OHSU COVID Forecast

Edition: 2/3/2022, Presented 2/7/2022

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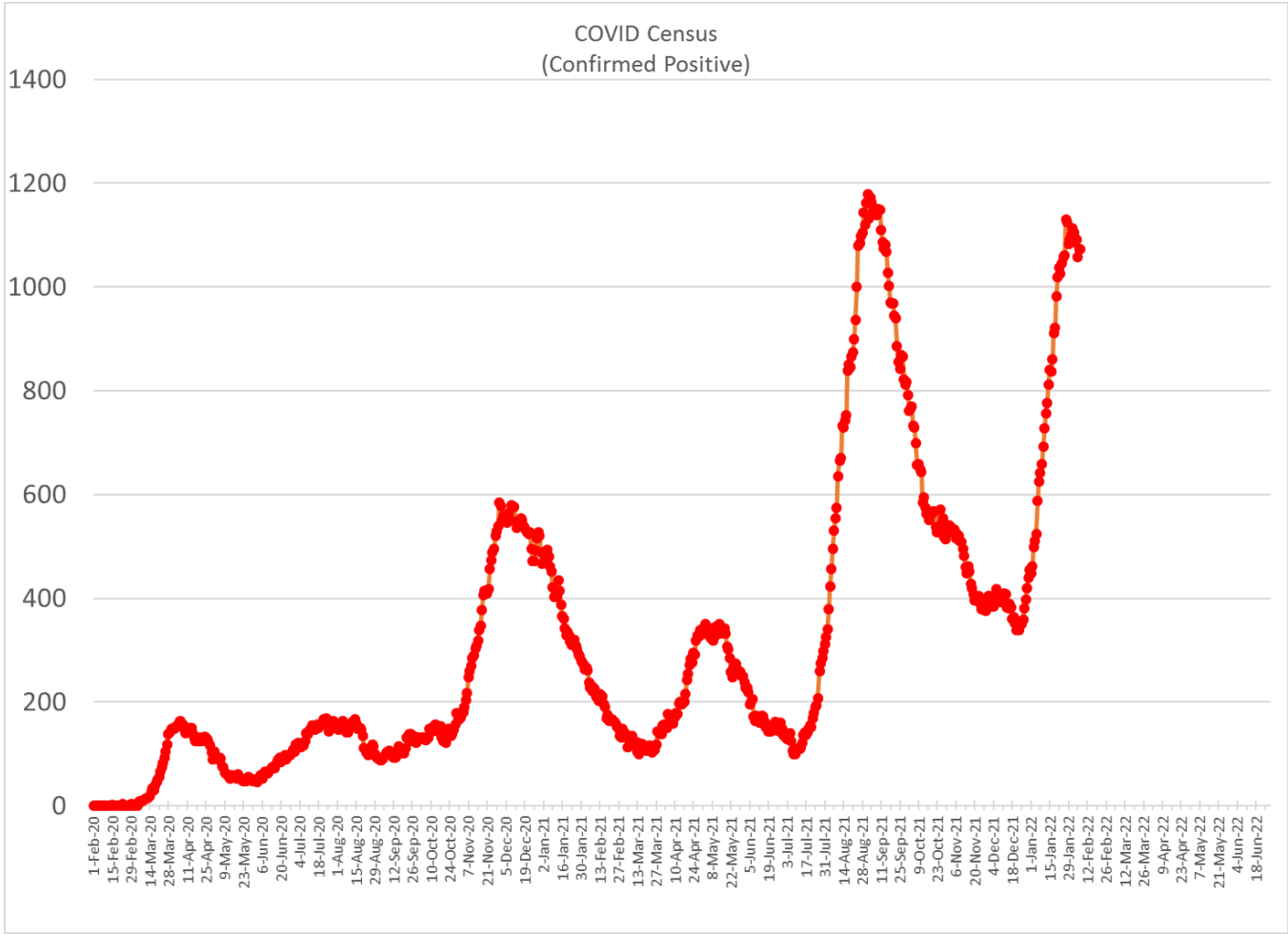
Key Outcomes

Hospitalized Patients in Oregon

As of 2/7/2022, 1,072 people are hospitalized with COVID-19 in Oregon.



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

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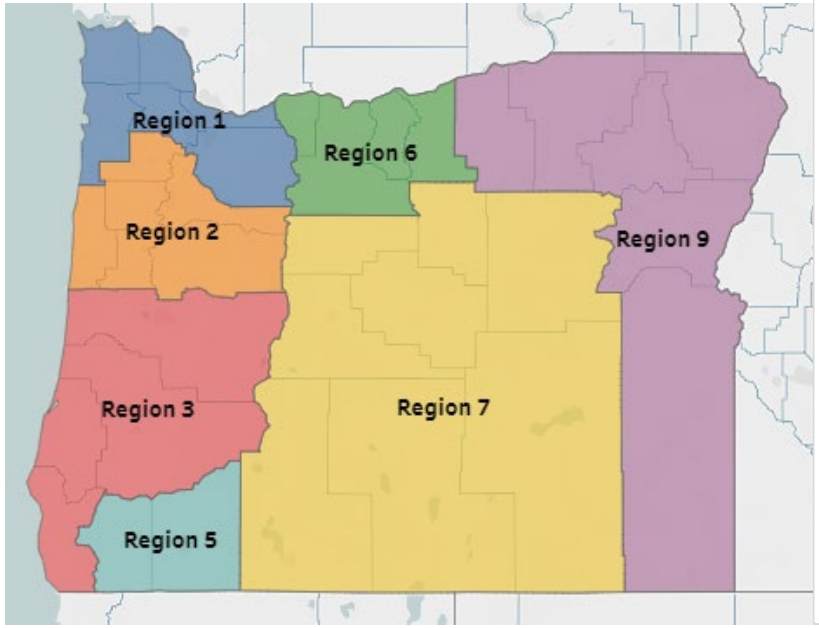
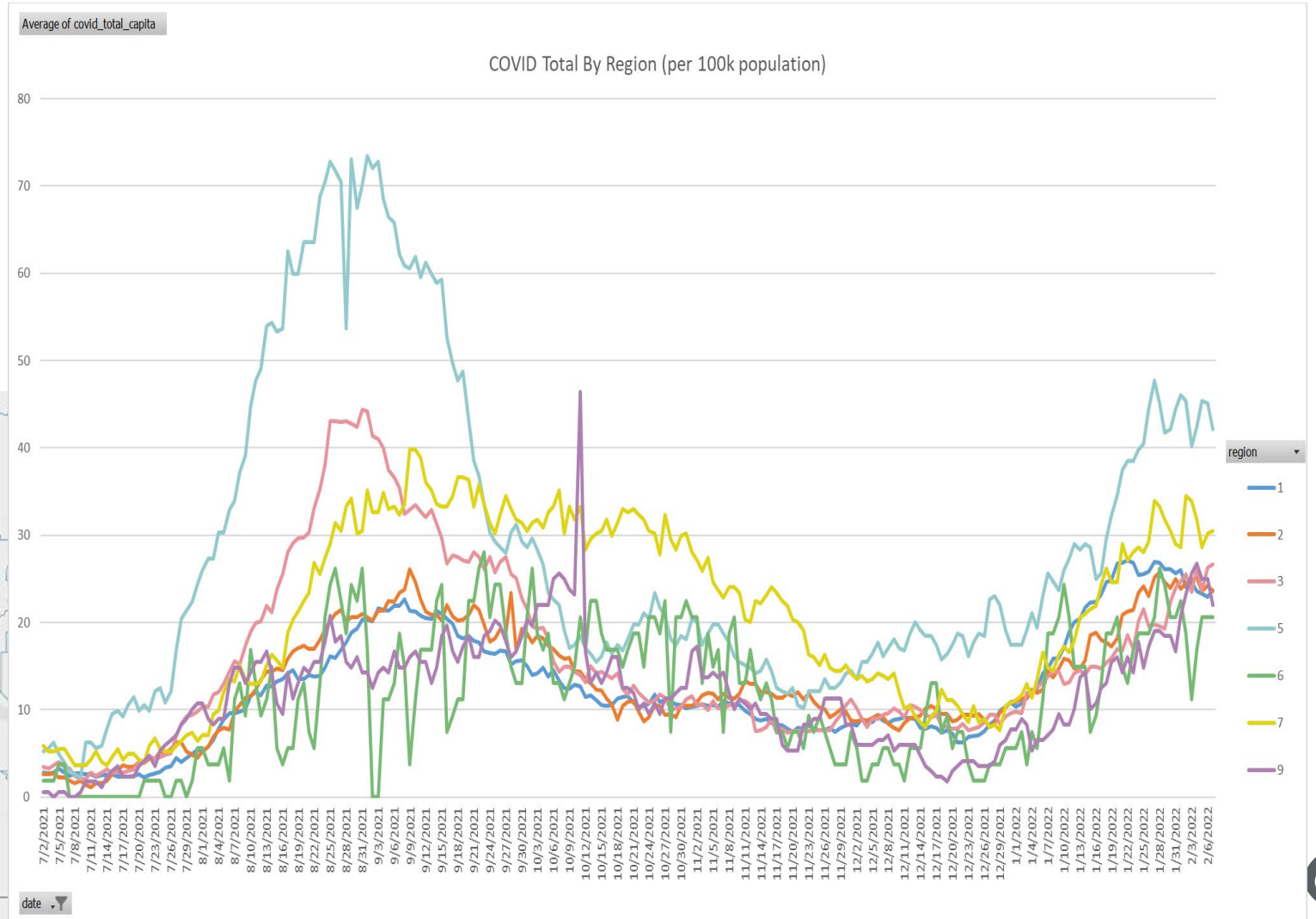
Regional Hospital Census

Region 1 is declining while other regions are mostly flat.





