Key Outcomes

Update: The OHSU COVID Forecasting Brief is produced every two weeks. The next brief will be available the week ending Friday, September 16th.
As of 9/1/2022, 263 people are hospitalized with COVID-19 in Oregon.

This is a 44% drop from the peak of 464 reached on July 17<sup>th</sup>.

Region 5 has declined by 25% in last week. Other regions are declining, though more modestly, as well.

Source: https://public.tableau.com/profile/oregon.health.authority.covid.19#!/vizhome/OregonCOVID-19HospitalCapacity/BedAvailabilitybyRegion
U.S. Hospital Census

The national decline has slowed and most regions appear flat.

Source: https://healthdata.gov/Hospital/COVID-19-Reported-Patient-Impact-and-Hospital-Capa/g62h-syeh/data
The pediatric census level is at 3 as of 8/30. This is a drop from the peak of 22 set on 6/20.

Source: https://healthdata.gov/Hospital/COVID-19-Reported-Patient-Impact-and-Hospital-Capa/g62h-syeh/data
Oregon Hospital Capacity

As of 8/31, 6% of occupied ICU beds are filled with COVID patients.

Statewide, the number of available beds decreased from 382 in last report to 372 on 8/24. The chart below shows the trend in available beds.

<table>
<thead>
<tr>
<th>Region</th>
<th>ICU</th>
<th>Non-ICU</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
<tr>
<td>2</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>3</td>
<td>5%</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>5</td>
<td>13%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>6</td>
<td>0%</td>
<td>36%</td>
<td>24%</td>
</tr>
<tr>
<td>7</td>
<td>10%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>9</td>
<td>6%</td>
<td>3%</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>6%</td>
<td>6%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Source: https://public.tableau.com/profile/oregon.health.authority.covid.19#!/vizhome/OregonCOVID-19HospitalCapacitySummaryTables_15965754787060/HospitalizationbySeveritySummaryTable
Oregon Hospital Capacity

Boarding refers to patients in the ED who are unable to get into an hospital bed due to lack of beds. It is another measure that can help understand strain on hospitals. While beds may appear to be available, high boarding numbers can indicate they are not the type or location of bed.

These data come from the HOSCAP system and are reported by Apprise Health who manages the database.

As the chart shows, boarding remains at high levels across the state.

Source: https://public.tableau.com/app/profile/apprisehealthinsights/viz/COVID-19HospitalCapacity/DailyTrends
Wastewater Surveillance

In data through 8/23, most regions are showing declines or plateaus.

While all cities are below the peak of the BA4/5 wave, they are not as low as the trough after the BA1 wave.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonsSARS-CoV-2WastewaterMonitoring/WastewaterDashboard
Wastewater Surveillance

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonsSARS-CoV-2WastewaterMonitoring/WastewaterDashboard
ED Visits for COVID

The rate of ED visits for COVID has remains at 2.9%. The absolute number of ED visits has declined slightly.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19PublicHealthIndicators-SummaryTable/SevereDiseaseIndicators-SummaryTable
Testing

Test positivity appears to have peaked at 15.3% the week of 6/26 and has declined to 9.2% in the most recent complete week (starting 8/21) and 7.9% in the incomplete week.

Oregon’s cases are slowly be steadily reducing since peaking in early July. At 14 per 100k per day, Oregon has the 5th lowest case rate.

Source: https://91-divoc.com/pages/covid-visualization/
Statewide Forecast
Behavior Effects

This value represents how effective the non-pharmaceutical interventions (NPIs) and individual behaviors have been at reducing the spread of the virus.
Census Forecast-Primary Scenario

The forecast shows declining census values over the next 1-2 months.

The minimum of the current decline is expected to be 125 on 10/31/2022.
The infections underlying the model are shown in the graph.

While infections are expected to decline, standard waning of immunity is expected to generate a fall increase in infections. This may be mitigated by a vaccine booster. When the details of the vaccine become more clear the impact will be added to the model.
Due to the high prevalence of infections and low hospitalization rate per infection, a significant share of hospitalizations are expected to be incidental.

At the peak on July 17th, it is estimated that 56% of the hospitalizations are incidental. The incidental share is expected to increase mildly from 60 to 64% during the forecast period.
With higher infection levels continuing the time until the next wave is pushed out slightly.
The number of deaths per day is expected to decline over the next 2 months.
Ancillary Data
Influenza-South America

While flu is mostly quiet in North and South America, some increase in flu is evident in Central America.

CDC Forecasts

Over the next 3 weeks the ensemble forecast is showing a slight decline.

Omicron Strains in Oregon

BA5, and to much lesser degree BA4, comprise the entirety of current virus strains sampled.

Variants that are being watched are BA2.75 and BA4.6.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/GISAIDVariantDashboardUpdated/OregonVariantDashboard
BA5 in Portugal

Portugal has continued to see its number of hospitalizations fall. Cases have not shown any sign of increase. If cases increase it could be a sign of immunity levels have waned sufficiently to spur an increase.

Acknowledgments

Each week this model requires updates, input and expertise from many people.

I would like to thank Dr. William Messer and Marcel Curlin for their assistance in understanding respiratory virus impacts on hospitalizations. I also thank Guang Fan, Xuan Qin, at OHSU, for their work to monitor variants in Oregon. I also thank the hospital forecasting workgroup for their feedback on weekly forecasts, including collaboration with Julie Maher and Erik Everson at Multnomah County PDES.

Thank you!
Specifications

- **Specifications:**
- Spread: Omicron is faster spreading due to shorter recovery period (12 days vs 9 days with R0 at 6.5). BA2 faster than BA1 by 39%.
- Immune Escape during Omicron: 72%, BA4/5=15%
- Behavior: Decreased NPI pattern.
- Hospitalization Rate: 30% of Delta
- ICU Rate of hospitalized: 80% of Delta
- Boosters: fitted with actuals and decline expected.
- Incidental: Estimated with community prevalence and calibrated with external estimates.
- Length of stay: shortening of stay over time. From 7 and 14 to 5 and 12 days for those with and without ICU.
- Days from exposure to admission= decreasing from 12 to 8 days.
- Recovery period=12 days prior to Omicron and 9 days for Omicron.