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# COVID-19 Variant Testing and Ongoing Tracing Efforts in Oregon

*House Committee on Health Care,  
Subcommittee on COVID-19*

February 24, 2021

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# Topics

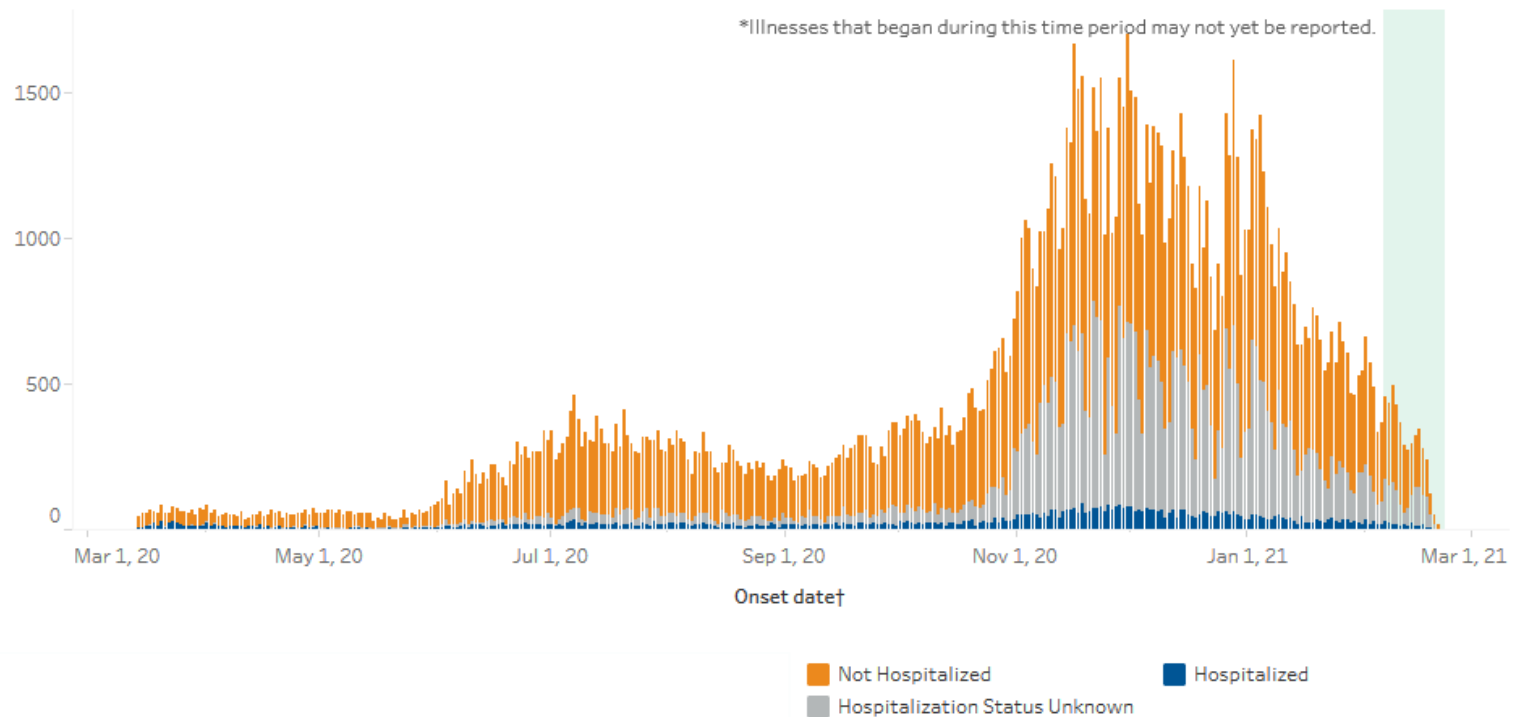
- Risk level framework overview
- Framework impact on efforts to allow businesses to reliably predict reopening status
- Case investigation, contact tracing efforts and local containment strategies
- Advanced molecular detection: COVID-19 genetic variant testing and genotyping
- Wastewater surveillance for COVID-19

# COVID-19 Cases in Oregon

## Oregon's Epi Curve: COVID-19 cases

This chart shows the number of Oregonians who have been identified as COVID-19 cases and whether they were ever hospitalized for their illness.‡

