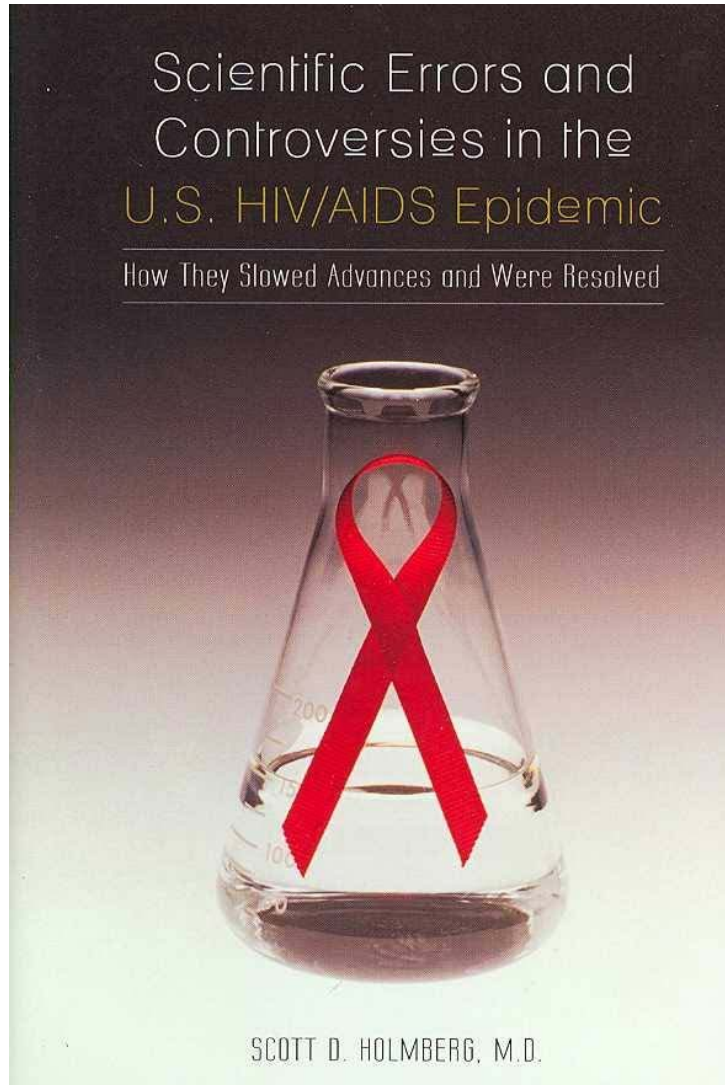
Martin I. Meltzer, DEISS/NCPDCID/CDC:qzm4@cdc.gov
Sundar S. Shrestha, DDT/NCCDPHP/CDC:gqm2@cdc.gov
Rebekah H. Borse, DEISS/NCPDCID/CDC:hse7@cdc.gov
Charisma Y. Atkins, DEISS/NCPDCID/CDC:gyq5@cdc.gov

Centers for Disease Control and Prevention
Atlanta, Georgia

3/10/2009

[START](#)
[EXIT&SAVE](#)

