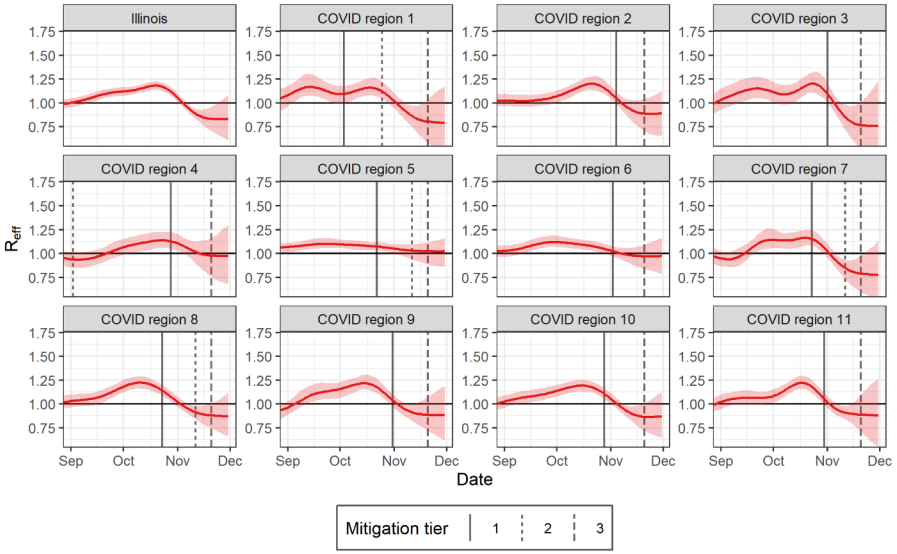
THE UNIVERSITY OF CHICAGO

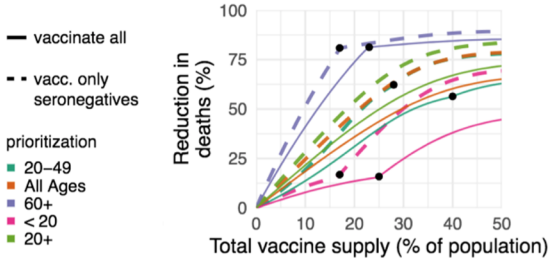
Epidemic dynamics in Illinois

- In most regions, R_{eff} is at or below 1, indicating that **transmission is steady or declining**.
- **While the causes of R_{eff} < 1 are unclear,** and possibly the combined effects of weather, immunity, and behavior, continuation of Tier 3 mitigations would probably prevent resurgence (R_{eff} >1).

Prioritization of vaccination

- Competing prioritization schemes have been proposed by ACIP, NASEM, and other groups.
- **To minimize mortality and years of life lost, vaccines should be prioritized to populations at high risk of death**. This is mostly older individuals, especially in congregate settings, not healthcare workers. Healthcare workers and younger ages are at lower risk of infection and provide modest indirect protection.





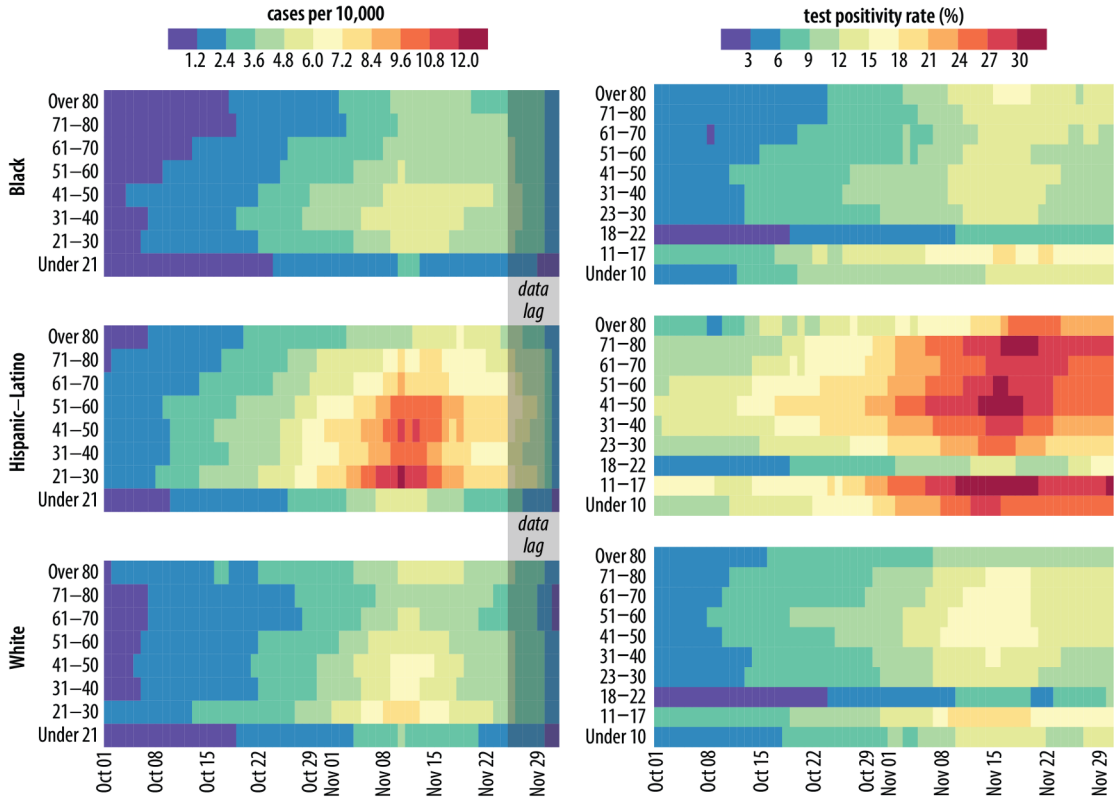
Reduction in deaths from prioritizing different age groups using NYC seroprevalence and U.S. contact rates.

