

# Oregon HOSCAP Covid-19 Review

April 2020–April 2021

## Executive Summary

This report provides an overview of Oregon’s COVID-19 hospitalization and hospital capacity data from the past year as reported to Oregon’s Hospital Capacity Web System (HOSCAP), a secure web-based dashboard where all Oregon and Southwest Washington hospitals share bed availability in a real-time environment. Hospital capacity metrics are used by hospitals, health systems, and state health authorities for health planning and responding to the current pandemic. Every hospital in Oregon is asked to submit data to HOSCAP, through which Oregon Health Authority (OHA) collects the current number of hospitalized patients are suspected to have COVID-19 or have tested positive for COVID-19 (by level of disease severity), as well as total and available staffed hospital beds (by type).

While HOSCAP is a valuable tool for tracking daily hospitalization counts over time, HOSCAP data do not include daily hospital admissions, hospital staffing decisions, or any patient’s demographic information, length of hospital stay, or reasons for hospitalization. Understanding these limitations to HOSCAP data and including insights from other data sources can provide a more complete picture of COVID-19 pandemic trends in Oregon, particularly in seeking to understand and address health inequities. As the pandemic continues, OHA maintains ongoing conversations with hospitals and other stakeholders to monitor COVID-19 hospitalization and bed occupancy trends.

Major findings:

### **COVID-19 positive hospitalizations peaked in summer 2020, followed by a larger fall peak**

- On July 24, 2020, Oregon had its first summer peak with 168 hospitalized patients testing positive for COVID-19. Compared to the lowest census recorded during the first year of HOSCAP data (46 COVID-19 positive patients on June 2), hospitalizations had increased by 265%.
- On November 30, 2020, Oregon experienced the highest recorded number of COVID-19 positive hospitalizations, with 584 patients. In less than one month (from November 2 to November 30), hospitalizations had increased by 224%. Compared with the first summer peak in hospitalizations (July 24), hospitalizations on November 30 increased by 248%.
- The first peak of ICU patients testing positive with COVID-19 occurred on July 19, 2020, with 56 patients. During the second wave of hospitalizations in late fall, the earlier peak was surpassed by November 4 with 59 ICU patients. The highest counts of ICU patients with COVID-19 to date occurred on December 9 with 132 patients and on December 12 with 131 patients.

### **Hospitalized patients testing positive for COVID-19 surged again in spring 2021, as patients with suspected COVID-19 continued to decline**

- As of early March 2021, the number of hospitalized patients testing positive for COVID-19 had fallen below levels seen during the summer peaks. On March 1, hospitalizations were down 21% from the first summer peak on July 24, 2020, and down 77% from the late November peak.
- Hospitalizations began to surge again during the spring of 2021, as the number of COVID-19 positive patients in Oregon hospitals rose by 17% during the month of March.
- The number of hospitalized patients with suspected COVID-19 declined in Oregon over the course of the year, from a high of 307 suspected COVID-19 patients on April 7, 2020, to a low of seven on March 27, 2021 – even as hospitalized patients testing positive for COVID-19 increased.

### **Though trends varied between regions, bed capacity constraints were widespread**

- Regions with larger populations (particularly Regions 1 and 2, which include the Portland metro area and northern Willamette Valley, respectively) experienced greater numbers of COVID-19 positive hospitalizations than those with smaller populations. At times, however, the COVID-19 positive hospitalization rate per 100,000 population in Regions 5, 7, and 9 (in southern, central, and eastern Oregon) exceeded those in the most populous regions.
- All but five of Oregon's 61 hospitals and hospital systems reported at least 90% occupancy of adult non-ICU beds at some time during the year. All but two of their 52 ICUs reached a point where 100% of their adult ICU beds were occupied.
- The highest statewide occupancy reported during the first year of the pandemic occurred on January 6, 2021, when 88% of Oregon's adult ICU and non-ICU hospital beds were occupied. All but Region 9 reported at least 80% occupancy on this day, with Region 1 reaching 92%.

### **In the fall and summer 2020 surges, COVID-19 positive hospitalizations initially peaked approximately two weeks after COVID-19 cases**

- During the summer of 2020, COVID-19 positive hospitalizations initially peaked 14 days after new cases peaked (when comparing seven-day moving averages).
- The first fall peak in hospitalizations also lagged 14 days behind new cases peaking (comparing seven-day moving averages); each indicator experienced a second, slightly higher peak in the fall, 8 days apart.

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## Introduction

Oregon’s first presumptive case of COVID-19 was identified on February 28, 2020. By March 8, Governor Kate Brown issued a declaration of emergency due to the public health and safety threat posed by the novel infectious coronavirus (COVID-19). There were 14 COVID-19 cases in Oregon, 430 cases in the United States, and 101,927 cases worldwide at the time. Protective measures were put in place over the next few weeks, including bans on gatherings of more than 250 people and statewide K-12 school closures. On March 23, the Governor issued an executive order to “Stay Home, Save Lives,” which directed all Oregonians to limit interactions outside of their homes beyond essential needs and ceased or reduced the operation of non-essential businesses. The order also halted all elective and non-urgent health care procedures that required personal protective equipment (PPE), in light of the national supply shortage.

Hospitals, health systems, and state health authorities nationwide use hospital capacity metrics for health planning and responding to the current pandemic. When the number of hospitalized patients testing positive for COVID-19 rises, it serves as a warning that demands on the larger healthcare system may increase. Due to the dynamic nature of hospitalizations and further demands on resources, hospitals could experience further stresses. As we reflect on the ongoing pandemic response, this report provides an overview of the first year of COVID-19 hospitalization and hospital capacity data as reported to Oregon’s Hospital Capacity Web System (HOSCAP).

## What is (and is not) HOSCAP?

Every hospital in Oregon is asked to submit data to HOSCAP, a secure web-based dashboard where all Oregon and Southwest Washington hospitals share bed availability in a real-time environment. This creates a common operating picture for hospital operations. Other partners using the system for situational awareness and patient routing include first responders, EMS providers, 911, and other local, state, and federal partners.

Whenever a patient surge or disruption to the healthcare delivery system occurs, the HOSCAP system plays a role. HOSCAP can be used during disease outbreaks, mass casualty incidents (MCIs), or communications disruptions to assist in zone management, relaying information, and coordinating recovery and response efforts. The system’s use across the state allows for a redundant communication conduit when other systems are unavailable or compromised.

HOSCAP is federally funded and maintained by the OHA Public Health Divisions Health Security, Preparedness and Response program (HSPR). Beginning in early April 2020, HOSCAP was expanded to include fields for COVID-19 data

collection. HOSCAP also satisfies mandatory federal reporting of Oregon hospital census data to HHS (as it did during the H1N1 pandemic).