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

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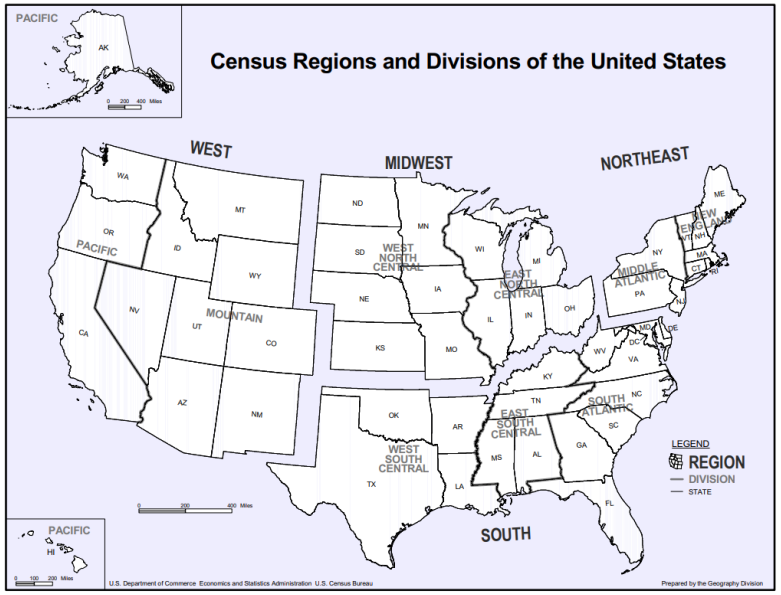
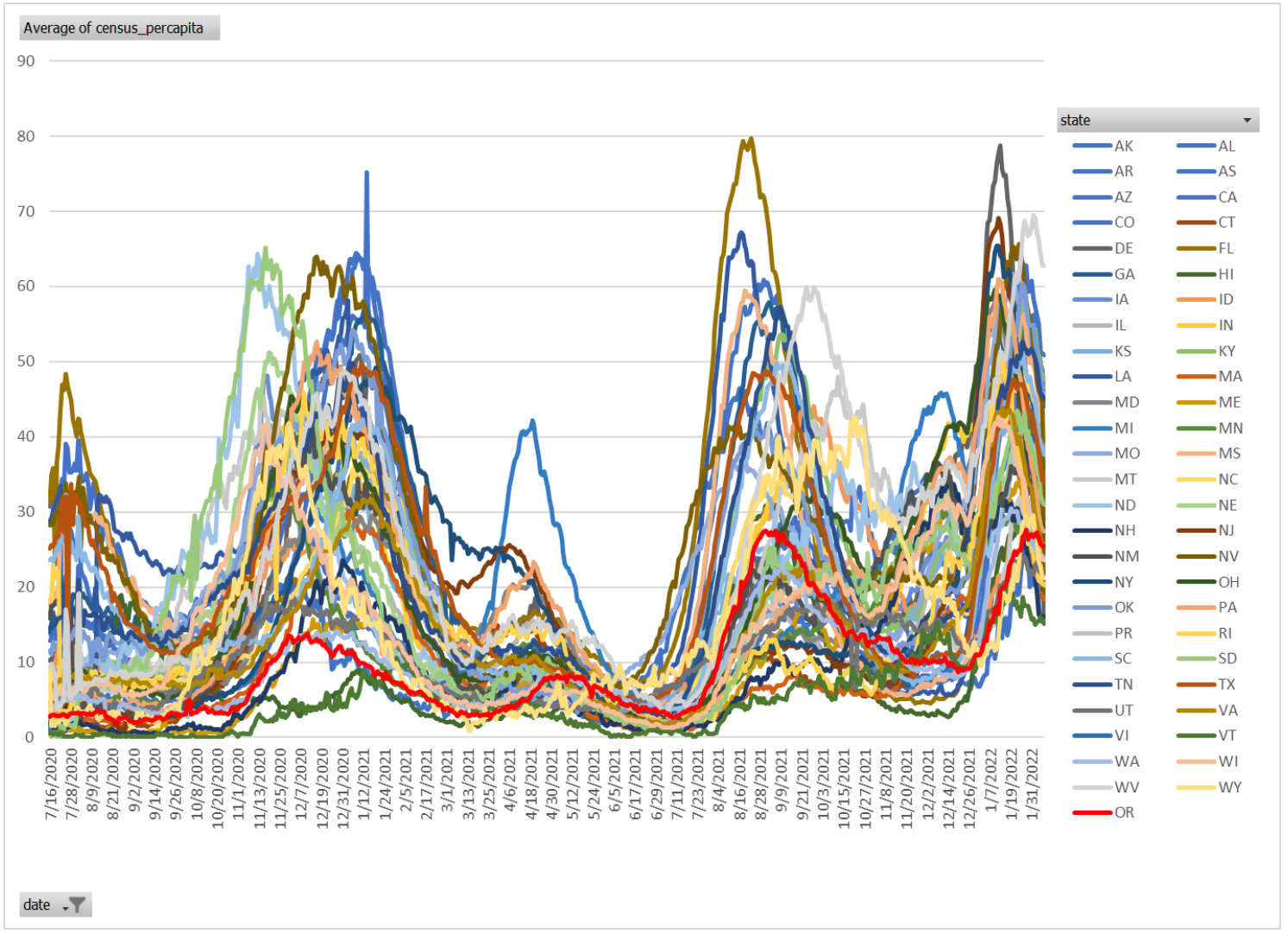
U.S. Hospital Census

While Oregon's highest level of census per capita is 28 per 100k. Delaware reached 79 and 16 states reached levels twice as high. Currently Oregon has the 4th lowest peak in the country.





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

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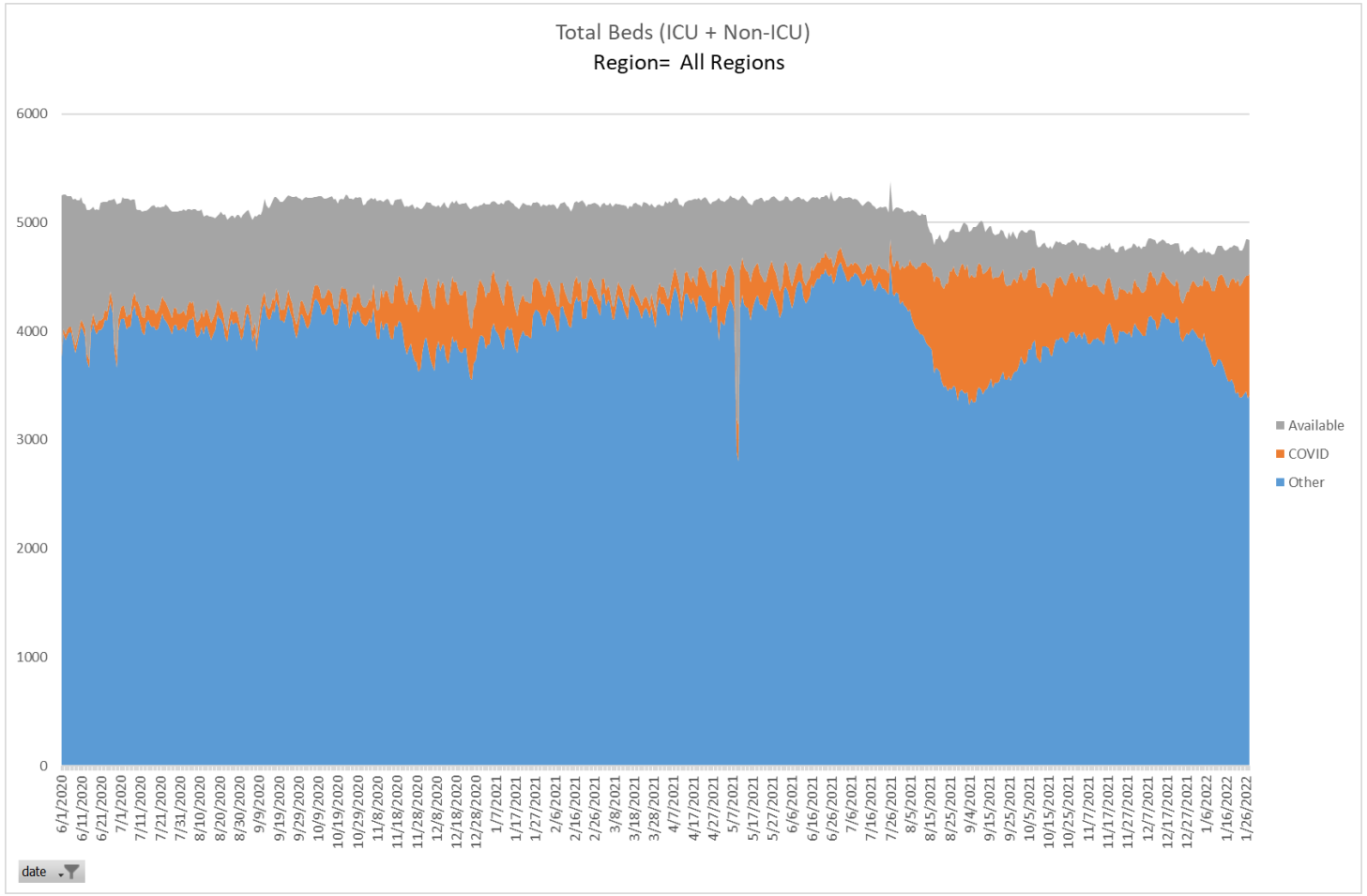
Oregon Hospital Capacity

These data are based on Oregon's hospital capacity web system (HOSCAP) reports of individuals infected with COVID.



