Key Outcomes

The brief has been updated to account for new materials about RSV and combined forecast presented to the Oregon Legislature Health Care Committee on 12/7/2022.
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
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.
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 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
Testing

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.
Approximately 50% of the beds forecasted are expected to be new demand and the rest are existing demand.

Note: The share of hospitalizations generating existing demand are estimated using the population prevalence of the virus in relation to the number of beds in the state. The share is calibrated to match estimates from states and countries. This definition is different than CDC surveillance measures of COVID related admissions and is designed to assist with bed planning, not clinical interpretations.
Infection Rates

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 the 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.
RSV Forecast
RSV in Oregon has reached record levels in terms of hospitalizations. After a slight decrease during Thanksgiving week, the rate of hospitalizations bounced back up to the level from the week before.
The forecast uses the relationship between cumulative hospitalizations and peak hospitalizations with a seasonal factor that capture the increased levels observed in other states.

The forecast shows the peak as of week ending 12/3. While a decline is expected in total the number of kids is not expected to change much and high levels are expected through end of the December.

*Source: RSV Net, OHSU*
Flu Forecast
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
Flu-Oregon Forecast

Forecast built from the UVA-EpiHiperFlu high vaccine and optimistic immunity results.

This chart shows historical actuals and forecasted levels for each of the viruses.
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: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/GISAIDVariantDashboardUpdated/OregonVariantDashboard
COVID Vaccinations

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

No update from last report is available.

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-United States

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

Source: https://www.cdc.gov/flu/weekly/index.htm
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

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<th>Parameter</th>
<th>Original</th>
<th>CA/Alpha/Gamma</th>
<th>Alpha</th>
<th>Delta</th>
<th>BA1</th>
<th>BA2</th>
<th>BA4/BA5</th>
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<tr>
<td>Immune Escape</td>
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<td>0</td>
<td>0.5</td>
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<td>Herd Immunity</td>
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<tr>
<td>Hosp rate</td>
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<td>1.40%</td>
<td>2.80%</td>
<td>1.80%</td>
<td>1.40%</td>
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<td>R0</td>
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<td>Recovery</td>
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