Using this system, OHA counts each day:

- currently hospitalized patients who test positive for or are suspected to have COVID-19,
- currently hospitalized patients with COVID-19 in Intensive Care Unit (ICU) beds or on ventilators
- the current number of total and available staffed hospital beds, by type

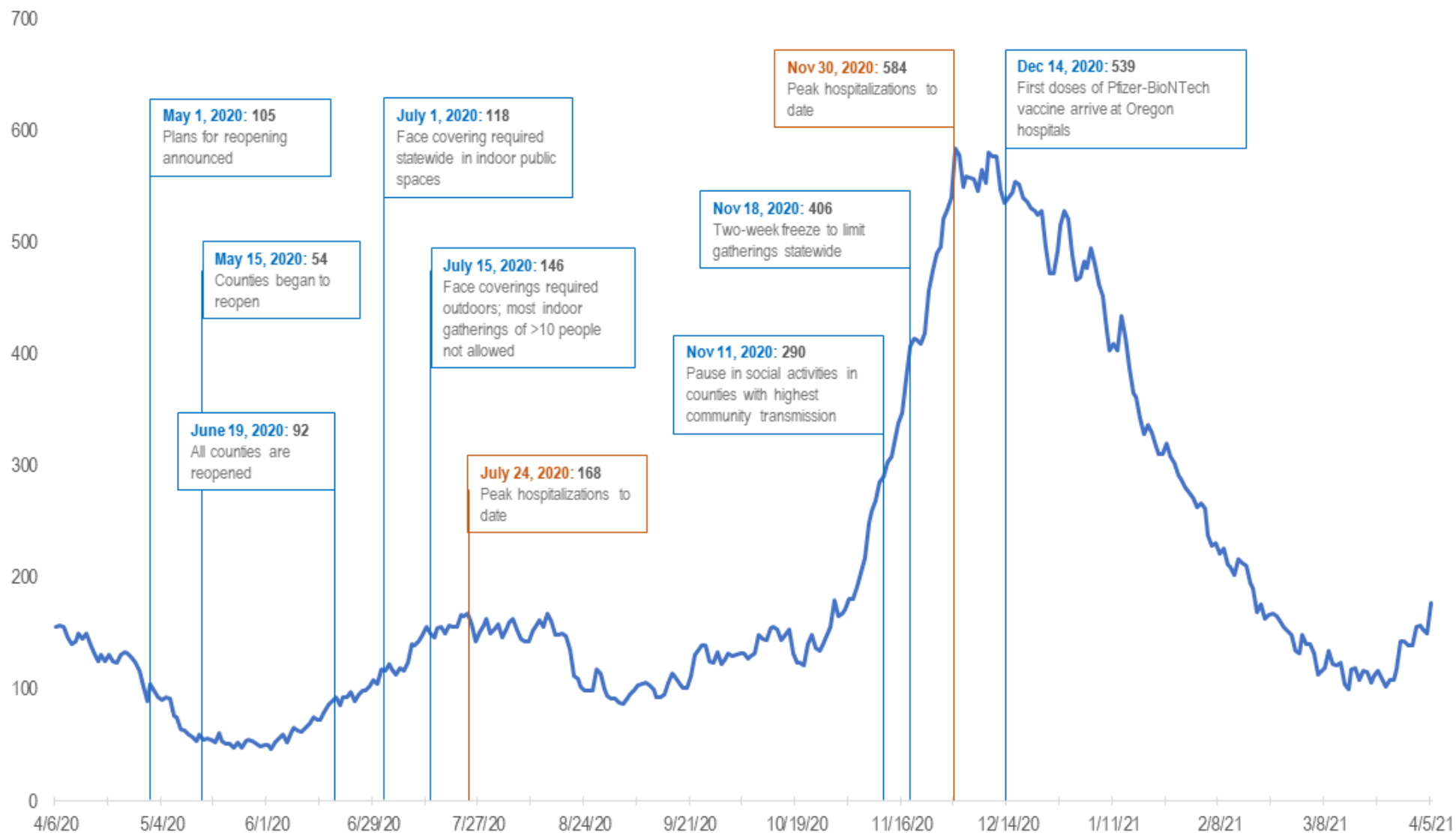
OHA aggregates these data for the state, as well as by region.<sup>1</sup> OHA also calculates how many staffed beds are being used. Staffed beds are beds that the hospital has staff and equipment to support.

Data reported to HOSCAP do not include daily admissions per day, nor patients' length of stay. These data do not capture demographic information about patients (such as whether they live in Oregon or out of state), staffing ratios (or decisions around staffing), nor the cause of patients' hospitalizations. Finally, hospital capacity data do not show the maximum capacity of hospitals. Hospitals may need to repurpose other types of hospital beds, and/or postpone or cancel elective procedures to maximize staff and bed capacity in hospitals.

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<sup>1</sup> Region refers to the location of the hospital, not the residence of the patient.

## Timeline of COVID-19 Positive Hospitalizations



**KEY:** Policy Interventions | Peak Hospitalizations

Figure 1. Oregon's COVID-19 positive hospitalization trends (blue line) are shown with policy interventions and peak hospitalization dates. These dates are labeled to provide context and are not intended to imply causation. See Appendix A for more detailed event information.

## COVID-19 hospitalization trends in Oregon

The following section breaks down statewide trends into four time periods, paying special attention to each peak in hospitalizations to date. We also review regional trends in COVID-19 hospitalizations. Figure 1 on the previous page shows the number of hospitalized COVID-19 positive patients over time. To give context to this timeline, we added some key dates<sup>2</sup> categorized by event type. Figure 2 below shows similar trends in the number of hospitalized COVID-19 positive patients in ICU beds over time. This figure also displays a seven-day moving average, where the value shown for each date represents the average for the week leading up to (and including) that day. A seven-day moving average can help to reveal overall trends that may be obscured by day-to-day or weekly fluctuations in the data.

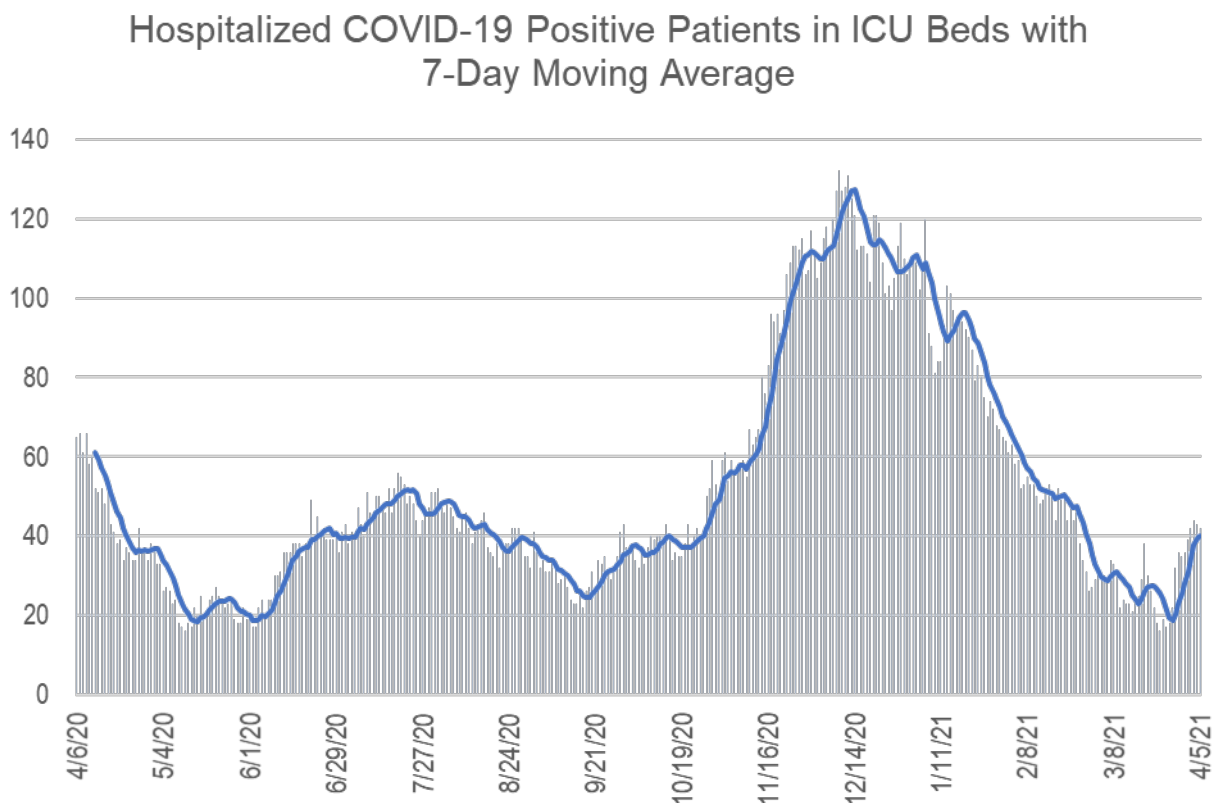


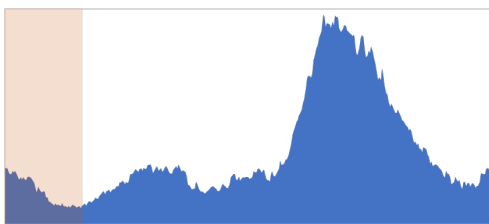
Figure 2. Trends in Oregon’s COVID-19 positive ICU patients were similar to trends in overall COVID-19 positive hospitalizations (as shown in Figure 1).