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

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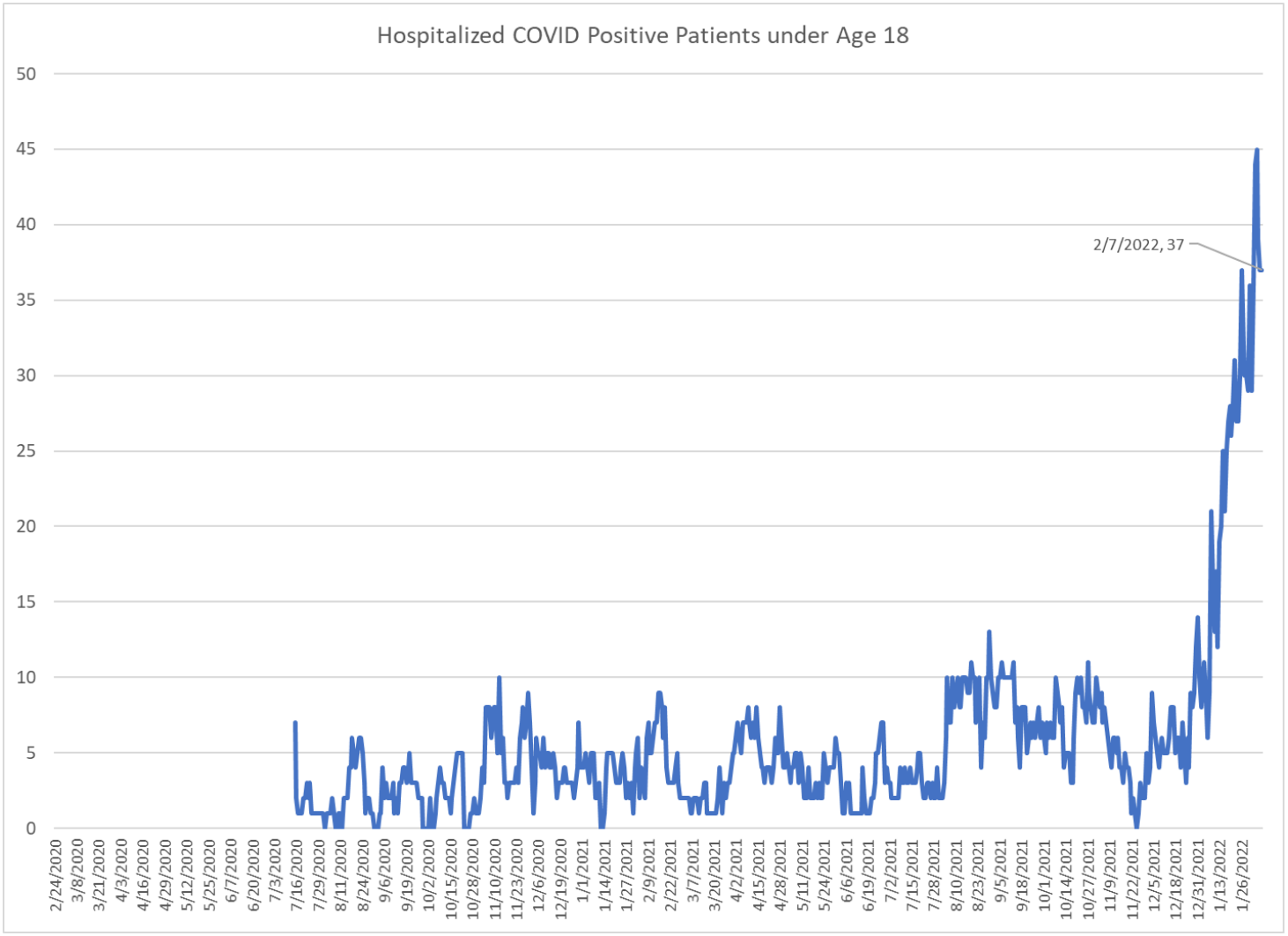
Pediatric Census in Oregon

The pediatric census level in Oregon for confirmed positive patients under age 18 is 37 as of 2/7.



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

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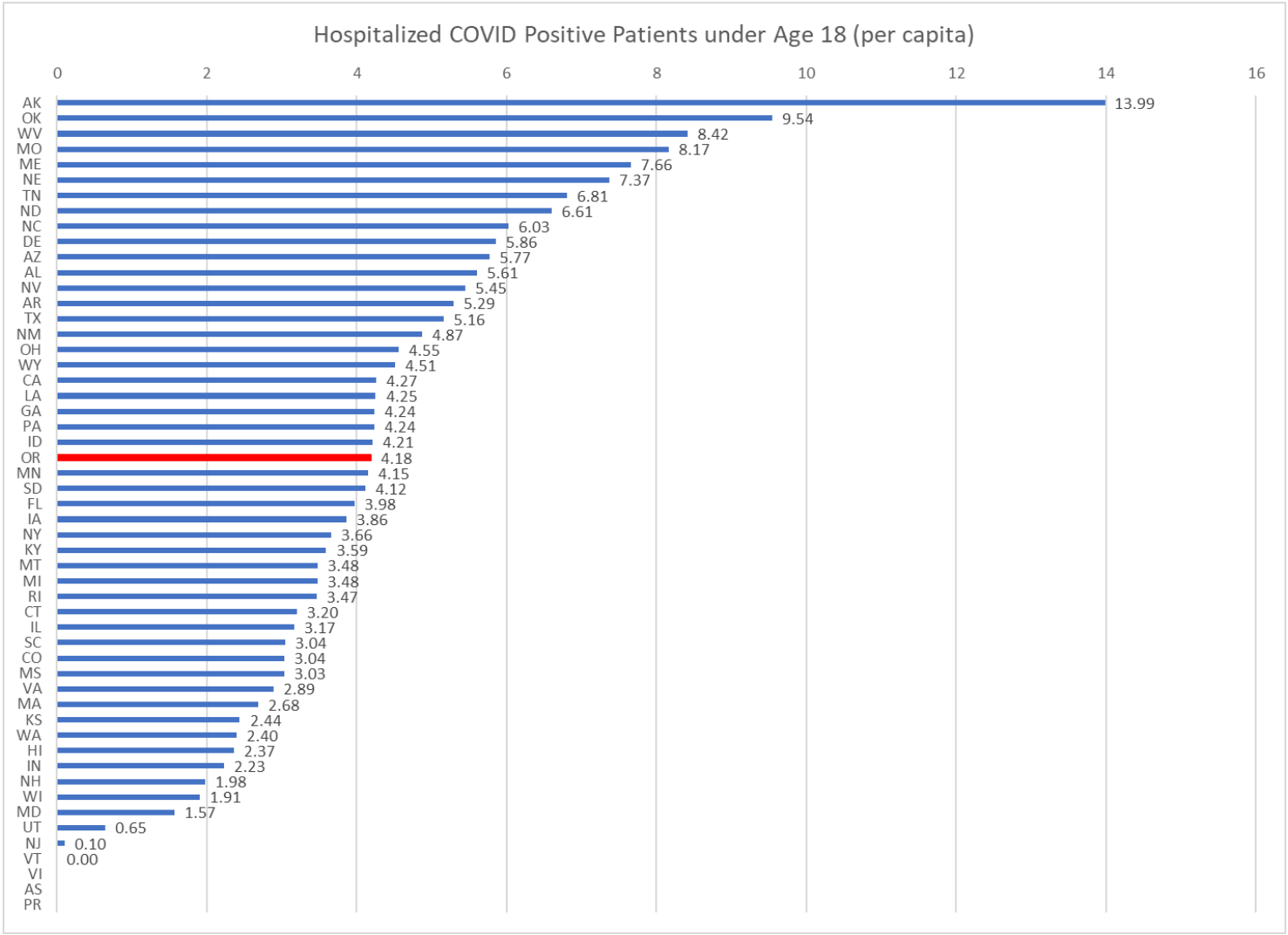
Pediatric Census in Oregon

While Oregon has a pediatric census rate at 4.18 per 100k population of children (age <18), other states are showing rates up to 2 times higher.



