



COVID-19 Update

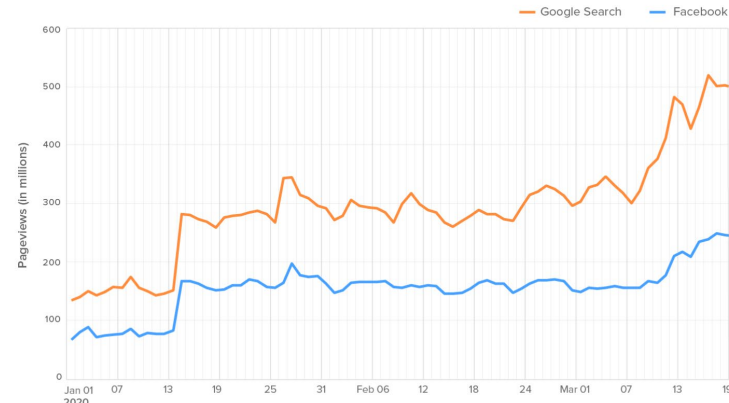
Dr Mark Cunningham-Hill
Medical Director NEBGH

Monday June 22nd

SARS-CoV-2

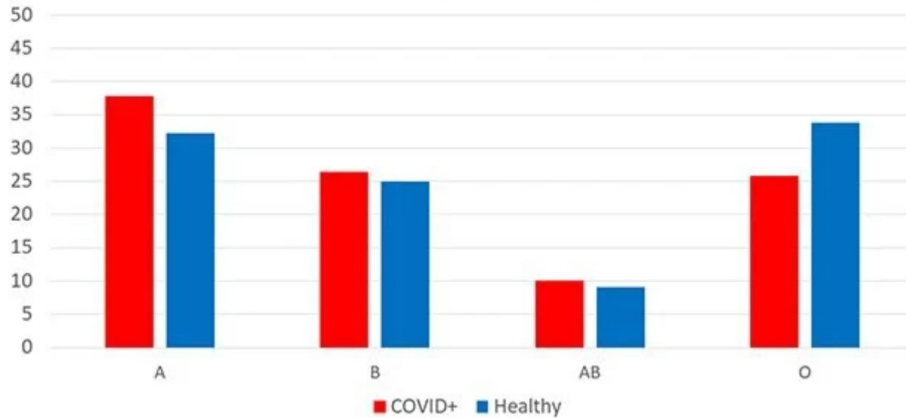
- Still learning about SARS-CoV-2 including:
 - January to mid-May - 23,000 scientific papers and doubling every 20 days!
 - 2,223 clinical trials
 - Coronavirus Treatment Acceleration Program (CTAP)
 - 144 active trials of therapeutic agents
 - Another 457 development programs for therapeutic agents in the planning stages
 - 32 potentially viable vaccines in development

Trends in Google and Facebook Traffic Across Chartbeat Network

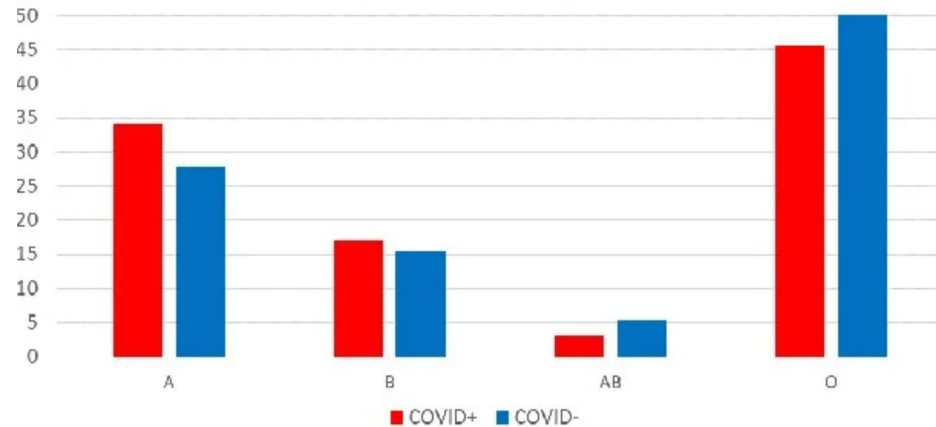


Blood Group & COVID-19

Blood Group Representation (China)



