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- Using two different statistical approaches, we see evidence that $R_{eff} > 1$ in all regions outside the northeast. This cannot be explained by increased testing.
- The transition to $R_{eff} > 1$ outside the northeast occurred in June, during Phase 3.
- In the northeast, transmission is at a critical threshold. Due to reporting delays, it might already exceed one, especially in regions 7, 9, and 11.
- To reduce transmission, it remains important to increase the use of facial coverings and social distancing, including indoors, and to ventilate buildings well.
- Sentinel surveillance could improve response times. Representative serosurveys could reveal the true spread in different populations, identify priority areas for testing and interventions, and improve forecasts.

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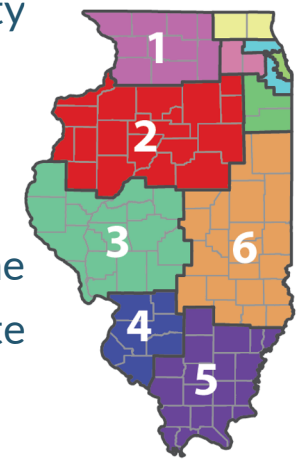
- **As of 3-4 weeks ago**, $R_t$ > 1 outside the Northeast (NE) and $R_t$ ~ 1 in the NE. Continued rise in cases and in positivity rate in the NE suggests that $R_t$ may be > 1 in this region as well at present.
- Sentinel surveillance would let us better understand whether $R_t$ > 1 in the NE as well AND give us more up to date information than 3-4 weeks ago.
- Covid Regions 2-6 are **in danger of exceeding their bed capacities** if current trends continue.




Probability a region will exceed capacity if current trends continue:

| | ICU capacity | med/surg cap. |
|---|---|---|
| Region 1 | 5% | 0% |
| Region 2 | 100% | 98% |
| Region 3 | 100% | 95% |
| Region 4 | 84% | 47% |
| Region 5 | 19% | 0% |
| Region 6 | 47% | 0% |

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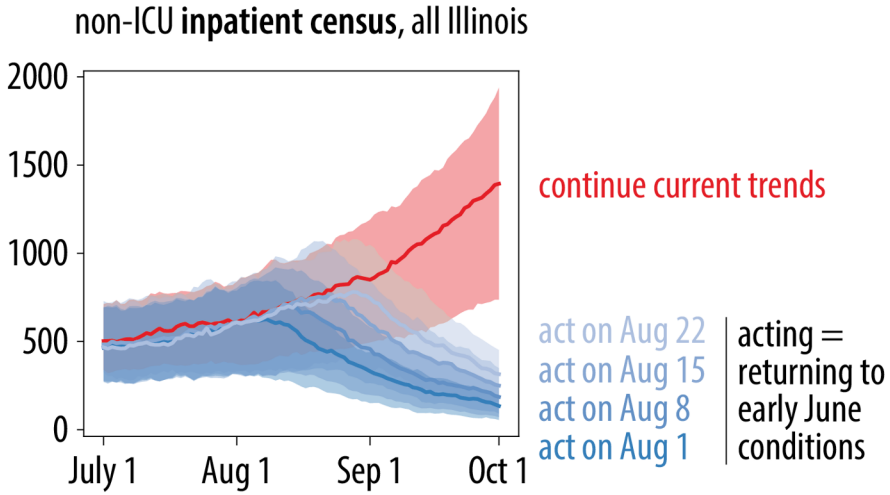
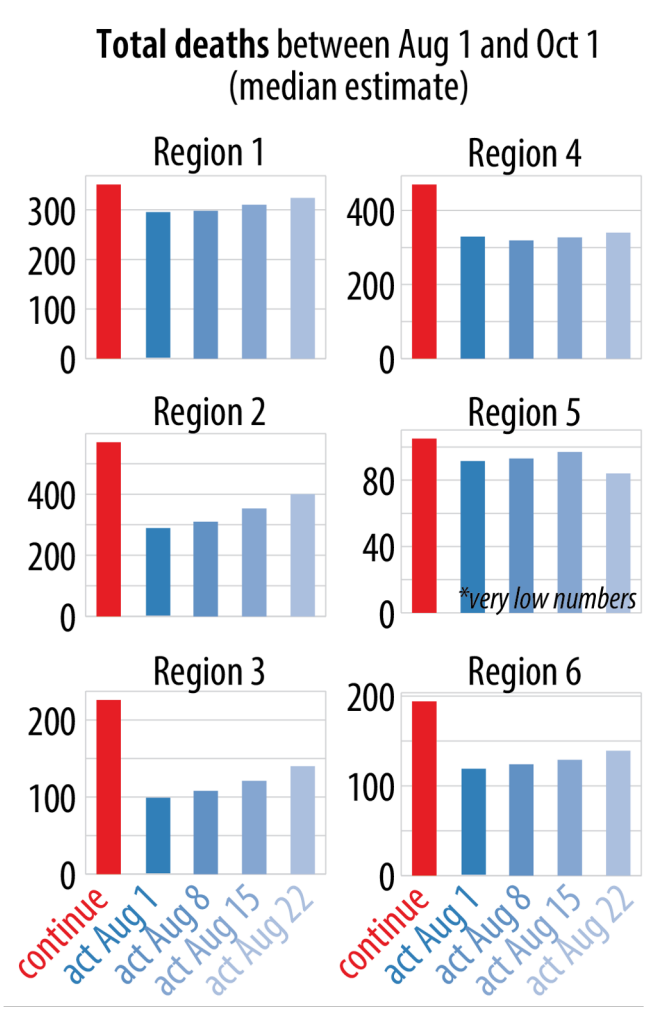
- We modeled **alternate scenarios** of returning to early-June conditions during the month of August
- Each additional week of **inaction could cost 100s of lives** even if we don't exceed statewide bed capacities