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

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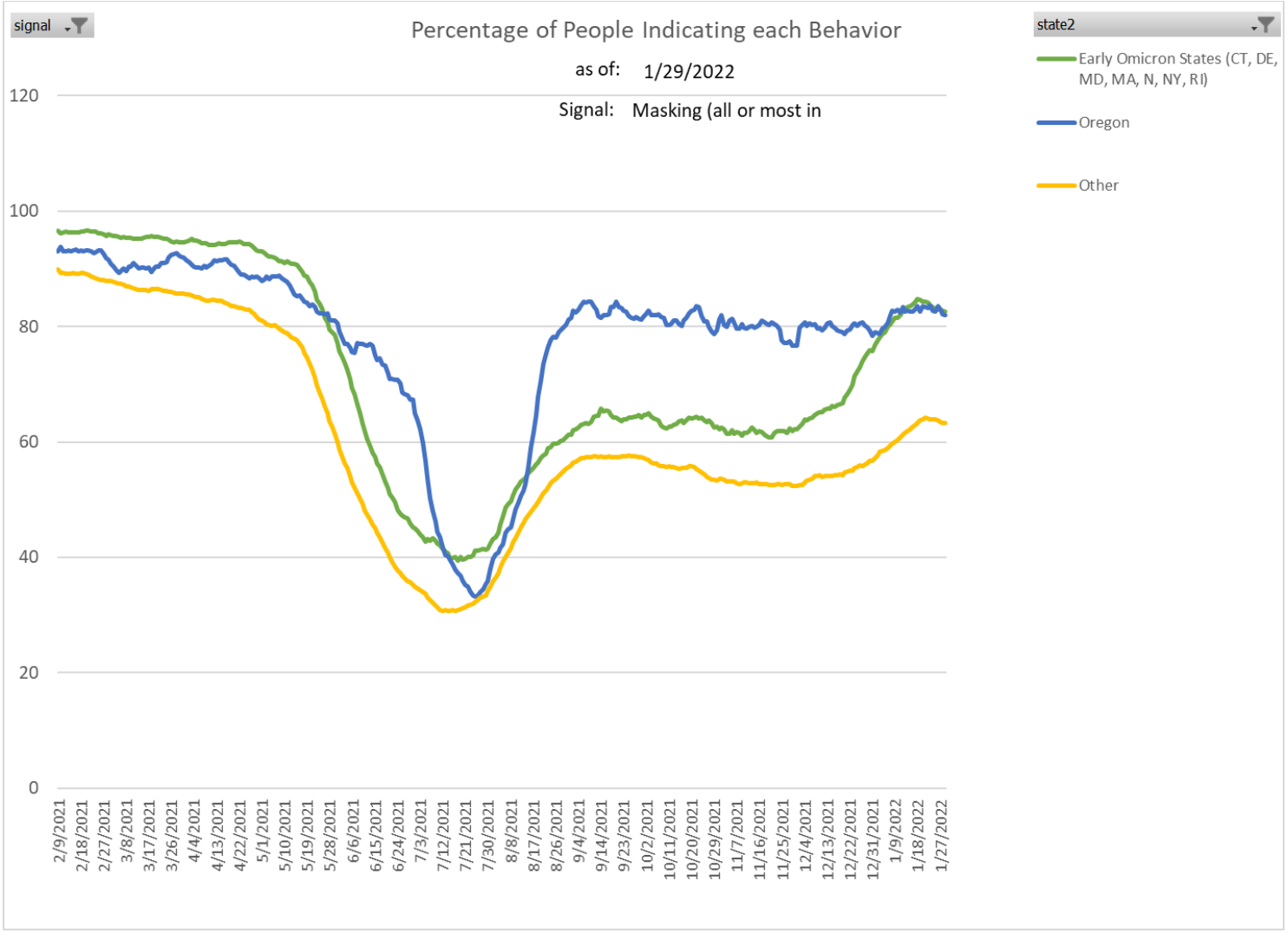
Review of Leading Indicators

Masking

Oregon continues to maintain a high masking rate.



Source: https://covidcast.cmu.edu/

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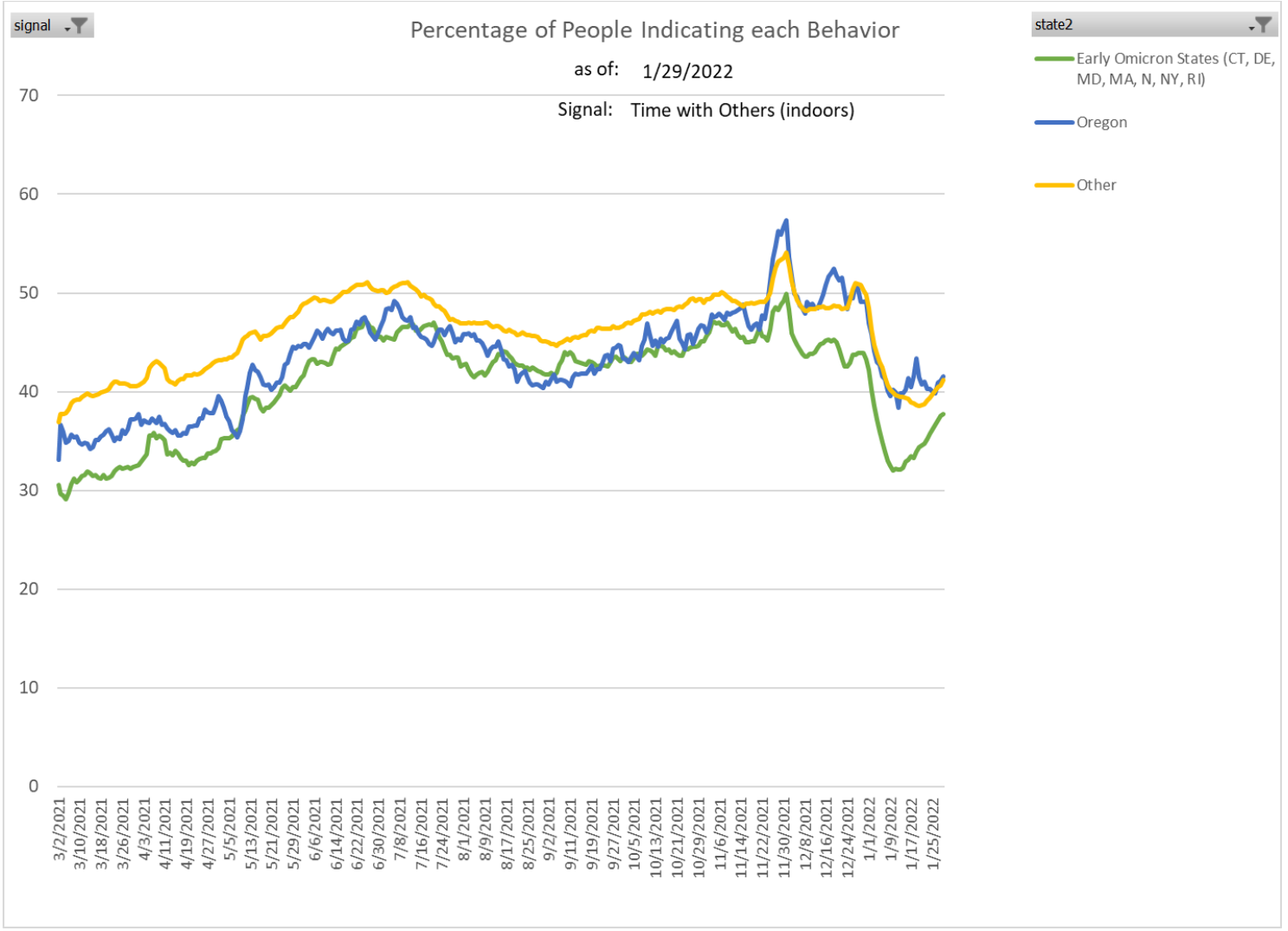
Time with Others Indoors

Time with others indoors is beginning to increase.