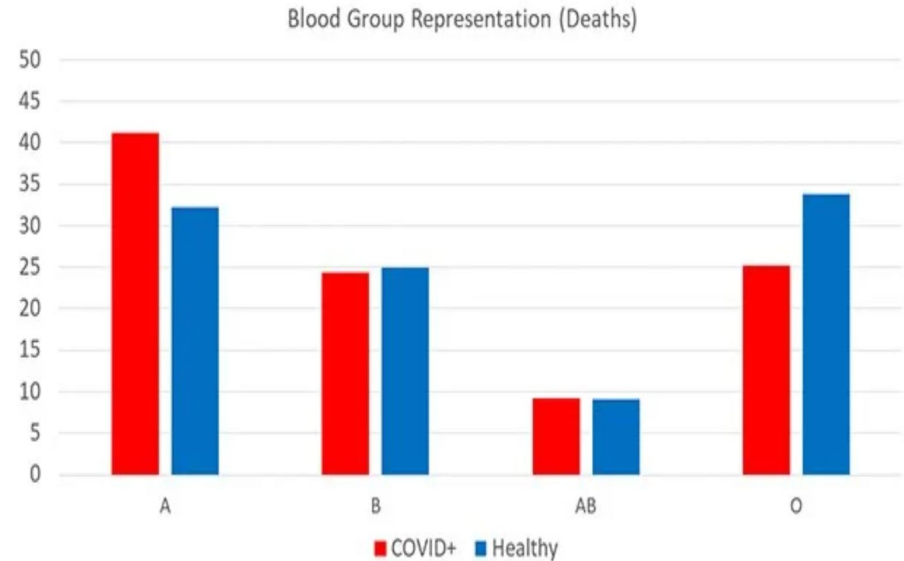
Blood Group Representation (NYC)



- Initial study on 2,000 patients in China
- Confirmed in a similar study in NYC
- 23&me data also reported lower COVID-19 infection rates in people with the O blood group

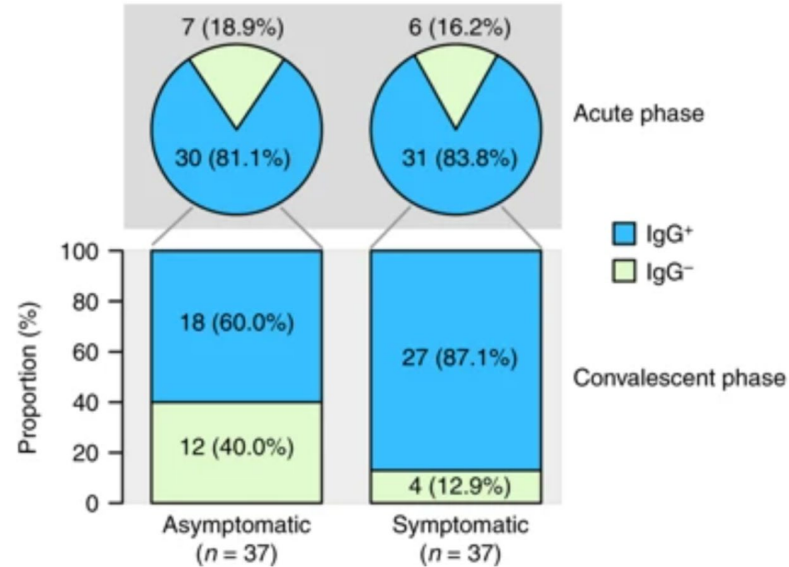
Increased infection Rates and Worse Outcomes