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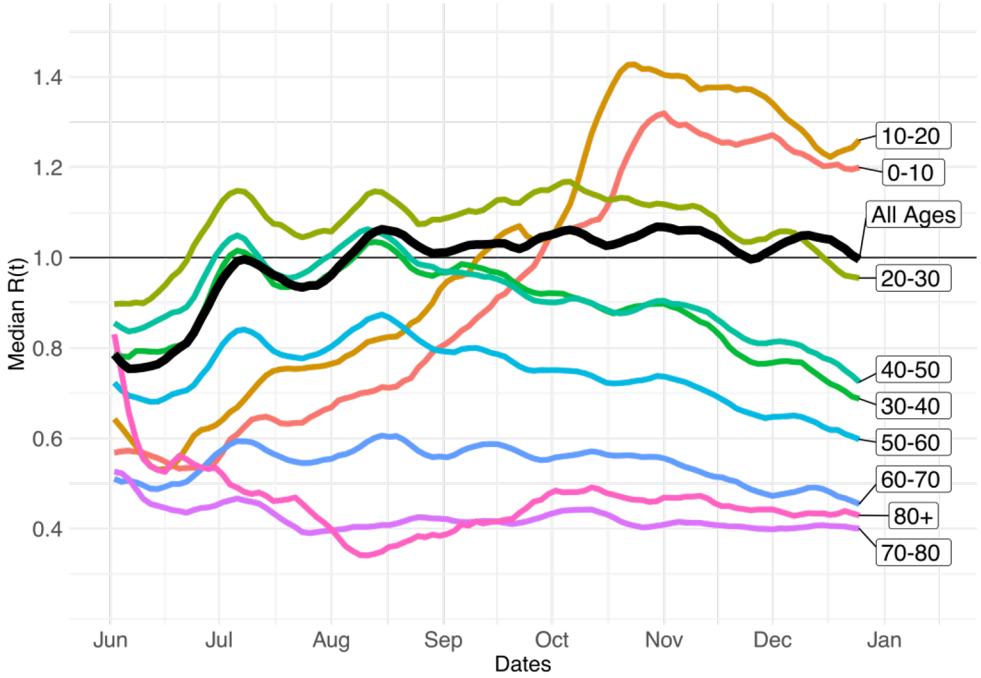