Learn from past experiences - 2



When the uncertainty is great,
the risk of lying is great as well

AIDS and Behavior
<https://doi.org/10.1007/s10461-020-02955-6>

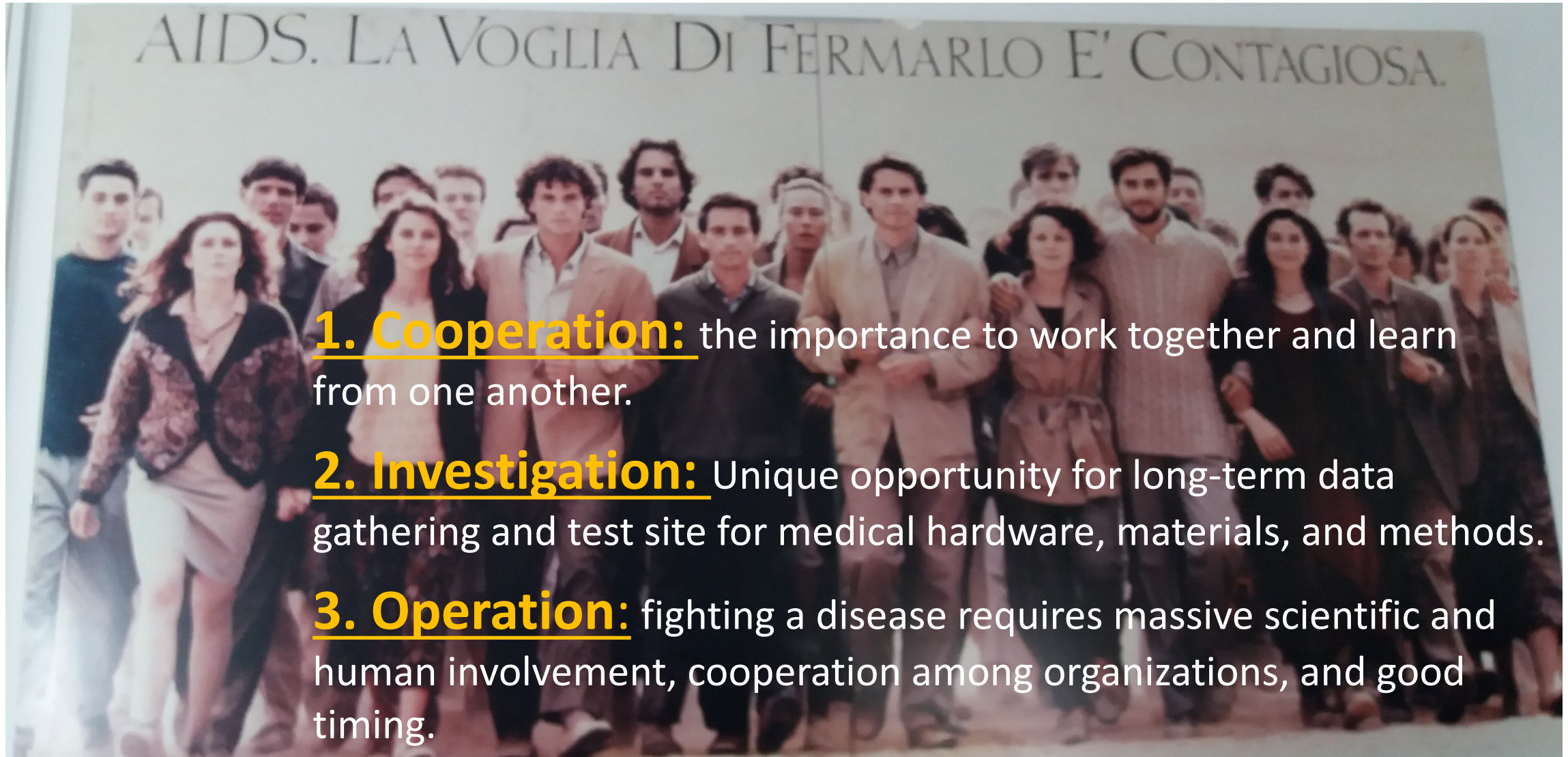
NOTES FROM THE FIELD

Learning from People with HIV: Their Insights are Critical to Our Response to the Intersecting COVID-19 and HIV Pandemics in Africa

Christine Aristide¹ · Samson Okello^{2,3,4} · Mwebesa Bwana² · Mark J. Siedner^{2,5,6} · Robert N. Peck^{1,7}

COVID 19, like AIDS, can be a test site for 3 main areas:

12° CONGRESSO
NAZIONALE
Italian Conference on
AIDS and Antiviral Research
12-16 ottobre 2020



- 1. Cooperation:** the importance to work together and learn from one another.
- 2. Investigation:** Unique opportunity for long-term data gathering and test site for medical hardware, materials, and methods.
- 3. Operation:** fighting a disease requires massive scientific and human involvement, cooperation among organizations, and good timing.

