COVID-19 Outlook: Remaining Cautious About the Data Around the Holidays

Population Health Sciences

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As we reviewed this week's update to our COVID-Lab forecasting model, we were mindful of the wide fluctuation in testing and significant delays in reporting in many locations throughout the country around the holidays. Several regions appear to have had a rapid decline in case incidence during this past weekend. However, substantial variability in testing both before and just after Christmas (i.e., increased screening before Christmas and infrequent testing during the holiday weekend itself) creates a lot of uncertainty and undermines any confidence that these declines are real. This makes us cautious in interpreting projections for the next four weeks.

However, there are some general trends that are apparent, and, in a week like this, a review of emergency room visit rates and hospitalization numbers can help us discern whether reported declines in COVID-19 incidence are real or just an artifact of variance in testing and delays in reporting. Below are highlights from the data:

- Arizona, California, Georgia, Mississippi, Nevada, New York, Oklahoma, South Dakota and Utah saw the largest growth in test positivity rates over the last week.
- Case incidence appears to be growing the fastest across the Southeast. Emergency room visits, another estimate of incidence growth, are mirroring our projections in actual case increases throughout the region. Furthermore, COVID-related ICU occupancy is increasing in certain regions, with a 30% jump documented in North Carolina.
- Many counties in Florida are experiencing a rise in test positivity. This uniform increase bears watching as the state is also experiencing increased ICU occupancy rates and will soon surpass 100 deaths a day.
- Our forecasts continue to raise concerns for southern Texas; Houston, Austin, Galveston and Waco are all projected to have increases in case incidence over the next four weeks. In north Texas and the Dallas region, we are not yet forecasting a significant decline in cases, even if the region may be near or just beyond its peak.
- Across the Midwest, we see signs for concern after improvement in recent weeks. ICU rates have stopped declining, and emergency room visits are rising again—albeit still at low levels—in Illinois and Iowa. Testing positivity was on the rise across many counties in Illinois this past week, and areas in Kansas, led by Wichita and Topeka, are among counties in the United States sustaining the highest growth in cases this week.
- Large metropolitan areas—from Los Angeles and Phoenix in the West, to Boston, New York City, Philadelphia, and Washington D.C. in the Northeast, to Atlanta, Charlotte, Birmingham, New Orleans, Miami, Orlando and Jacksonville in the Southeast—are experiencing increases in testing positivity rates.
- New York City's boroughs continue to trend in the wrong direction. Case incidence in the Bronx and Queens has nearly doubled in the last couple of weeks, now approaching 500 weekly cases per 100,000

individuals, equaling peaks from the spring. This growth in case incidence is now accompanied by a 10% increase in New York state's COVID-related ICU occupancy since Christmas.
- There is increasing evidence of case incidence growth in counties adjacent to major metropolitan areas. For example, we project cases will double in Fairfax County, Virginia, a suburb of Washington, D.C., soon after the start of the new year. Growth in these collar counties can result in subsequent increases in transmission into the cities themselves.
- Typical holiday travel destinations deserve watching in the coming weeks. These include locations such as Barnstable County, Massachusetts; Chesapeake and Virginia Beach, Virginia; Ocean and Atlantic Counties in New Jersey; and Galveston, Texas, where we are noting increases in case incidence along with continued forecasted growth into the new year.

Only a few days removed from Christmas gatherings and on the precipice of New Year's Eve events, the nation is once again bracing for post-holiday COVID-19 surges and new peak incidence.

We are concerned that certain areas that had increasing case incidence before Christmas are continuing to see increases in the few days since. According to our projections, Southern California and Phoenix have not yet hit their peaks of this surge. The grave health care access challenges in Southern California are a national emergency playing out before our eyes. Our forecasts continue to worsen for the Atlanta area, substantiating our concerns that this major city, like Los Angeles, Houston, and Charlotte (and other metropolitan areas in North Carolina), is likely to occupy our attention in the coming weeks. With worsening projections across Florida, this state also has the potential for significant growth in the coming weeks if there is a lack of commitment to reduced gathering sizes around New Year's Eve.

Of equal concern is that states that had looked to be passing their peaks just before Christmas are now demonstrating early signs of destabilization in controlling local spread. Another increase in test positivity throughout Illinois should serve as a warning to areas that may have thought they reached their peaks—such as communities in the Northeast and mid-Atlantic—that it is possible to revert back to rising caseloads if we do not remain vigilant in our mitigation strategies. States further south and east—such as Missouri, Kansas Kentucky, West Virginia, Indiana and Ohio—still appear to have opportunity to grow into the new year. Of all these states, West Virginia is the most concerning as their health care access is limited.

The potential that New Year's Eve gatherings will exacerbate increasing incidence is very real, including for regions that thought the worst was behind them.

Unfortunately, the vaccine has not been rolling out at the pace that we had hoped for by this point. We are still optimistic that vaccinations will eventually stem the tide of this pandemic, but that benefit will not be realized in the coming weeks. We must all stay committed to practicing effective mitigation strategies including mask wearing, social distancing and reduced gathering sizes. We recognize that fatigue for these strategies is real for everyone. However, until the vaccine is widely available, they are the best mechanisms to protect our most vulnerable. Staying at home with your immediate family members to watch the ball drop in Times Square on television is a sacrifice worth embracing just this one time as we usher in the hope that 2021 brings.

Have a happy and safe new year.

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