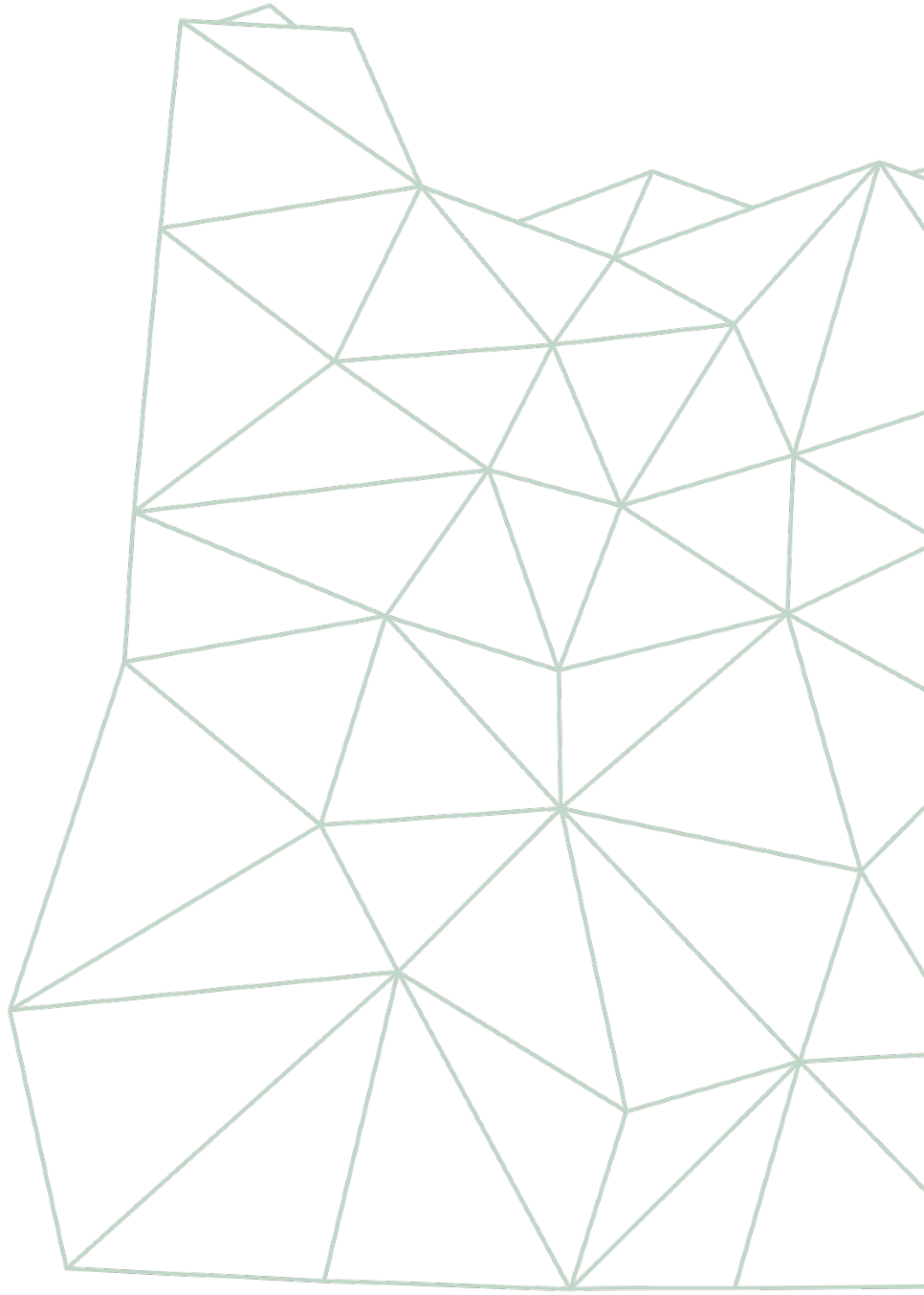
COVID-19 Response ECHO for Oregon Clinicians

Session 4 February 18, 2021



Introduction to COVID-19 ECHO

- Everyone is muted
- Use the Chat Box to submit questions/comments/share links & resources
    - We will strive to select questions directly relevant to the presentations for asking during the session, but will not be able to address all questions. Questions not directly answered will be collated and used in the planning of future sessions
- All sessions will be recorded and available for viewing after the session within 24 hours
- Resources and transcript of today's chat box, PowerPoint slides, and video recording will be posted on our ECHO Network website at www.connect.oregonechonetwork.org (where you registered)
- PLEASE fill out the post-session survey that you'll receive by email today

COVID-19 ECHO Faculty

Facilitator: Eric Wiser, M.D. (OHSU Gabriel Park)

Supporting Faculty:

Holly Tse, M.D. (Legacy Health, Medical Director of Medical Home)

Jay Richards, D.O. (Aviva Health, Chief Medical Officer)

Shelby Lee Freed, M.S.N, F.N.P.-B.C. (OHSU Richmond Clinic)

Tom Jeanne, M.D., MPH (OHA, Deputy State Health Officer and Deputy State Epidemiologist)

Program Support

Tuesday Graham, B.S. (OEN Project Manager)
Miriam Wolf, B.S. (OEN Program Coordinator)

Today's Agenda

- OHA Update
- Brief Q & A for OHA
- Specialty Presentation: Xuan Qin, PhD, Professor of Pathology, School of Medicine, Director of Clinical Microbiology OHSU, *"COVID-19 Variants"*
- Brief Q & A for Xuan Qin

Oregon Health Authority

COVID-19 Update

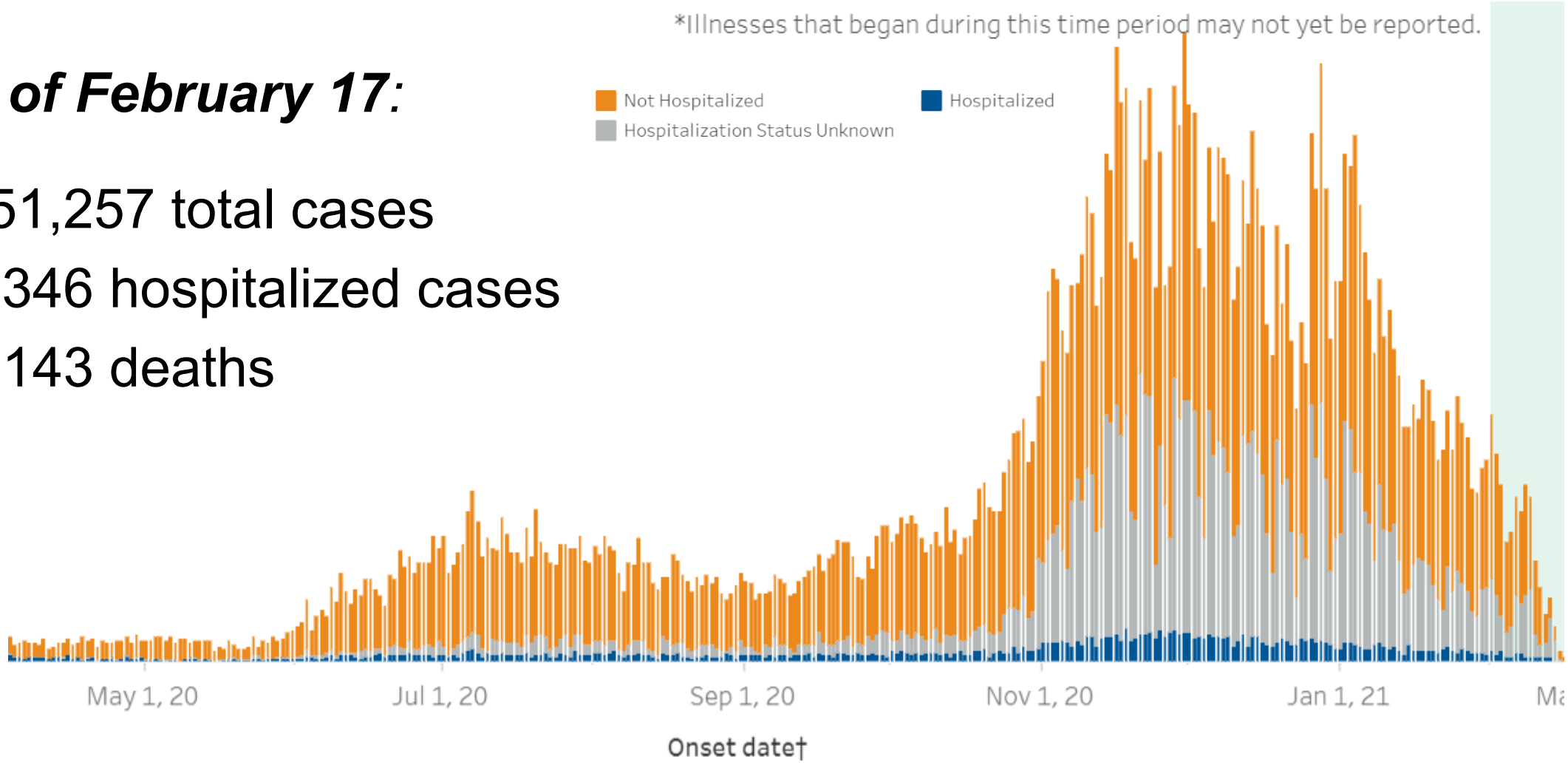
February 18, 2021

Tom Jeanne, MD, MPH

COVID-19 in Oregon

As of February 17:

