

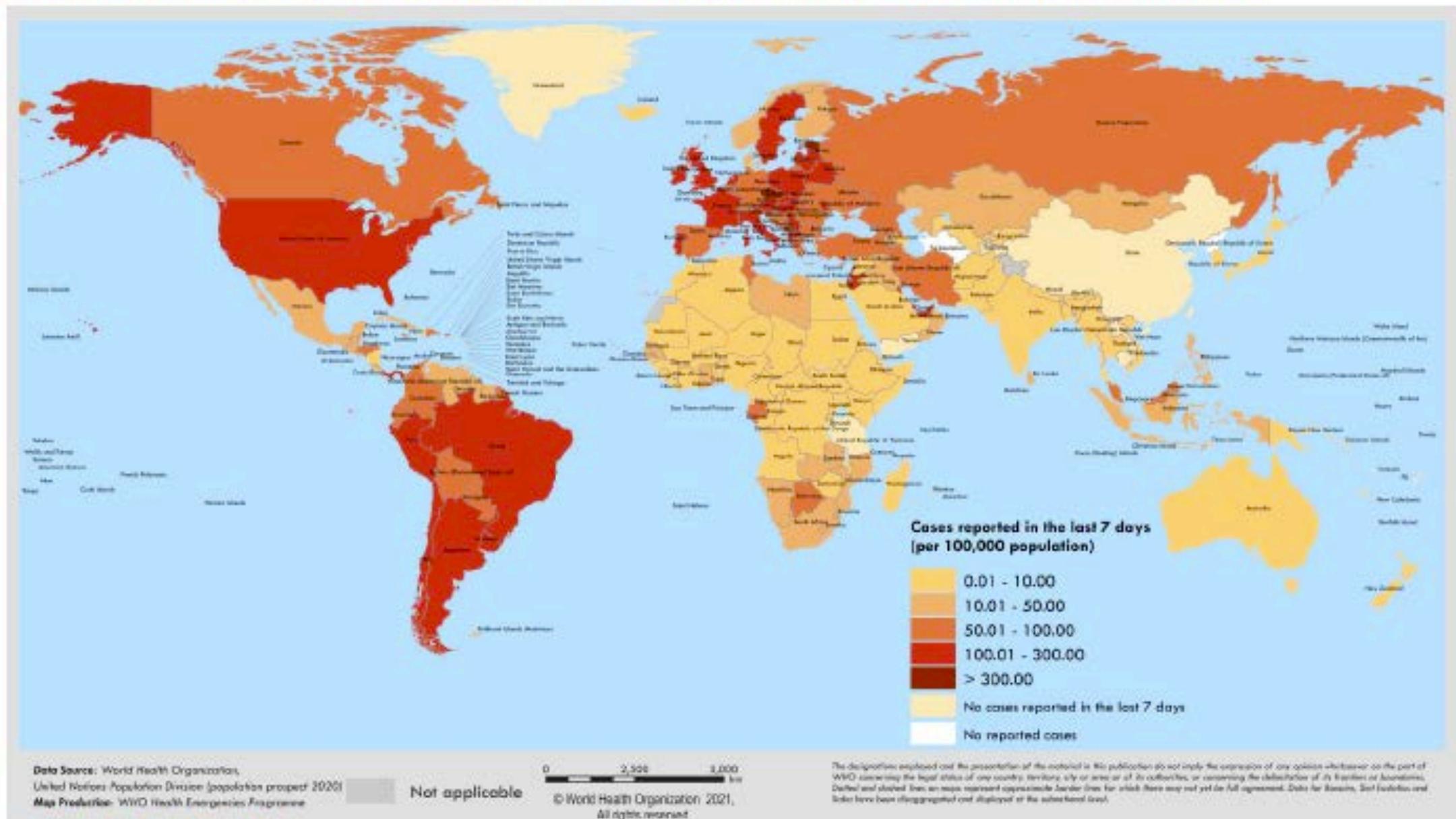
COVID-19: *Updates*

Jennifer Pisano, MD and Stephen Schrantz, MD
University of Chicago
February 17, 2021

Disclosures

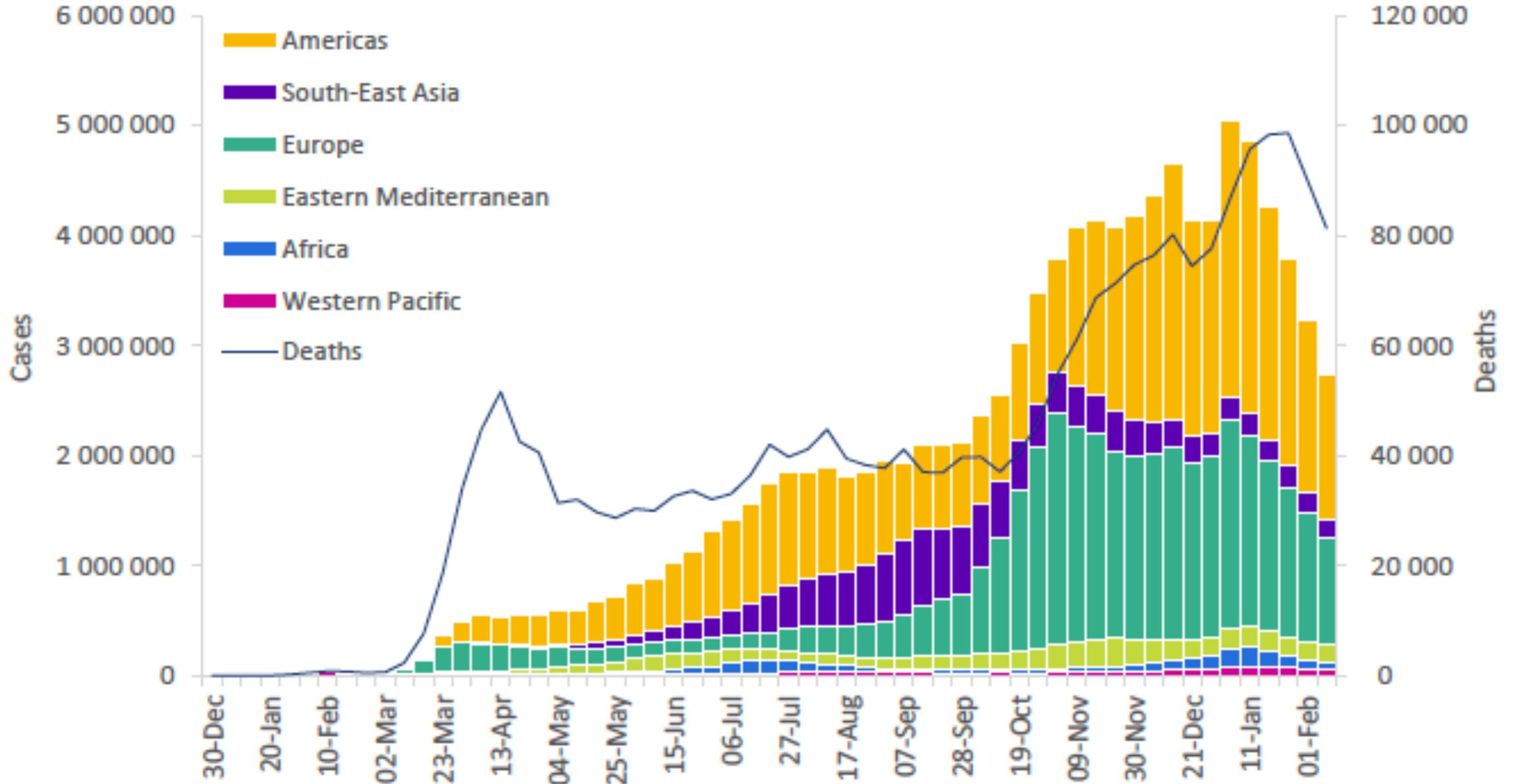
- We have no relevant financial interests to disclose.