Bubar, Reinholt, Kissler, Cobey, Lipsitch, Grad, & Larremore. “Model-informed COVID-19 vaccination prioritization strategies by age and serostatus.” medRxiv (and in revision)

Dec 4, 2020

Northwestern University

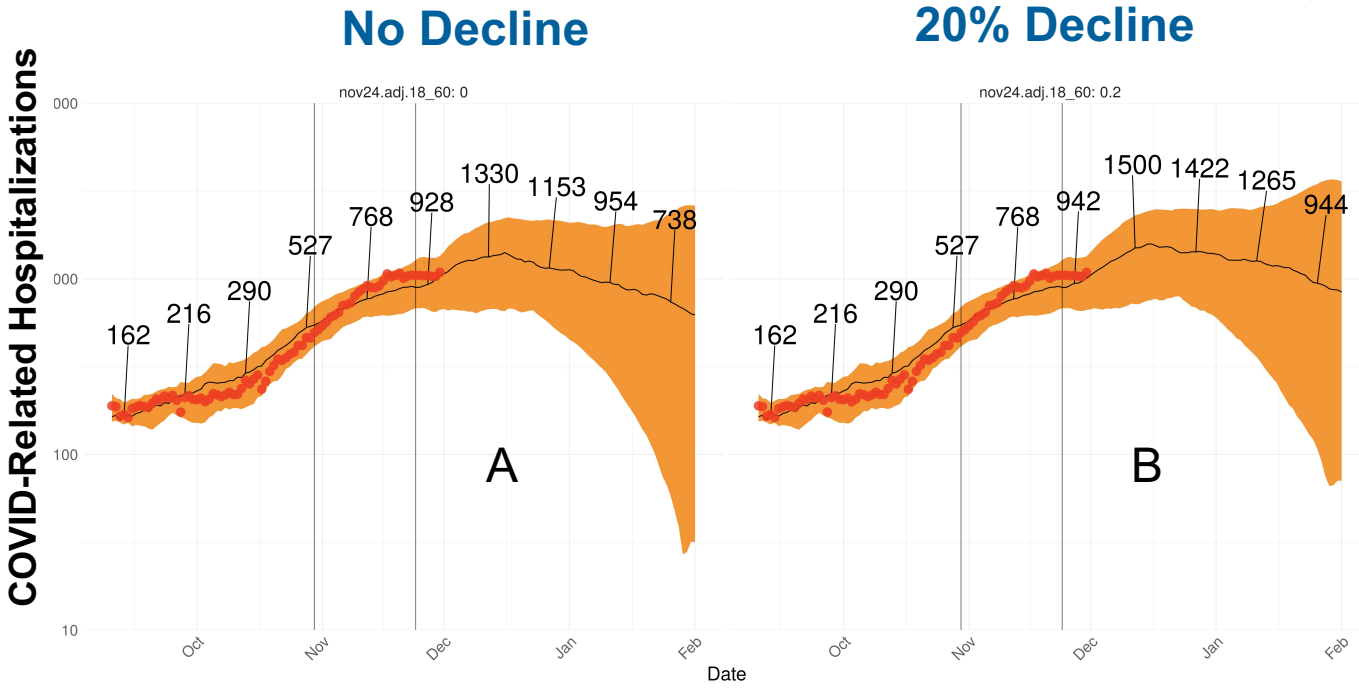
- Recent declines or flattening in hospital census have slowed or stopped, and some **regions are starting to see renewed growth**.
- Deaths will remain high for the next weeks.
- We estimate that statewide prevalence is on par with or slightly higher than it was during our first peak in April, but **mitigation measures are weaker.**
- We expect deaths from the current wave to **exceed** deaths from the first wave.
- The **Hispanic/Latino population is worst-hit,** followed by whites. **Tests per capita** is still lowest in the Hispanic/Latino population despite their having the highest burden.