<sup>2</sup> Policy interventions and other dates on this timeline are to give context to the data and should not imply causation. Relationships between these dates and hospitalizations require further research. Holidays chosen reflect the most popular travel times according to the Transportation Security Administration (TSA).



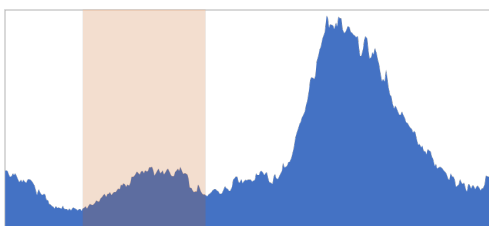
## Statewide trends

### April<sup>3</sup> – May 2020



From early April through late May 2020, COVID-19 hospitalizations were on a downward trend and overall counts of hospitalized patients testing positive for COVID-19 remained low (<100 patients). Compared to neighboring states during this period, Oregon had a lower rate of hospitalized COVID-19 patients per million people than California and Washington, but a higher rate than Idaho. In May, as some Oregon counties reopened and Memorial Day weekend approached, hospitalizations rose to meet early April levels. The number of COVID-19 positive patients in ICU beds was generally decreasing during this period.

### June – August 2020: First wave of peak hospitalizations

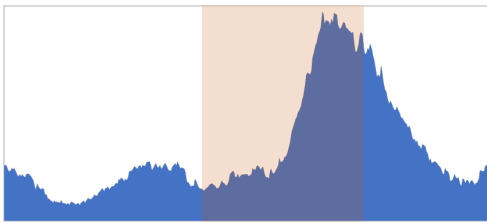


As cases rose in the summer, so did the number of COVID-19 hospitalizations and patients in ICU beds. On July 24, Oregon had its first summer peak in hospitalizations with 168 patients testing positive for COVID-19. Compared to neighboring states during this period, Oregon experienced its first wave of hospitalizations around the same time as Washington and Idaho and a couple weeks later than California. Oregon had a lower rate of hospitalized COVID-19 patients per million people than California and Idaho and about the same rate as Washington. The seven-day rolling average of COVID-19 positive patients in ICU beds also peaked around this time, with the absolute peak in hospitalized patients in ICU beds occurring on July 19 (56 patients). Compared to two months prior (May 29), hospitalizations had increased by 229%. These numbers remained at this level throughout late July and early August, followed by another summer peak on August 14 with 167 patients. Prisons, food processing centers, and agricultural worksites, especially those in Eastern Oregon (also known as Region 9), experienced a disproportionate share of outbreaks during this period.

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<sup>3</sup> Daily data on COVID-19 hospitalizations were not available prior to April 6, 2020.

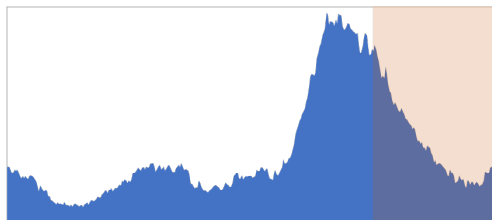
### September – December 2020: Second wave of peak hospitalizations



In early September, wildfires were raging across the state. Complications from wildfires and resulting hazardous air quality placed additional stress on hospital systems all over Oregon, especially in parts of Western Oregon. Beginning in late October, the

number of hospitalized patients testing positive for COVID-19 began to increase dramatically over the course of November. Nearly two weeks after Halloween, Governor Kate Brown mandated a pause in social activities in counties with the highest rates of community transmission. One week later, a two-week statewide freeze to limit gatherings was mandated. Hospitalizations continued to rise until November 30, when Oregon experienced its peak COVID-19 positive hospitalizations to date with 584 patients. In less than one month (from November 2 to November 30), hospitalizations had increased by 224%. Compared to the first summer peak in hospitalizations (July 24), hospitalizations on November 30 increased by 248%. The seven-day moving average of COVID-19 positive patients in ICU beds was higher than it had ever been as of November 30 but did not peak until December 13. The absolute peak in hospitalized patients in ICU beds occurred on December 9 with 132 patients and December 12 with 131 patients. Compared to neighboring states during this period, Oregon experienced its second wave of hospitalizations around the same time as Idaho, a few weeks earlier than Washington, and about a month earlier than California. During this wave, Oregon had a lower rate of hospitalized COVID-19 patients per million people than all three neighboring states.

### January 2021–April 2021



In December, hospitalizations remained high but began to trend downward. Between November 30 and December 30, hospitalizations declined by 11%. Although COVID-19 cases increased in January 2021, hospitalizations in Oregon continued to

decline. Hospitalized patients testing positive for COVID-19 in ICU beds saw an increase in mid-January but have since declined significantly, returning to the lower levels seen in May and September 2020. A winter storm system hit Oregon in mid-February 2021, causing widespread power outages and further stress on some hospitals' operations. As of early March 2021, the count of hospitalized patients testing positive for COVID-19 had fallen below levels seen during the summer peaks. On March 1, hospitalizations were down 21% from the first summer peak on July 24 and down 77% from the late November peak, as neighboring states also appeared to be experiencing similar downward trends in

COVID-19 hospitalizations. This may have been due to the initial targeting of vaccinations towards older adults and residents of long-term care or congregate living facilities, who are among the most at-risk for severe illness from COVID-19. However, the spring of 2021 brought a surge of new cases and hospital patients in Oregon as well as Washington, with COVID-19 positive hospitalizations in Oregon rising by 17% during the month of March. It is too soon to say why this spring surge occurred, but possible reasons include the rise of virus variants of concern, as well as the reopening of many schools and businesses.

## Regional trends

Oregon’s hospitals are organized into seven Hospital Preparedness Program regions (Figure 3). Region 1 surrounds the Portland metro area, Region 2 includes the upper Willamette Valley, Region 3 is the lower Willamette Valley – plus Coos and Curry counties, Region 5 comprises Jackson and Josephine counties, Region 6 includes the central Gorge, Region 7 is central-southern Oregon, and Region 9 includes eastern Gorge and eastern Oregon bordering Idaho.<sup>4</sup>