Figure 2. COVID-19 cases per 100 000 population reported in the last seven days by countries, territories and areas, 8 February through 14 February 2021**



**See Annex: Data, table and figure notes

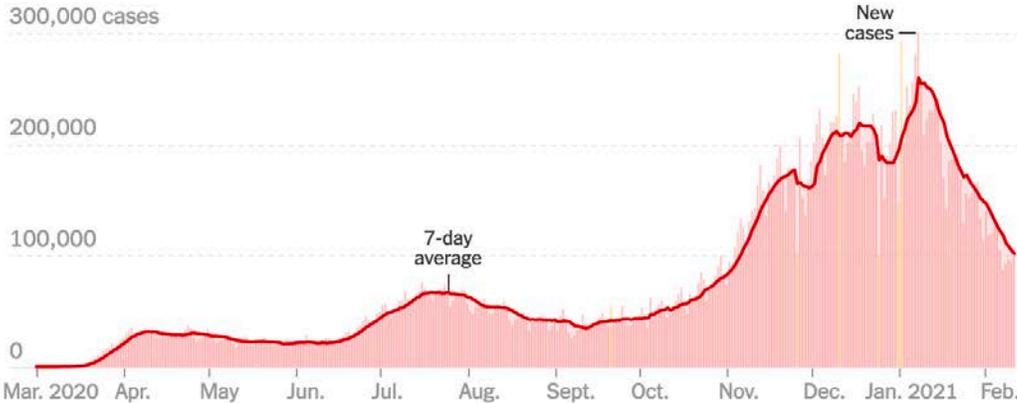
Figure 1: COVID-19 cases reported weekly by WHO Region, and global deaths, as of 14 February 2021**



Coronavirus in the U.S.: Latest Map and Case Count

Updated February 12, 2021, 7:44 A.M. E.T.

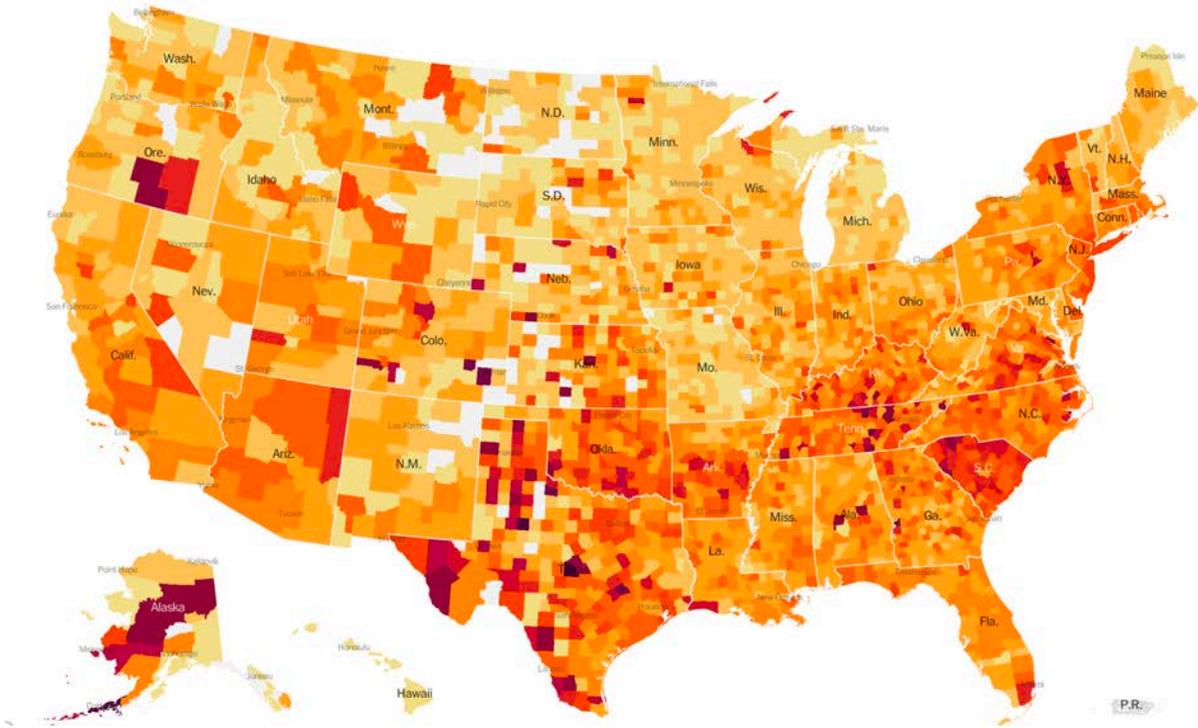
[Leer en español](#)



	TOTAL REPORTED	ON FEB. 11	14-DAY CHANGE
Cases	27.4 million+	105,600	-36% →
Deaths	475,224	3,878	-15% →
Hospitalized		74,225	-27% →

■ Day with reporting anomaly. Hospitalization data from the Covid Tracking Project; 14-day change trends use 7-day averages.

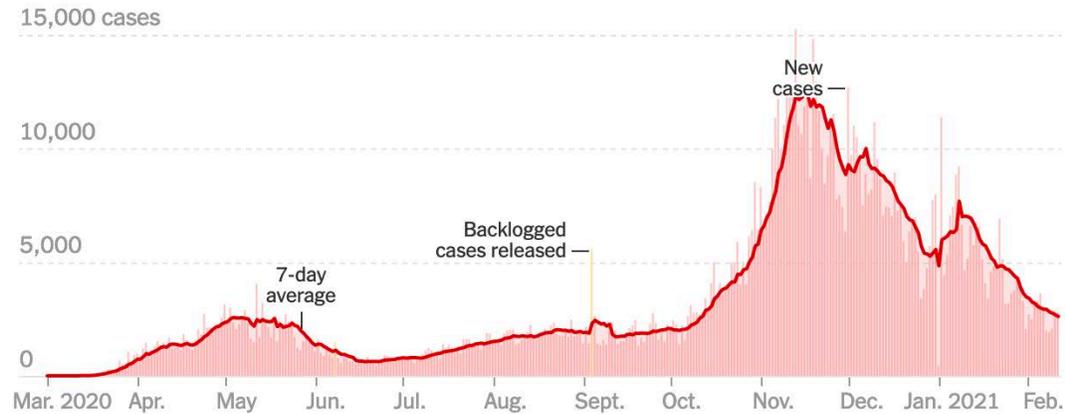
Jump to: [Map](#) [Cases by state](#) [Hot spots](#) [Clusters](#)



<https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

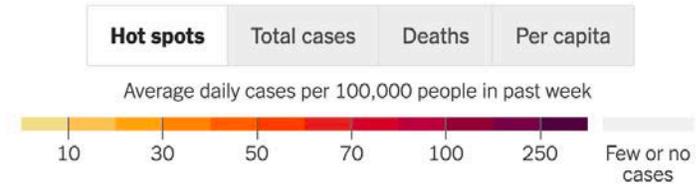
Illinois Coronavirus Map and Case Count

Updated February 12, 2021, 7:44 A.M. E.T.