Total Cases	Hospitalized	Not Hospitalized	Hospitalization Status Unknown
153,134	8,457	102,556	42,121



[https://public.tableau.com/profile/oregon.health.authority.covid.19#!/vizhome/OregonHealthAuthorityCOVID-19DataDashboard/COVID-19EPICases?display\\_count=y&:toolbar=n&:origin=viz\\_share\\_link&:showShareOptions=false](https://public.tableau.com/profile/oregon.health.authority.covid.19#!/vizhome/OregonHealthAuthorityCOVID-19DataDashboard/COVID-19EPICases?display_count=y&:toolbar=n&:origin=viz_share_link&:showShareOptions=false)  
Accessed 02.22.2021

# County Risk Level Metrics

Disease Activity	Lower Risk	Moderate Risk	High Risk	Extreme Risk
Rate of COVID-19 cases per 100,000 over 14 days (counties with 30,000+ people)	< 50.0	50.0 to < 100.0	100.0 to < 200.0	$\geq 200.0$
Number of COVID-19 cases over 14 days (counties with <30,000 people)	< 30	30 to < 45	45 to 59	$\geq 60$
Percentage test positivity over previous 14 days (counties with >15,000 people)	< 5.0%	5.0% to < 8.0%	8.0% to < 10.0%	$\geq 10.0\%$

# Risk Level Timeline

## WEEK 1 Warning week



Data for risk level determination are pulled\*

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

FRIDAY

SATURDAY

## WEEK 2 Movement week



Data for risk level determination are pulled\*



Press release about counties that are moving risk levels (based on change in data)