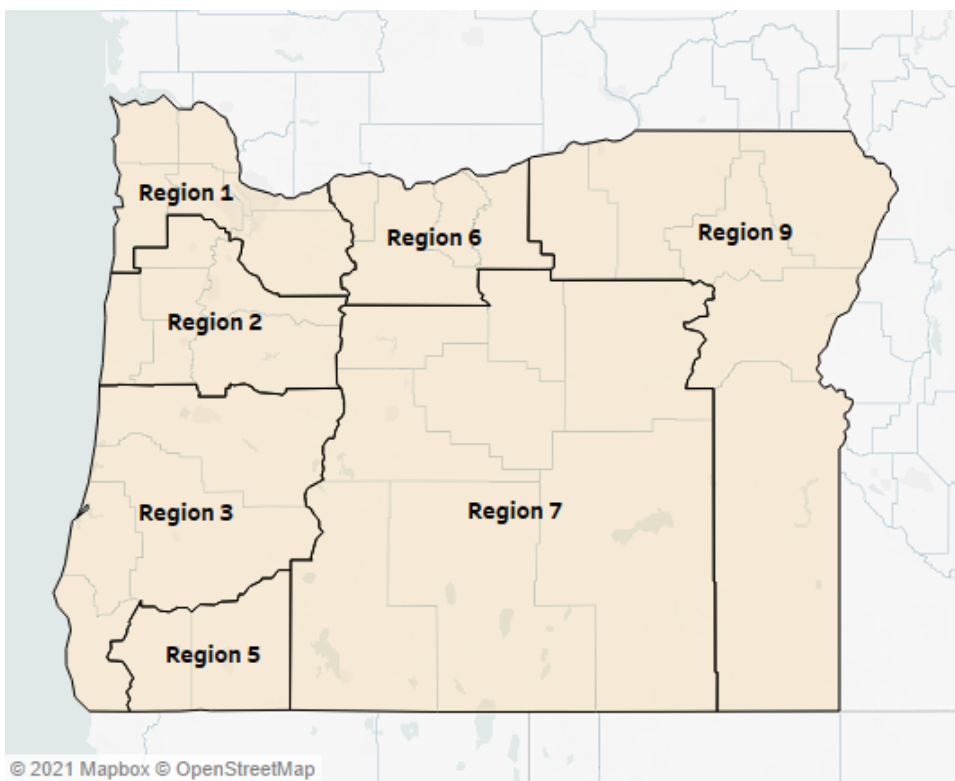


Figure 3. Oregon has seven Hospital Preparedness Program regions.

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<sup>4</sup> Regions 4 and 8 exist in southern Washington state and are not counted in Oregon tabulations. Region refers to the location of the hospital, not the residence of the patient. For a more detailed map of the regions:

<https://www.oregon.gov/oha/PH/PREPAREDNESS/PARTNERS/Documents/AllState.pdf>

The stacked area chart in Figure 4 shows the number of Oregon’s COVID-19 positive hospitalizations located within each region over time. All regions generally followed a similar trendline with peaks in the summer and fall. Predictably, regions with larger populations (particularly Region 1) generally saw more hospitalized patients with COVID-19 than less populated regions.

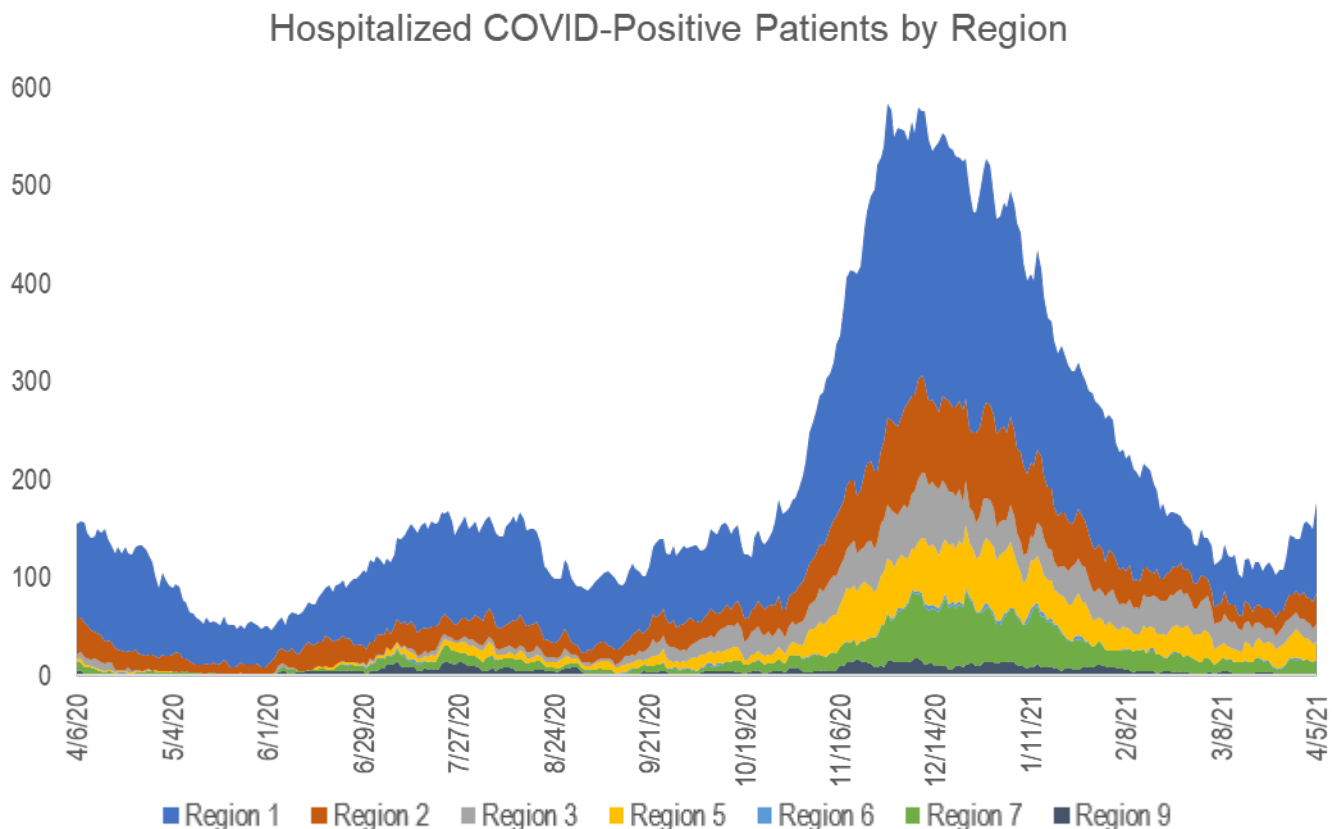


Figure 4. COVID-19 positive hospitalizations generally followed similar trends in each region of Oregon. Regions with larger populations (such as Region 1, which includes the Portland metro area) experienced greater numbers of COVID-19 hospitalizations than those with smaller populations.

To compare hospitalization trends between regions while taking into account the differences in population sizes, we calculated the number of hospitalized COVID-19 positive patients per 100,000 people, also referred to as the hospitalization rate. We report this as a seven-day moving average.

As Figure 5a shows, hospitalization rates in the most populous regions (Regions 1 and 2) were, at times, exceeded by those in less populous regions (namely, Regions 5, 7, and 9). Regions 1 and 2 had the highest hospitalization rates early in the pandemic and in late summer. In mid-June, Region 2 had its initial peak hospitalization rate about two weeks earlier than Region 1, surpassing other regions. Regions 3, 6, and 9 had among the lowest hospitalization rates compared to other regions throughout the year; the main exception was when Region 9 surpassed Region 1 with the highest hospitalization rate three different times over the course of the summer. For two weeks in late October, Region 3

surpassed other regions in hospitalization rate. By December, Regions 5 and 7 had the highest hospitalization rates, with Region 5 surpassing all other regions in early November and Region 7 surpassing all other regions about a month later. After decreasing hospitalizations in all regions in early 2021, Regions 1, 2, 5, and 7 saw rising hospitalization rates as the first year of HOSCAP COVID-19 data drew to an end. For a closer look at each individual region's hospitalization rate over time, see Figure 5b.