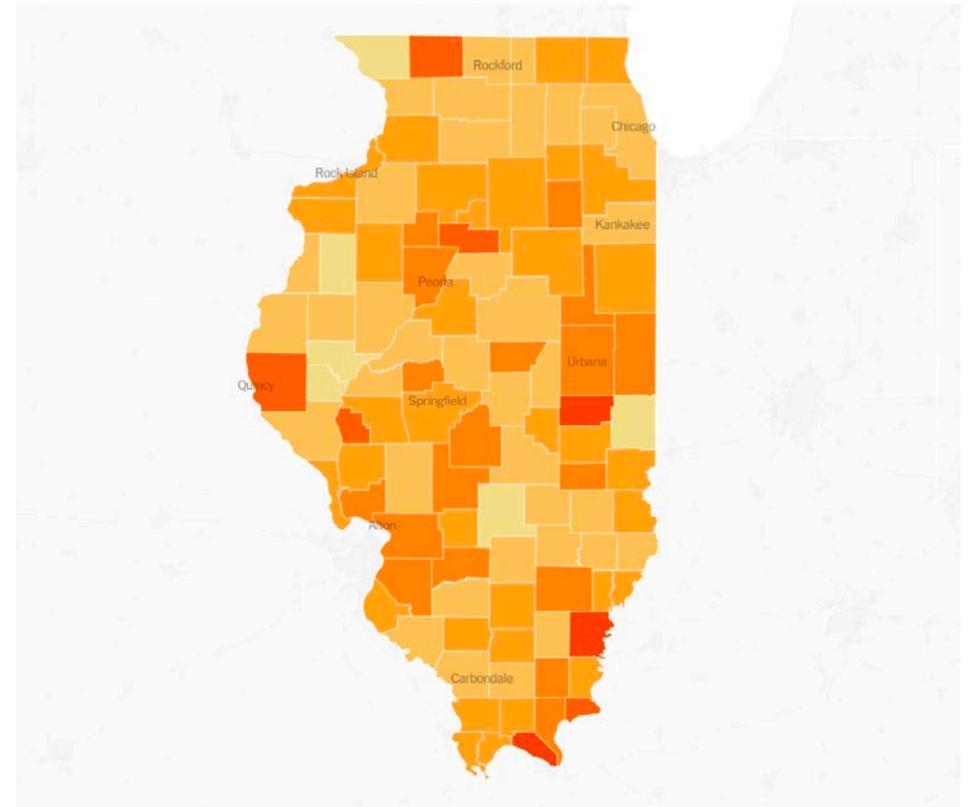


	TOTAL REPORTED	ON FEB. 11	14-DAY CHANGE
Cases	1.1 million+	2,793	-39% ↘
Deaths	21,985	116	-25% ↘
Hospitalized		1,954	-28% ↘

Day with reporting anomaly. Hospitalization data from the Covid Tracking Project; 14-day change trends use 7-day averages.



Double-click to zoom into the map.



<https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>

COVID Dashboard

CHICAGO | COVID-19 Citywide Positivity Rate

i Last updated February 16, 2021
Data for this dashboard is updated daily.

Select mode

Daily by
Demographic

Weekly by
ZIP

**Positivity
Rate**

Select date range

3/1/2020

2/16/2021



About

Positivity rate is the percentage of COVID-19 PCR and antigen tests that come back positive, relative to the total number of tests performed. The positivity rate decreases if there are fewer cases of COVID-19 OR if the total number of tests increases and community transmission is stable.

Note: the positivity rate test counts do include multiple tests for the same person.

To account for reporting lag, all 7 day rolling averages are as of 2/12/2021

[Reset to default](#)

built by
slalom

Current Positivity rate

Based on a 7 day rolling average

3.6% ▼

Prior wk.: 4.7%

Tests performed (3/1/2020 - 2/15/2021)

Cumulative tests

3,021,041

Daily tests (7 day rolling average)

11,347 ▼

Prior wk.: 12,201 (-7%)

Cases (3/1/2020 - 2/16/2021)

Cumulative cases

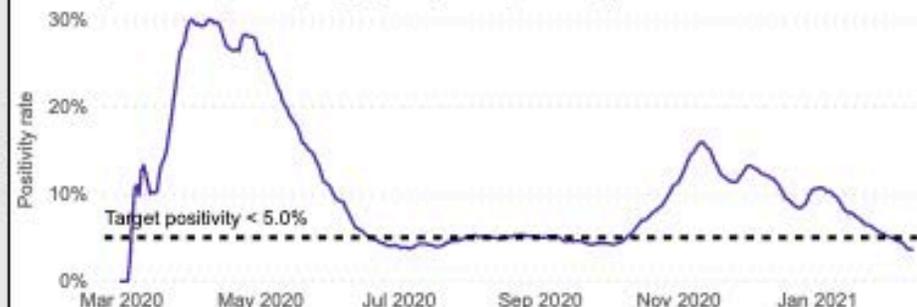
240,971

Daily cases (7 day rolling average)

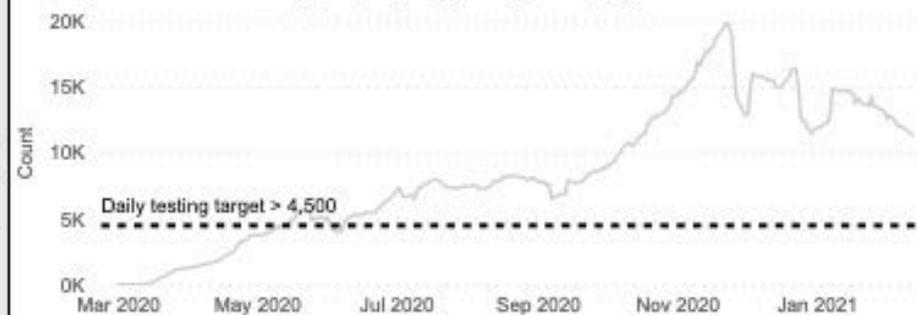
338 ▼

Prior wk.: 473 (-29%)

Positivity rate and positivity target (7 day rolling average)



Tests performed and testing target (7 day rolling average)



Daily tests performed

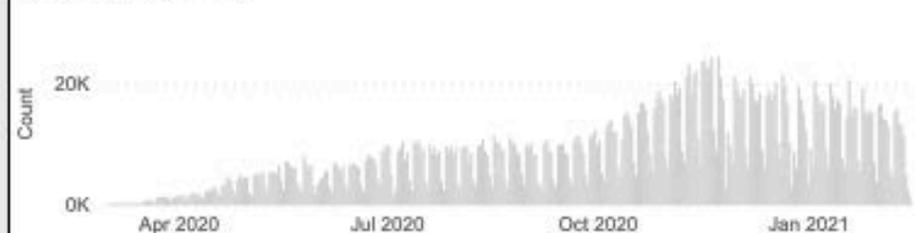


FIGURE 1. Masks tested, including *A*, unknotted medical procedure mask; *B*, double mask (cloth mask covering medical procedure mask); and *C*, knotted/tucked medical procedure mask

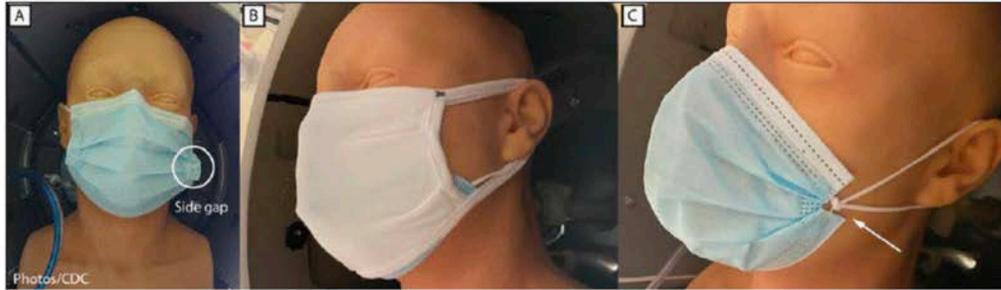
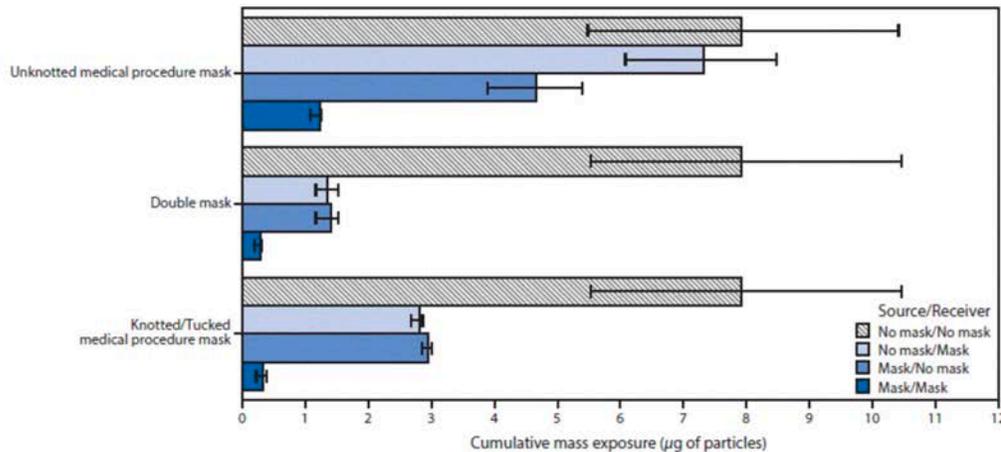


FIGURE 2. Mean cumulative exposure* for various combinations of no mask, double masks, and unknotted and knotted/tucked medical procedure masks†



* To an aerosol of 0.1–7 μm potassium chloride particles (with 95% confidence intervals indicated by error bars) measured at mouthpiece of receiver headform configured face to face 6 ft from a source headform, with no ventilation and replicated 3 times. Mean improvements in cumulative exposures compared with no mask/no mask (i.e., no mask wearing, or 100% exposure) were as follows: *unknotted medical procedure mask*: no mask/mask = 7.5%, mask/no mask = 41.3%, mask/mask = 84.3%; *double mask*: no mask/mask = 83.0%, mask/no mask = 82.2%, mask/mask = 96.4%; *knotted/tucked medical procedure mask*: no mask/mask = 64.5%, mask/no mask = 62.9%, mask/mask = 95.9%.