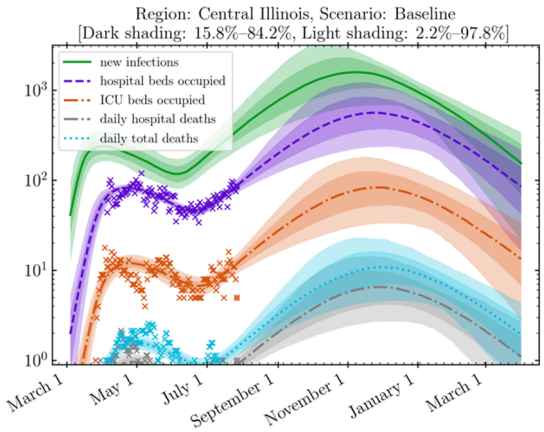

- By tracking the infectious careers of individuals within our CityCOVID model, we were able to calculate R(t) across age groups in Chicago.
- These results show that infections originating from the 20-30 age group and, to a lesser extent the 30-40 and 40-50 age groups, contribute to the overall population R(t) increasing to greater than 1 around the Stage 4 reopening at the end of June, while the older age groups don't appear to contribute significantly.
- Beyond September, we simulated scenarios where school reopenings take place with full physical presence to examine the magnitude of the relationship between the infections originating in the 0-10 and 10-20 age groups and overall R(t). Currently proposed hybrid and online school reopenings should mitigate these trends, and investigations modeling these are currently under way.

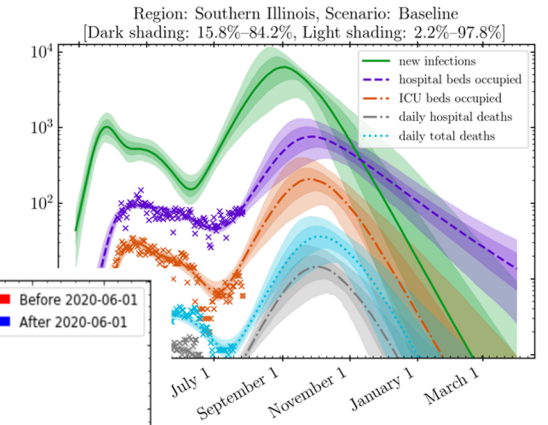
Aug 1, 2020

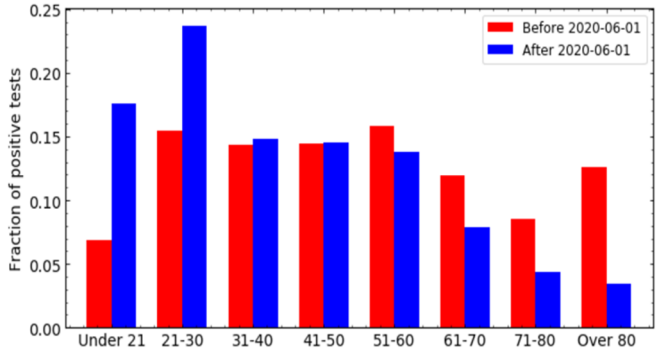
ILLINOIS

## Southern and Central Regions of Illinois On Path to Critical Situation

- In the Central and Southern regions especially, the second wave will be more severe than the first wave.
- The age distribution of positive tests in the South (shown below) confirms a major shift in the new positive cases to the under 30 age bracket
- With growing evidence of the role of aerosols in transmission of COVID-19, especially for super-spreader events, mitigation steps that restrict bars, indoor dining & encourage workplace social distancing can potentially prevent these large clusters
- Kudos to State's campaign for masks!

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