Source: https://covidcast.cmu.edu/

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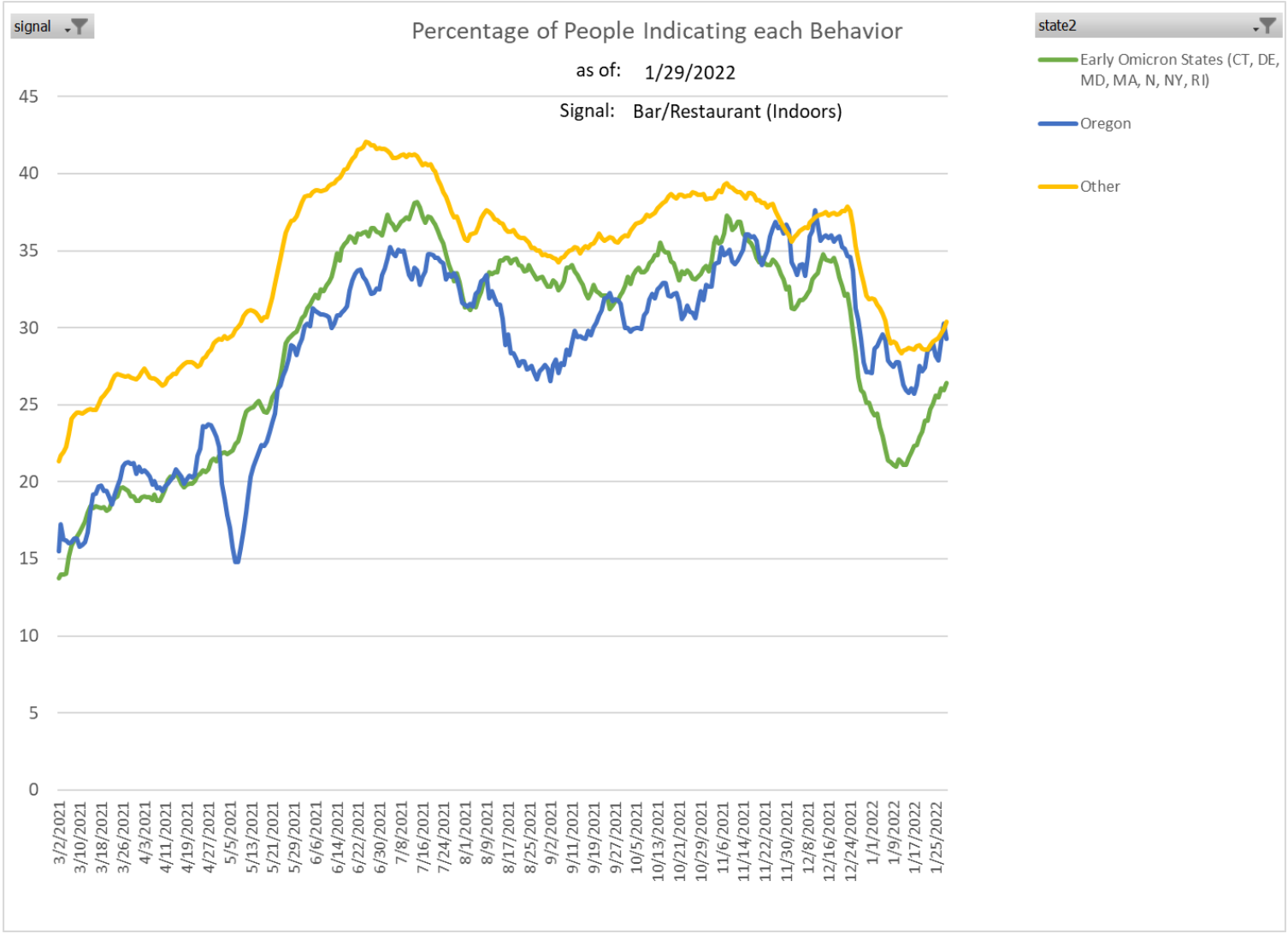
Bar/Restaurant Indoors

The percent of people indicating going to a bar or restaurant indoors appears to be increasing, similar to pattern seen in Early Omicron states.



Source: https://covidcast.cmu.edu/

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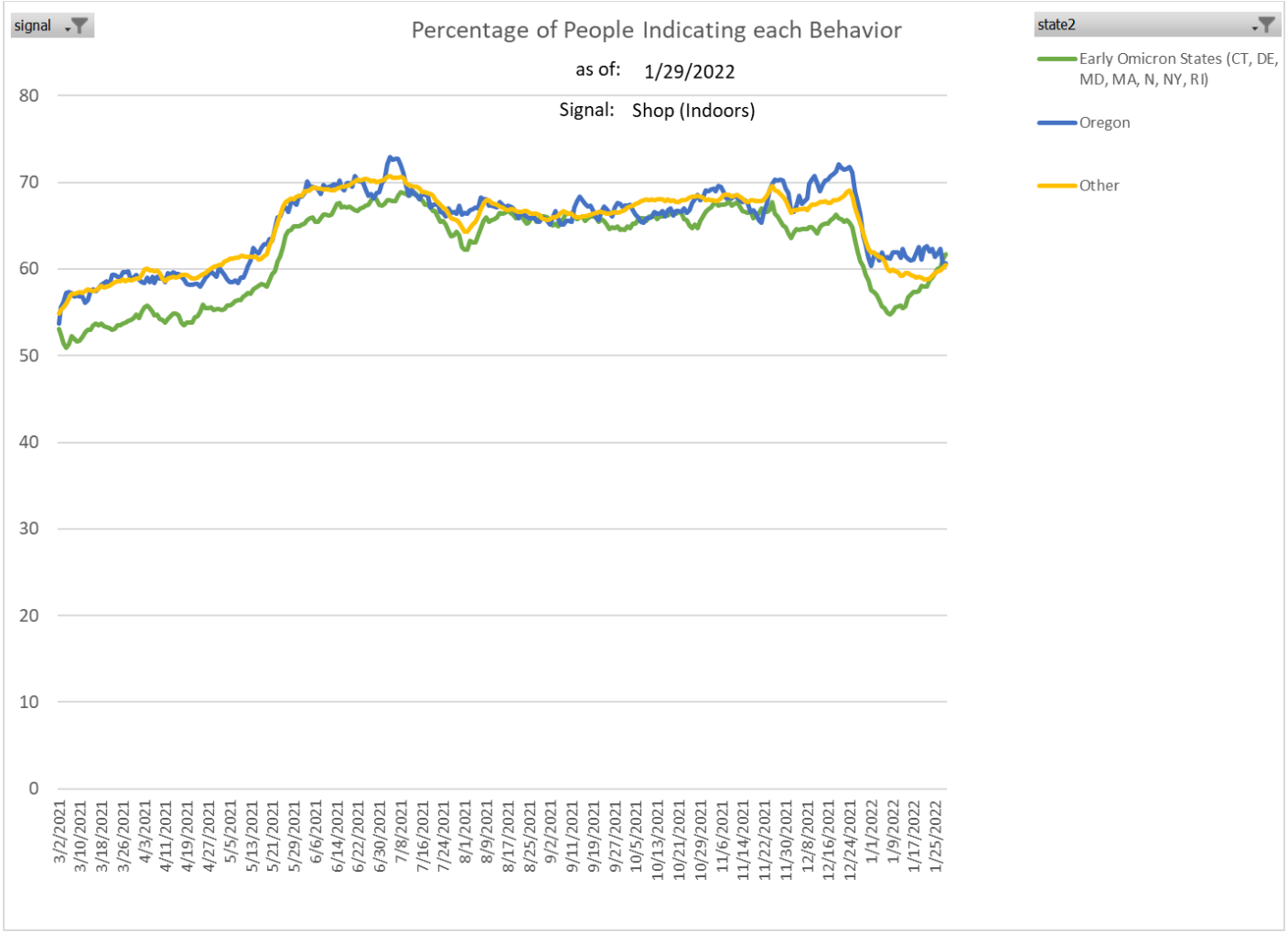
Shopping Indoors

Shopping indoors remains at post-holiday levels.



Source: https://covidcast.cmu.edu/

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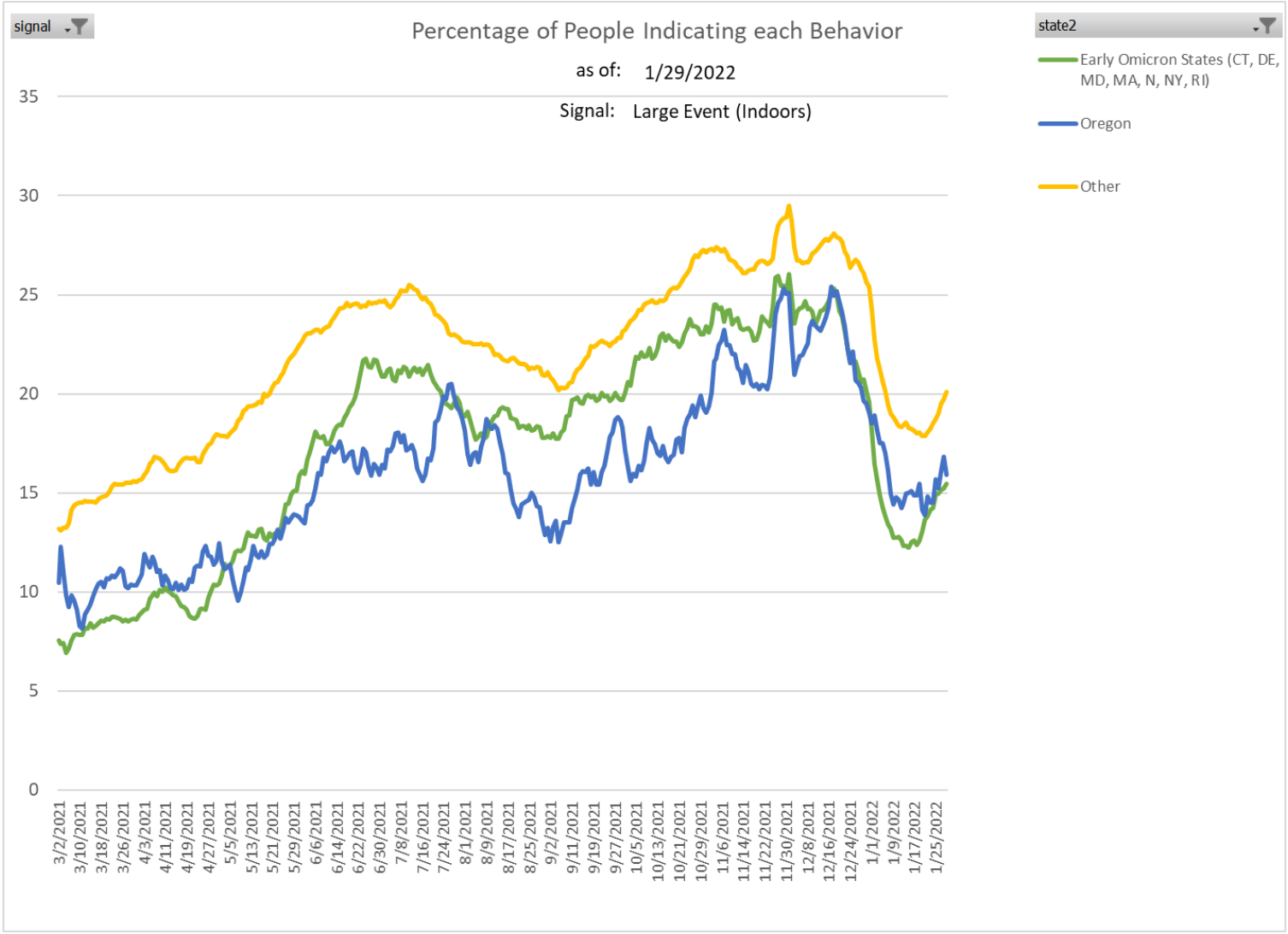
Large Events Indoors

The percentage of people attending large events indoors increasing reaching a low at the beginning of January.