† Double mask refers to a three-ply medical procedure mask covered by a three-ply cloth cotton mask. A knotted and tucked medical procedure mask is created by bringing together the corners and ear loops on each side, knotting the ears loops together where they attach to the mask, and then tucking in and flattening the resulting extra mask material to minimize the side gaps.

Return

Wearing a mask that fits tightly to your face can help limit spread of the virus that causes COVID-19

In lab tests with dummies, exposure to potentially infectious aerosols decreased by **about 95%** when they both wore tightly fitted masks

Other effective options to improve fit include:

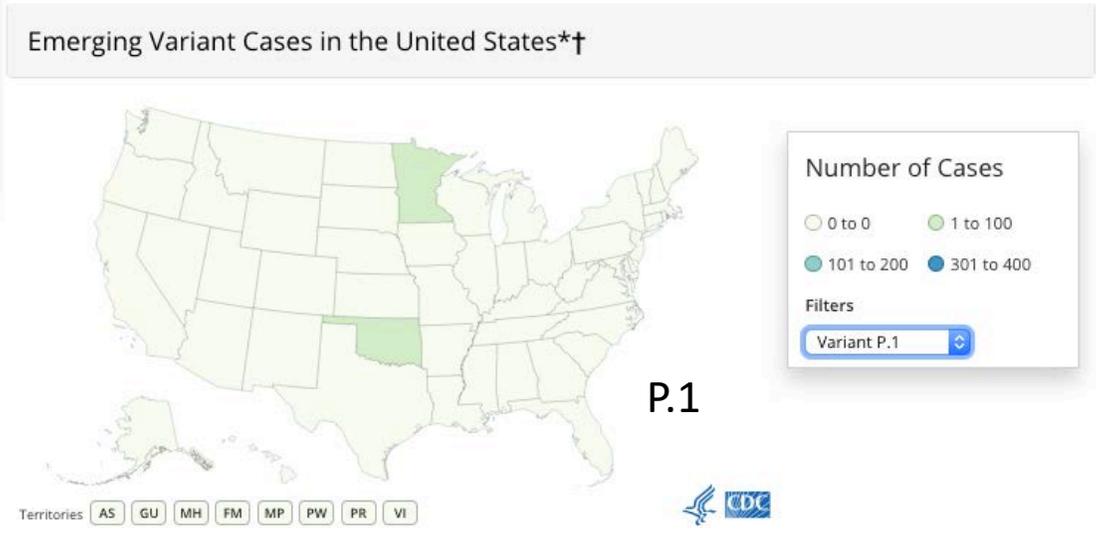
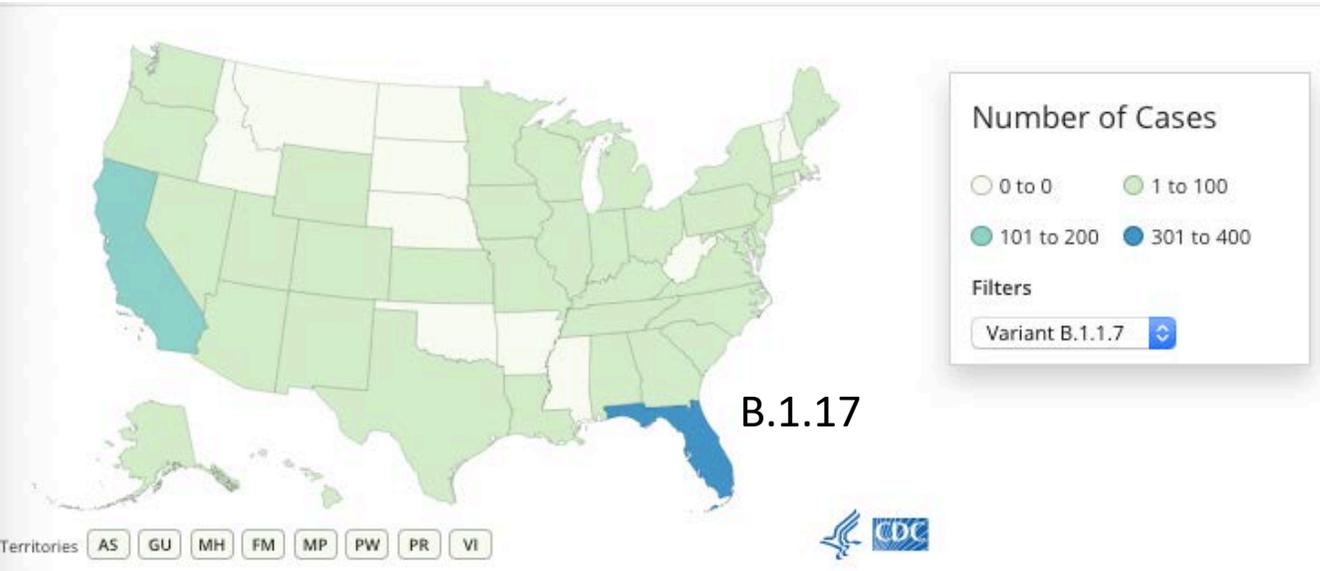
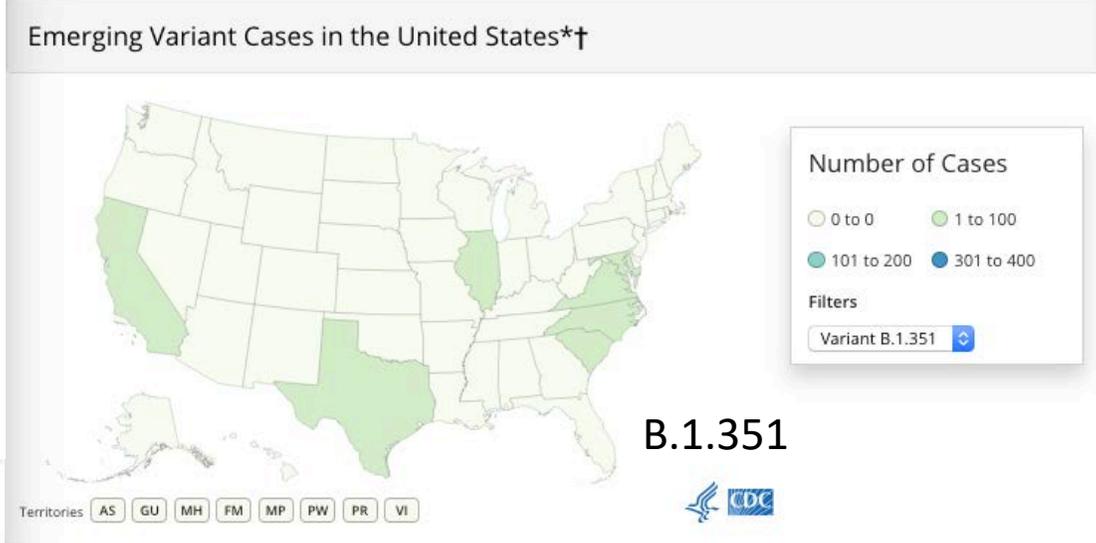
- Cloth mask over medical procedure mask
- Medical procedure mask with knotted ear loops and tucked-in sides
- Mask fitter
- Nylon covering over mask

CDC.GOV [bit.ly/MMWR21021](https://www.cdc.gov/mmwr/volumes/70/wr/mm7007e1.htm?s_cid=mm7007e1_w#F1_down) MMWR

Focus on fit!

