Expression of concern on potential impact of new variant B.1.1.7 in Illinois

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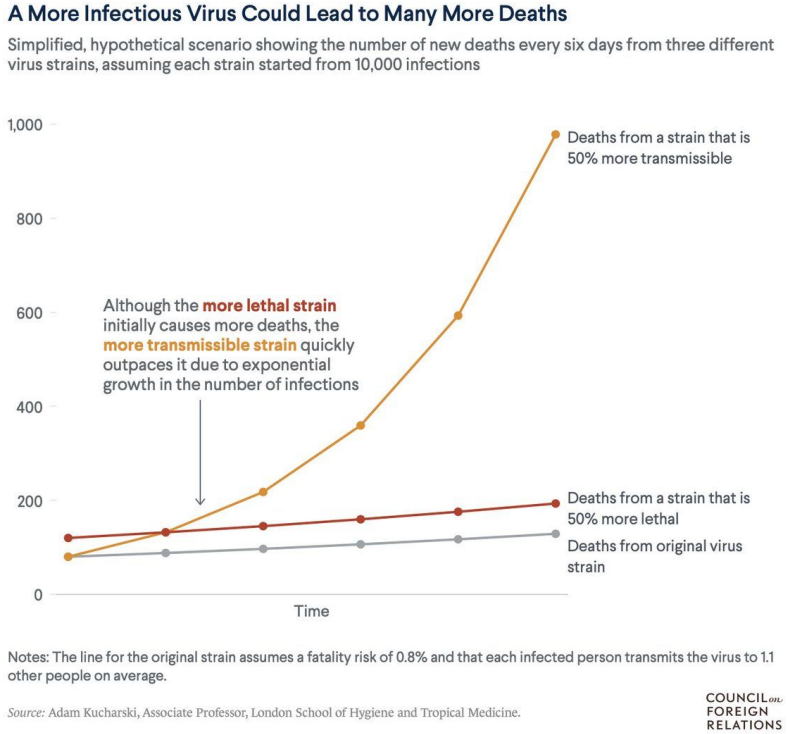
Why is the B.1.1.7 variant so dangerous?

- Latest science says **B.1.1.7 is 40-50% more transmissible** than what we've been dealing with so far.
- Under our current conditions in Illinois, this is **worse** than if B.1.1.7 were instead more lethal (see plot).
- B.1.1.7 is not more deadly, but by infecting 50% more people, will **cause a huge rise in deaths and hospitalizations** if unchecked.
- All our models show that the higher transmissibility of B.1.1.7 means that **current mitigation efforts would not be successful** in containing an epidemic of B.1.1.7.
- The higher transmission also **moves the goal posts for herd immunity**: you need more people vaccinated to limit the spread.
- B.1.1.7 has already been found in Illinois and is **almost certainly circulating here**.