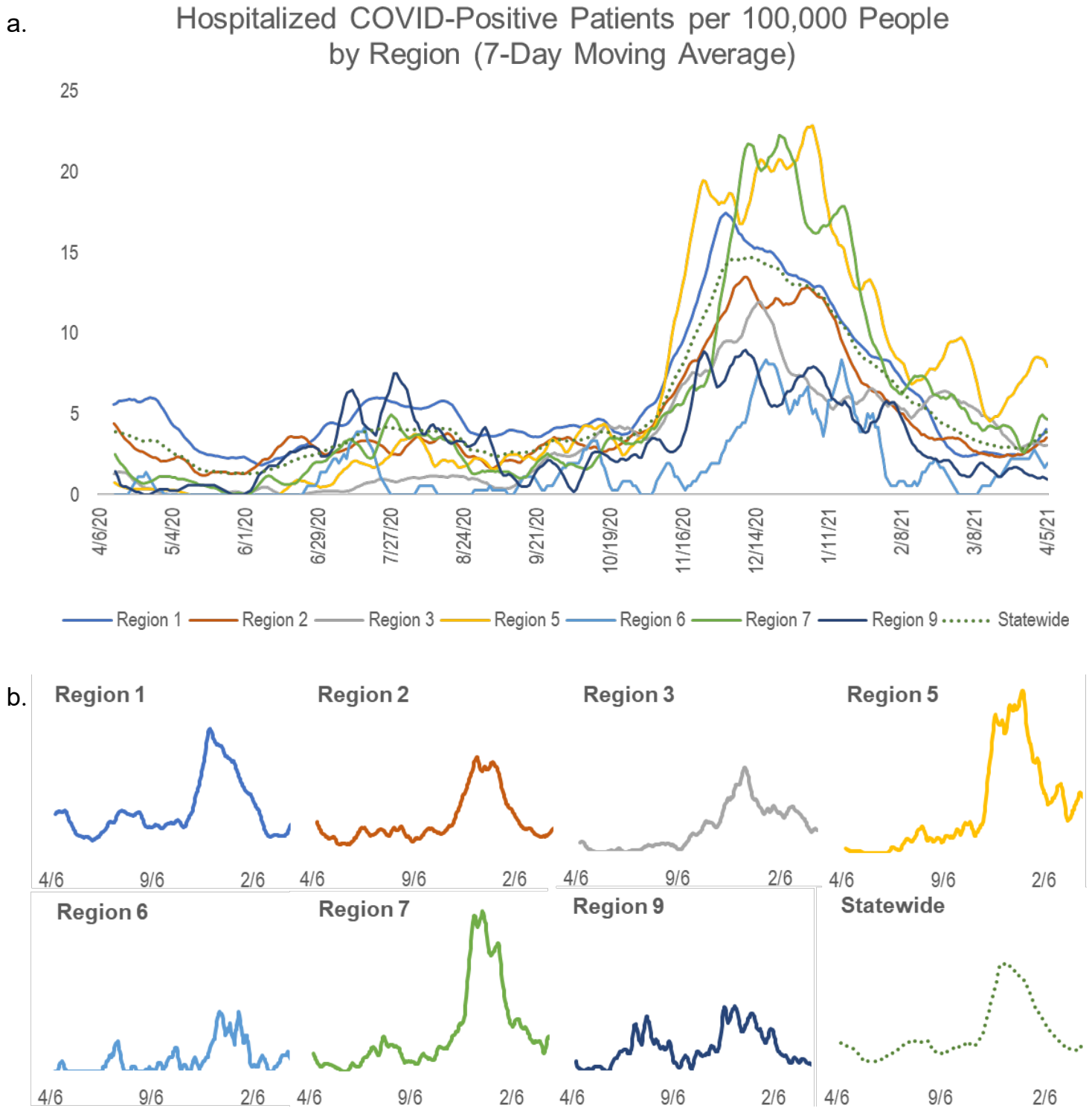


Figure 5. (a) The number of hospitalized COVID-19 positive patients per 100,000 residents is shown for each region in Oregon and statewide as a seven-day moving average, revealing hospitalization rates in less populous regions that at times exceeded those in regions with greater populations. (b) Trendlines are also displayed separately to allow for a closer look at each region. Population data used to calculate the hospitalization rate per 100,000 residents are from the most recently available 2010 decennial census data provided by the US Census Bureau.

## Suspected COVID-19 hospitalizations

While this report focuses on trends in hospitalizations of patients who have tested positive for COVID-19, each hospital also reports the number of patients with suspected COVID-19. Figure 6 shows how the number of hospitalized patients with suspected COVID-19<sup>5</sup> declined over the course of the pandemic, even as COVID-19 positive hospitalizations increased rapidly. Improvements in testing technology and access have likely led to fewer patients with suspected COVID-19, as expanded testing outside of hospitals may have enabled more patients to be diagnosed prior to admission.

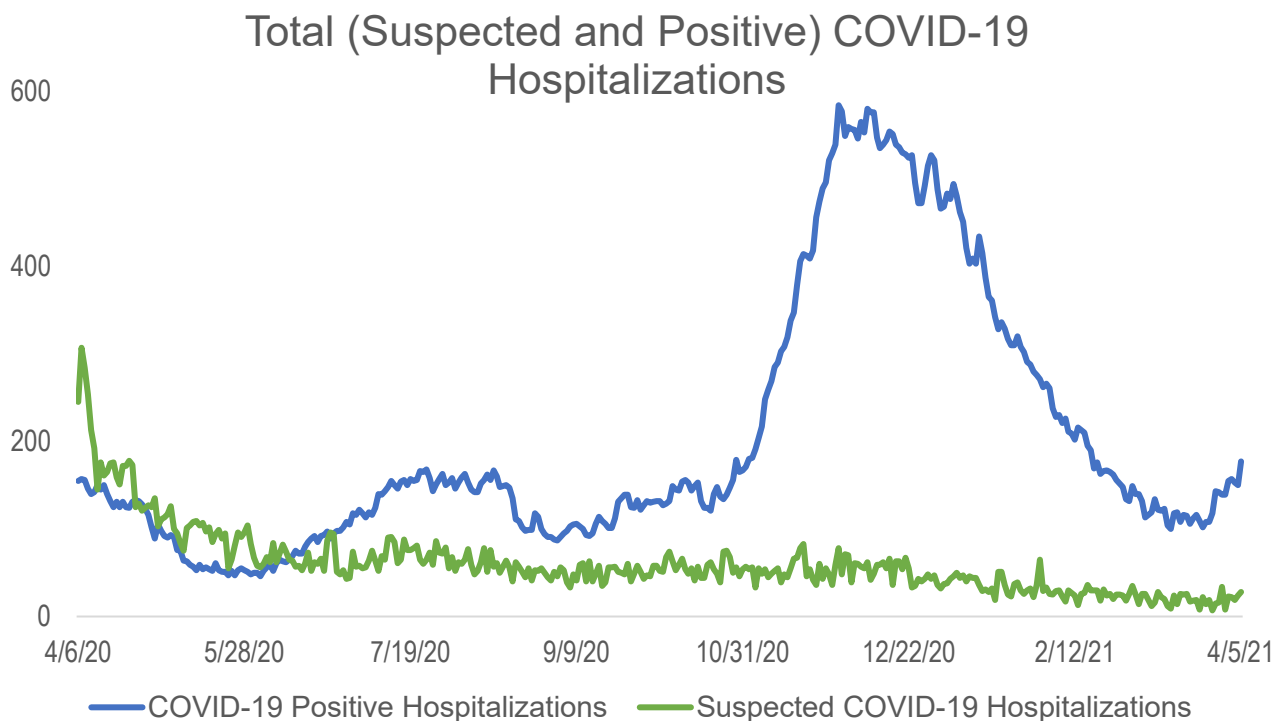


Figure 6. The number of hospitalized patients with suspected COVID-19 (green) declined in Oregon even as those testing positive for COVID-19 hospitalizations (blue) increased.

<sup>5</sup> On May 4, 2020, the definition of “suspected” was clarified to mean only those patients who were hospitalized specifically for COVID-19 or COVID-19-like illness and that it should not include patients being tested for COVID-19 that were otherwise not suspected to have COVID-19. Counts prior to this date may overestimate the number of suspected COVID-19 hospitalizations in these data.