- 151,257 total cases
- 8,346 hospitalized cases
- 2,143 deaths



Weekly COVID-19 Report

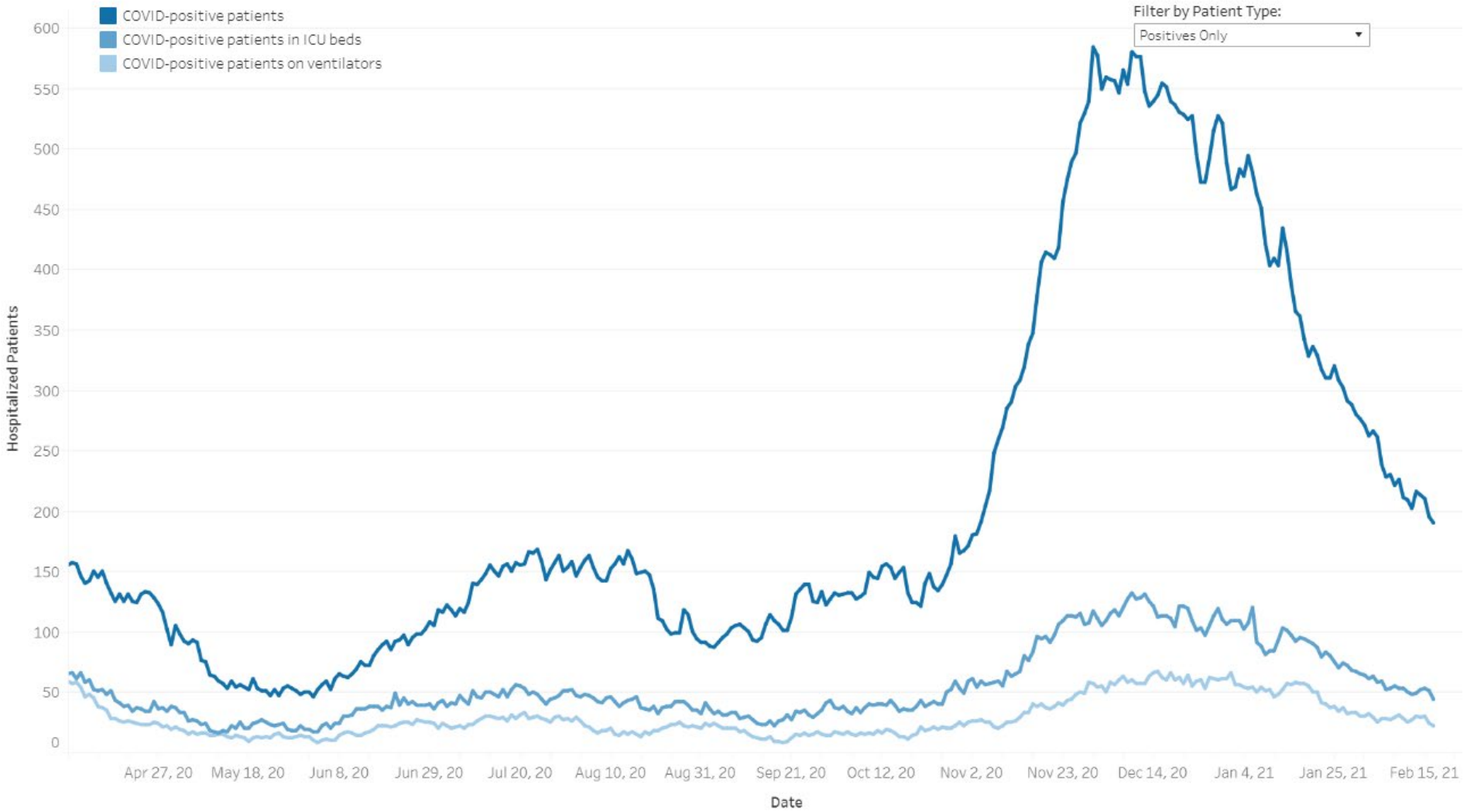
*For the week of **February 8 – 14***

- 3,453 new cases were recorded, a 15% decrease from prior week
- 272 new hospitalizations, an 8% increase from two weeks ago
- 114 Oregonians died in association with COVID-19, a 50% increase from two weeks ago

*From **February 7 – 13***

- 102,112 tests for COVID-19
- 3.4% of test results were positive last week

Declining surge in hospital COVID-19 census



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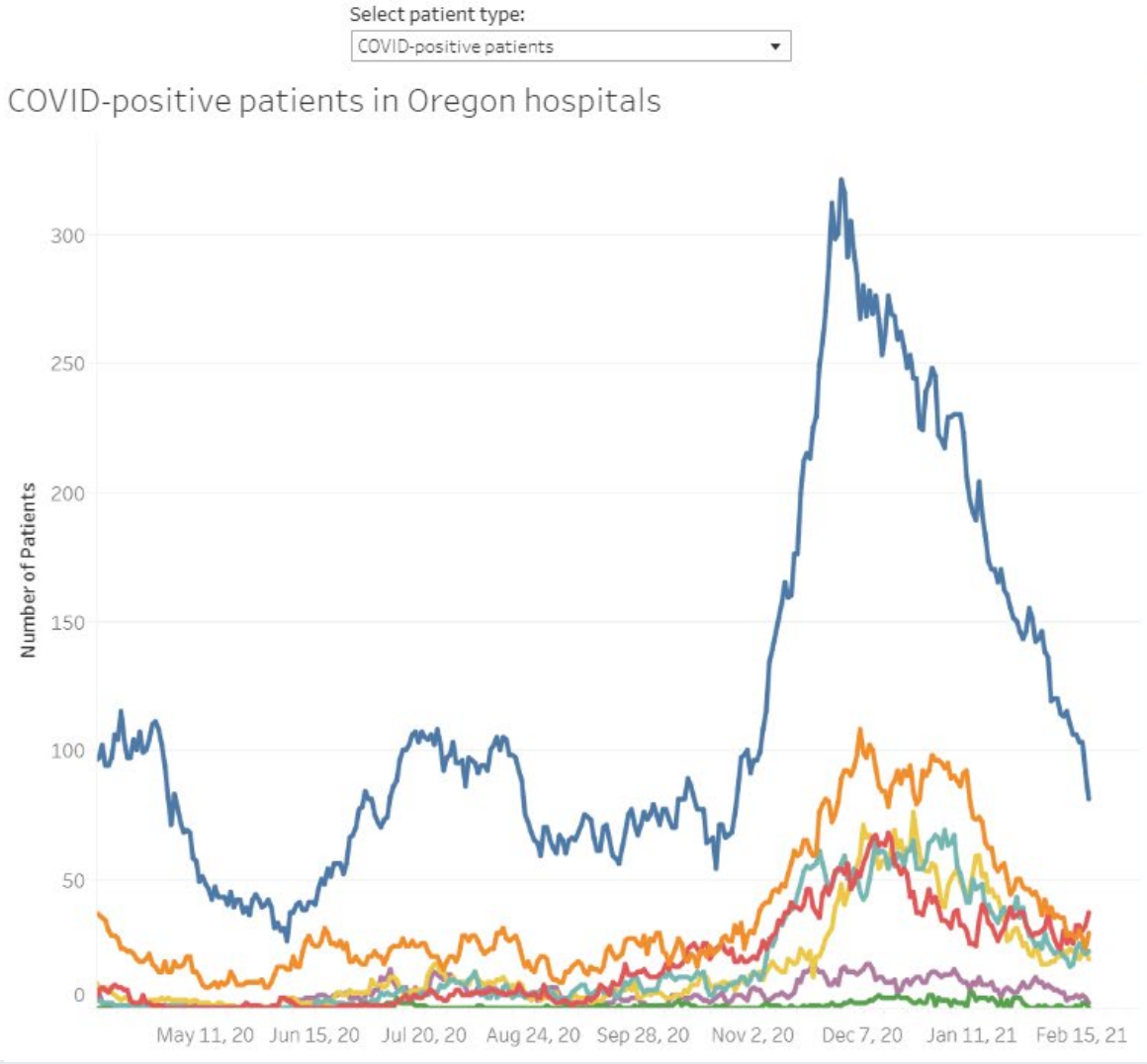
COVID-19 patient census by region



Oregon COVID-19 Vaccine Rollout

Vaccine updates

Received FDA EUA and shipping to providers

- Pfizer/BioNTech
- Moderna

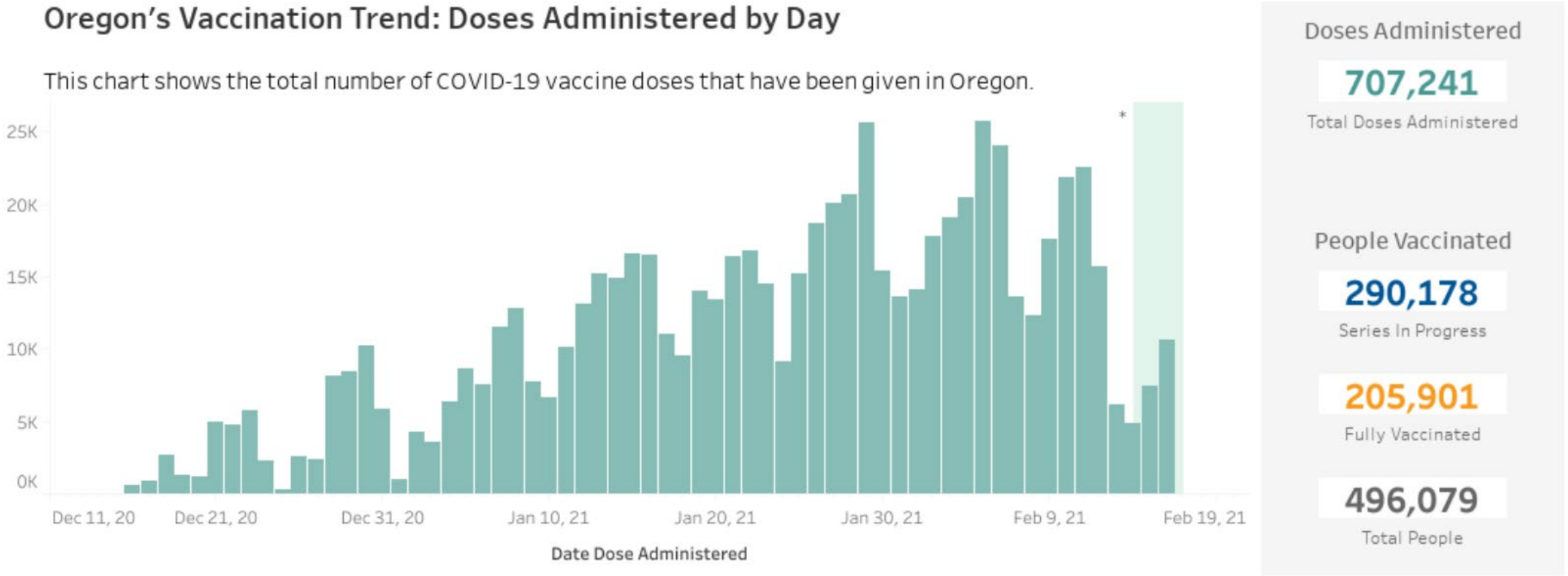
Expected soon

- Johnson & Johnson (March)
  - VRBAC Feb 26th
- AstraZeneca (April/May)