Dec 4, 2020

Thanksgiving Effect

Varying Thanksgiving Effect: Decline in Protective Behavior



Vertical lines are dates 10/30, period when business restriction orders in Chicago went into effect, and 11/24, the start of Thanksgiving week. Results are for Chicago, Region 11.

Current Trends and Holiday Gatherings

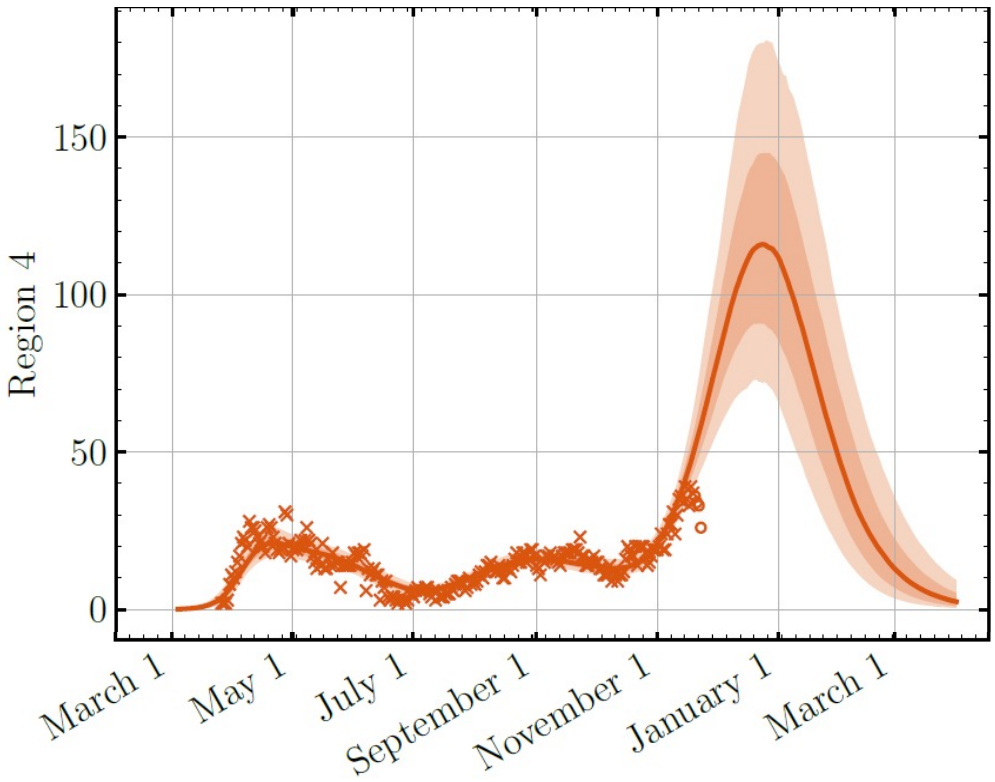
- We studied the effect of the expected decline in protective behaviors around the Thanksgiving holiday.
- We ran two scenarios: Panel A in which there was no decline and Panel B, in which we assumed a 20% decline in protective behaviors that resulted in increased transmission for individual contacts.
- In both scenarios, median hospitalizations peak in mid-December and then decline through January.
- The scenarios diverge around December 9, where the hospitalization trend continues in panel B, but flattens in panel A.
- Scenario B may be more likely in representing the effects of how Thanksgiving altered behavior.

ILLINOIS

1. The modeling outlook for both hospital and ICU overflow has considerably improved since last week. This is due to a recent flattening trend in all data streams

1. Our predictions of ICU overflow in the region 4 are likely an artifact of our model not fitting the downturn in recent ICU admissions (see figure)

2. Even if our predictions hold the overflow in the region 4 is relatively small



Occupancy of ICU beds in the region 4
showing data used in calibration of our model (x) data not used in calibration of our model (o) and model fits and predictions (-)