- Blood group A associated with more severe illness and increased deaths
- Rationale is not known:
 - Microorganisms can stimulate antibodies against blood group antigens
 - Blood groups can serve as receptors and/or coreceptors for microorganisms, parasites, and viruses
 - Potentially linked to a single nucleotide polymorphism in the ABO gene



Immunity

- SARS and MERS
 - Circulating antibodies for 1 year
 - IgG for 2-3 years
- SARS-CoV-2?
- Study in China may give some insight:
 - 8 weeks after recovery, antibody levels fell to undetectable levels in 40% of asymptomatic people and 13% of symptomatic people
 - ↓ in detectable IgG after 8 weeks median drop
 - 71% in the asymptomatic group
 - 76% in the symptomatic group



Feces

- Studies have found virus in feces:
 - Duration of fecal viral shedding ranged from 1 to 33+ days after a negative nasopharyngeal swab
 - Not known if potential to get infected by fecal-oral or fecal-respiratory routes
 - Studies done on hospitalized severely ill patients





Dexamethasone

- RECOVERY (Randomized Evaluation of COVid-19 thERapY) trial
 - Over 11,500 patients have been enrolled from over 175 NHS hospitals in the UK
 - On 8 June, recruitment to the dexamethasone arm was halted because of benefit of using dexamethasone
- Dexamethasone
 - Reduced deaths by one-third in ventilated patients
 - One fifth in other patients receiving oxygen only
 - No benefit among those patients who did not require respiratory support

Data and Trends



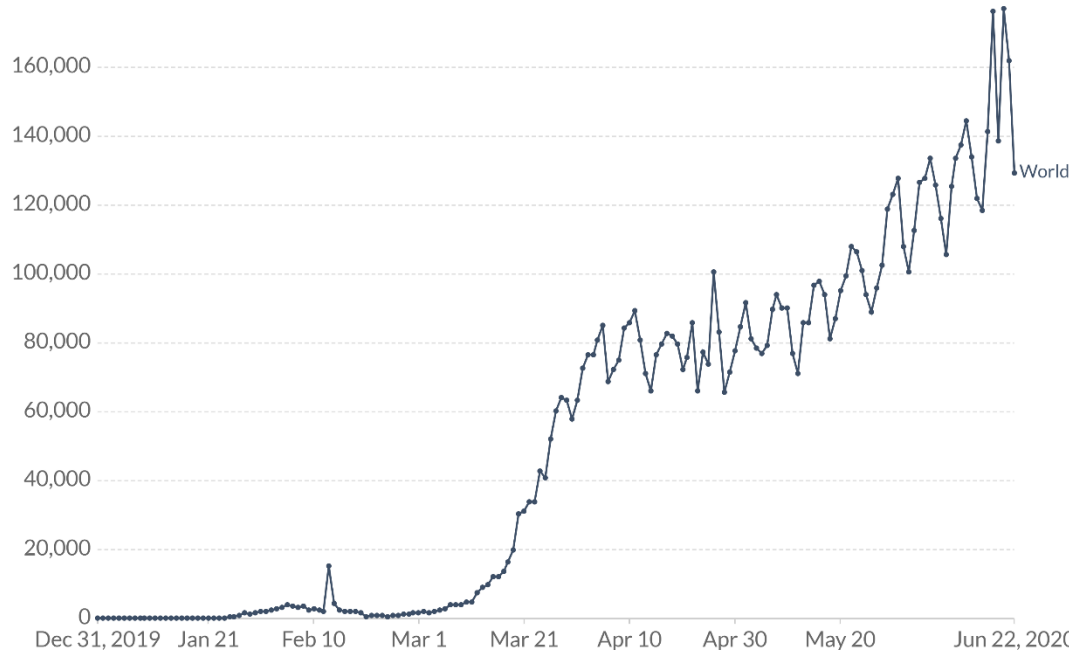
World Data

- Nearly 9 million cases and 0.5 million deaths

Daily confirmed COVID-19 cases

The number of confirmed cases is lower than the number of total cases. The main reason for this is limited testing.