# Hospital bed capacity trends in Oregon

Bed occupancy rates are used by hospitals to measure their operations and efficiency. In this section, we review adult ICU and non-ICU bed capacity trends in Oregon over time. A vacant hospital bed is considered available only if the necessary healthcare staff and equipment are also available to care for a patient who might use the bed. OHA uses data from its hospital capacity web system to calculate how many of ICU and non-ICU beds are being used.<sup>6</sup>

## Statewide trends

Like the rest of the country, Oregon’s hospitals experienced stresses on their capacity throughout the year, which worsened as COVID-19 cases and hospitalizations spiked during the fall. Some hospitals faced challenges, at times, in obtaining sufficient supplies, equipment, and physical beds for the influx of patients. By fall 2020, however, maintaining sufficient levels of staff to provide care to patients had become a greater challenge.<sup>7</sup> As hospitals became increasingly full due to rising demands on critical care capacity for COVID-19 patients, many facilities postponed or canceled elective surgeries and other non-urgent procedures to alleviate shortages in staff, hospital beds, or other equipment.

In late 2020, during the fall wave, the number of hospitals with fully occupied non-ICU beds reached a peak, with one-quarter of Oregon’s hospitals reporting no available adult non-ICU beds on December 2. ICU occupancy reached its peak four weeks later (on December 30) when more than one-third of Oregon’s ICU-equipped facilities reported having no available adult ICU beds. Figure 7 displays the number of facilities reporting full occupancy of their adult ICU or non-ICU beds over time, as a seven-day moving average.

During this time, concerns grew over how hospitals would handle the additional influx of influenza (or “flu”) patients. Seasonal influenza typically creates significant demands on Oregon’s hospital capacity during the winter months. However, many of the measures taken to prevent the spread of COVID-19 also succeeded in preventing the spread of influenza for the 2020–2021 flu season.

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<sup>6</sup> Non-ICU beds are defined as Medical/Surgical and Other bed counts, as reported in HOSCAP.

<sup>7</sup> Ross E and Templeton A. Gov. Brown pleads with Oregonians to stay home as COVID-19 strains hospital capacity. *Oregon Public Broadcasting*. 2020 Nov 10. Available from: <https://www.opb.org/article/2020/11/10/gov-brown-pleads-with-oregonians-to-stay-home-as-covid-19-strains-hospital-capacity/>

Templeton A. The latest COVID-19 surge is here, and many Oregon hospitals are full. *Oregon Public Broadcasting*. 2020 Dec 14. Available from: <https://www.opb.org/article/2020/12/14/coronavirus-covid-19-surge-oregon-hospital-capacity/>



### Hospitals at Maximum non-ICU or ICU Occupancy (7-Day Moving Average)

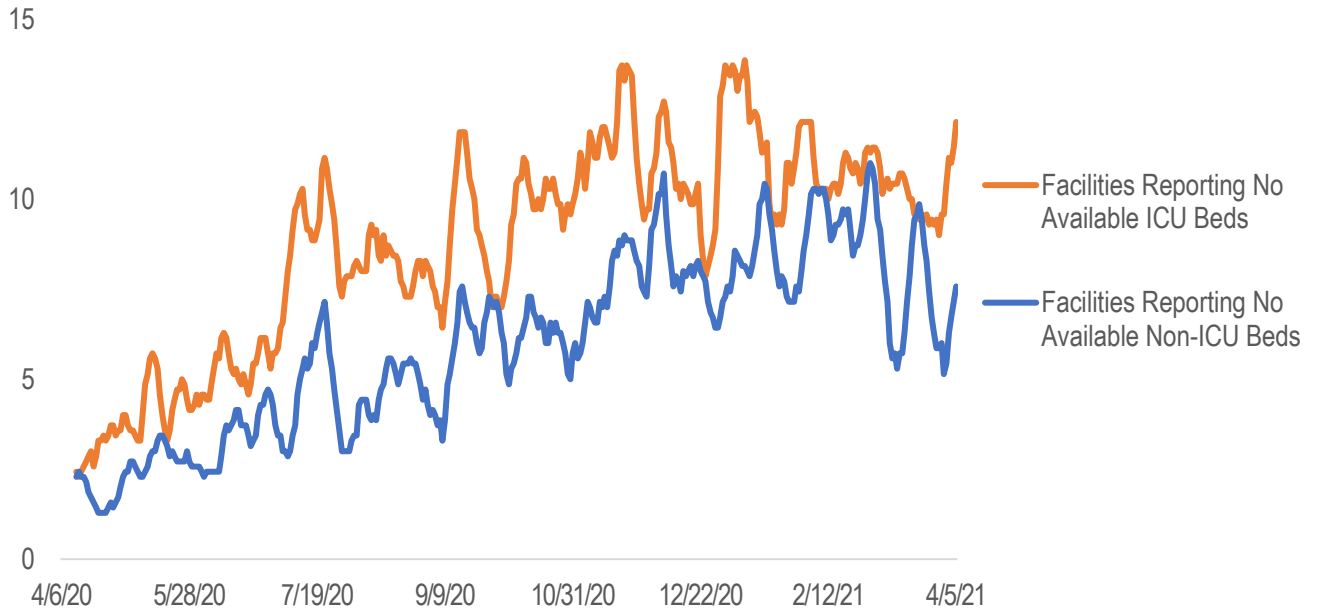


Figure 7. As the year progressed, increasing numbers of Oregon’s hospitals reported having zero available adult ICU (orange) or non-ICU (blue) beds.

Most hospitals reached maximum occupancy at some point. Figure 8 summarizes the peak percentage of hospital beds occupied at each facility. Of Oregon’s 61 hospitals and hospital systems, 47 reached a point where they had no available adult non-ICU beds, and all but five reported occupancy above 90% at some time during the year. All but two of their 52 ICUs reached 100% occupancy of their adult ICU beds.

### Peak Occupancy of Adult non-ICU and ICU Beds by Facility

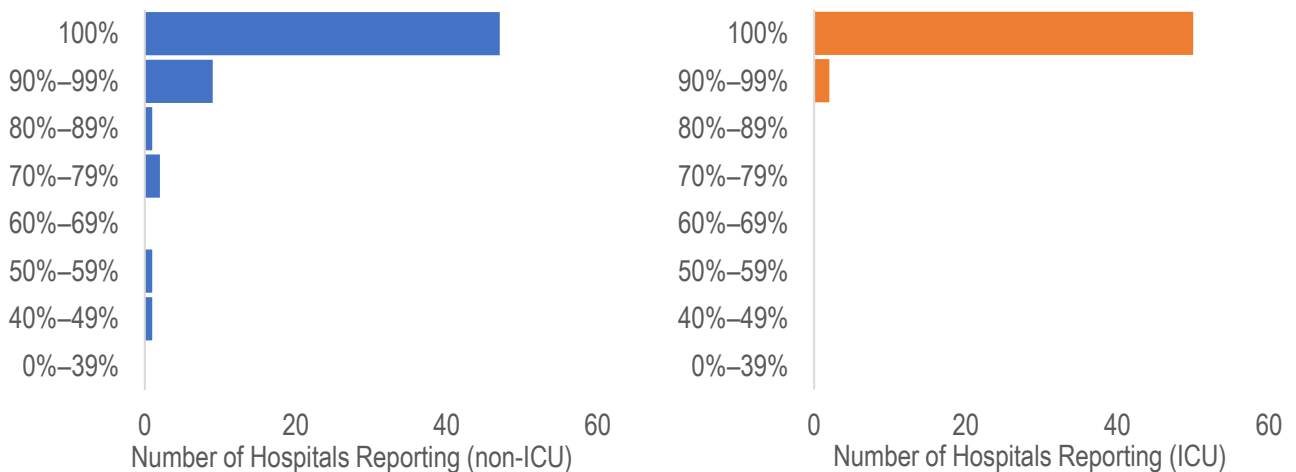


Figure 8. The highest percentage of hospital beds occupied at each facility that treated COVID-19 patients, reported at any time during the first year of HOSCAP COVID-19 data, is shown for non-ICU (left) and ICU (right) beds. More than three-quarters of Oregon’s hospitals reached a point where they had no available adult non-ICU beds, and all but two of their ICUs experienced full occupancy of adult ICU beds.