Vaccine distribution disruptions

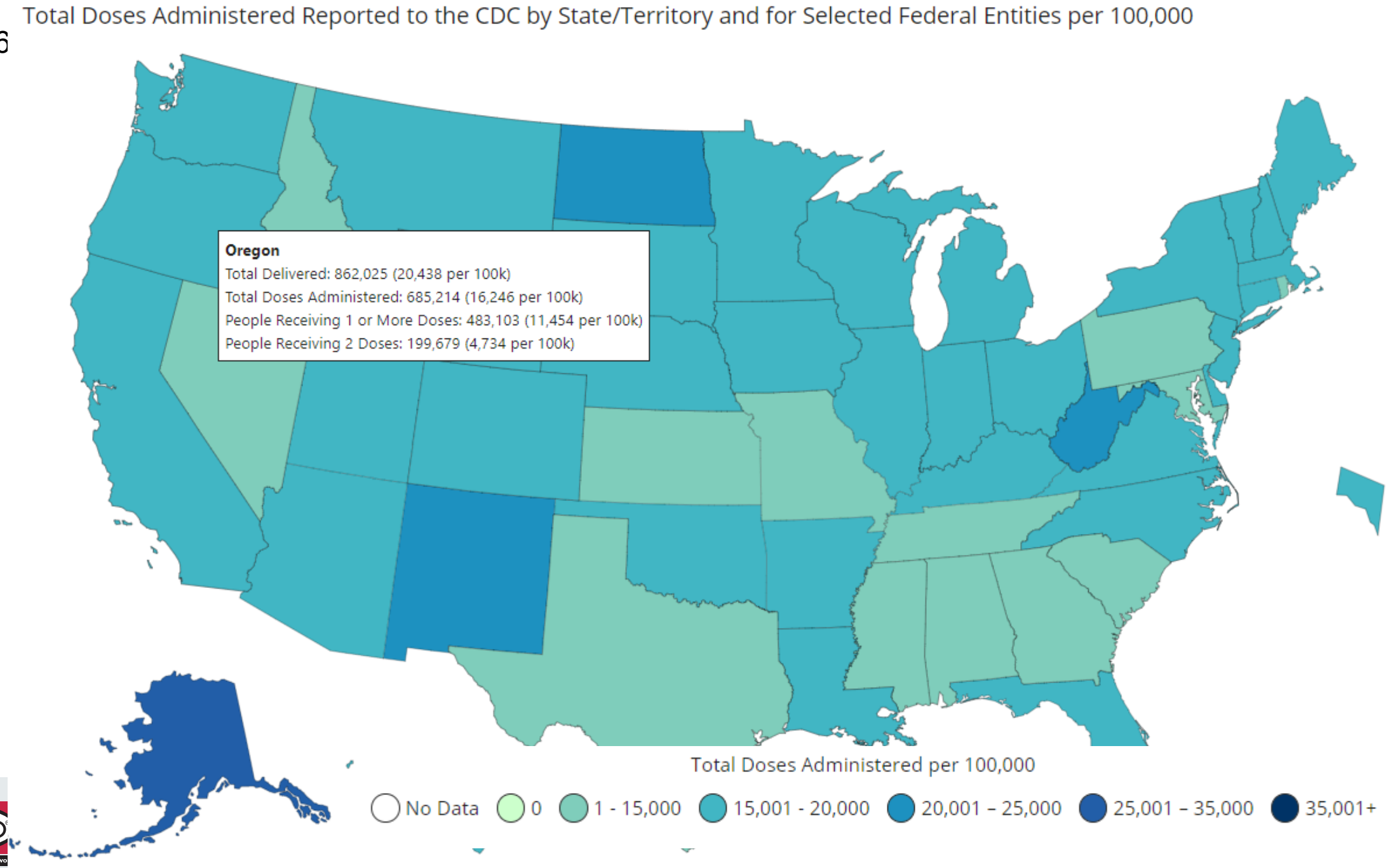
- Severe weather is delaying COVID-19 vaccine shipments across the country.
- These weather-related issues may cause changes to daily number trends reported by OHA in its updates on the cumulative number of doses administered, the daily number of administered doses and the number of doses delivered to Oregon
- OHA remains in regular contact with the Centers for Disease Control and Prevention (CDC) to ensure Oregon doses are safe.
- OHA is assisting Oregon COVID-19 vaccine sites that have lost power to their freezers by moving doses to powered sites to avoid spoilage. We are evaluating the situation and expect to learn more in the next few days.

Vaccination data dashboard (https://covidvaccine.oregon.gov)



Date of administration	Total Doses
Sunday, 2/7/2021	13,602
Monday, 2/8/2021	12,317
Tuesday, 2/9/2021	17,620
Wednesday, 2/10/2021	21,815
Thursday, 2/11/2021	22,535
Friday, 2/12/2021	15,743
Saturday, 2/13/2021	6,203
7-day running average	***15,691***
Sunday, 2/14/2021	*4,892*
Monday, 2/15/2021	*7,474*
Tuesday, 2/16/2021	*10,653*

As of Feb. 16



Project ECHO
Oregon ECHO Netwo

Phase 1A Started on December 12, 2020

Everyone in Phase 1A, Groups 1,2,3 and 4 are currently eligible for the vaccine.

Group 1

- Hospital staff with patient care responsibilities
- Urgent care
- Skilled nursing and memory care facility healthcare personnel (HCP) and residents
- Tribal health programs
- Emergency medical services (EMS) providers and other first responders
- All health care interpreters and traditional health workers in any setting within Phase 1a

Group 2

- Other long-term care facilities, including all paid and unpaid HCP, all staff and contractors, including residents who meet the age requirements of:
  - Residential care facilities
  - Adult foster care
  - Group homes for people with intellectual and developmental disabilities
  - Other similar congregate care sites
- Hospice programs
- Mobile crisis care and related services
- Individuals working in a correctional setting
- Adults and youth in custody 16 years and older

Group 3

- HCPs in outpatient settings serving specific high-risk groups
- Day treatment services
- Non-emergency medical transport (NEMT)
- Paid or unpaid caregivers (including parents or foster parents) of medically fragile children or adults who live at home
- Adults and age-eligible children who have a medical condition or disability who receive services in their homes

Group 4

- All other outpatient HCPs
- Other HCP who provide direct service to people with I/DD and other high-risk populations.
- Other public health settings, such as HCP serving WIC, or CBO's with direct or indirect exposures

People eligible:
400,000 approximately

Phase 1B Started on January 25, 2021

Oregon's vaccine supply is limited. It is estimated to take until early April 2021 to administer first doses to everyone who is likely to want a vaccine in Groups 1-5 of Phase 1B.

Group 1

- Childcare providers, early learning and K-12 educators and staff
  Eligible week of January 25, 2021

Group 2

- People 80 and older
  Eligible February 8, 2021

Group 3

- People 75 and older
  Eligible February 15, 2021

Group 4

- People 70 and older
  Eligible February 22, 2021

Group 5

- People 65 and older
  Eligible March 1, 2021

Educators:
152,000 approximately
People over 65:
795,000 approximately

Beyond Date TBD

Subsequent groups will be determined in coordination with the Vaccine Advisory Committee and shared on OHA's COVID-19 vaccine web page. These are examples of groups of people who may included:

- Critical workers in high-risk settings — workers who are in industries essential to the functioning of society and substantially higher risk of exposure
- People of all ages with underlying conditions that put them at moderately higher risk
- General population

Oregon Health Authority

OHA 3527A (02/12/2021)

Ensuring everyone can access vaccine

- Oregon Health Authority Vaccine Information Tool
- Get Vaccinated Oregon tool
- Vaccine event information by county
- 211info call-in sign-up process
  - Call center now staffed with additional national guard staff to ensure adequate capacity
  - Serves people unable to access the website or requiring other assistance

Federal pharmacy vaccine program partnership rolls out

The Federal Retail Pharmacy Program is a collaboration between the federal government, states and territories, and 21 national pharmacy partners and independent pharmacy networks to increase access to COVID-19 vaccinations across the country.

- The program is now online in Oregon. Shipments arrived on Feb. 10 at 127 retail pharmacies in Oregon.
- This program offers locations in 27 of Oregon's 36 counties. These locations include 103 Safeway/Albertson's locations, 13 Costco Locations and 11 Health Mart (independent affiliate) pharmacies.
- The retail partners in this program will screen for the appropriate age per Oregon's vaccine plan, starting with people 75 and older.

Federal pharmacy vaccine program partnership rolls out

Eligible Oregonians can make appointments at these retailers' websites. However, each site is currently only scheduled to receive 100 doses per week. That means there will not be enough vaccines to immunize all eligible Oregonians at these locations.

The chain pharmacies' websites are as follows; individual Health Marts will need to be contacted directly:

Costco: www.costco.com/covid-vaccine.html

Safeway/Albertsons: www.safeway.com/pharmacy/covid-19.html

Four people test positive after receiving COVID-19 vaccine

- OHA is beginning to receive reports of individuals who have tested positive after receiving a COVID-19 vaccine.
- These are termed “breakthrough cases.” These are people who get sick with COVID-19 at least 14 days after completing their vaccination series.
- As of Feb. 12, we have reported four of these cases
    - Two are in Yamhill County and two are in Lane County
    - The illness in these individuals ranges from asymptomatic to mild. We are working with our local and federal public health partners to investigate these cases and determine their origin. Genome sequencing is underway, and we expect results soon.

Can vaccinated people still spread COVID-19?