Source: https://covidcast.cmu.edu/

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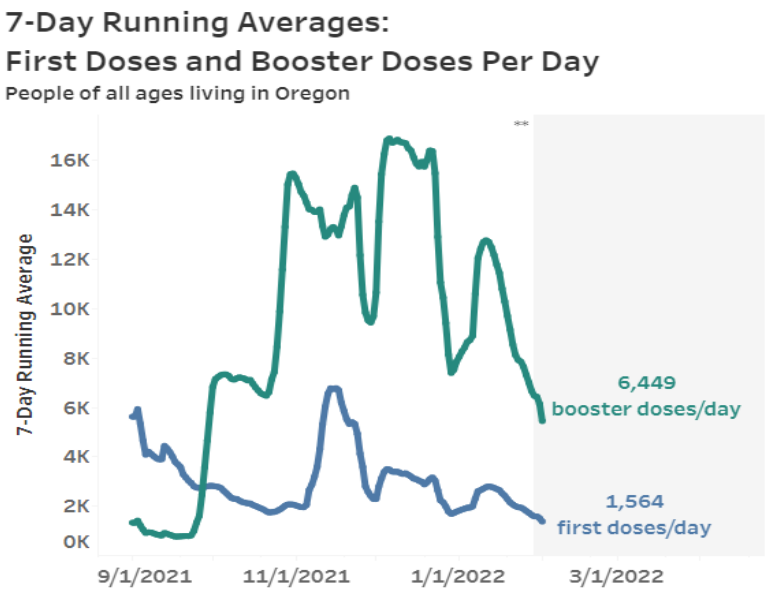
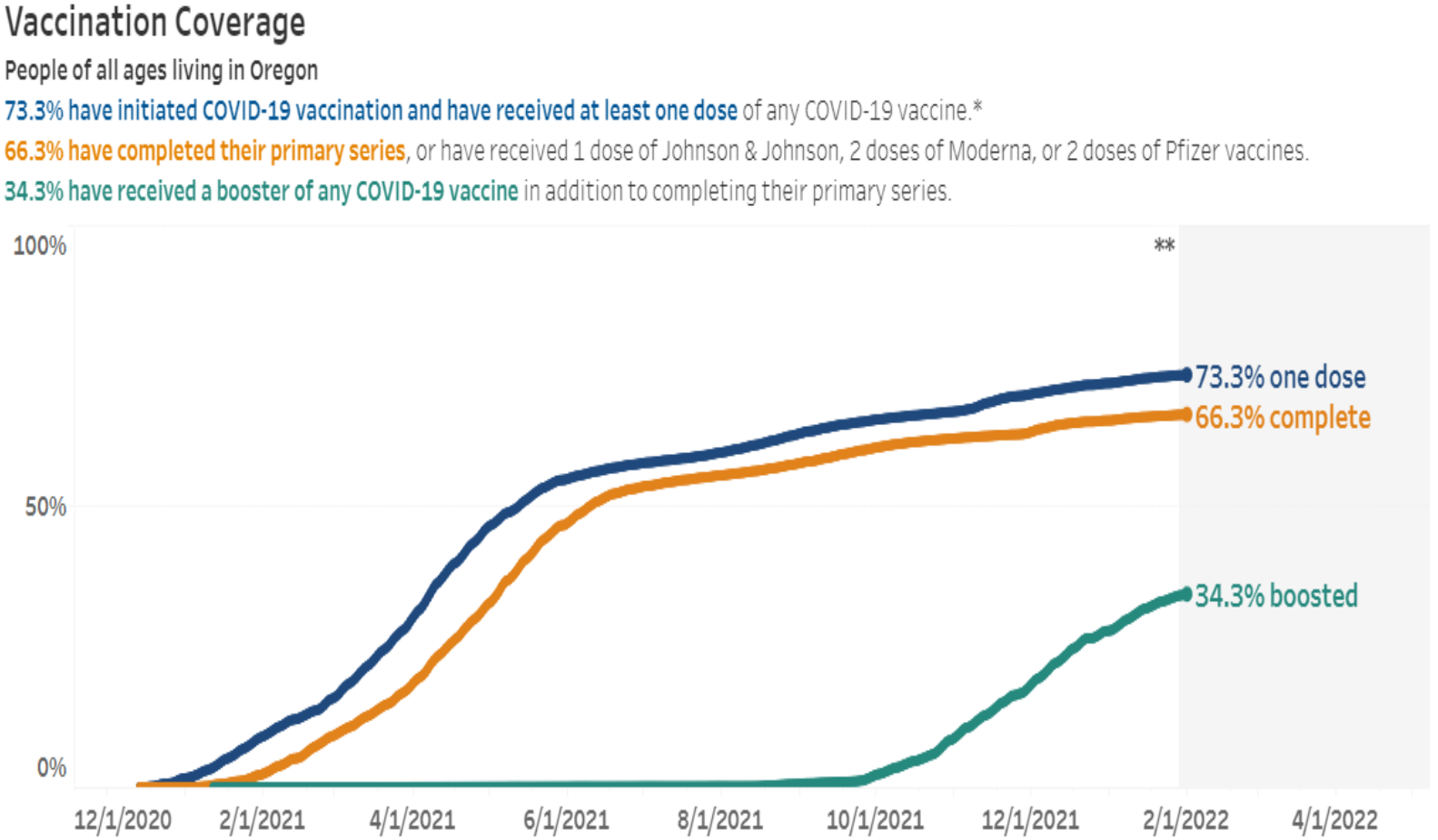
Vaccination Rates

34.3% of Oregon's total population has received an extra dose (booster). 7-day running average is down slightly from last week.





Source: https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19VaccineEffortMetrics/StatewideProgress

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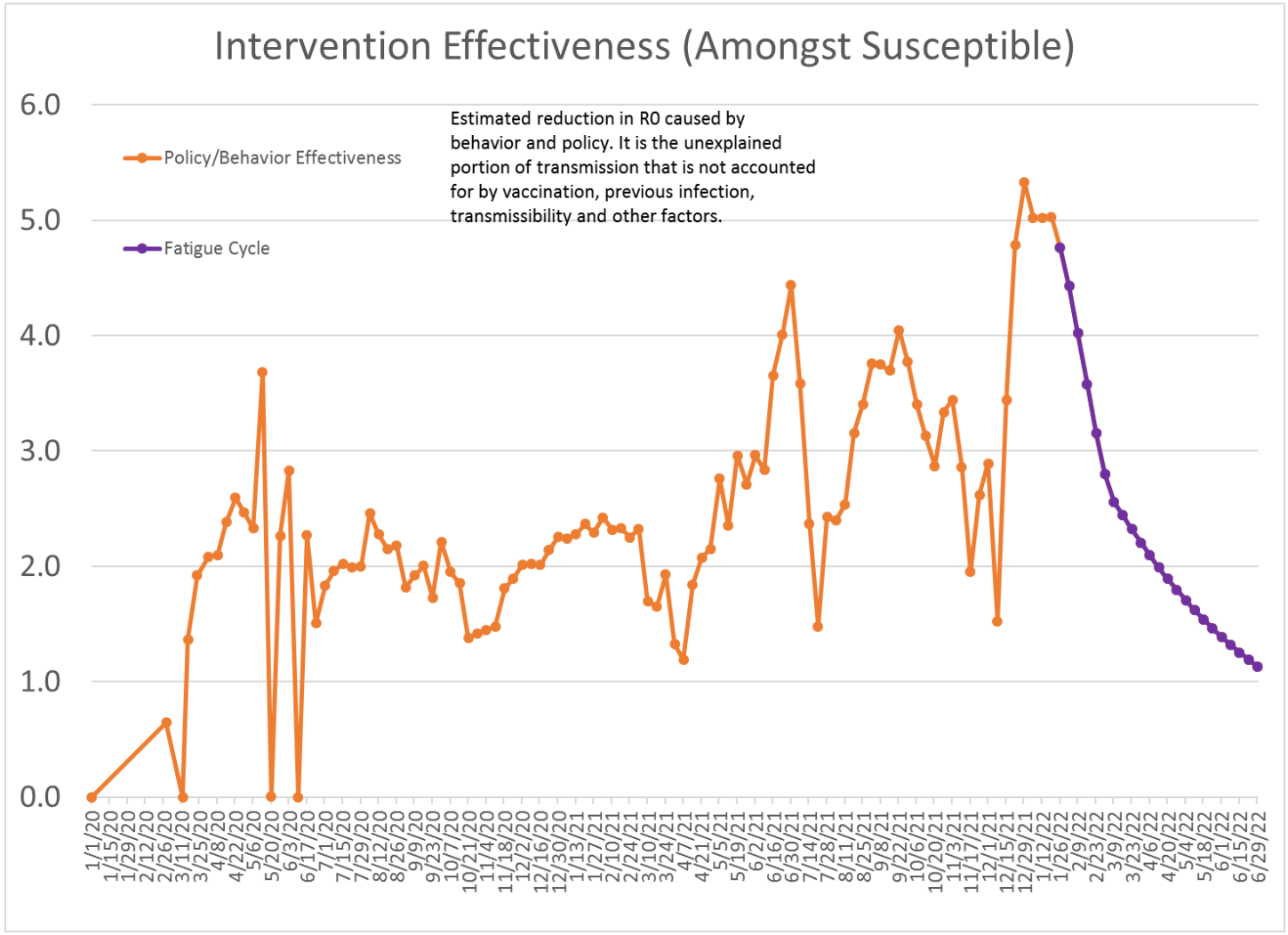
Statewide Forecast