Our World
in Data

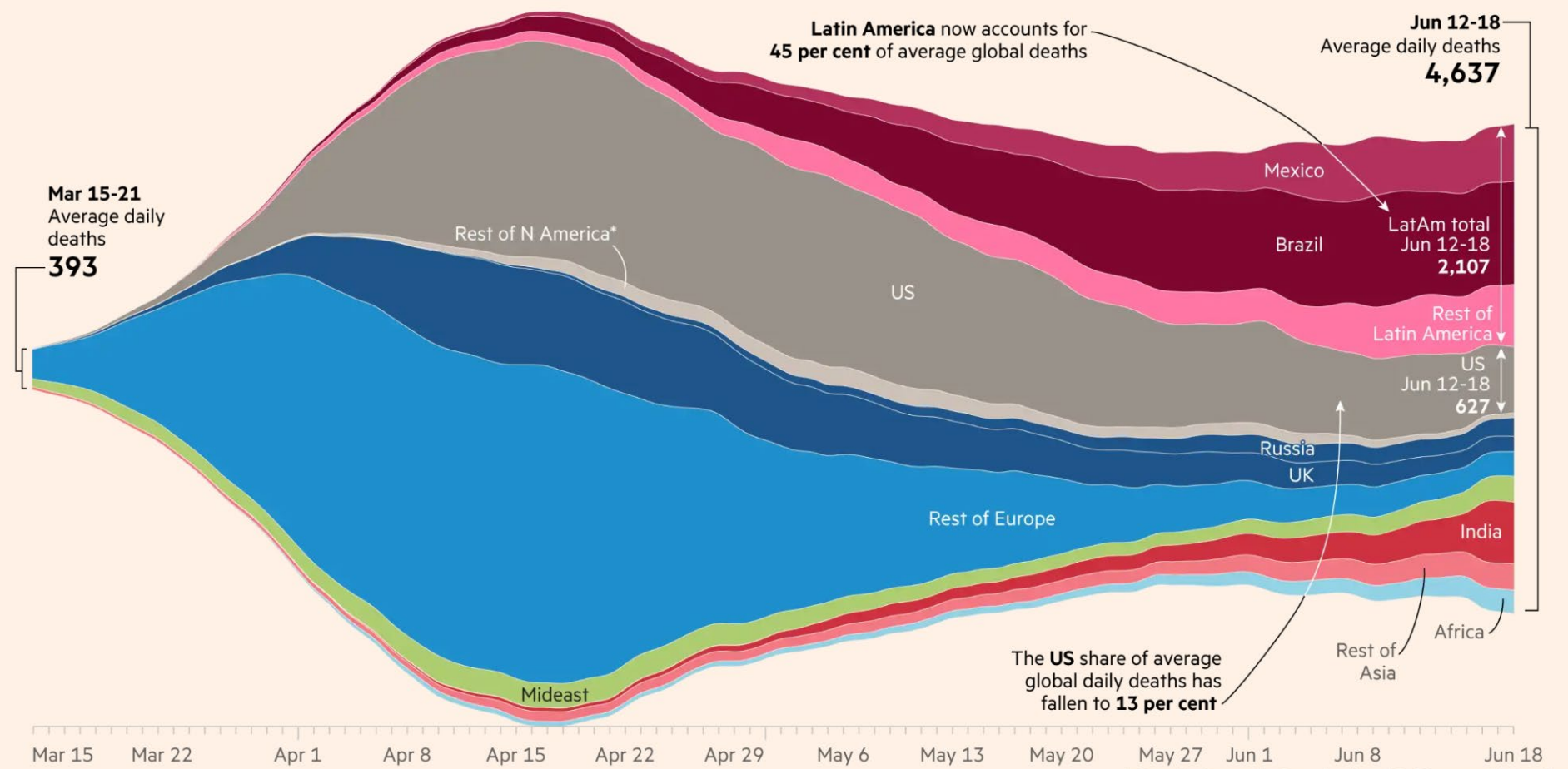


Source: European CDC – Situation Update Worldwide – Last updated 22nd June, 11:00 (London time)