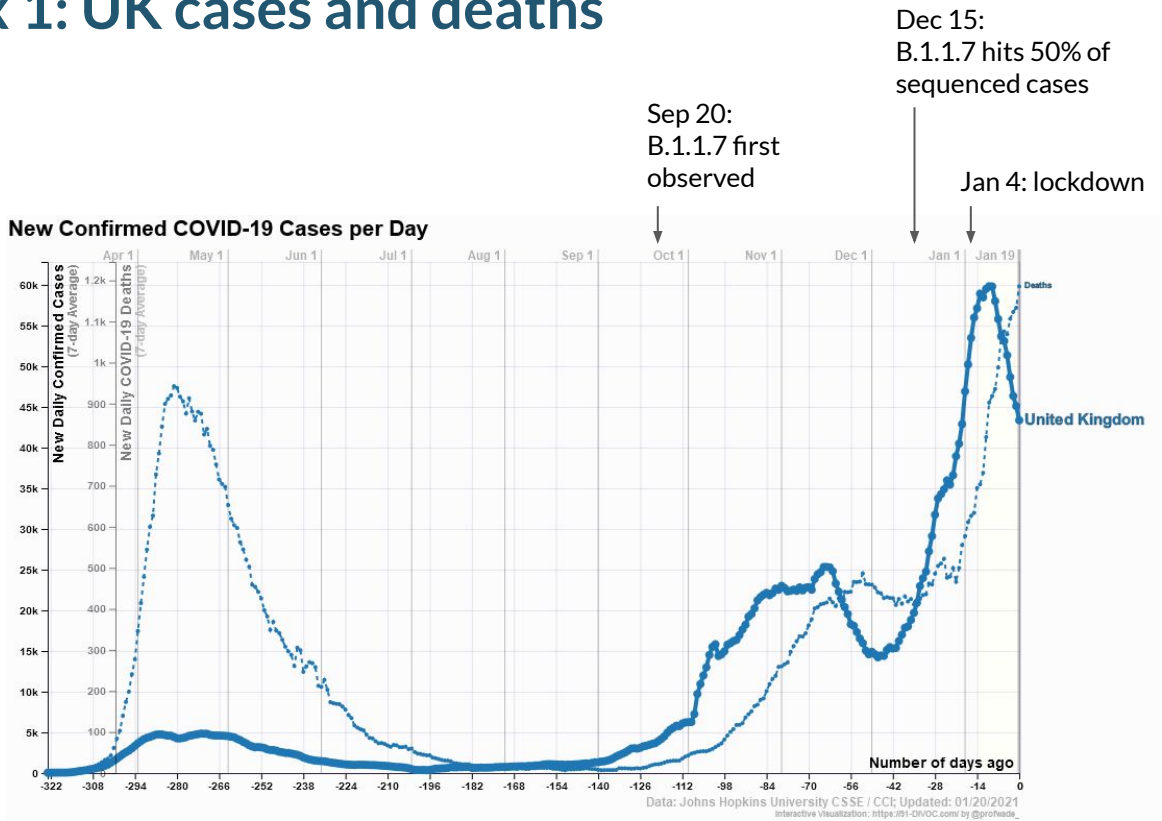
Options for responding to B.1.1.7

- The UK had to go into full lockdown to manage B.1.1.7. **How can we avoid lockdown in Illinois?**
- If B117 completely takes over, Tier 3 wouldn't be enough to contain spread, and even a Stay-At-Home order might not be enough to contain spread. B.1.1.7 emerged despite Tier 3 mitigations in effect.
- We need to **vaccinate as quickly as possible**.
- The CDC estimates that B.1.1.7 will be the dominant strain in the US by March. **Once B.1.1.7 is dominant in Illinois, it will be very hard to prevent another huge wave**. Preliminary modeling suggests that unless vaccination accelerates, we're looking at >200 deaths per day by March.
- We can slow down the spread of B.1.1.7 and buy time for us to vaccinate more people through our traditional suite of tools (detecting and isolating cases; social distancing; masking; ventilation; etc) AND vaccinating as quickly as possible.

Options for responding to B.1.1.7

- Relaxing mitigations encourages the spread of B.1.1.7. We should **continue to improve sentinel surveillance** (to give advance warning of dangerous trends) and **be prepared to quickly go back to Tier 3 (or more)**: stricter mitigation will have a greater impact on transmission.
- **We can monitor the progress of B.1.1.7** through the appearance of a particular gene signature from the regular PCR tests. Groups in the state are already conducting these tests. It could reinforce messaging about the danger of a total lockdown if softer mitigation is unsuccessful.
- From a public health standpoint, the actions we'd take to manage B.1.1.7 effectively are the same ones we should take to prevent fast growth of B.1.1.7 in the first place. Thus the **prioritization of systematic surveillance to look for B.1.1.7 needs to be balanced with other more urgent needs, such as vaccination**.

Appendix 1: UK cases and deaths



Appendix 2: Preliminary modeling results from UIUC: Daily total deaths

Vaccination not included, since the rollout timetable is uncertain

- Crude modeling of B.1.1.7 impact assuming growing prevalence over next month
- Predicted 3rd wave worse than 2nd wave with no plateau visible in time range simulated