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GW COVID-19 Intelligence Reports

GW Covid-19 Collection

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### GW Covid-19 Intelligence Reports: March 1, 2021

George Washington University

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## Epidemiology

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- The infection rate in the US is rapidly declining. The [reason](#) may be a combination of herd immunity, vaccine efficacy, winter-induced decreased socialization, and/or under-testing.
- BUT after weeks of [tumbling case numbers](#), new infections and deaths are on the rise again – each about 2% more this past week compared to the previous week. This could be an [impact of variants](#) and/or easing up state mandates.
- As of [Feb 28](#), DC Hospitals are at 80% capacity, ICU's are at 87% capacity.
- Covid Vaccines: As of Feb 27, [72.8 million](#) doses have been administered in the US, averaging 1.65 million doses/day. J&J has just received Emergency Use Authorization, Oxford/AstraZenica and Novovax are in stage 3 trials (see below).
- A recent [meta-analysis](#) suggests that at least 33% of covid-19 patients are asymptomatic. Macroscopically, as asymptomatic people don't get tested, and there are probably plenty of mildly symptomatic people who also do not get tested, the prevalence in the US may be very high.
- A [new study](#) indicates that both age and obesity (are not only risk factors but) increase the amount of viral respiratory droplets exhaled. They suggest that people with obesity and the elderly more likely to be super spreaders.
- A [report](#) out of the NFL indicates that a definition of exposure – being within 6 ft of an infected person, for more than 15 min – did not fit their experience in which people became infected in much shorter amounts of time despite maintaining proper distance.

## Therapeutics

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- A recent [case-control study](#) out of China among adults (with hypertension, cardiovascular diseases) infected with SARS-Cov-2, low-dose aspirin (100 mg/day) was associated with lower risk of mortality compared with non-aspirin users at 30 and 60 days post-hospitalization.
- NIH [recommends](#) the use of bamlanivimab 700mg + etesevimab 1400mg to prevent disease progression in high risk patients, for [outpatients only](#).
- [Tocilizumab is now recommended by IDSA](#) as a “conditional recommendation” for hospitalized patients with severe COVID-19 and high inflammatory markers. But...in the ongoing debate, an international [randomized control trial](#) indicates tocilizumab may actually be harmful in critically-ill covid-19 patients.
- A [study](#) out of Toronto indicates the peginterferon lambda increases viral clearance by day 7.
- In the ongoing debate regarding anticoagulation, the [American Society of Hematology](#) recommends low, prophylactic dosing as opposed to intermediate or therapeutic dosing.
- [Surviving Sepsis Campaign](#) strongly recommends steroids and prophylactic anticoagulation, suggests dexamethasone specifically, and remdesivir for non-ventilated patients only. Hydroxychloroquine, convalescent plasma and therapeutic anticoagulation are discouraged.
- Colchicine: The results of a [small RCT](#) conducted in April-August 2020 suggested that colchicine reduces hospitalization and the need for supplemental oxygen, however all patients received multiple interventions including some which are no longer standard of care. The [COLCORNOA](#) RCT out of Montreal has moved from press release to preprint/not fully reviewed, suggests that colchicine reduces hospitalizations and death; however the statistical confidence of the findings was low. There's [reasonable commentary on use of colchicine](#).
- A [small RCT](#) showed that ivermectin (while lacking statistical significance due to sample size) decreases viral load and expedites recovery. Due to conflicting or insufficient data from other studies, [NIH](#) does not currently recommend ivermectin as antiviral treatment.
- A [meta-analysis](#) indicates that statins improve outcomes in covid-19. That's logical based on their capacity to mitigate endothelial inflammation.
- On Feb 26, a [meta-analysis on the use of convalescent plasma](#) showed no decrease in all-cause mortality or benefit for other clinical outcomes. And on March 1, [NIH halted a trial of convalescent plasma](#) in Covid-19 outpatients due to futility.

## Vaccines

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- While the recent decline in new cases in the US may have multi-factorial etiologies, a recent [academic projection](#) postulates that even with vaccination rate of 40%, we should see hospitalizations, ICU admissions, and fatalities decreasing by 63.5%, 65.5% and 69.3% respectively. Continued compliance with non-pharmaceutical interventions is essential to achieve this impact.
- [FDA has authorized storing the Pfizer mRNA vaccine](#) it at standard freezer temperatures, rather than super-cold-chain conditions, for up to 2 weeks. This is expected to improve the supply chain.

### Vaccine Strategies:

#### ✓ Giving everyone 1 dose first

- Nation-wide [Israeli observation study](#) indicates that the Pfizer vaccine, 2-3 weeks following the first dose (and before the second) is 46% effective at preventing disease 57% effective at preventing symptoms, 64% effective at preventing severe disease, 74% at preventing hospitalization and 72% at preventing death.
- A large [phase 2 trial](#), involving patients in UK, Brazil and South Africa indicate efficacy in giving the second dose after 3 months (thereby allowing more patients to receive their first).

#### ✓ The case against delaying the second dose

- This [letter to the editor](#) points out – there's simply not enough data to suggest delaying the 2<sup>nd</sup> dose of Moderna or Pfizer is effective, and incomplete immunity may increase the risk for mutation and resistance.

#### ✓ Giving only 1 dose to post-covid patients

- This [study](#) supports the notion that pre-infected individuals have similar protection after 1 dose, compared to covid-naive individuals with 2 doses – lending support to the idea of saving doses by only giving post-covid patients 1 shot.

#### ✓ Bottom line: currently it is recommended that eligible individuals obtain both doses of the Pfizer vaccine, both doses of the Moderna vaccine, or the single dose of Johnson & Johnson vaccine now that it has been authorized. "Mixing and matching" vaccines or delaying the second dose of the 2-dose vaccines is not recommended except for in an emergency.

### Johnson & Johnson

- While the [less informed](#) may bemoan the lesser efficacy on mild and moderate disease, the [J&J vaccine](#) was tested in internationally, including the UK and South Africa, had an 85% efficacy at preventing severe disease, which increased even more over time, and **complete** protection against hospitalization and death. Its 1 shot and doesn't require super-refrigeration. The FDA has granted Emergency Use Authorization on February 27 and distribution has begun.

### NOVOVAX

- Similarly, the [Novovax vaccine](#), currently in stage 3 trials, being tested in the UK and South Africa, showed 89% efficacy. Stay tuned.

**Studies on Variants:** A note on nomenclature – the Intelligence Unit prefers to use a [nomenclature system](#) that describes the relationships between the various early lineages of SARS-CoV-2 and their evolutionary descendants so to avoid geopolitical connotations. Thus the SARS-CoV-2 variant first described in the United Kingdom is the B.1.1.7 variant and in South Africa is the B.1.351 variant.

- The [Oxford/AstraZenica](#) vaccine has shown similar efficacy against the B.1.1.7 variant.
- In a preliminary report, the Moderna vaccine [appears](#) to be protective against the B.1.1.7 variant, unsure about the B.1.351 variant.
- [Preprint](#), the Pfizer vaccine seems effective against the B.1.1.7 variant.
- Another [preprint](#) demonstrates the Pfizer vaccine seems effective against the B.1.1.7 variant and the B.1.351 variant.

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This edition of the COVID-19 Intelligence Report was produced by Dr. Luis W. Dominguez with support from the Himmelfarb Librarian team and the entire GW Intelligence Unit led by Dr. Lawrence "Bopper" Deyton.

Feedback and any special requests should go to: [ldeyton@gwu.edu](mailto:ldeyton@gwu.edu).

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