February 2 study from Spain in *The Lancet*

- Cohort study of 314 patients with COVID-19 and their contacts
- Viral load (Ct) of index cases in the nasopharynx (NP swab) was a leading driver of SARS-CoV-2 transmission
- Risk of symptomatic COVID-19 was strongly associated with viral load of contacts at baseline and shortened the incubation time of COVID-19 in a dose-dependent manner

February 8 preprint from Israel

- Observational study of specimens from 5,794 patients collected via oro/nasopharyngeal swabs
- Viral load (Ct) was reduced 4-fold for infections occurring 12-28 days after the first dose of vaccine, suggesting lower infectiousness
- Implications for vaccine impact on virus spread

Together, these represent <u>early</u> evidence that vaccinations may indeed reduce asymptomatic transmission

Where to find additional information

Clinical and operational questions: We are prioritizing these questions; you may also find an answer on the COVID-19 vaccine provider page.

Enrolling as a COVID-19 vaccine provider: Your email will be forwarded to our enrollment team. In the future you may email Vaccine.ProviderEnroll@dhsoha.state.or.us. Please also see the materials on the Provider Enrollment page (scroll down to the Vaccine Planning section).

ALERT Immunization Information System users: Specific ALERT questions will be forwarded to the ALERT IIS Helpdesk. In the future you may email alertiis@state.or.us.

COVID-19 unrelated to vaccine: Visit the main OHA COVID-19 website or email ORCOVID19.JIC@dhsoha.state.or.us.

Media inquiries: Please contact the COVID-19 Health Information Center orcovid19.media@dhsoha.state.or.us.

If you need more immediate assistance, please call 211 for info at 1-866-698-6155. TTY: dial 711 and call 1-866-698-6155

Questions

Thank you!

Questions

Moderated by Holly Tse, MD

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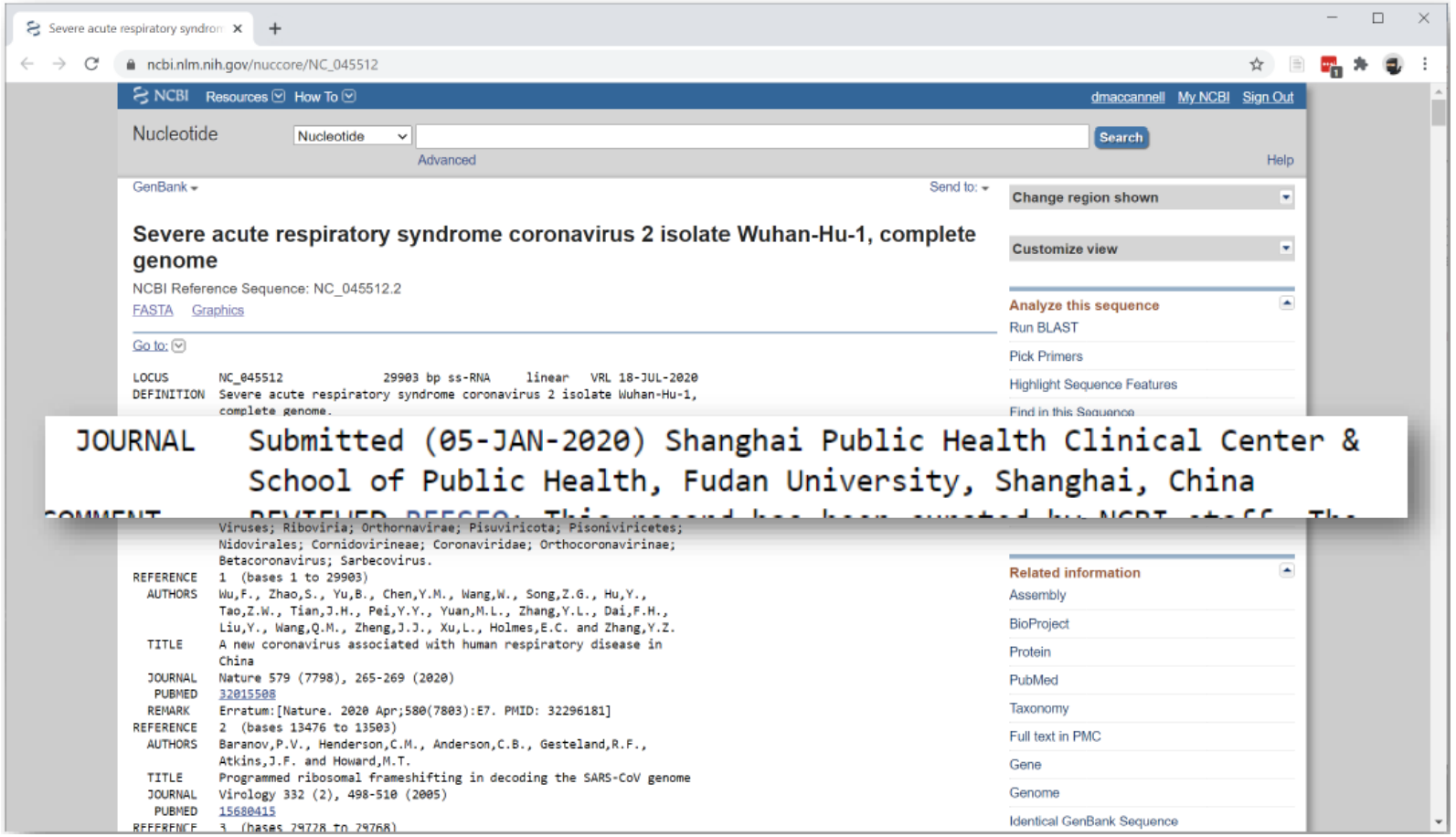
OHSU

SARS-CoV-2: Genome Epidemiology

Presented by: Xuan Qin, PhD, D(ABMM)

Date: February 18, 2021

The first genome of SARS-COV-2 (Jan 11, 2020)



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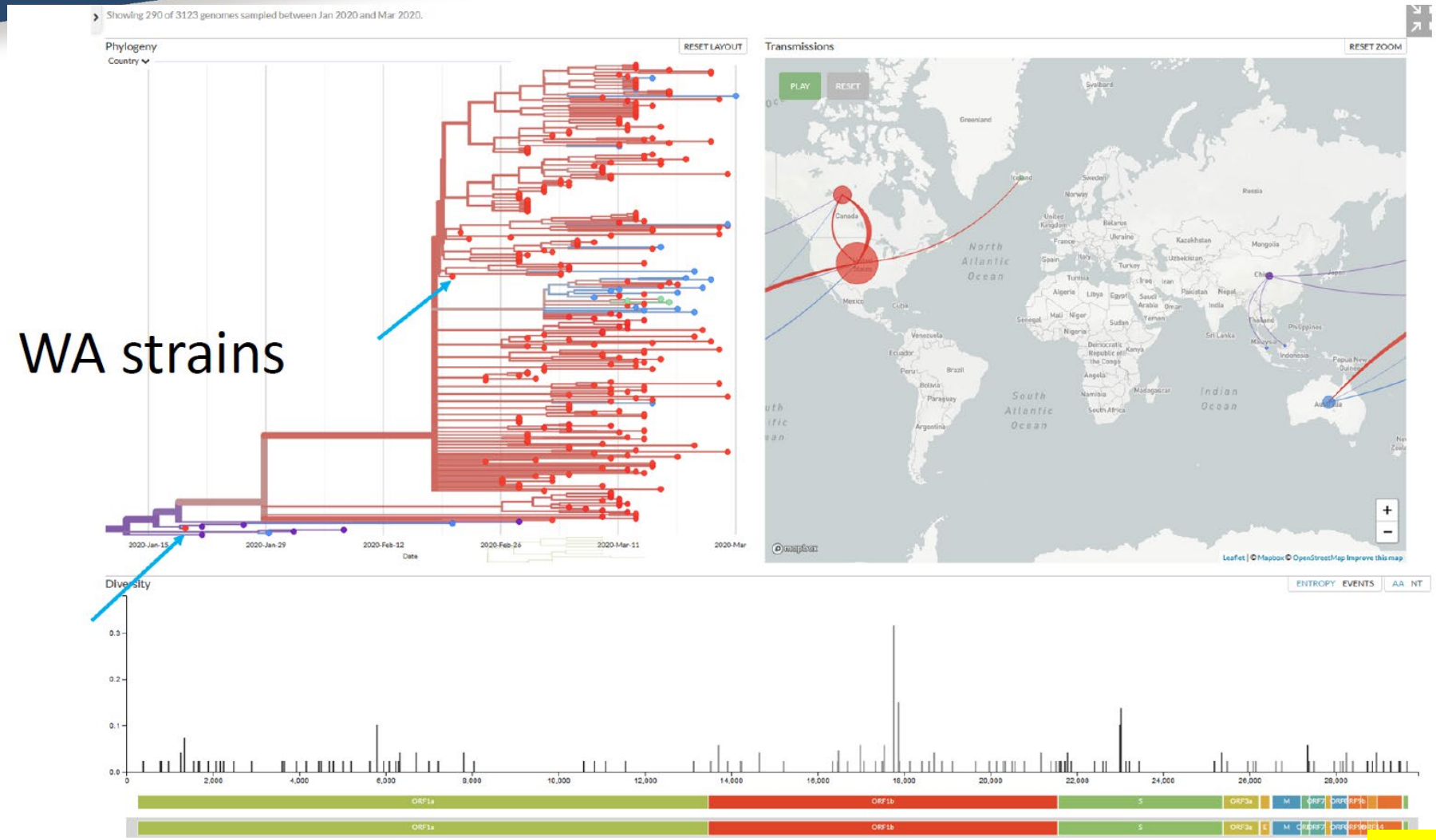
6 weeks of silent transmission mid-Jan to 1st of Mar