OurWorldInData.org/coronavirus • CC BY

Global Covid-19 death toll: Latin America offsets decline in Europe and the US

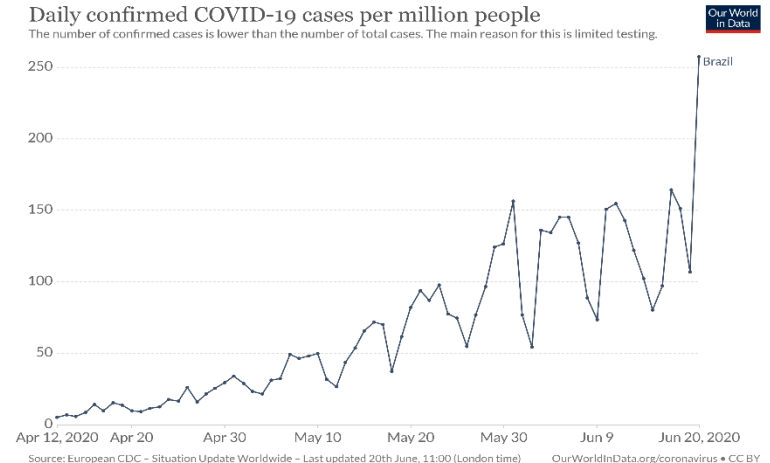
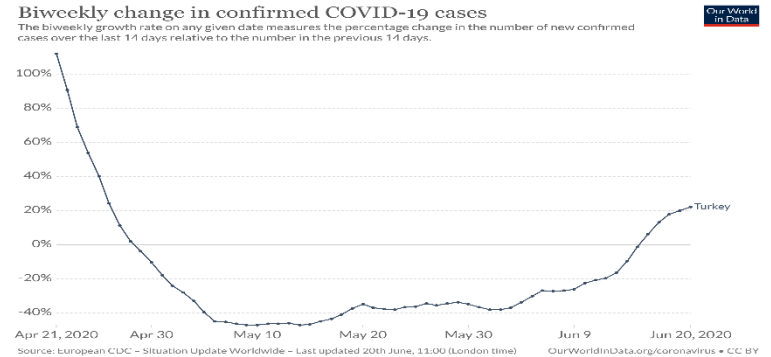
Daily deaths of patients diagnosed with coronavirus (7-day rolling average)



* Canada, Bermuda, Greenland and St Pierre and Miquelon

Places and Trends to Watch

- Turkey
 - Lifted lockdown 2 weeks ago
 - Increasing cases and now imposing restrictions again
- Brazil
 - >1M cases
 - June 19th reported 54,771 cases – highest ever
 - President downplaying
 - Promoting hydroxychloroquine
 - ICU beds close to capacity
 - No central plan