Behavior Effects

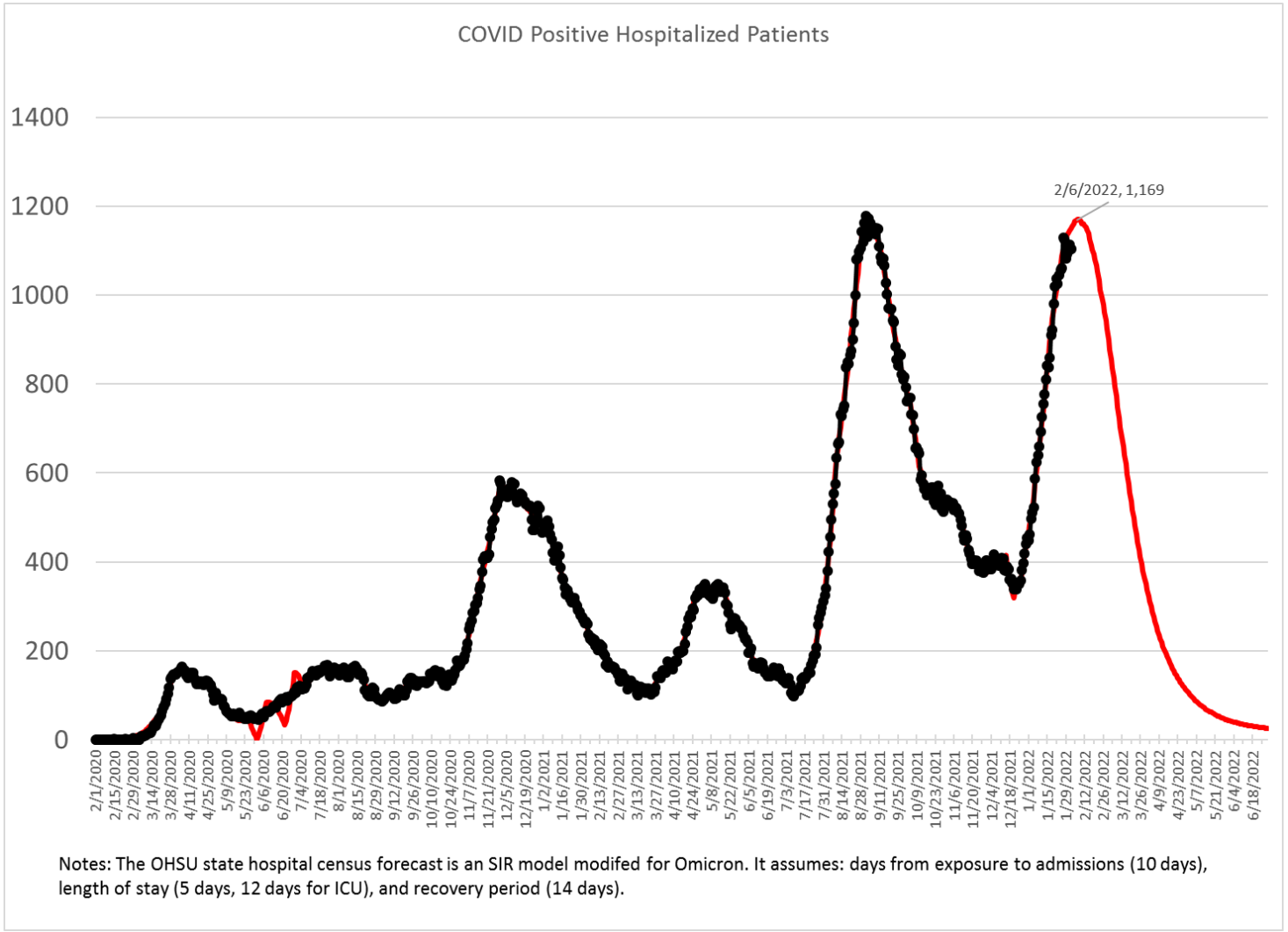
This value represents how effective the non-pharmaceutical interventions (NPIs) and individual behaviors have been at reducing the spread of the virus.



Census Forecast-Primary Scenario

Below are dates that census is expected to reach certain levels.

Level	Date
1100	2/19/2022
1000	2/25/2022
900	3/3/2022
800	3/7/2022
700	3/12/2022
600	3/16/2022
500	3/21/2022
400	3/27/2022
300	4/3/2022
200	4/14/2022
100	5/3/2022



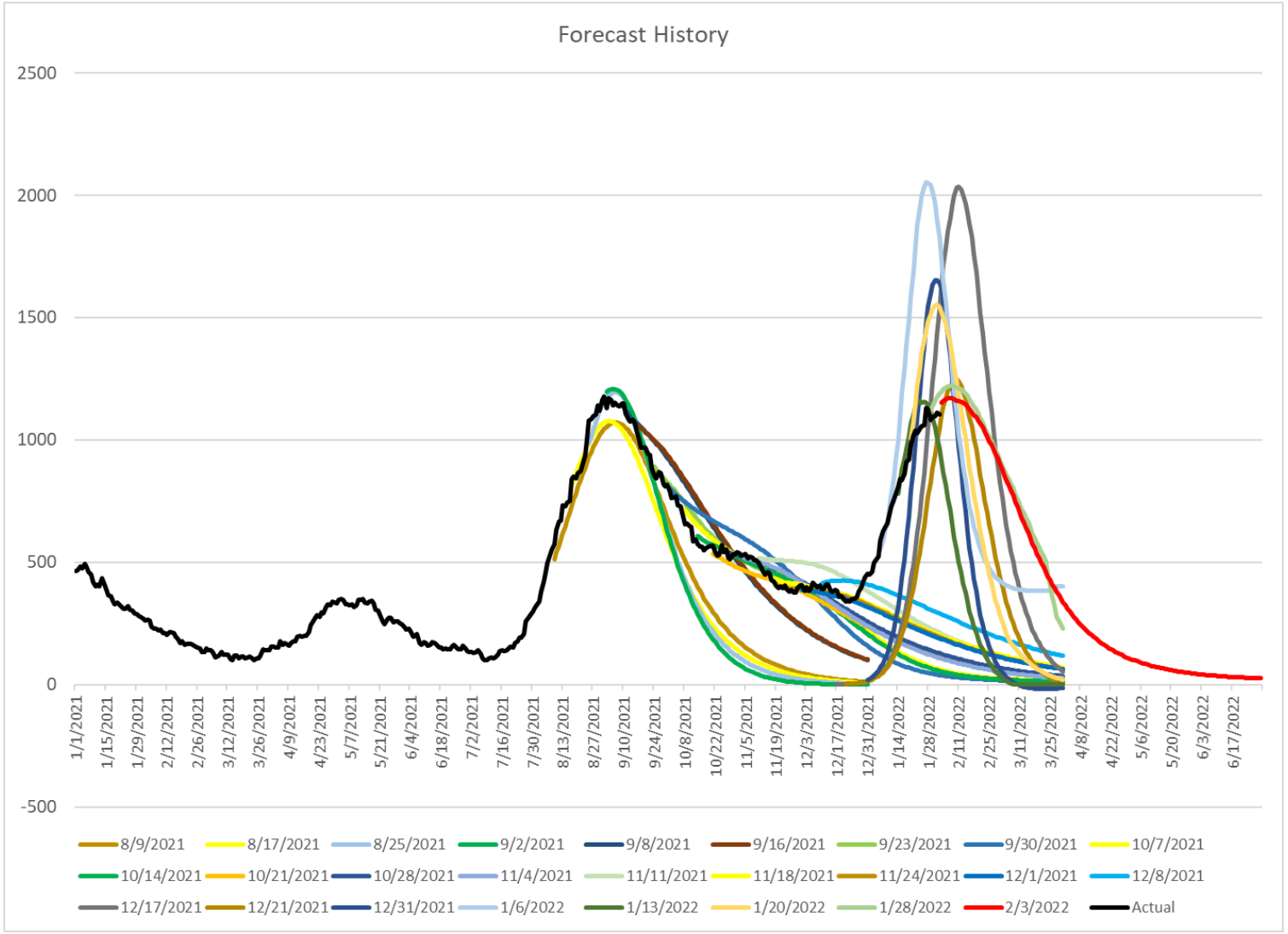
OHSU COVID Forecast Model

* while the actual recovery period for Omicron is shorter than 14, this is needed to remain constant with original virus in order to implement the effects of behavioral changes

Forecast History

The slide shows the previous forecasts for Delta and Omicron.