SARS-CoV-2 Variants in the US

Variant	Reported Cases in US	Number of States Reporting
B.1.1.7	1277	42
B.1.351	19	10
P.1	3	2



COVID-19 Variants

Data was last updated: 2/16/2021



Variant Type	Count
B.1.1.7	25
B.1.351	1
P.1	0
Total	26

This page will be updated on Tuesdays and Thursdays.

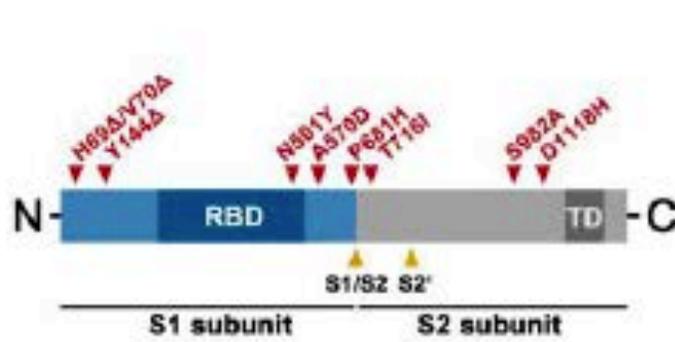


<http://dph.illinois.gov/covid19/variants>
<https://www.nbcchicago.com/news/local/illinois-reports-first-case-of-south-african-covid-19-variant/2436094/>

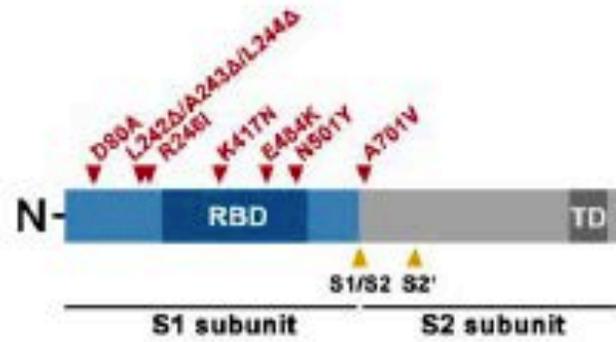
Emerging variants of SARS-CoV-2

	B.1.1.7 (UK)	B.1.351 (South Africa)	B.1.1.28.1
Alternate names	VOC202012/01	VOC202012/02	P.1
First detected by	UK	South Africa	Brazil/Japan
First appearance	September 2020	Early August 2020	December 2020
Key Spike mutations	<ul style="list-style-type: none"> • H69/V70 deletion • Y144 deletion • N501Y • A570D • D614G • P681H 	<ul style="list-style-type: none"> • L242/A243/L244 deletion • N501Y • D614G • E484K • K417N 	<ul style="list-style-type: none"> • N501Y • D614G • E484K • K417N
Key mutation common to all 3 variants	S106/G107/F108 deletion in non-structural protein 6 (NSP6)		
Increased transmissibility?	Likely (est. 56% more transmissible CI 50-74%)	No evidence	Concern for increased transmissibility
Increased disease severity/mortality?	Likely (risk ratio of death 1.65 (95%CI 1.21-2.25))	No evidence	No evidence

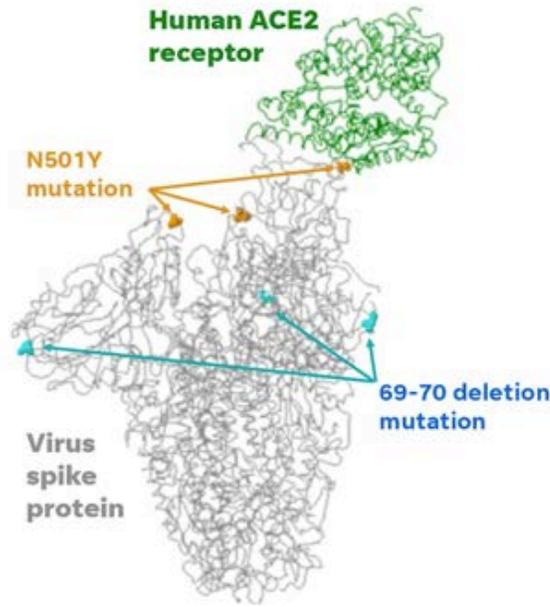
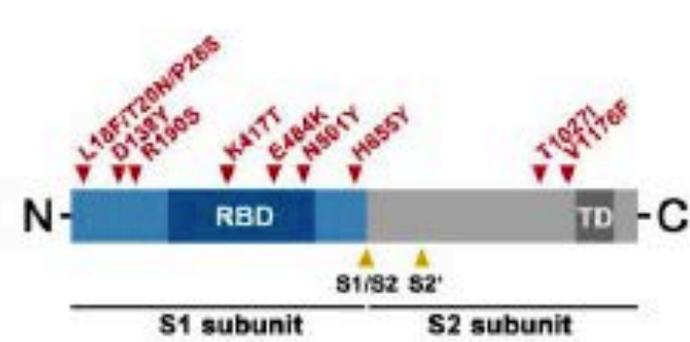
**United Kingdom
(20I/501Y.V1)
B.1.1.7 lineage**



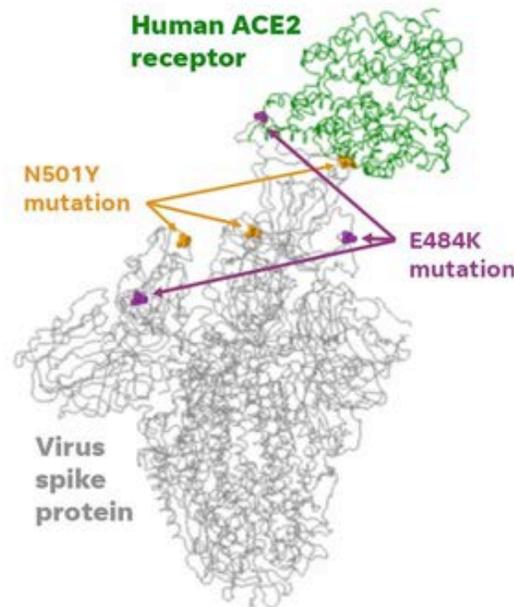
**South Africa
(20H/501Y.V2)
B.1.351 lineage**