Counties are formally moved to new risk levels

SUNDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

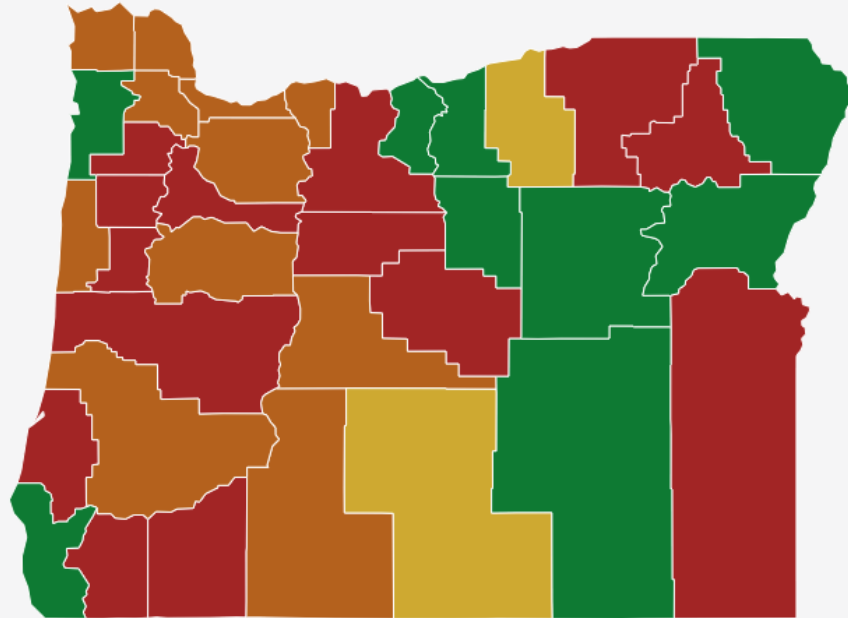
FRIDAY

SATURDAY

\* Data is from the prior two week period through Saturday

# COVID-19 Risk Levels by County

Hover over a county to see more information



## Statewide Metrics

01/31/2021 - 02/13/2021

181.3 cases per 100k residents

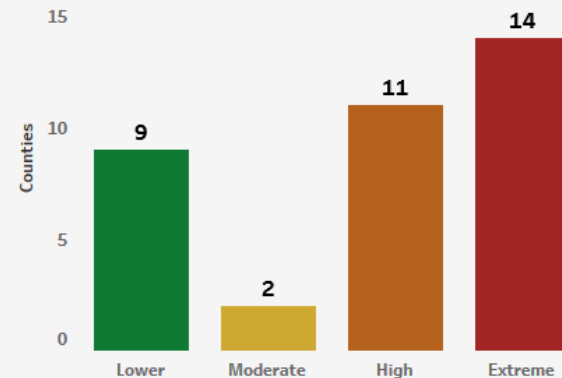
3.8% test positivity

## COVID-19 Risk Levels

- Lower
- Moderate
- High
- Extreme

Hover over one of the bars below to highlight the counties in that risk level

## Oregon Counties by COVID-19 Risk Level



Note: From January 23rd through February 6th, there were 20 adults in custody newly reported to have COVID-19 in Lake County and 8 in Harney County. As these individuals do not interact with members of the broader community, the numbers are being subtracted from both county's total cases of COVID-19 for determination of county risk level. Based on these updated numbers of cases Lake County will move from Lower Risk to Moderate Risk and Harney County will stay at Lower Risk on February 12th.

# Ratio of Age-adjusted Rates of COVID-19 by Race

Race	Cases	Hospitalizations	Deaths
> 1 race	0.7	1.4	2.3
American Indian/Alaska Native	2.6	4.0	3.2
Asian	1.2	1.7	1.3
Black	2.2	3.4	2.8
Pacific Islander	4.4	14.2	15.5
White	1.0	1.0	1.0

1. During the case investigation, people are asked to self-report their race, ethnicity, tribal affiliation, country of origin, or ancestry.
2. Population data were compiled from the 2019 Annual Oregon Population Report, which is produced by the Population Research Center, Portland State University
3. Persons for which race information was not available were not included in these estimates. The number of persons with race data unavailable can be found in Table 3.

# Ratio of Age-adjusted Rates of COVID-19 by Ethnicity

<b>Ethnicity</b>	<b>Cases</b>	<b>Hospitalizations</b>	<b>Deaths</b>
Hispanic	3.5	4.3	3.2
Non-Hispanic	1.0	1.0	1.0

1. During the case investigation, people are asked to self-report their race, ethnicity, tribal affiliation, country of origin, or ancestry.
2. Population data were compiled from the 2019 Annual Oregon Population Report, which is produced by the Population Research Center, Portland State University
3. Persons for which ethnicity information was not available were not included in these estimates. The number of persons with ethnicity data unavailable can be found in Table 4.



