COVID-19 Update

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Monday June 22nd
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
Blood Group & COVID-19

- 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

183,000 new cases in one day
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)

Latin America now accounts for 45 per cent of average global deaths

Jun 12-18
Average daily deaths 4,637

393

Rest of N America*

US

Rest of Europe

Mideast

Rest of Asia

India

Russia

UK

Africa

The US share of average global daily deaths has fallen to 13 per cent

* 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.

Source: Official data collated by Our World in Data
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

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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 Protests .....maybe 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?

<table>
<thead>
<tr>
<th>STATE</th>
<th>14-DAY TREND OF COVID+</th>
<th>LAST 14 DAYS OF COVID+ (ROLLING)</th>
<th>INFLUENZA-LIKE ILLNESS</th>
<th>% OF TEST TARGET</th>
<th>ICU AVAILABILITY</th>
<th>NEW CASES PER MILLION PER DAY</th>
<th>COVID+ RATE IS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>109% Increasing</td>
<td>366 to 766</td>
<td>Minimal Level 1</td>
<td>85%</td>
<td>22% Low Availability</td>
<td>156</td>
<td>12.3% Increasing</td>
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<tr>
<td>Arizona</td>
<td>108% Increasing</td>
<td>836 to 1.7k</td>
<td>Minimal Level 1</td>
<td>91%</td>
<td>25% Low Availability</td>
<td>239</td>
<td>17.4% Increasing</td>
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<tr>
<td>Florida</td>
<td>141% Increasing</td>
<td>999 to 2.4k</td>
<td>Minimal Level 1</td>
<td>90%</td>
<td>26% Low Availability</td>
<td>112</td>
<td>8.2% Increasing</td>
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<tr>
<td>New York</td>
<td>-39% Decreasing</td>
<td>1.1k to 695</td>
<td>Minimal Level 1</td>
<td>220%</td>
<td>44% Normal</td>
<td>36</td>
<td>1.1% Decreasing</td>
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<tr>
<td>North Carolina</td>
<td>29% Increasing</td>
<td>967 to 1.2k</td>
<td>Minimal Level 1</td>
<td>109%</td>
<td>34% Low Availability</td>
<td>119</td>
<td>7.2% Flat</td>
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<tr>
<td>South Carolina</td>
<td>120% Increasing</td>
<td>332 to 730</td>
<td>Minimal Level 1</td>
<td>93%</td>
<td>29% Low Availability</td>
<td>142</td>
<td>10.1% Increasing</td>
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<tr>
<td>Utah</td>
<td>30% Increasing</td>
<td>284 to 370</td>
<td>Minimal Level 1</td>
<td>83%</td>
<td>40% Low Availability</td>
<td>115</td>
<td>9.2% Increasing</td>
</tr>
</tbody>
</table>
Questions