**Brazil
(P.1)
B.1.1.248 lineage**



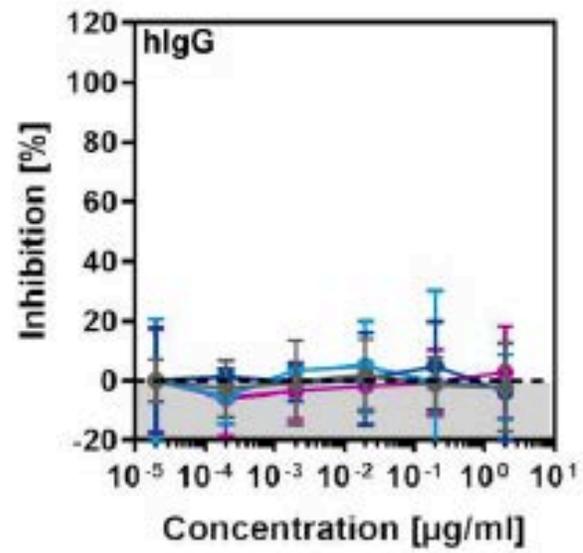
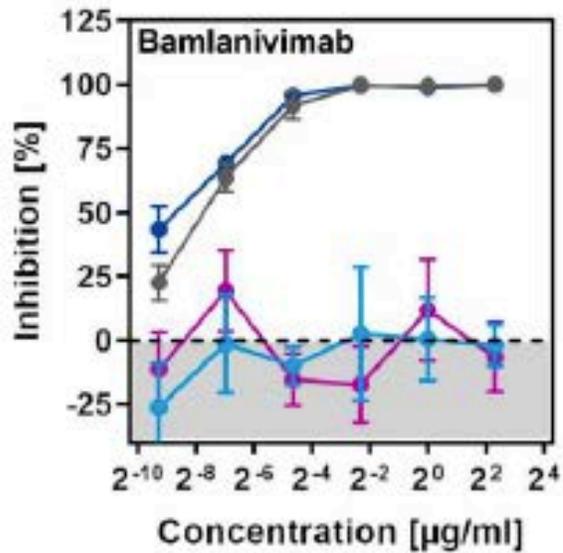
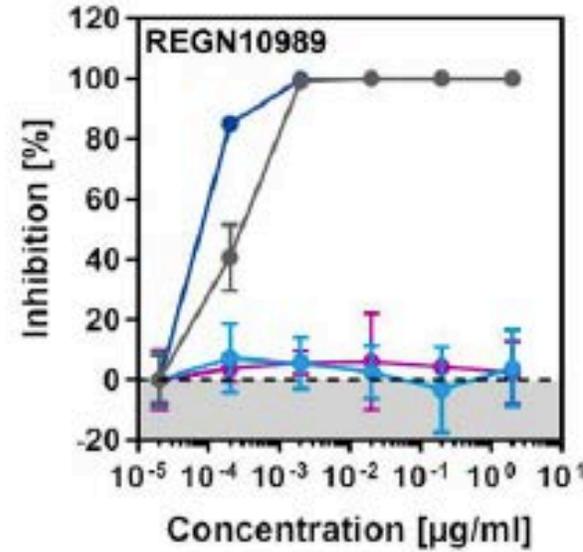
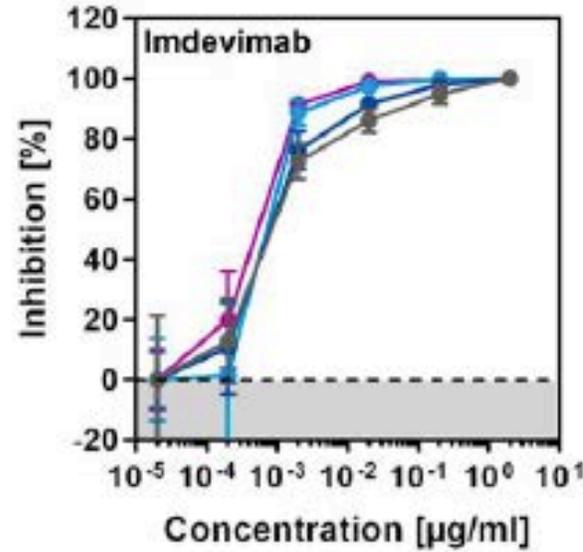
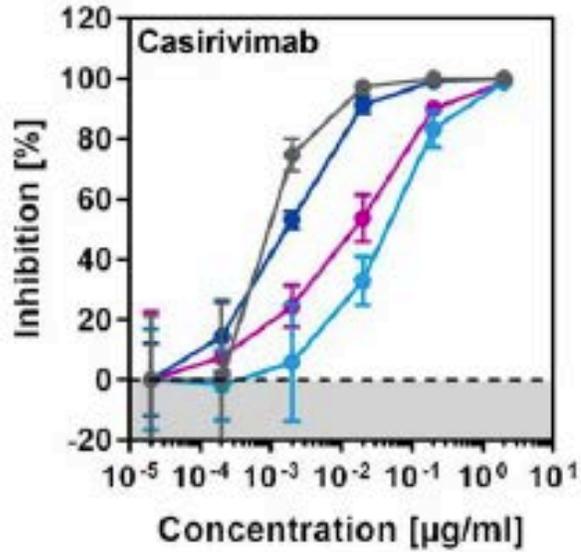
The U.K. variant



The South Africa variant

Hoffman M. SARS-CoV-2 variants B.1.351 and B.1.1.248: Escape from therapeutic antibodies and antibodies induced by infection and vaccination. bioRxiv. doi: <https://doi.org/10.1101/2021.02.11.430787> <https://www.azcentral.com/story/news/local/arizona-science/2021/01/12/u-k-virus-likely-arizona-but-south-africa-strain-worries-more-scientists/6597367002/>

Virus mutations differ among the U.K. and South Africa variants. Courtesy Of The Translational Genomics Research Institute



- WT
- UK
- SA
- BRA

Both the South African and Brazilian variants have displayed decreased inhibition to Bamlanivimab, convalescent plasma and vaccine BNT162b2 (Pfizer-BioNTech COVID-19 Vaccine)

Hoffman M. SARS-CoV-2 variants B.1.351 and B.1.1.248: Escape from therapeutic antibodies and antibodies induced by infection and vaccination. bioRxiv. doi: <https://doi.org/10.1101/2021.02.11.430787>

Vaccine Efficacy vs. SARS-CoV2 Variants

	Novavax NVX-COV2373	AstraZeneca ChAdOx1-NCOV19	Moderna mRNA-1273	Pfizer BNT162b2	J&J Ad26.COV2.4
Type	Spike protein	Adenovirus	mRNA	mRNA	Adenovirus
COVID-19 disease severity	Mild/Moderate/Severe	Mild/moderate	Mild/Mod/Severe	Mild/Mod/Severe	Moderate/severe
Overall efficacy	89.3% (95% CI: 75.2-95.4)	76% (CI 59-89%) after first dose; 82% (CI 63-92%) with 12wk interval	94%	95%	72% in US participants; 66% overall
B.1.1.7	85.6% (50% B.1.1.7)	74.9%	No impact on neutralization by post-vaccine sera	94% (Israel where B.1.1.7 is predominant variant)	Data pending
B.1.351	HIV NEG: 60% (95% CI 6.1-72.8); Total 49.4% (95% CI 19.9-80.1)	10.4%	6 fold reduction in neutralizing titers, remain > expected protective levels	3 fold reduction in neutralizing titers, remain > expected protective levels	57%
P.1	Data pending				
20C/S:452R	Data pending				

February 11, 2021

Emergence of a Novel SARS-CoV-2 Variant in Southern California

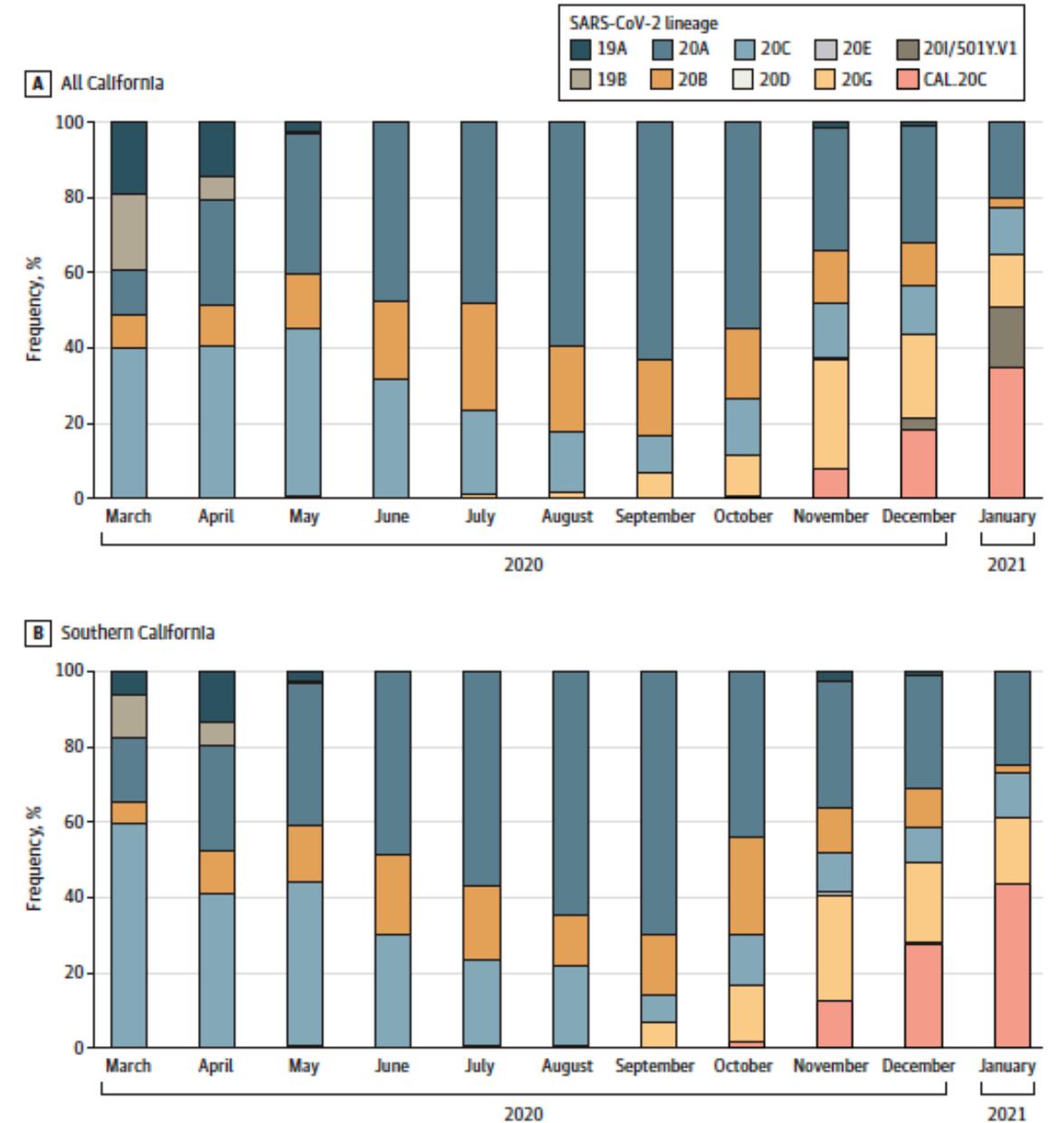
Wenjuan Zhang, PhD¹; Brian D. Davis, BSc²; Stephanie S. Chen, BSc²; et al