## Regional trends

As with trends in hospitalizations, each region’s trends in hospital capacity generally followed similar patterns to those seen statewide. Oregon’s hospitals became increasingly full as COVID-19 positive hospitalizations peaked in the summer, and even more so with the larger fall peak. However, variations in capacity constraints existed between regions throughout the year, with the greatest constraints seen in western Oregon, followed by central-southern Oregon (Figure 9).

### Occupancy of Adult Hospital Beds

a. May 25, 2020

b. August 19, 2020

c. January 6, 2021

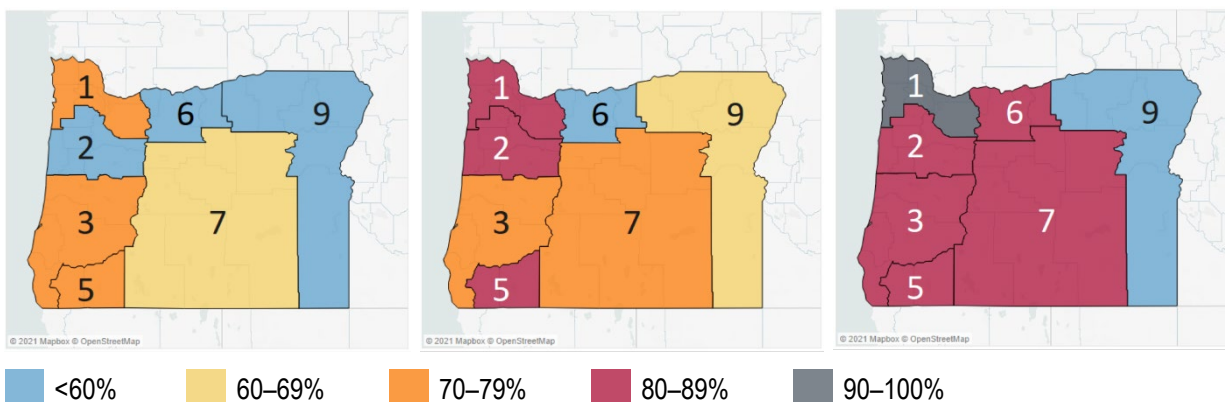


Figure 9. The percentage of adult hospital beds (both ICU and non-ICU combined) that were occupied in each region of Oregon, when statewide occupancy reached (a) the lowest recorded level, (b) a summer peak, and (c) the highest level recorded during the first year of HOSCAP COVID-19 data. Facilities statewide experienced constraints at various points throughout the year, with the greatest overall capacity demands primarily in western and central-southern Oregon.

May 25, 2020 marked the lowest percentage of adult ICU and non-ICU hospital beds occupied statewide, at 68% (after occupied beds were able to be calculated, beginning on May 11); all three regions reporting occupancy of 70% or greater on this date were in western Oregon. On August 19, statewide adult hospital bed occupancy peaked at 86%, around the time that Oregon’s COVID-19 positive hospitalizations also reached summer peaks. While all regions reported greater occupancy on this date than in May, western Oregon continued to experience the highest occupancy rates. The highest statewide occupancy reported during the first year of the pandemic occurred on January 6, 2021, when 88% of Oregon’s adult ICU and non-ICU hospital beds were occupied. All but Region 9 reported at least 80% occupancy on this day, with Region 1 reaching 92%.

Some regions faced additional challenges due to wildfires and severe weather. Wildfires occurred in parts of every region in early September 2020 but particularly impacted Regions 2 and 5. Some hospitals needed to relocate patients, and hospital operations may have been further impacted as some staff lived in

evacuation zones. In mid-February 2021, a winter storm system caused power outages and hazardous road conditions that affected thousands of Oregonians, but especially those in Regions 1, 2, 7, and 9.

## HOSCAP COVID-19 data in context

### Other hospitalization data sources

While HOSCAP data can provide valuable information about Oregon’s hospitals and the demands on their capacity, HOSCAP is one of many tools OHA uses to monitor the state of the pandemic and inform decision making. For example, the COVID-19-Associated Hospitalization Surveillance Network (COVID-NET) is a national surveillance network that collects medical information on hospitalizations associated with COVID-19 from hospitals across 14 states, including Oregon. Another tool is the Oregon Pandemic Emergency Response Application (Opera), which is used to collect information through COVID-19 case investigations. Opera data include information about Oregonians with COVID-19, including when any symptoms began and whether the patient with COVID-19 was hospitalized. Using information from Opera alongside HOSCAP data can provide richer context for Oregon’s pandemic trends.

### Lag between peaks in cases and hospitalizations

One clear trend emerged early in the pandemic: A rise in COVID-19 cases is generally followed by a rise in hospitalizations. Better understanding the relative timing of these trends could help to inform hospitals’ decision making and preparedness efforts in the event of a future case surge. For COVID-19 patients who require ICU treatment, the CDC has reported a median lag of 9.5–12 days between the onset of illness and admission to an ICU, based on studies of COVID-19 patients in Wuhan, China. Comparing case data from Opera to hospitalization data from HOSCAP allows us to investigate the relationship between COVID-19 cases and hospitalization in Oregon.

Figure 10 displays trendlines for new COVID-19 cases and COVID-19 positive hospitalizations, each shown as a seven-day moving average to reveal clearly defined peaks. In the summer, the initial peak in hospitalizations occurred 14 days after new cases. While hospitalizations experienced a second summer peak, there was no clear corresponding second summer peak in cases. The initial fall peak in COVID-19 positive hospitalizations also lagged 14 days behind new cases. Each indicator experienced a second, slightly higher peak in the fall, 8 days apart.