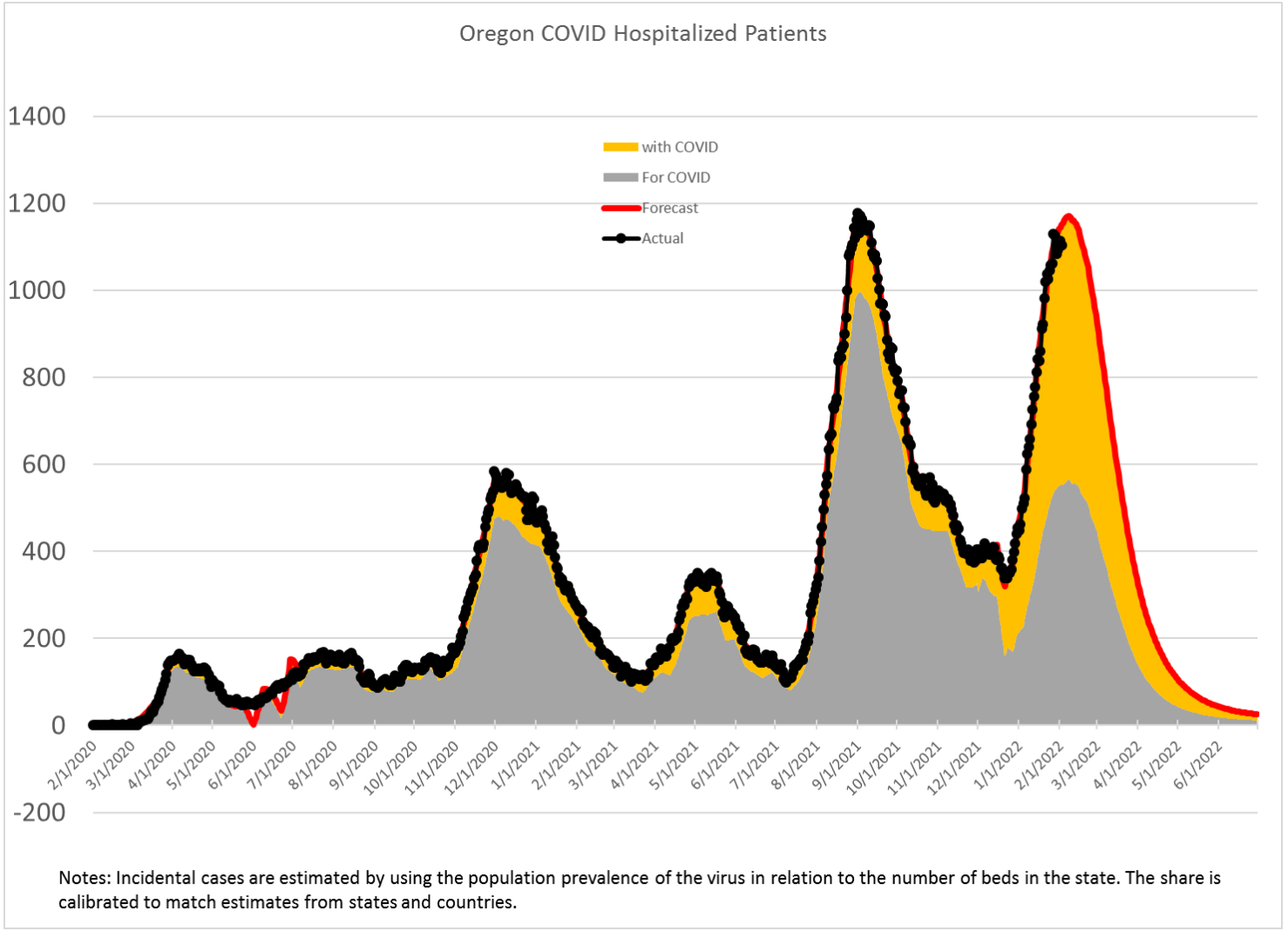
The current forecast is very similar to the forecast from last week.



Percent Incidental

This chart shows the share of patients that are expected to be incidental. Incidental refers to patients that are not there due to COVID but are in hospital with COVID infection.

The model to predict share has been modified from last week to be based on community prevalence rather than only on external estimates.



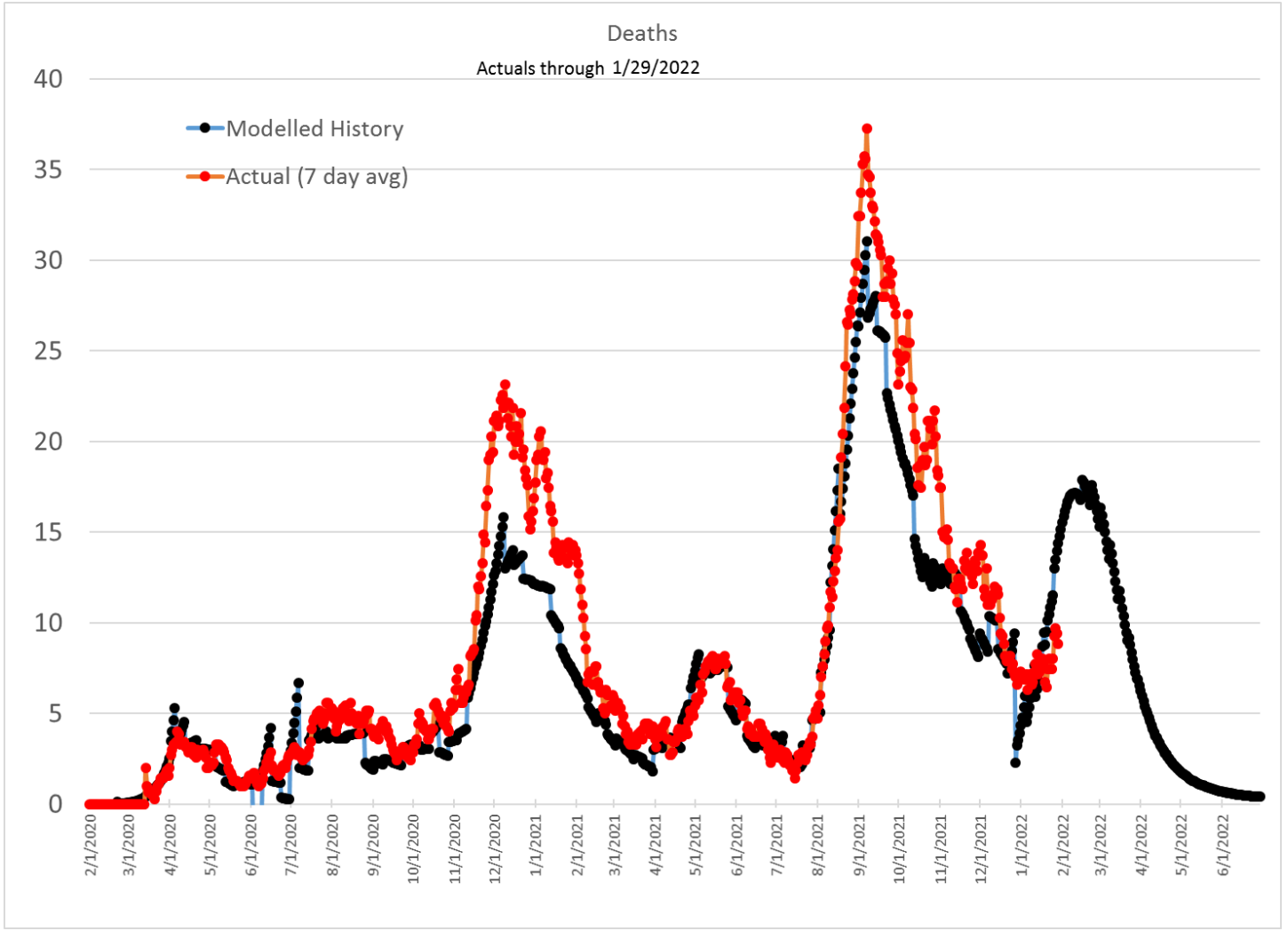
Notes: Incidental cases are estimated by using the population prevalence of the virus in relation to the number of beds in the state. The share is calibrated to match estimates from states and countries.

Death Forecast

Deaths per day are expected to increase over the next 2 weeks but are not expected to reach levels observed during the Delta wave.

The death forecast is based on the number hospitalized due to COVID and general trends in number of deaths per hospitalization.

Note: the version of this from 2/3 contained an error which has been corrected. The revised version shows more death in the coming months.



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Acknowledgments

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

I would like to thank Dr. William Messer for his assistance in understanding waning dynamics, Brian O'Roak and Xuan Qin, at OHSU, for their expertise to understand genetic sequencing information, and the hospital forecasting workgroup for their feedback on weekly forecasts, including collaboration with Julie Maher and Erik Everson at Multnomah County PDES.

I would also like to give a special thank you to Michael Johnson from St. Charles Health who helped develop an early version of the model that has proven to be a good structure to handle the many twists and turns the problem has required.

Thank you!

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