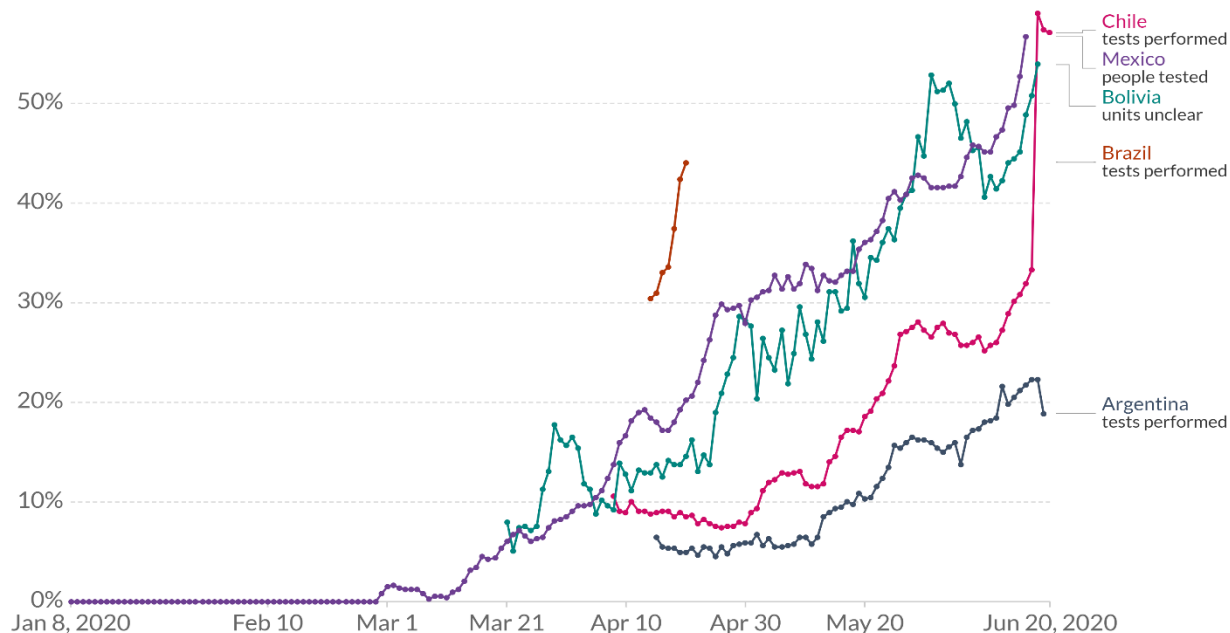


Latin America

The share of daily COVID-19 tests that are positive

The figures are given as a rolling 7-day average.

Our World
in Data



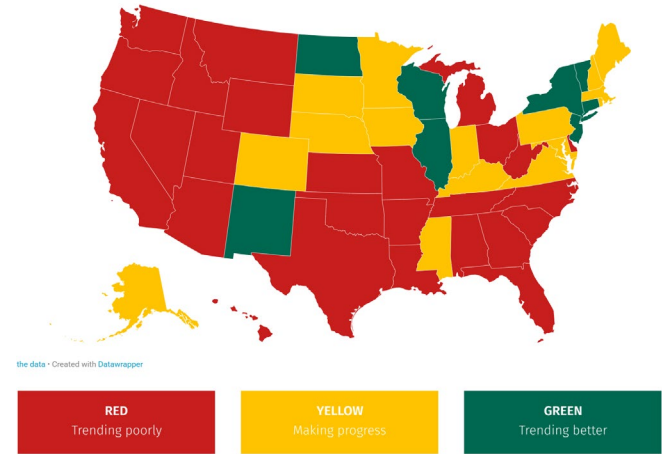
Source: Official data collated by Our World in Data

OurWorldInData.org/coronavirus • CC BY

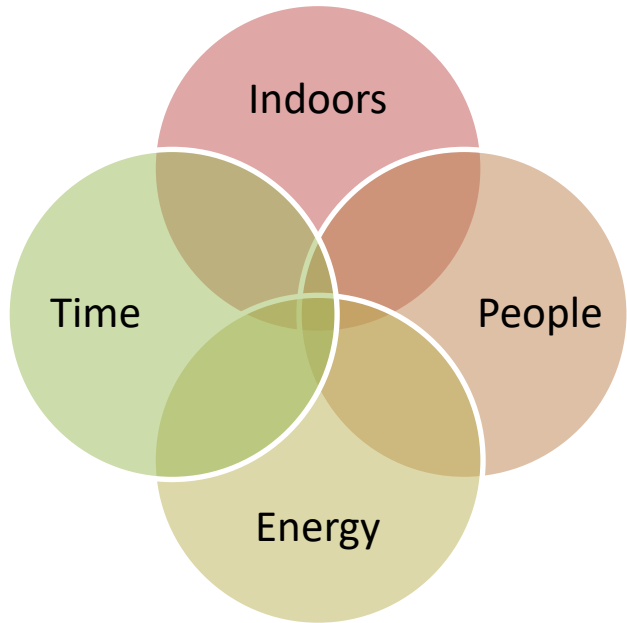
Note: Comparisons of testing data across countries are affected by differences in the way the data are reported. Daily data is interpolated for countries not reporting testing data on a daily basis. Details can be found at our Testing Dataset page