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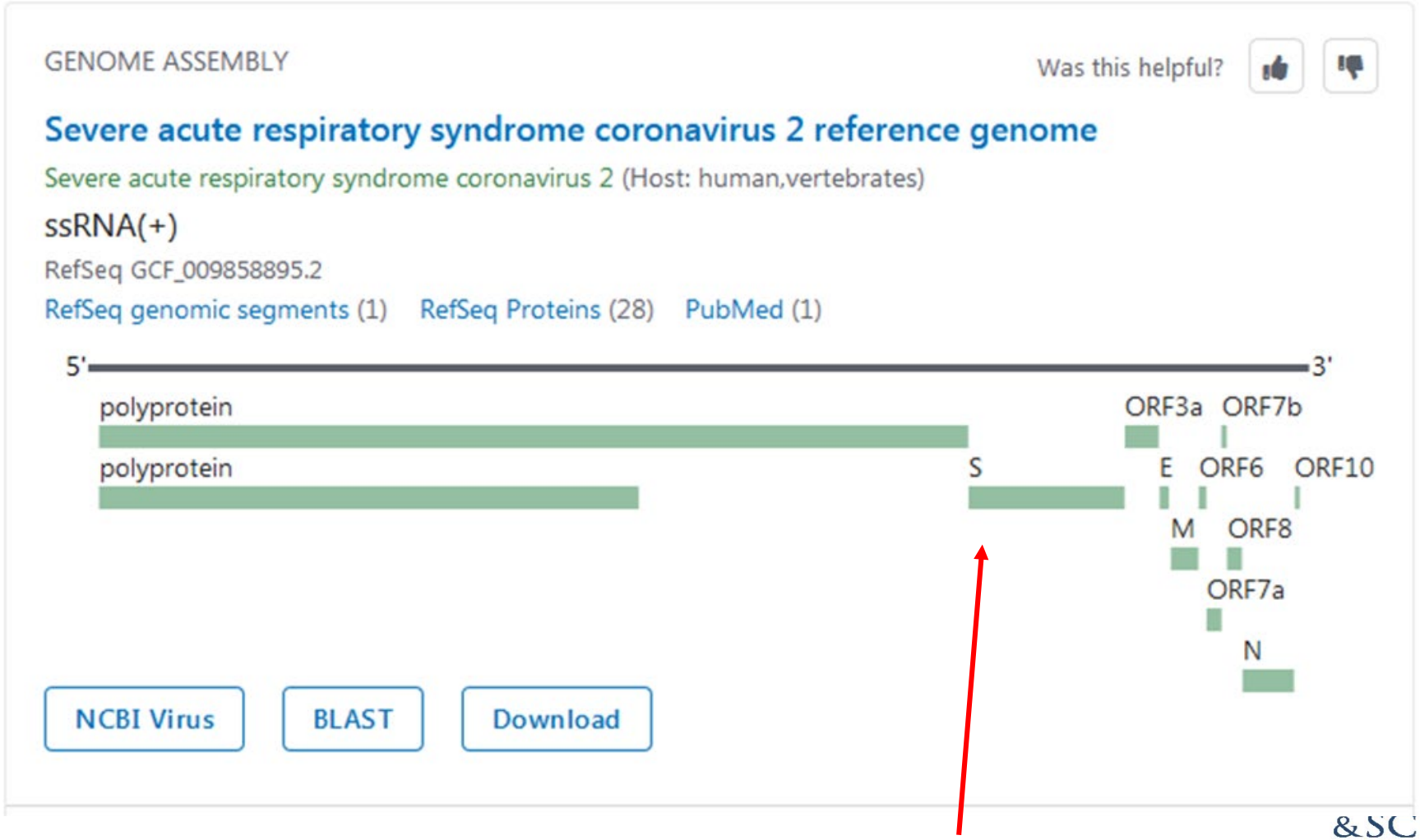
https://nextstrain.org/

SARS-cov2 genome



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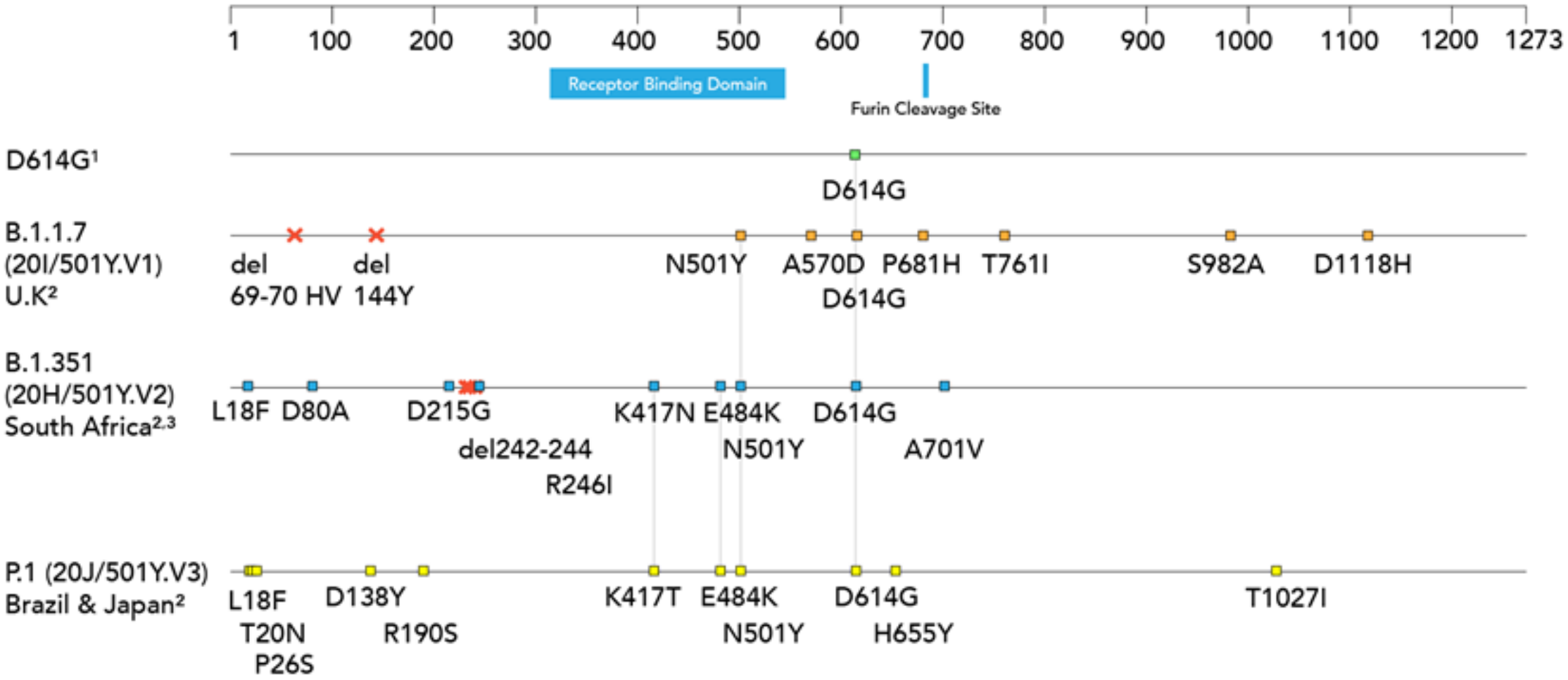
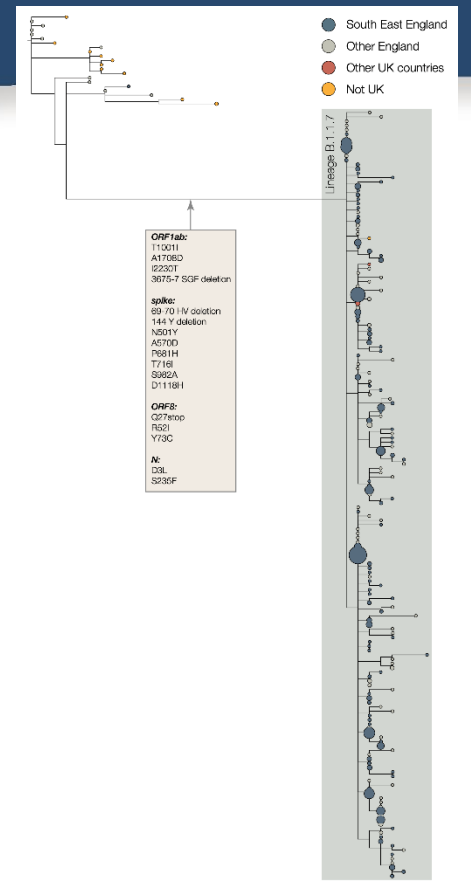
Amino Acid Changes to the Spike (S) Protein in SARS-CoV-2 Variants



¹https://www.cell.com/cell/fulltext/S0092-8674(20)31229-0?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0092867420312290%3Fshowall%3Dtrue
²https://www.cdc.gov/mmwr/volumes/70/wr/mm7003e2.htm?s_cid=mm7003e2_w#T1_down
³https://doi.org/10.1101/2021.01.25.428137

Emerging variants of concern (S, 1272aa)



- B.1.1.7 (a.k.a., 20B/N501Y.V1)
  - Originally found in UK
  - 69/70 deletion (produce S-gene target failure with ThermoFisher TaqPath)

- B.1.351 (a.k.a., 20C/N501Y.V2)
  - Originally found in South Africa
  - Does not have a 69/70 deletion, but contains E484K

- B.1.1.28.1/P.1 (a.k.a., 21J/N501Y.V3)
  - A report from Japan of 4 travelers at Haneda airport, returning from Brazil (https://www.niid.go.jp/niid/ja/diseases/ka/corona-virus/2019-ncov/10107-covid19-33.html#)
  - A report from Manaus – upto 75% cases (https://virological.org/t/genomic-characterisation-of-an-emergent-sars-cov-2-lineage-in-manaus-preliminary-findings/586)
  - Spike mutations: K417T, E484K, N501Y, D614G, H655Y

