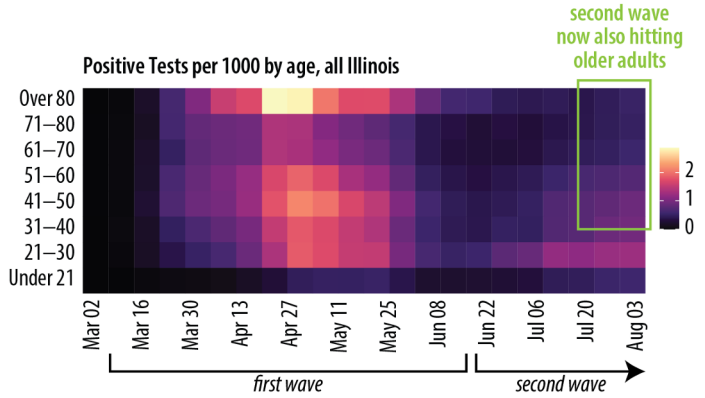
THE UNIVERSITY OF CHICAGO

- **R_t remains at or above 1 in most regions.** This is not an artifact of increased testing.
- Compared to examining trends in hospital admissions and total cases, **sentinel surveillance of newly symptomatic outpatient cases could provide faster and more accurate insight into R_t,** provided sites enroll enough participants and return test results quickly.
- **Modeling provides scientifically justified "epidemic indicators"**: local estimates of transmission rates (R_t) can generate continuous forecasts of hospital and ICU occupancy, and indicate when interventions should be strengthened or relaxed.
- **Representative surveys to test for antibodies** (serosurveys) could provide valuable insight into true infection rates and gaps in testing in different populations. It could also improve forecasts. The U. Chicago team has learned that matching support from CDC may be available if the state chooses to invest in serosurveys.

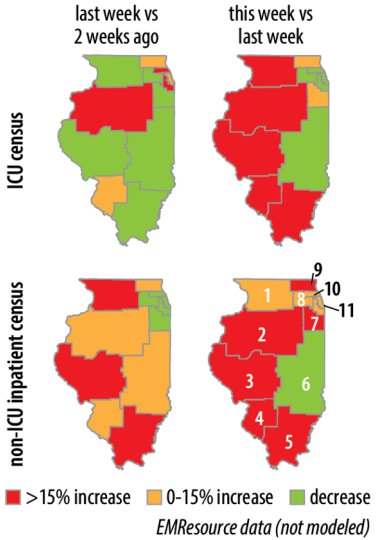
Northwestern University

- **All Regions, including Northeast, are now at $R_t \geq 1$.**
- Cases are now increasing in older adults as well.
- If current trends continue, 3 Regions are predicted to exceed ICU capacity in the next 2 months.



Probability and median date a region will exceed ICU capacity if current trends continue

Region 1	4%	Nov 25
Region 2	100%	Oct 17
Region 3	100%	Oct 16
Region 4	100%	Oct 7
Region 5	24%	Jan 2
Region 6	44%	Dec 15
Region 7	6%	Feb 16
Region 8	0%	
Region 9	6%	Jan 11
Region 10	0%	
Region 11	0%	



- A 15% week-over-week increase in hospitalization is cause for a “danger zone” alert.
- Compared to last week, more Covid Regions see a >15% increase in ICU and non ICU census.
- **Action should be taken immediately in Regions 2, 3, and 4 to prevent overwhelming capacity.**
- Regions 1, 5, and 6 should be watched closely.
- Per capita testing is lowest in 1, 5, and 7 --- these regions should be targeted for increasing test capacity and/or demand.