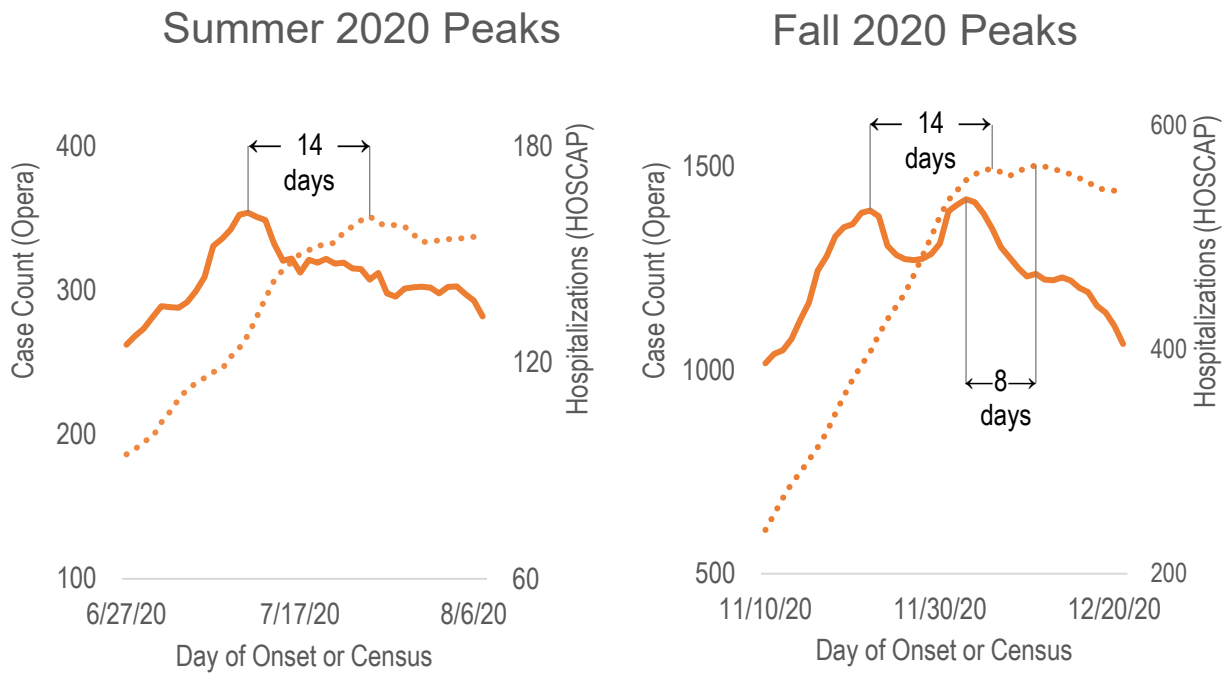
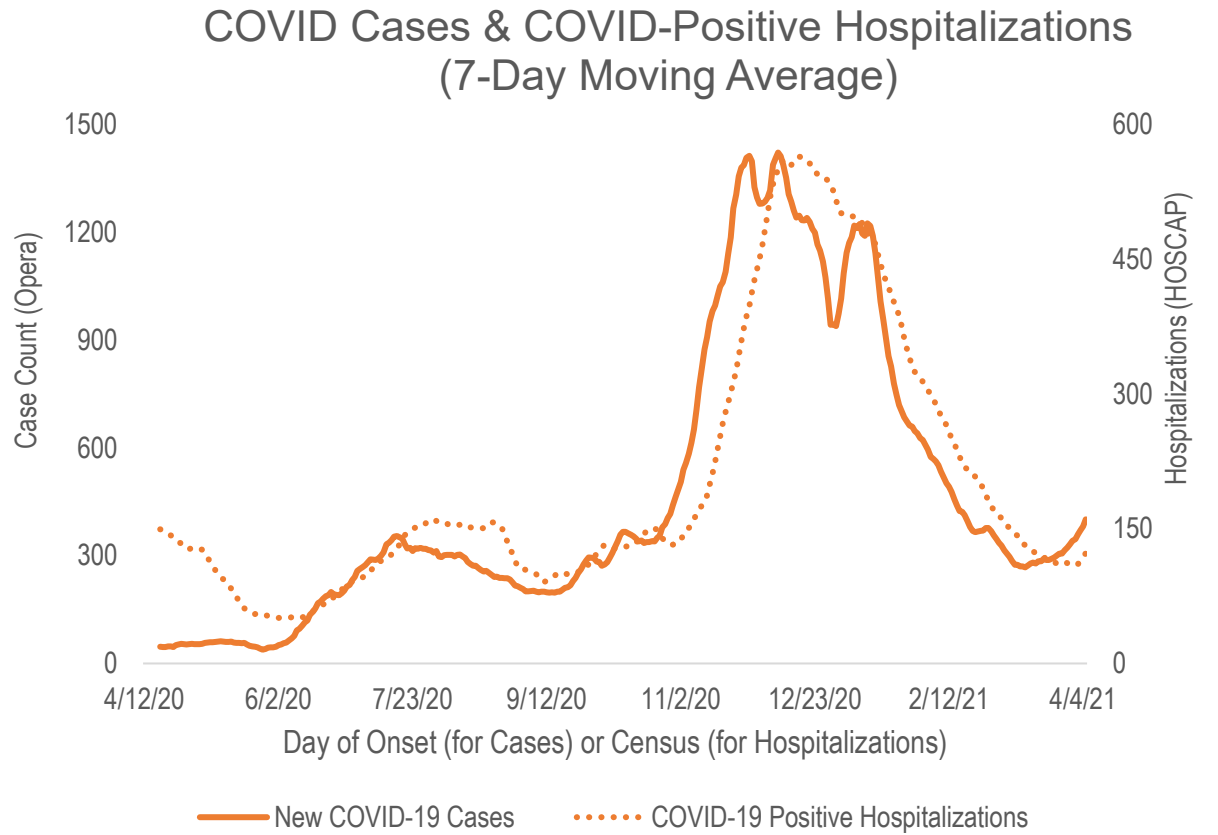


Figure 10. When new COVID-19 cases (solid line) rose in Oregon, a rise in COVID-19 positive hospitalizations (dotted line) generally followed. In the summer, hospitalizations initially peaked 14 days after new cases. The initial fall peak in COVID-19 positive hospitalizations also lagged 14 days behind new cases peaking; each indicator experienced a second, slightly higher peak in the fall, 8 days apart.

## Conclusion

During the first year of HOSCAP COVID-19 data, Oregon’s hospitals experienced waves of COVID-19 positive hospitalizations that culminated in two peaks during the summer, as well as one much larger peak during the fall (reaching a maximum of 584 hospitalized COVID-19 positive patients). Hospitals faced capacity constraints, with three-quarters of Oregon’s hospitals reaching a point where 100% of their non-ICU beds were occupied, and all but two of Oregon’s 52 ICUs reporting no available adult ICU beds at some point during the year. As the second year of the pandemic begins, OHA maintains ongoing conversations with hospitals and other stakeholders to monitor COVID-19 hospitalization and bed occupancy trends. While there is still much to learn about COVID-19 and the ever-changing nature of this ongoing pandemic, we now have a wealth of data and knowledge around COVID-19 hospitalizations as compared to where we were one year ago. Analyzing these data can reveal surprising trends and provide insight into how best to respond to this and future pandemics.

# Appendix A

## Key Dates Included in Figure 1: Timeline of COVID-19 Positive Hospitalizations

Policy Interventions		
May 1, 2020	<a href="#">Newsroom Link</a>	Plans for reopening announced. Also, expansion of testing/contact tracing; non-urgent medical procedures resumed; face coverings encouraged.
May 15, 2020	<a href="#">Newsroom Link</a>	Counties began to reopen (Announced on May 14)
June 19, 2020	<a href="#">Newsroom Link</a>	All counties are reopened (i.e., Multnomah County is approved to join the remaining Oregon counties in reopening plans, effective June 19)
July 1, 2020	<a href="#">Newsroom Link</a>	Face covering required statewide in indoor public spaces. Face covering first required on June 24 for 7 most populous counties but then extended statewide; also, new plan for testing at long-term care facilities.
July 15, 2020	<a href="#">Newsroom Link</a>	Face coverings required outdoors; most indoor gatherings of >10 people not allowed (Announced on July 13)
July 23, 2020	<a href="#">Newsroom Link</a>	Face covering requirements expanded. Also, capacity limit of 100 for restaurants, gyms, venues; bars & restaurants close at 10pm; OHA grants to >170 CBOs.
Nov 11, 2020	<a href="#">Newsroom Link</a>	Pause in social activities in counties with highest community in effect from November 11-25 (Announced November 6)
Nov 18, 2020	<a href="#">Newsroom Link</a>	Two-week freeze to limit gatherings statewide (Announced November 13)
Dec 14, 2020	<a href="#">Newsroom Link</a>	First doses of Pfizer-BioNTech vaccine arrive at Oregon hospitals
Hospitalization Peaks		
July 24, 2020		Peak hospitalizations to date
Nov 30, 2020		Peak hospitalizations to date

**Notes:** (a) Items in gray were omitted from Figure 1 for space considerations. (b) Policy interventions and other dates on this timeline are to give context to the data and should not imply causation. Relationships between these dates and hospitalizations require further research. (c) Holidays chosen reflect the most popular travel times according to the Transportation Security Administration (TSA).

**Document accessibility:** For individuals with disabilities or individuals who speak a language other than English, OHA can provide information in alternate formats such as translations, large print, or braille. Contact the Health Information Center at 1-971-673-2411, 711 TTY or [COVID19.LanguageAccess@dhsoha.state.or.us](mailto:COVID19.LanguageAccess@dhsoha.state.or.us)