Key Outcomes

Note: The next forecast is expected by Friday, 12/16/2022.
Hospitalized Patients in Oregon

As of 11/30/2022, 363 people are hospitalized with COVID-19 in Oregon.

The level has increased sharply in the last 2 weeks.

Regional Hospital Census

All the regions are relatively flat.

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

All regions are showing some signs of increase in hospital census.

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

There is a slight increase in census (per 100k) in Europe.

France in particular is showing a mild increase alongside reaching 50% of sequenced samples from BQ1.1 or BQ1.

Pediatric Census in Oregon

The pediatric census for COVID is 5 as of 12/1.

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

As of 11/30, 6% of occupied ICU beds are filled with COVID patients.

Statewide, the number of available beds is 260. This is the lowest number since January 6, 2022.

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

In data collected through HOSCAP the amount of boarding, or patients in the ED waiting to find a bed for admission to the hospital, is at its highest levels. The rate has increased significantly in the last 2 weeks.

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

Wastewater levels have increased over the last 4 weeks.

Source: https://data.cdc.gov/Public-Health-Surveillance/NWSS-Public-SARS-CoV-2-Wastewater-Metric-Data/2ew6-ywp6
Wastewater Surveillance by US Region

Wastewater levels are increasing across US regions.

Source: https://data.cdc.gov/Public-Health-Surveillance/NWSS-Public-SARS-CoV-2-Wastewater-Metric-Data/2ew6-ywp6
ED Visits for COVID

The rate of ED visits for COVID has continued to increase, rising to 5.5%.

ED visits overall have increased to their highest levels since March of 2020.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/CasesandTestingbyCountySummaryTable
Test positivity increased to 10.6% in the most recent data through 11/27/22.

Testing volume remains low.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/CasesandTestingbyCountySummaryTable
New Cases in Oregon

COVID cases have appeared to peak. The levels remain low compared to previous waves.

Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19TestingandOutcomesbyCounty-SummaryTable/CasesandTestingbyCountySummaryTable
COVID Forecast
Behavior Effects

This residual factor of the model represents unmeasured elements impacting transmission (including seasonal factors).

After generally higher transmission prevention during the summer, the projection assumes seasonal lows in transmission prevention.
The forecast shows an increase in census reaching 408 on 12/12/2022.

This forecast does not include impacts from the changing variant composition. As increases are observed in the US, this could be a factor and one that could affect Oregon as it COVID is predominantly new strains besides BA5.
Approximately 50% of the beds forecasted are expected to be new demand and the rest are existing demand.
The infections underlying the model are shown in the graph.
Herd Chart

This chart shows the sizes of the susceptible, infected, and recovered compartments used in the model.

Note: the apparent non-linearity in the states on 5/1/2022 is due to immune evasion of BA4/5.
Immunity Factors

This chart shows the model’s historical and projected levels of various factors changing the immunity in the population.
The forecast is very similar to the forecast update from 11/28/2022.
The number of deaths per day is expected to be relatively flat.

Assumption: Hospitalizations per death >5.5 (3.5 pre-Delta)
RSV Forecast
RSV in Oregon has reached record levels. The brief decline during the most recent week is not expected to be a continued drop as previous seasons show the duration of high levels is typically more extended.
The week ending 11/19/2022 recorded an estimated 142 admissions statewide. When the week ending 11/26/2022 is finalized it is expected to have decreased (due in part to Thanksgiving). Some bounce back is expected during week ending 12/3. A decline is expected after that.
Ancillary Data
Lineage Prevalence

BA5 has declined to less than 50% of sequenced samples.

BQ1.1, BQ1, and BF.7 are the next most common lineages.

Source:
Vaccination data at OHA are updated once per month. These data show values through 11/6/2022.

No update from last report is available.

Influenza-Oregon

The level of activity this year, at ~1,400 positive tests per week, is nearing levels last seen during the 2018-2019 season of ~2,000 positive tests a week.

Influenza-Oregon

In the last 2 weeks, the rate of hospitalizations for influenza has more than tripled in Oregon to 3.7 per 100k per week.

This rate is still below the peak level of 7 of the last 8 seasons (pre-COVID).

Source: https://gis.cdc.gov/GRASP/Fluview/FluHospRates.html
Influenza-United States

Dramatic increases across the states that had not yet seen high ILI activity.

Source: https://www.cdc.gov/flu/weekly/index.htm
Influenza-United States

In addition to being much sooner than a typical influenza season, this season is now at a weekly national rate that is similar to the peaks of many other seasons.

Data through week 47, ending 11/26/2022.

Source: https://gis.cdc.gov/GRASP/Fluview/FluHospRates.html
There is some indication the levels of RSV have peaked at a national level.

Source: https://www.cdc.gov/surveillance/nrevss/rsv/natl-trend.html
RSV has reached 30 positivity rates in Oregon. The increase in positivity has slowed over the last 3 weeks and may be reaching the peak.

Source: https://www.cdc.gov/surveillance/nrevss/rsv/natl-trend.html
IHME forecasts a peak in the near future.

Source: https://covid19.healthdata.org/united-states-of-america/oregon
Acknowledgments

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

Thank you to Guang Fan, Xuan Qin and Brian O’Roak, at OHSU, for their work to monitor variants in Oregon.

Thank you to Siouxzanna Downs for providing data and visualizations about RSV. Thank you to Melissa Sutton at OHA and Carl Eriksson at OHSU for their insights on RSV transmission.

Thank you!
## COVID Variant Specifications

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Original</th>
<th>CA/Alpha/Gamma Alpha</th>
<th>Delta</th>
<th>BA1</th>
<th>BA2</th>
<th>BA4/BA5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immune Escape</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td>Herd Immunity</td>
<td>57%</td>
<td>64%</td>
<td>68%</td>
<td>74%</td>
<td>71%</td>
<td>74%</td>
</tr>
<tr>
<td>Hosp rate</td>
<td>1.40%</td>
<td>1.40%</td>
<td>1.40%</td>
<td>2.80%</td>
<td>1.80%</td>
<td>1.40%</td>
</tr>
<tr>
<td>R0</td>
<td>2.3</td>
<td>2.8</td>
<td>3.1</td>
<td>3.9</td>
<td>3.4</td>
<td>3.9</td>
</tr>
<tr>
<td>Recovery</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>