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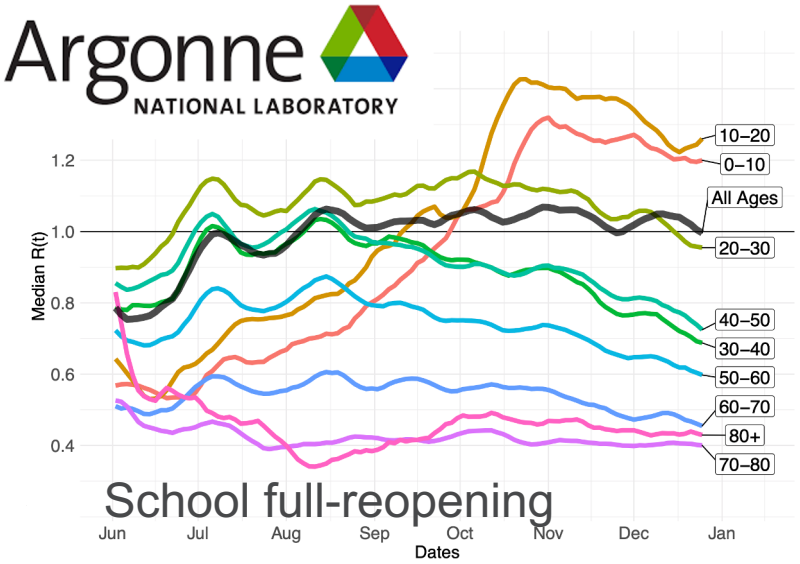

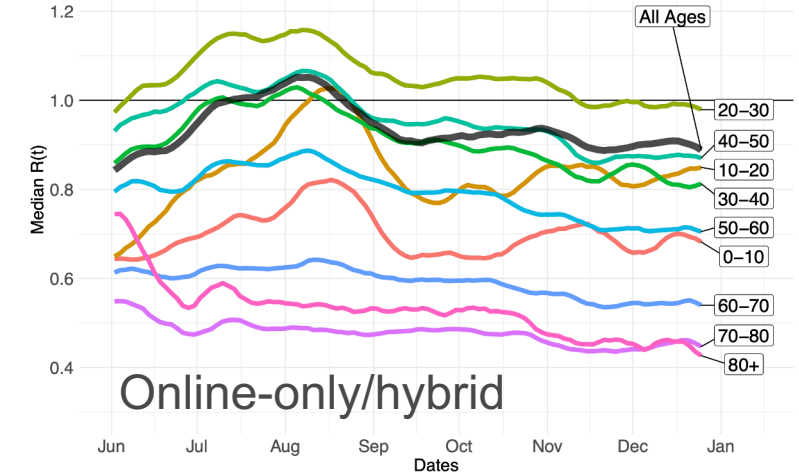

- Continuing the analysis of R(t) across the age groups in Chicago, we ran scenarios approximating hybrid and online school re-openings.
- The school aged population was assigned activity levels that aim to capture the high end of fully online re-openings, where age-peer groups still may interact outside of school. This scenario also approximates low in-person hybrid models.
- As before, 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 Phase 4 reopening, while the older age groups don't appear to contribute significantly.
- However, unlike the full school reopening scenario we ran previously, the R(t) for the 0-10 and 10-20 age groups drops quickly as September is approached. The overall R(t) also drops below 1.
- We conclude that reducing activity levels associated with schools re-opening to even 25% levels significantly affects not only transmission in the school aged population, but also appears to contribute to overall population transmission.