Places and Trends to Watch

- Clusters among young people in the U.S.
 - Southern states
 - Linked to bars and fraternity rush parties
 - South Carolina - cases among people ages 21-30 increased 413% since April 4
 - 80% of new cases in Oxford were in people age 18 to 24 (U. Mississippi)
- Early Data Show No Uptick in Covid-19 Transmission From Protestsmaybe too early – But being outdoors may have helped as much safer than indoors














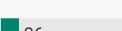




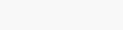
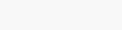

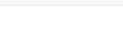
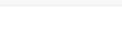
Anatomy of a Super Spreader Event



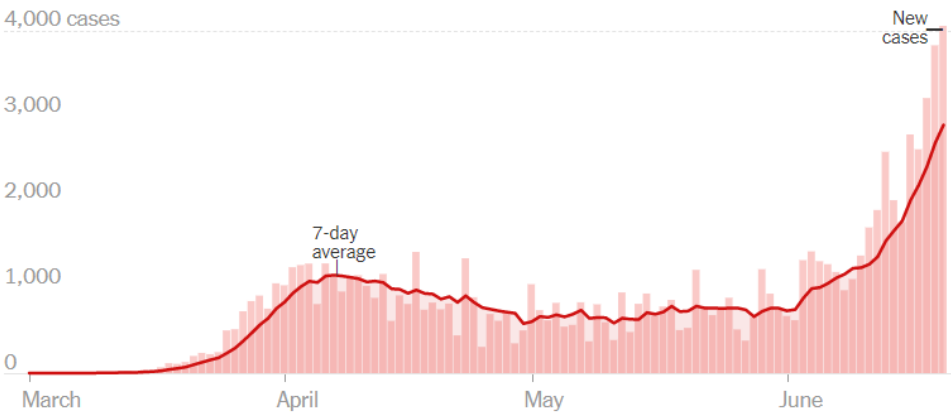
Conservative Example –

- Indoor event with 10,000
- 0.5% infected = 50 people. From super spreader events we know 20% will cause 80% of the cases
- 10 people could each infect 40-50 others
- Result 400-500 people infected who travel back home. If only 50% of these people infect 1 other person that equals:
 - 600-700 cases:
 - 90 – 105 will end up in hospital
 - 1 to 6 will die

Is it more testing?

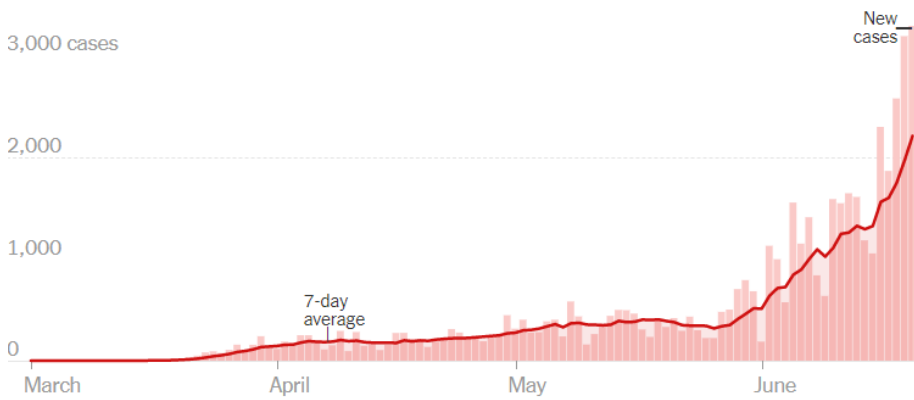
| STATE | 14-DAY TREND OF COVID+ | LAST 14 DAYS OF COVID+ (ROLLING) | INFLUENZA-LIKE ILLNESS | % OF TEST TARGET | ICU AVAILABILITY | NEW CASES PER MILLION PER DAY | COVID+ RATE IS |
|----------------|---------------------------|---|---------------------------|--|--------------------------------|---|----------------------------|
| Alabama | 109% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  85% | 22% <i>Low Availability</i> |  156 | 12.3% <i>Increasing</i> |
| Arizona | 108% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  91% | 25% <i>Low Availability</i> |  239 | 17.4% <i>Increasing</i> |
| Florida | 141% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  90% | 26% <i>Low Availability</i> |  112 | 8.2% <i>Increasing</i> |
| New York | -39% <i>Decreasing</i> |  | Minimal <i>Level 1</i> |  220% | 44% <i>Normal</i> |  36 | 1.1% <i>Decreasing</i> |
| North Carolina | 29% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  109% | 34% <i>Low Availability</i> |  119 | 7.2% <i>Flat</i> |
| South Carolina | 120% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  93% | 29% <i>Low Availability</i> |  142 | 10.1% <i>Increasing</i> |
| Utah | 30% <i>Increasing</i> |  | Minimal <i>Level 1</i> |  83% | 40% <i>Low Availability</i> |  115 | 9.2% <i>Increasing</i> |