# COVID-19 and People with ID/DD

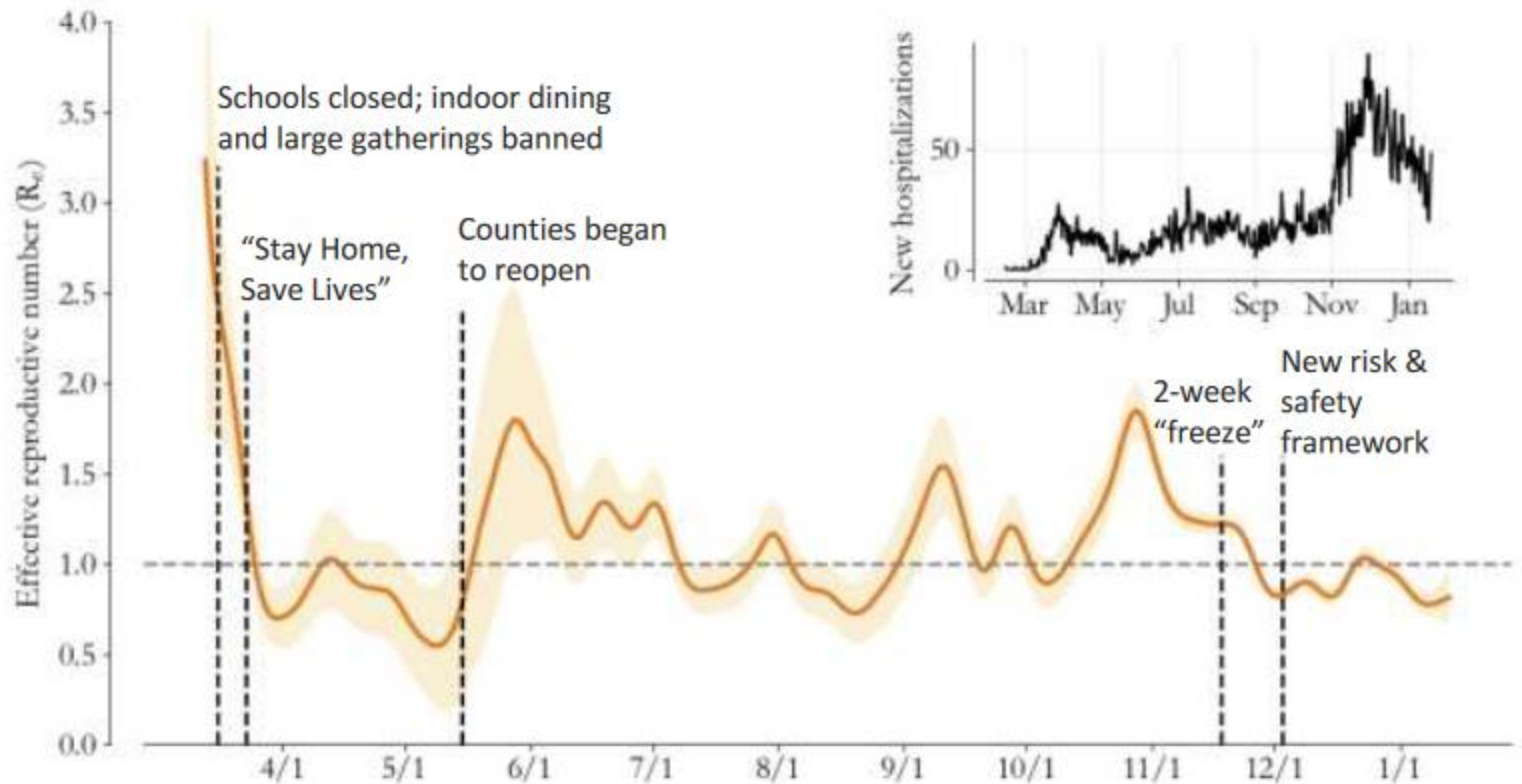
- 637 cases among those individuals with ID/DD in congregate settings and in family or individual homes
- 19 deaths

As of January 4, OHA is aware of 637 people with intellectual or developmental disabilities who have had COVID-19 to date. This includes individuals who live in congregate settings and in family or individual homes. To date, there are 19 deaths associated with people with intellectual or developmental disabilities. This number is from conducting a match between the ODHS Office of Developmental Disabilities Services client list and the Oregon COVID-19 case database. OHA will update this number on a quarterly basis.

Additional information about the ODDS program and COVID-19 can be found here:

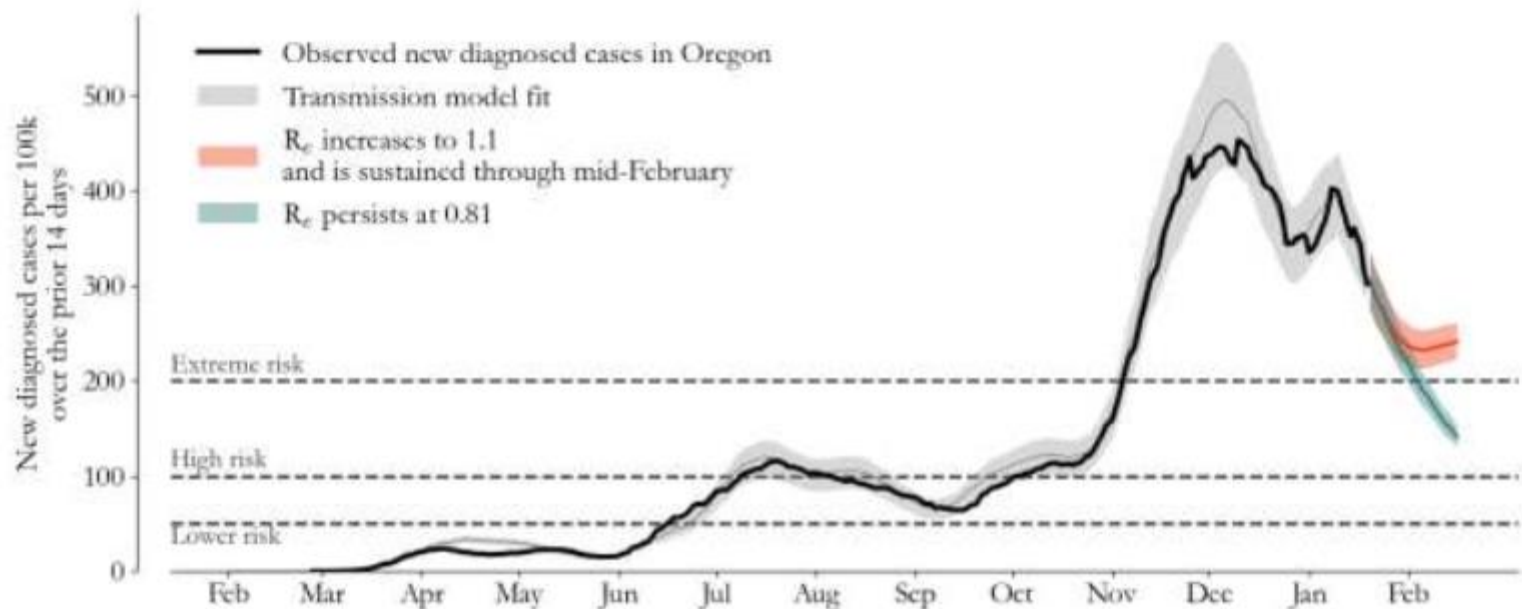
<https://www.oregon.gov/dhs/SENIORS-DISABILITIES/DD/ODDS%20Resource%20Library/ODDS-Residential-COVID-19-Report.pdf>