Projecting the transmission dynamics of SARS-CoV-2 through the postpandemic period

Stephen M. Kissler^{1*}, Christine Tedijanto^{2*}, Edward Goldstein², Yonatan H. Grad^{1†‡}, Marc Lipsitch^{2†‡}

¹Department of Immunology and Infectious Diseases, Harvard T.H. Chan School of Public Health, Boston, MA, USA. ²Department of Epidemiology, Harvard T.H. Chan School of Public Health, Boston, MA, USA.

Models of SARS-CoV2 transmission based on estimates of seasonality, immunity and cross immunity for other betacoronaviruses indicate that:

- **Recurrent wintertime outbreaks** will probably occur after initial pandemic wave
- **Prolonged or intermittent social distancing** may be necessary **into 2022** to avoid the overwhelm of critical care capacity
- **Additional interventions** (expanded critical care capacity, effective therapeutics) would improve the success of social distancing and hasten the acquisition of herd immunity
- **Need of longitudinal serological studies** to determine extent and duration of immunity
- Even in the event of apparent elimination **SARS-CoV2 surveillance** should be maintained since a resurgence in contagion could be possible **as late as 2024**

Viewpoint

April 16, 2020

Finding Effective Treatments for COVID-19

Scientific Integrity and Public Confidence in a Time of Crisis

Jesse L. Goodman, MD, MPH¹; Luciana Borio, MD²

» [Author Affiliations](#) | [Article Information](#)

JAMA. Published online April 16, 2020.

doi:10.1001/jama.2020.6434

Against pandemic research exceptionalism

Alex John London¹, Jonathan Kimmelman²

[+ See all authors and affiliations](#)

Science 23 Apr 2020:
eabc1731
DOI: 10.1126/science.abc1731

[Article](#)

[Info & Metrics](#)

[eLetters](#)

[PDF](#)

Abstract

Crises are no excuse for lowering scientific standards

- **Research is an integral part of outbreak response**
- Research during an epidemic is subject to **the same core scientific and ethical, requirements** that govern all research on human subjects despite the sense of urgency
- **Expeditious research in a crisis situation is feasible.**
- Absent robust leadership from regulators, health authorities, and major funding bodies, however, the responsibility for coordinating research activities falls to the wide range of stakeholders who might normally pursue **research on a more independent basis.**
- Many of these parties face powerful, parochial incentives to conduct research feasible with the resources locally available **BUT the needs of crisis situations like global pandemics require exceptional steps to combine efforts, divide labor, and triage out low-value and duplicative research.**

Against pandemic research exceptionalism

Alex John London¹, Jonathan Kimmelman²

[+ See all authors and affiliations](#)