New reported cases by day in Florida



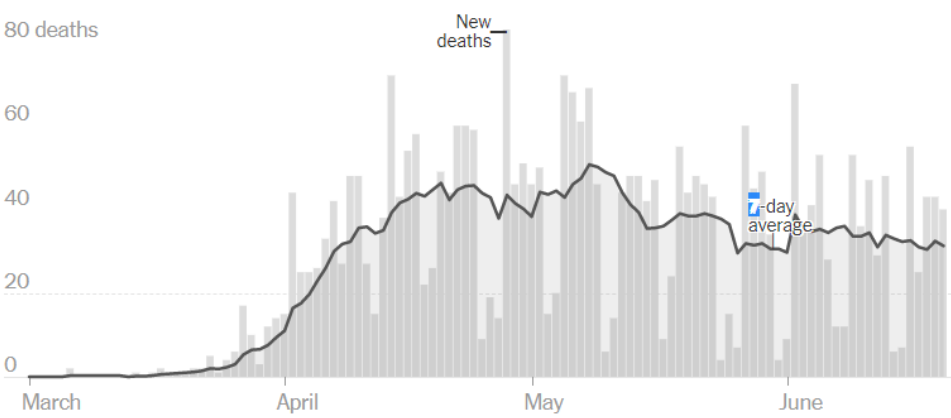
Note: The seven-day average is the average of a day and the previous six days of data.

New reported cases by day in Arizona

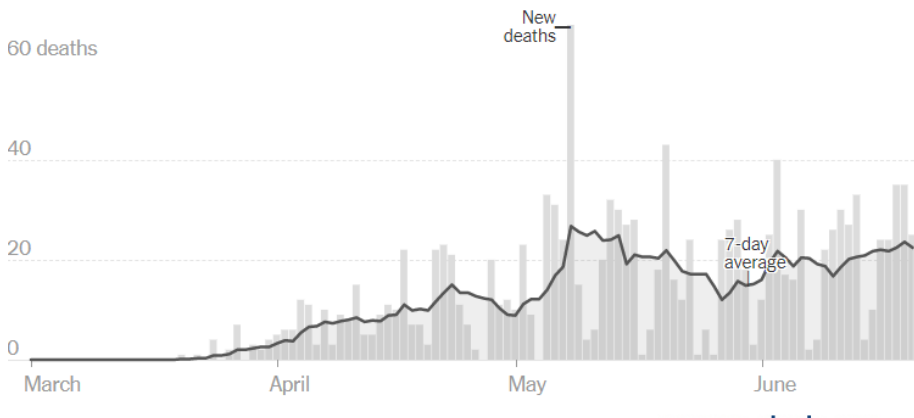


Note: The seven-day average is the average of a day and the previous six days of data.

New reported deaths by day in Florida



New reported deaths by day in Arizona





Questions