# Re Estimates over Time with 95% Confidence Intervals



<https://www.oregon.gov/oha/covid19/Documents/DataReports/Epidemic-Trends-and-Projections.pdf>  
Accessed 02.19.2021

# Observed Diagnosed Cases with Projections



## **COVID-19 genetic variant testing and genotyping**

Acknowledgment: Melissa Sutton, MD, MPH, Medical Director  
Respiratory Viral Pathogens

# **ADVANCED MOLECULAR DETECTION**

# Goals of SARS-CoV-2 sequencing

- Track variant emergence over time in order to identify emerging variants of concern which may:
  - Spread more easily
  - Cause more severe illness
  - Evade traditional COVID-19 testing
  - Evade COVID-19 therapeutics
  - Evade COVID-19 vaccination

# Contributing to national surveillance

- In November, 2020, the CDC launched the National SARS-CoV-2 Strain Surveillance (NS3) program to sequence clinical specimens from across the United States
- OSPHL has been participating in NS3 since its inception
  - Currently sending 21 specimens every other week
  - This number will increase over time as CDC increases their sequencing capacity

# Oregon surveillance

- Oregon will sequence both individual and community samples
  - **Individual samples:** will be collected from several sources for testing at OSPHL (anticipated launch March 2021)
    - Hospitalized patients in tri-county hospitals participating in CDC COVID-19 hospitalization surveillance (COVID-NET)
    - Individuals meeting sequencing request criteria for case, cluster and outbreak investigations
      - International travel, vaccine breakthrough, suspected super-spreader events, etc.
  - **Individual samples:** will also be sequenced by OHSU, OSU, Providence, UO and others with sequencing capacity
  - **Community samples:** will be sequenced by OSU from wastewater surveillance
    - Does not give the sample level of genetic detail, but does allow for tracking of high-frequency variants over time
    - Wastewater surveillance will be expanded with a goal of at least one site in every county

# Data visualization

- OHA has already integrated counts of variants of concern into existing dashboard
- OHA will integrate flags of variants of concern into existing wastewater dashboard
- OHA is working with OSU to create an Oregon-specific phylodynamics resource within GISAID
  - Most sequencing occurring in Oregon is already being submitted to this open-source platform
  - OHA will encourage all institutions performing sequencing to submit data here
  - OSU will work with other partners to make the platform more user-friendly so that data can be accessed by all in real time



# Special studies

- OHA will partner with OSU to sequence a bank of historical SARS-CoV-2 samples and learn about how the virus has evolved over time in Oregon
- OHA will partner with OSU to model sampling strategies for sequencing surveillance
  - i.e. how many samples need to be sequenced in order to accurately track variants over time
- CDC has indicated that they are developing a number of protocols to conduct special studies of sequencing in hospitalized patients and vaccine breakthrough cases
- Oregon will participate in these multi-site special studies