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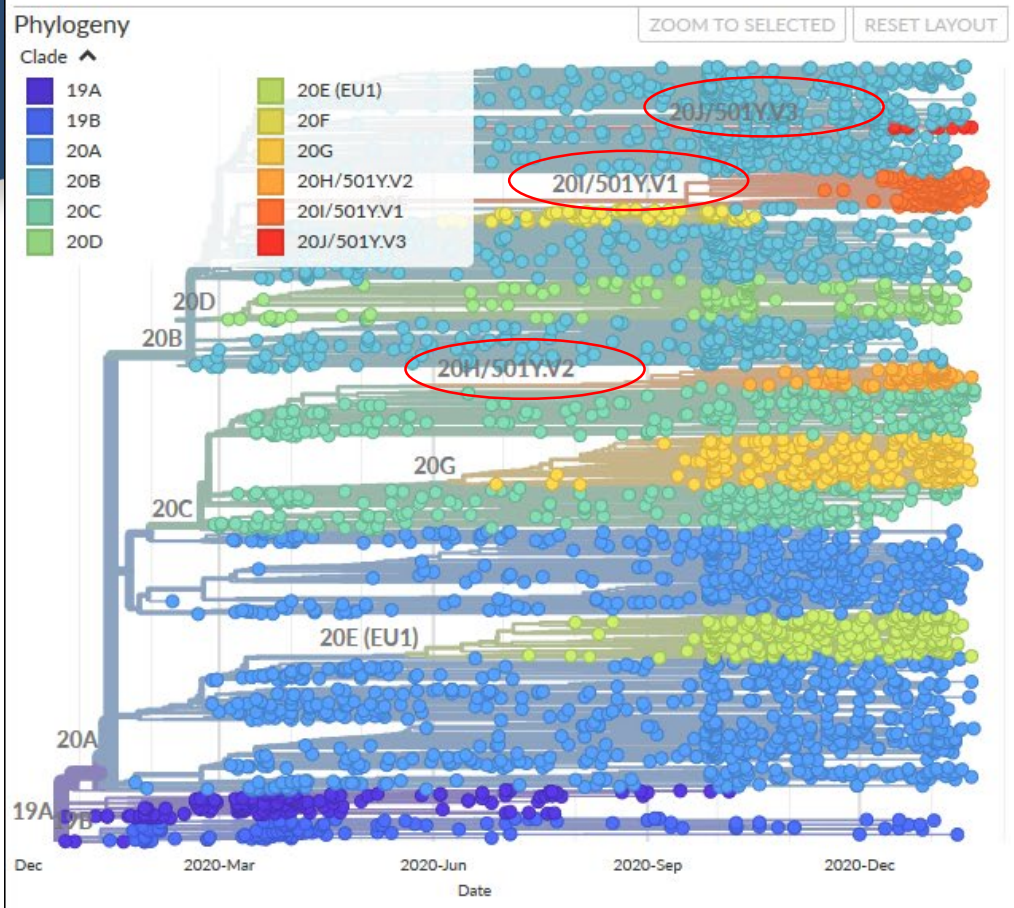
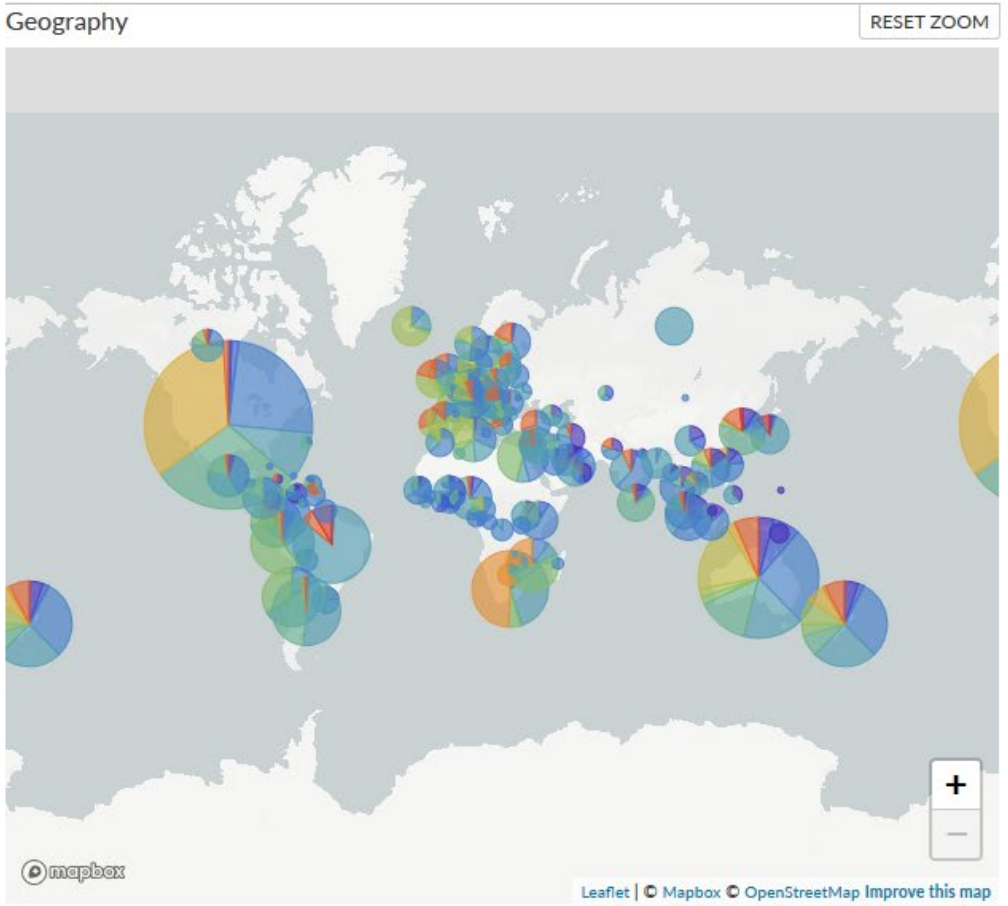
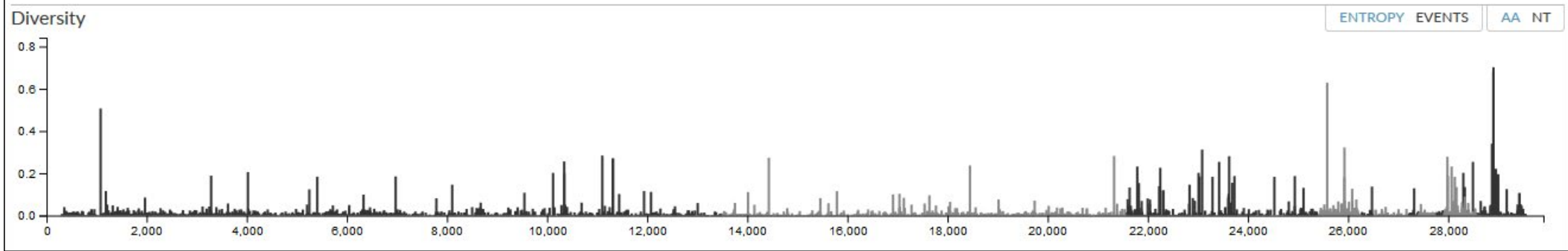
Genomic epidemiology of novel coronavirus - Global subsampling

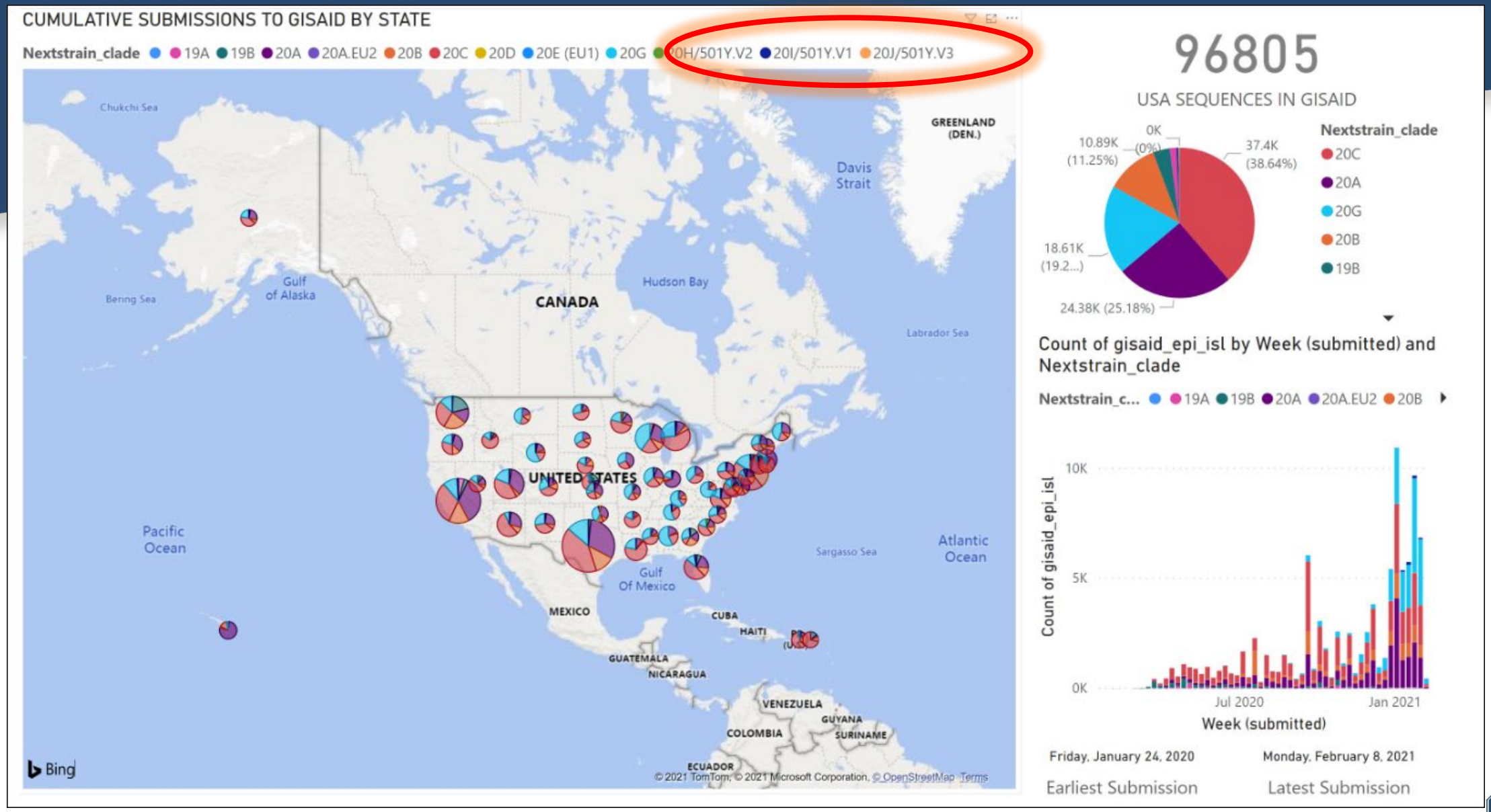
Maintained by the Nextstrain team. Enabled by data from GISAID

Showing 3931 of 3931 genomes sampled between Dec 2019 and Jan 2021.