» Author Affiliations | Article Information

JAMA. Published online February 11, 2021. doi:10.1001/jama.2021.1612

- As of January 22, 2021, CAL.20C has been detected in 26 states and other countries
- Unknown if associated with changes in transmissibility, infectivity or disease severity when compared to current circulating strains

Figure 2. Timeline for the Emergence of a Novel Southern California Variant, CAL.20C, Among All SARS-CoV-2 Circulating Variants Observed



My big picture take-aways re: SARS-CoV-2 variants (to date)

- No evidence of the variants' ability to evade detection by RT-PCR viral diagnostic tests at this point (most contain multiple targets)
- The most important way to stop the variants is to prevent transmission and halt replication
- Continue your 3Ws regardless of your vaccination status
- We MUST vaccinate more to decrease transmission/replication opportunities

Vaccine Updates

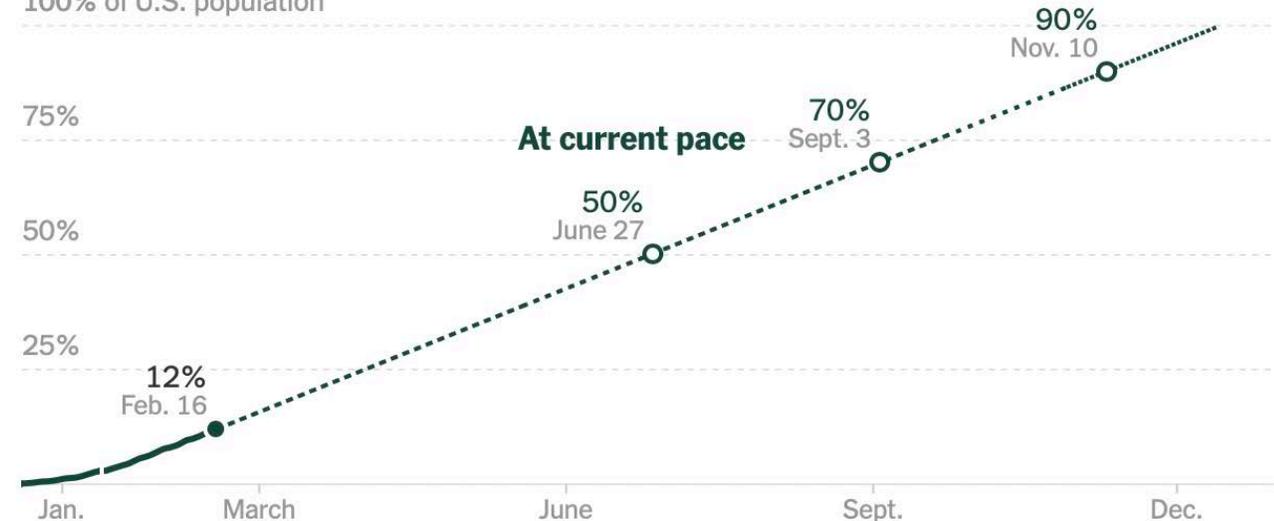
- Janssen Vaccine: FDA meeting for EUA scheduled for Feb 26
 - However, J & J reports only 4 million doses will be available until April due to manufacturing issues
- Providers are administering about 1.72 million doses per day on average
- The latest data from Israel shows a 94% drop in symptomatic Covid-19 infections among 600,000 people who received two doses of Pfizer vaccine
- 92% less likely to develop severe illness, according to a study by Israel's largest healthcare provider
- White House on 2/16 said that states collectively would begin receiving 13.5 million doses each week — a jump of more than two million doses due in part to a shift in the way the government is allocating doses of Pfizer's vaccine

When a given share of the U.S. population might be at least partially vaccinated

The current vaccination rate is based on average daily increase in first doses administered over the past week.

Average daily first doses in last 7 days: 971,905

100% of U.S. population



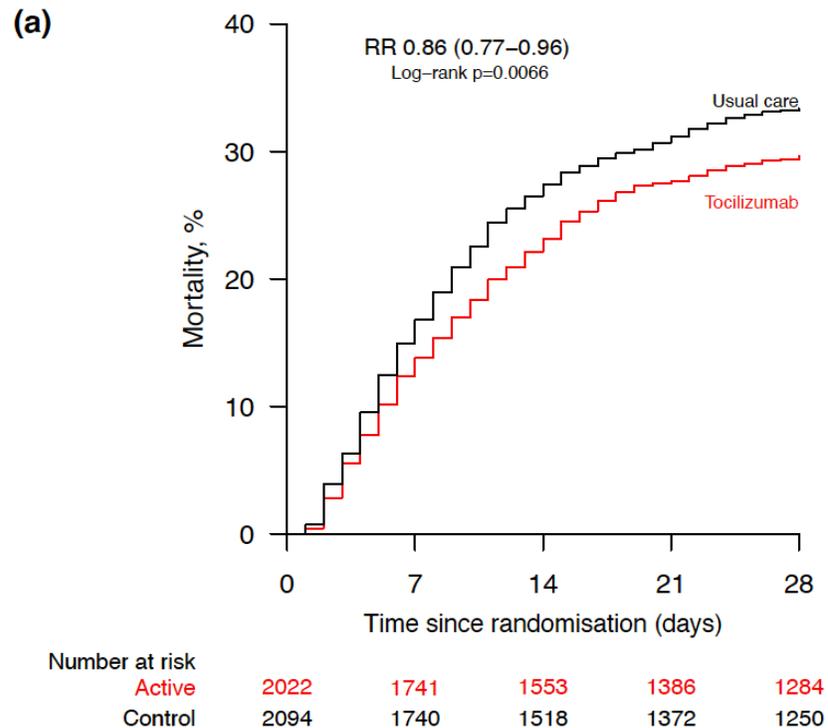
Source: Centers for Disease Control and Prevention | Note: Data from Dec. 20 to Jan. 12 are for all doses administered. Data for Jan. 13 is unavailable. Projections could change if additional vaccines are authorized.