Acknowledgment: Melissa Sutton, MD, MPH, Medical Director  
Respiratory Viral Pathogens

# **WASTEWATER SURVEILLANCE**

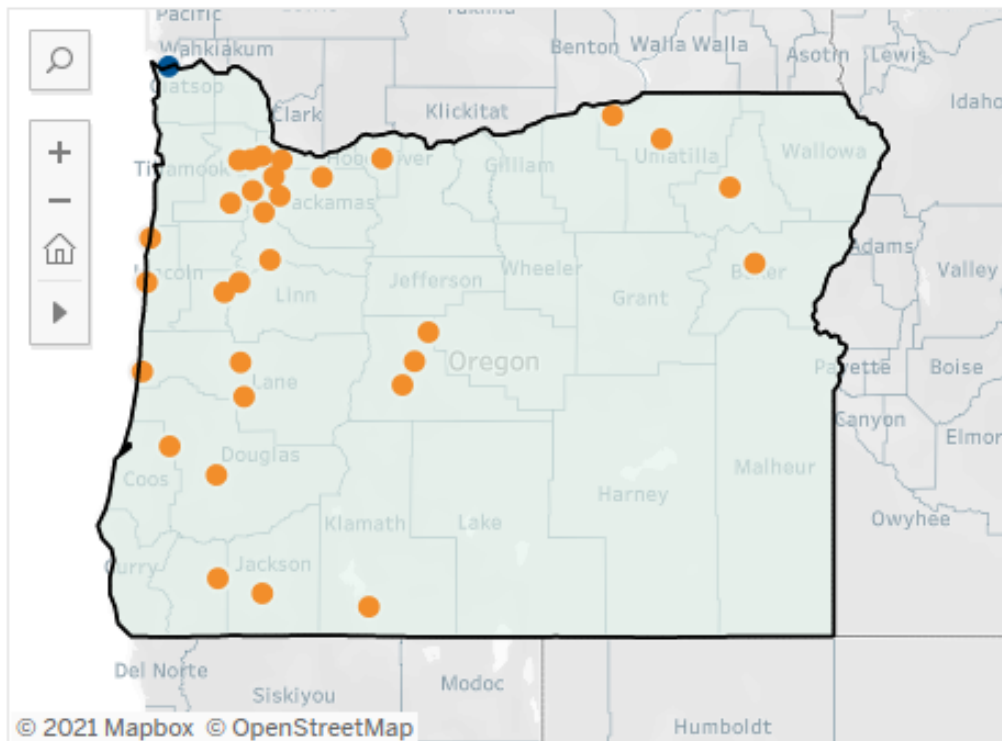
# SARS-CoV-2 wastewater surveillance

- Launched last summer in partnership with Oregon State University
- 39 communities in Oregon currently participating
- Goal: to monitor SARS-CoV-2 activity at the population level
  - Will become particularly important in low-incidence areas where testing adequate individuals to detect the virus in a population is unrealistic
  - Allows monitoring of high-frequency variants over time through sequencing
- Will be expanding to every county in Oregon and into Portland metropolitan area in order to better track variants over time
- Will be enhancing data visualization to allow trending of virus concentrations over time
- Funded by the CDC through July 2023

# SARS-CoV-2 wastewater surveillance

Week of:

< January 24, 2021 >



Week of monitoring

Site 1/31/2021

Baker City	<b>Detected</b>
Corvallis	<b>Detected</b>
Durham	<b>Detected</b>
Eugene	<b>Detected</b>
Florence	<b>Detected</b>
Forest Grove	<b>Detected</b>
Grants Pass	
Hillsboro	<b>Detected</b>
McMinnville	<b>Detected</b>
Newberg	
Newport	<b>Detected</b>
North Bend	<b>Detected</b>
Portland	<b>Detected</b>
Redmond	<b>Detected</b>
Rockcreek	<b>Detected</b>
Sheridan	<b>Not Detected</b>

<https://public.tableau.com/profile/oregon.health.authority.covid.19#!/vizhome/OregonsSARS-CoV-2WastewaterMonitoring/WastewaterDashboard>  
 Accessed 02.23.2021