S –dropout as a B.1.1.7.proxy: ~100 specimens in OHSU data set (2.4%, ~12/week) of all the positives using ThermoFisher since Nov 9, 2020

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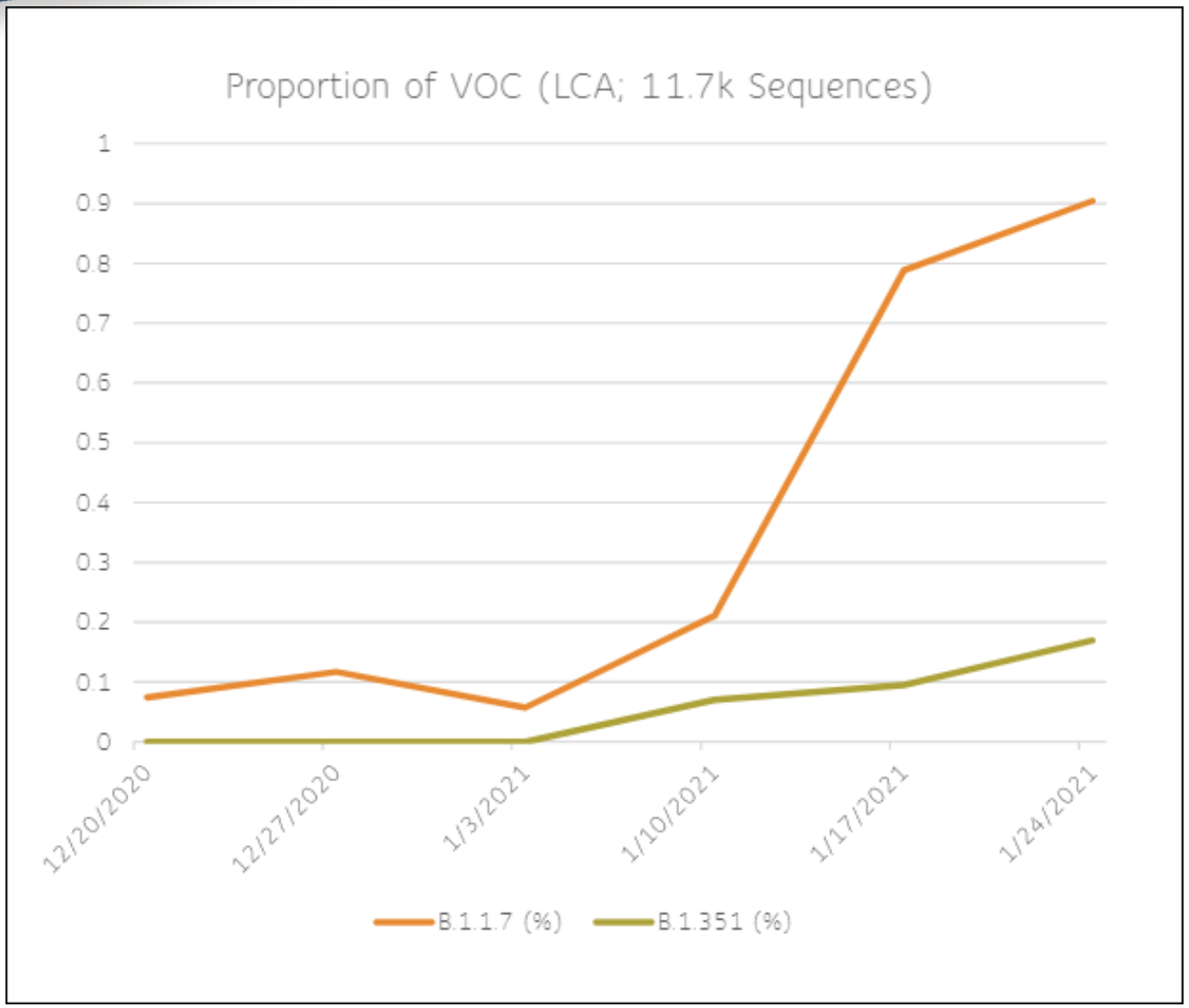
Proportion of VOC in the US as Feb 12, 2021



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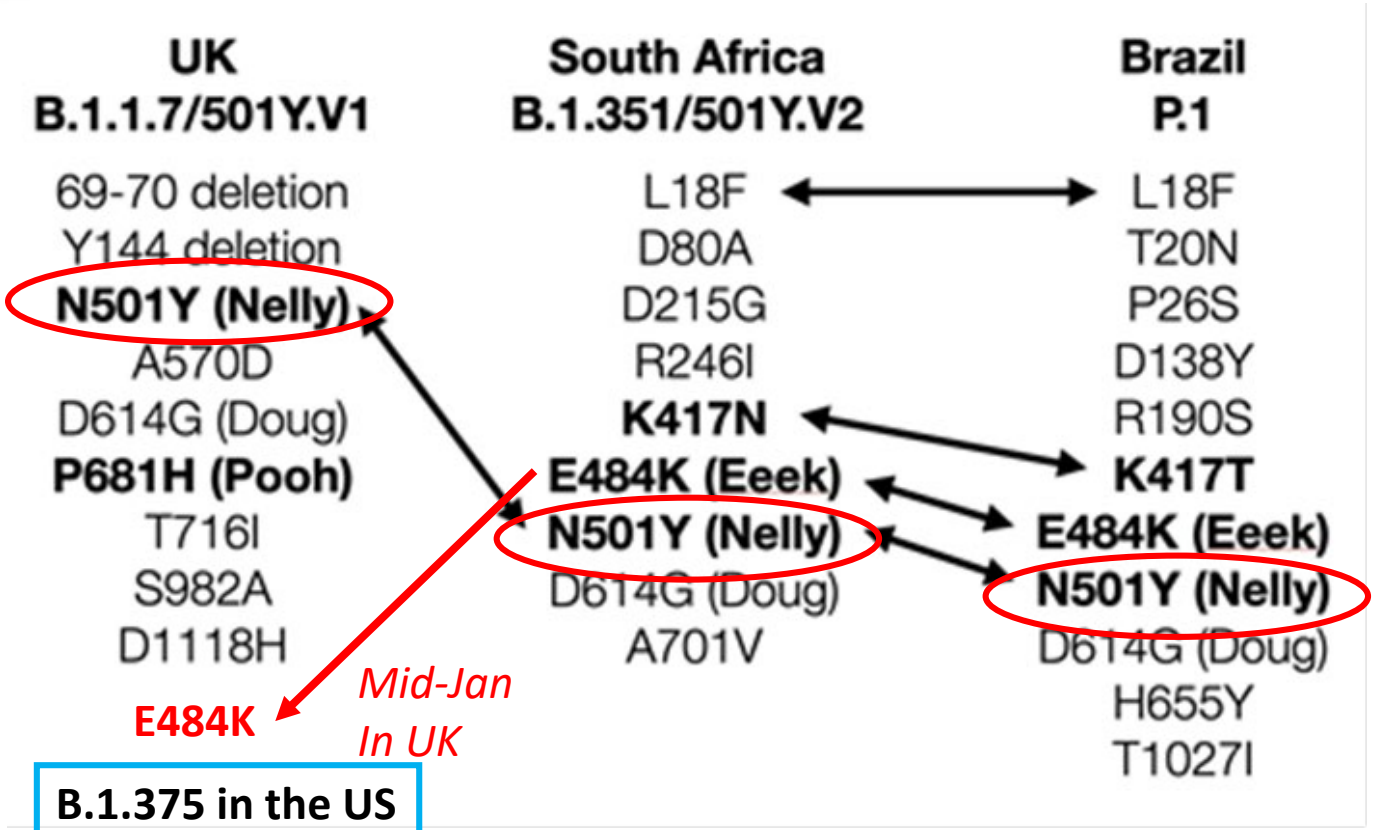
Shared mutations suggestive of host selective pressure – evolutionary convergence



California, US
B.1.429 / CAL.20C

S13I
W152C
K452R

3% - 25% (Nov – Dec) in California

B.1.375 in the US

69-70 deletion
M **I48V**

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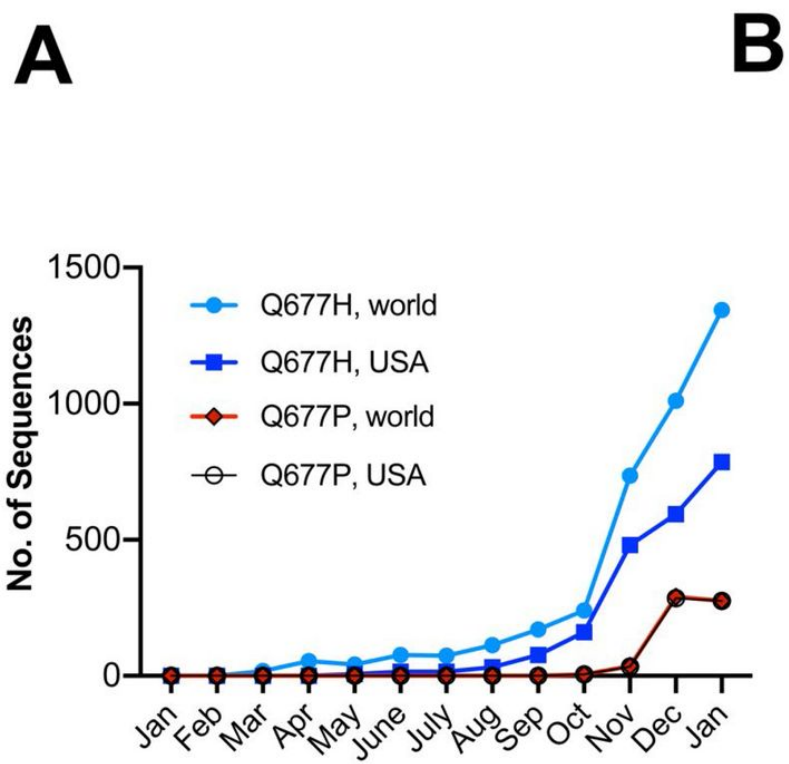
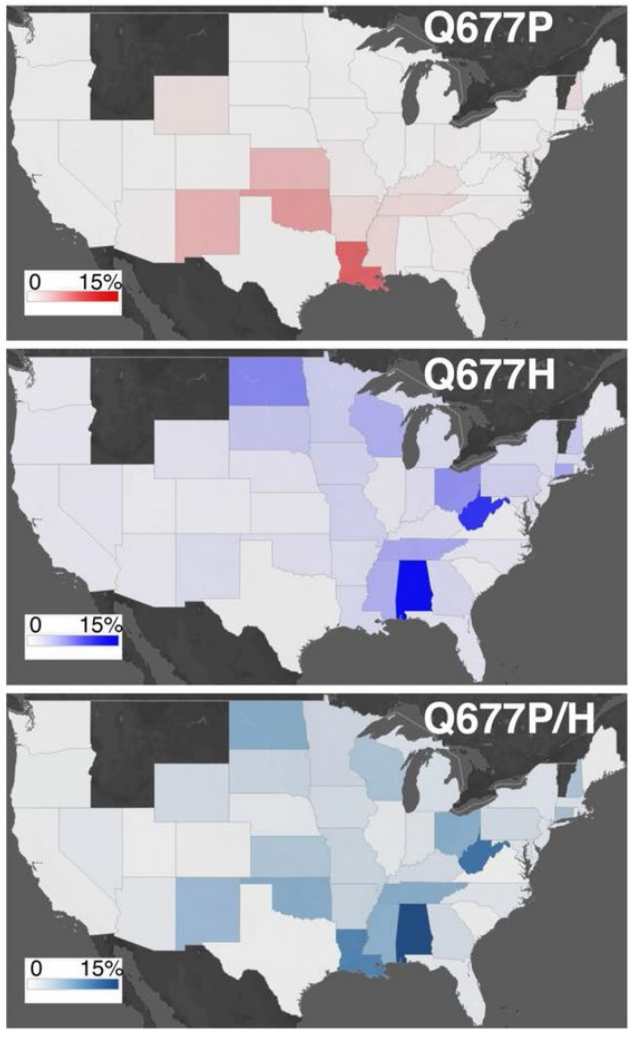
Comments (2)