CDC alters COVID-19 quarantine guidance for vaccine recipients

- Vaccinated persons with an exposure to someone with suspected or confirmed COVID-19 are not required to quarantine if they meet all of the following criteria:
 - Are fully vaccinated (i.e., ≥ 2 weeks following receipt of the second dose in a 2-dose series, or ≥ 2 weeks following receipt of one dose of a single-dose vaccine)
 - Are within 3 months following receipt of the last dose in the series
 - Have remained asymptomatic since the current COVID-19 exposure
- Persons who do not meet all 3 of the above criteria should continue to follow current quarantine guidance after exposure to someone with suspected or confirmed COVID-19

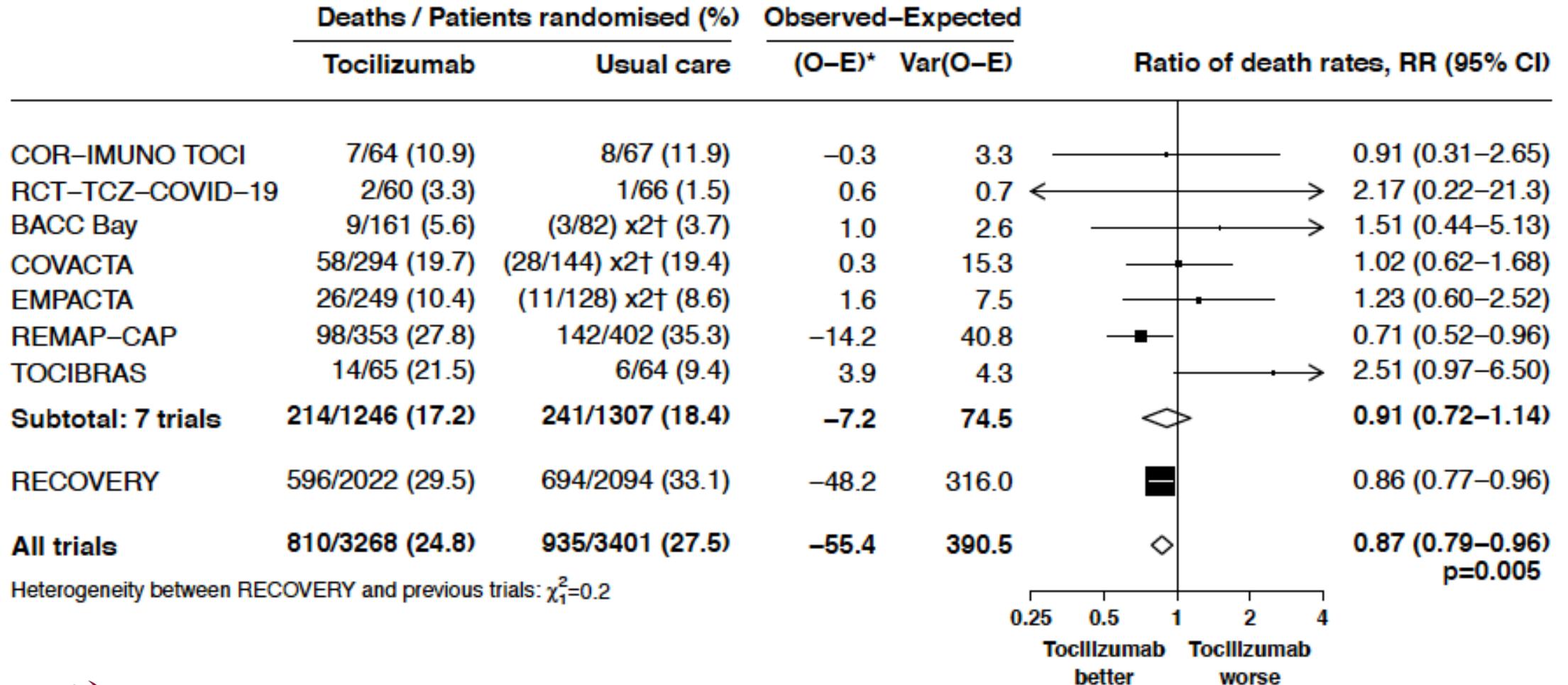
Tocilizumab in patients admitted to hospital with COVID-19 (RECOVERY): preliminary results of a randomized, controlled, open-label, platform trial

Effect of allocation to tocilizumab on 28-day mortality



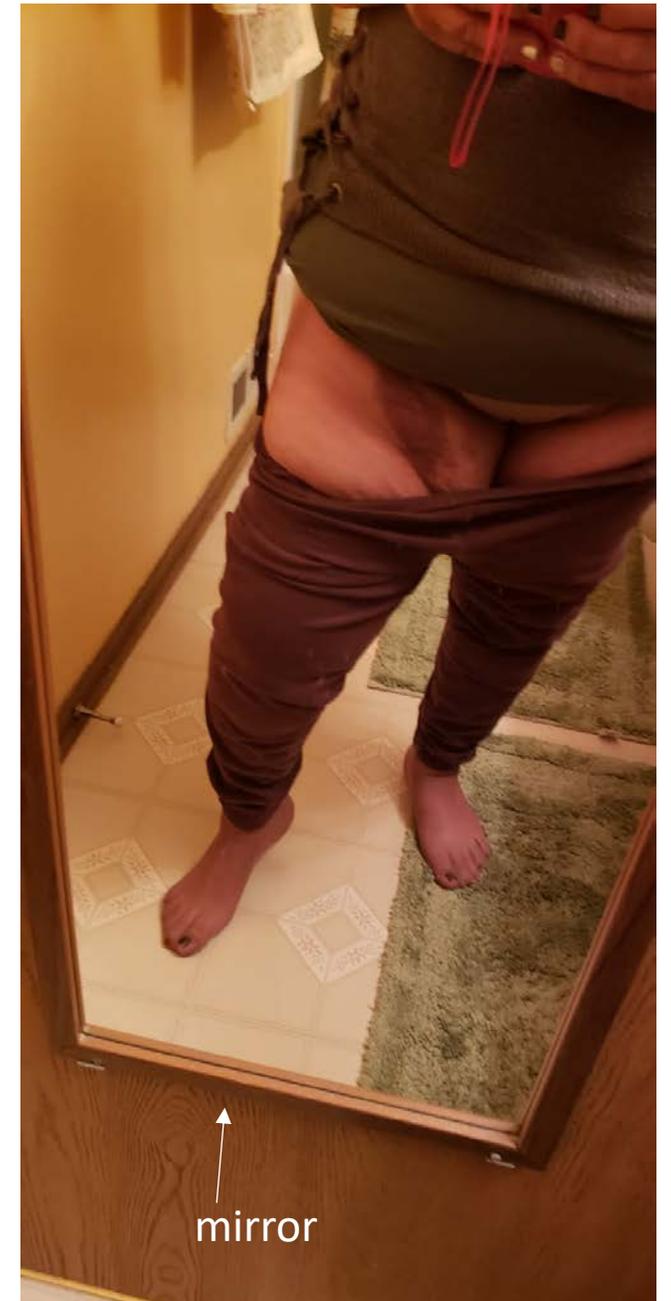
- **The major benefits were:**
- Reduction in mortality, 29% vs 33%
- Increase in likelihood of hospital discharge alive after 1 month, 54% vs 47%
- Lower likelihood of IMV or death, 33% vs 38%
- Lower likelihood of dialysis, 5% vs 7%
- 82% of pts were on dexamethasone

Tocilizumab vs usual care in patients hospitalized with COVID – Meta-analysis of mortality in RECOVERY and other trials



Rash after vaccination?

- *Per Dr. So (Lawndale Christian Health Center):*
- 60 y/o woman received her first Moderna vaccine 2 days prior
- She did not experience any trauma
- Not taking any anticoagulants/NSAIDs
- No h/o bleeding disorders
- Only meds: Pantoprazole, amlodipine
- Just a little 'dull pain' with pressure



Thrombocytopenia from mRNA vaccines?

- 31 million people in the United States have received at least one dose, 36 similar cases had been reported to the government's Vaccine Adverse Event Reporting System, VAERS, by the end of January
- Possible ITP? It has occurred, rarely, in people who received other vaccines, particularly the MMR
- CDC said that they were looking into the reports, but that so far, rates of the condition in vaccinated people did not appear higher than the rates normally found in the U.S. population, so the cases could be coincidental
- NO current advisories regarding vaccine avoidance in patients with known bleeding disorders