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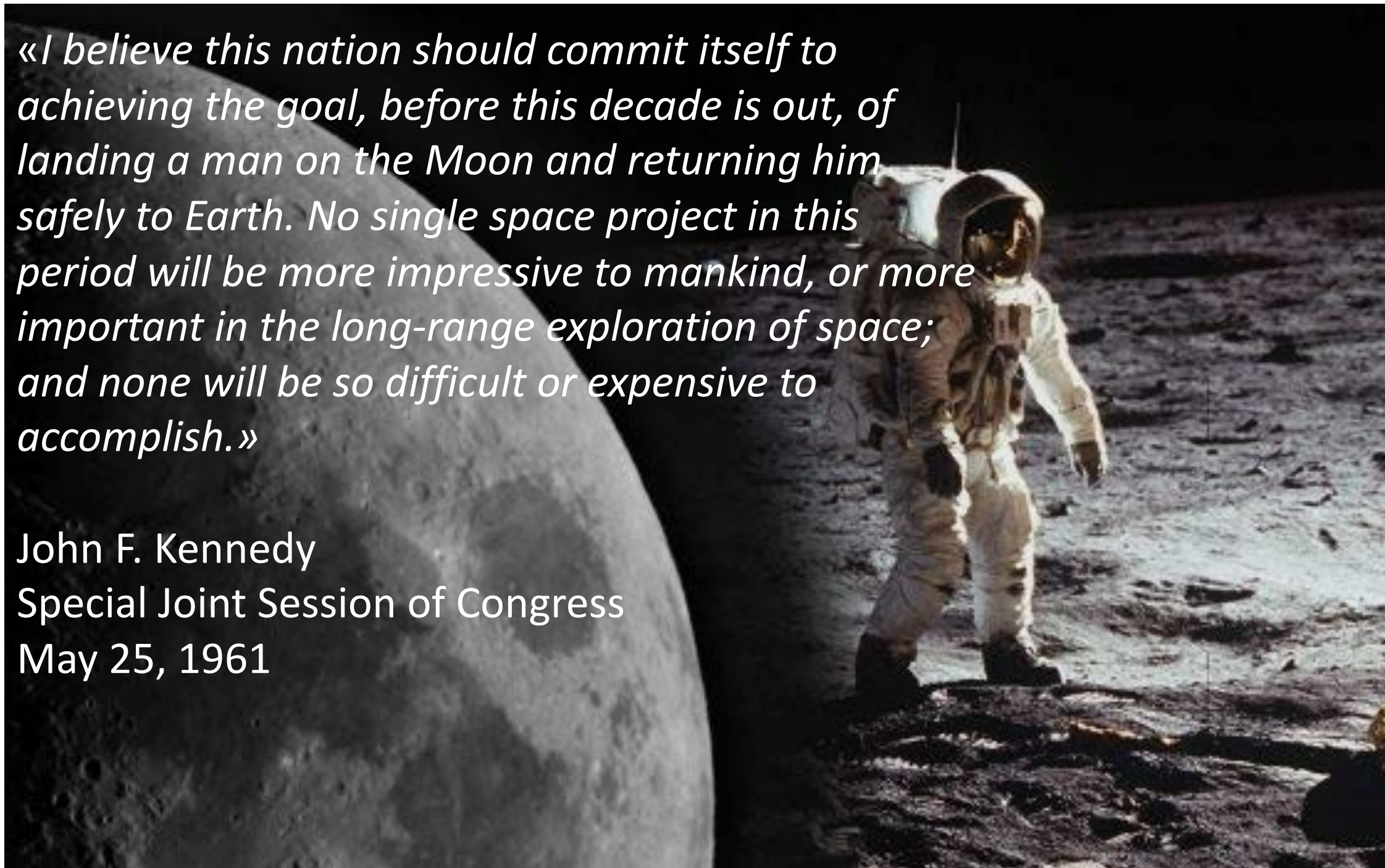
Abstract

Crises are no excuse for lowering scientific standards

- Individual clinicians should **avoid off-label use of unvalidated interventions** that might interfere with trial recruitment and resist the urge to carry out uncontrolled, open-label studies.
- They should instead seek out opportunities to **join larger, carefully orchestrated protocols to increase the prospect that high-quality studies will be completed quickly and generate the information needed to advance individual and public health.**

«I believe this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the Moon and returning him safely to Earth. No single space project in this period will be more impressive to mankind, or more important in the long-range exploration of space; and none will be so difficult or expensive to accomplish.»

John F. Kennedy
Special Joint Session of Congress
May 25, 1961





Pope's Easter Urbi et Orbi message: "The contagion of hope"

Pope Francis' 'Urbi et Orbi' message on Easter Sunday challenges us to ban indifference, self-centredness, division and forgetfulness during this time of Covid-19 – and to spread the "contagion" of hope.



12 April 2020, 10:37

"It is not the time of indifference, because the whole world is suffering and must find itself united in facing the pandemic.

It is not the time for selfishness, because the challenge we are facing unites us all and makes no difference to people.

It is not the time of divisions.

It is not the time of forgetfulness."

Aknownowledgments

- Chiara Montaldo
- Salvatore Curiale