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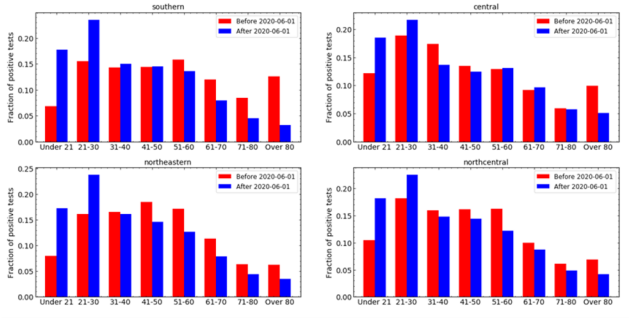
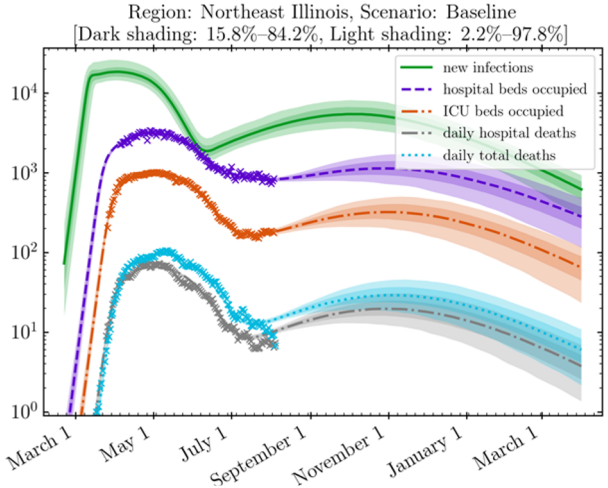
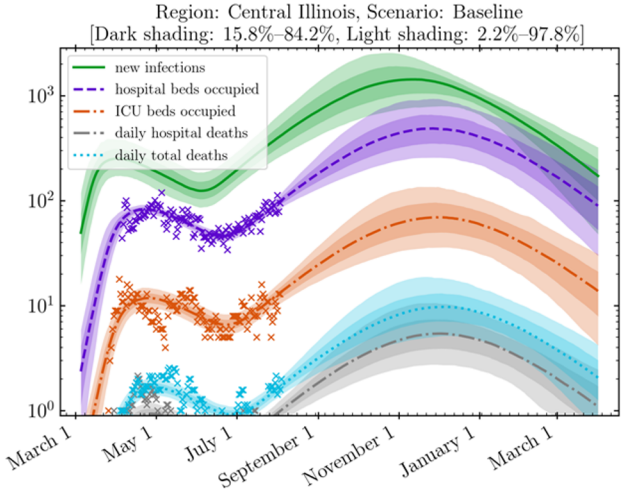
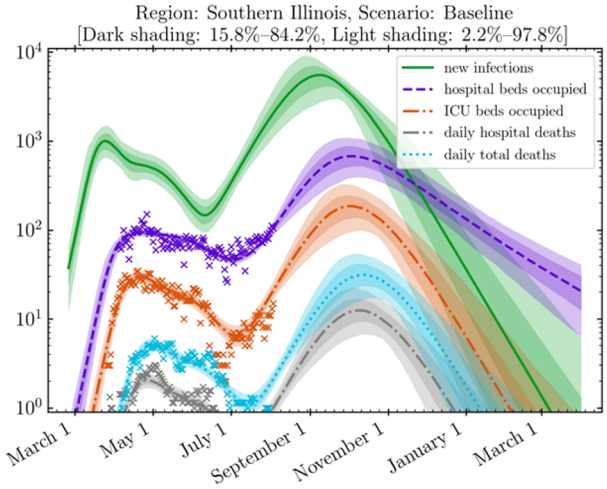
ILLINOIS Second wave still indicated in Regions 1-6

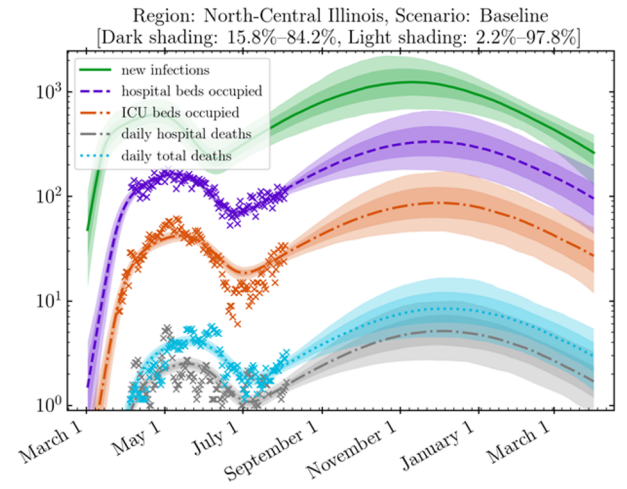


- In each region of concern, emerging second wave has stronger proportion of under 30 than first wave
- Hospital/ICU occupancy may be challenging but probably not for the next month or so









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