Emergence in late 2020 of multiple lineages of SARS-CoV-2 Spike protein variants affecting amino acid position 677

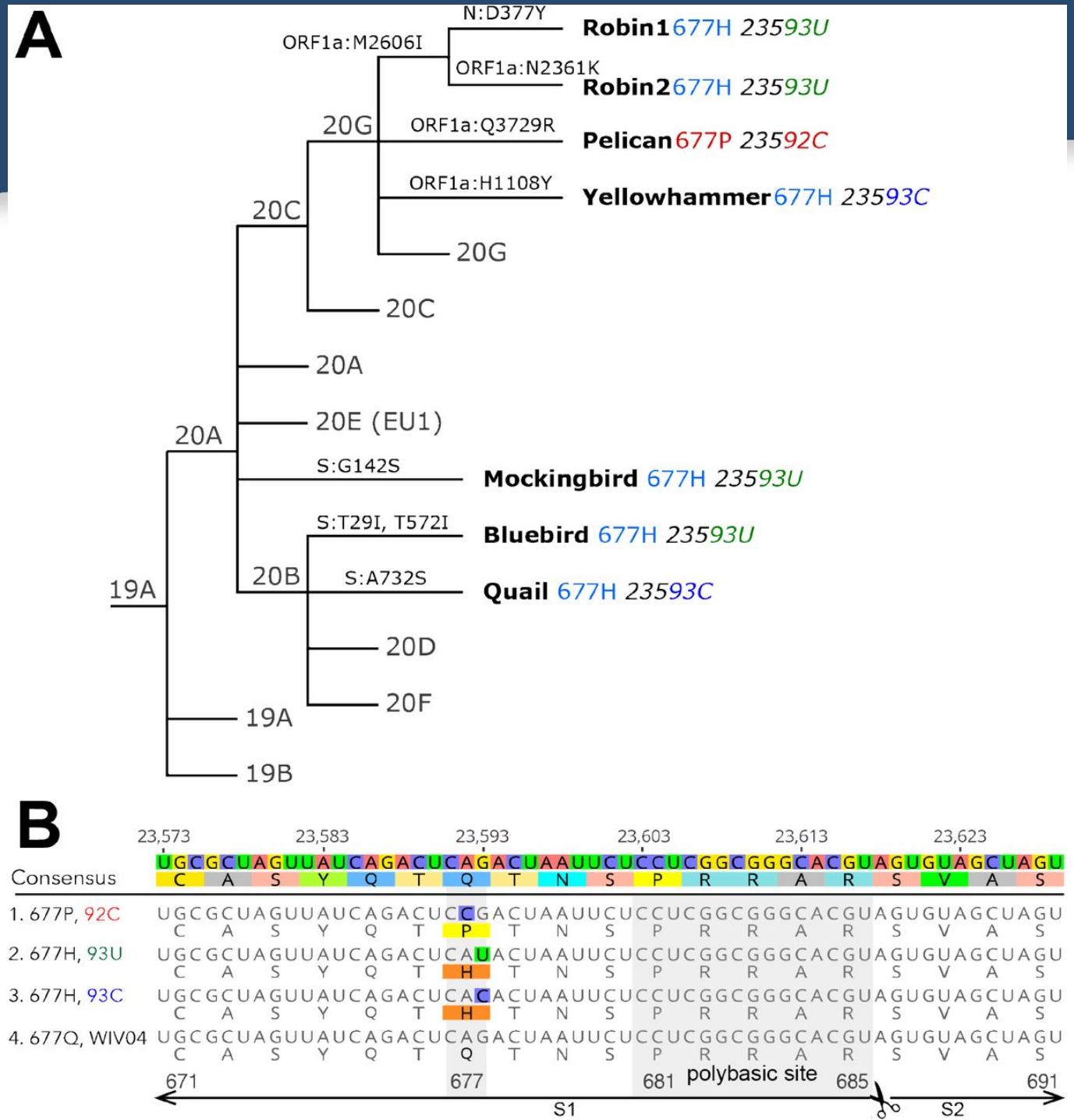
Emma B. Hodcroft, Daryl B. Domman, Daniel J. Snyder, Kasopefoluwa Oguntuyo, Kenneth H. Densmore, Kurt C. Schwalm, Jon Femling, Jennifer L. Carroll, Rona S. Scott, Martl Michael D. Edwards, Noah C. Hull, Christopher G. Kevil, John A. Vanchiere, Benhur Lee Darrell L. Dinwiddie, Vaughn S. Cooper, Jeremy P. Kamil

doi: https://doi.org/10.1101/2021.02.12.21251658

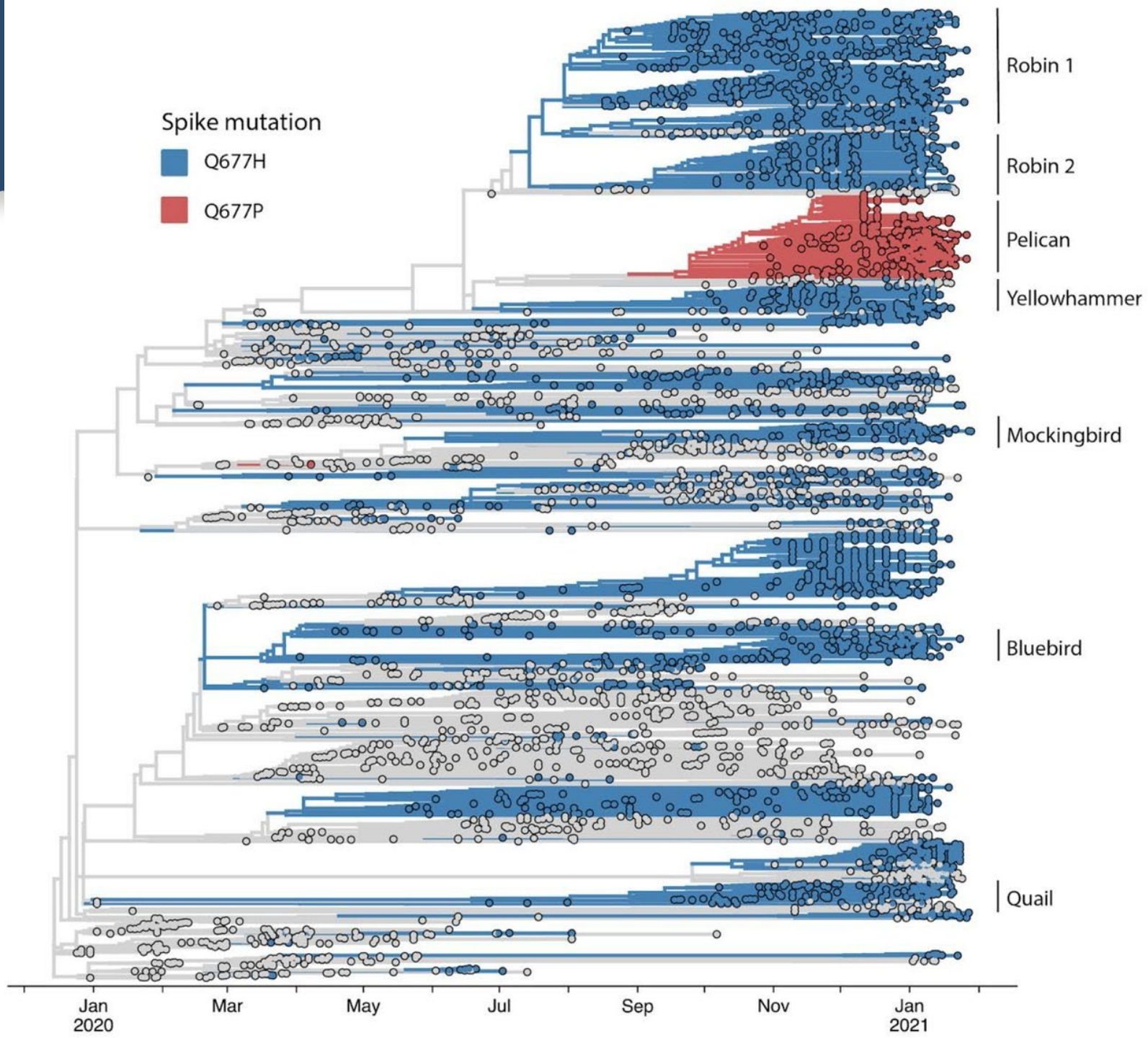


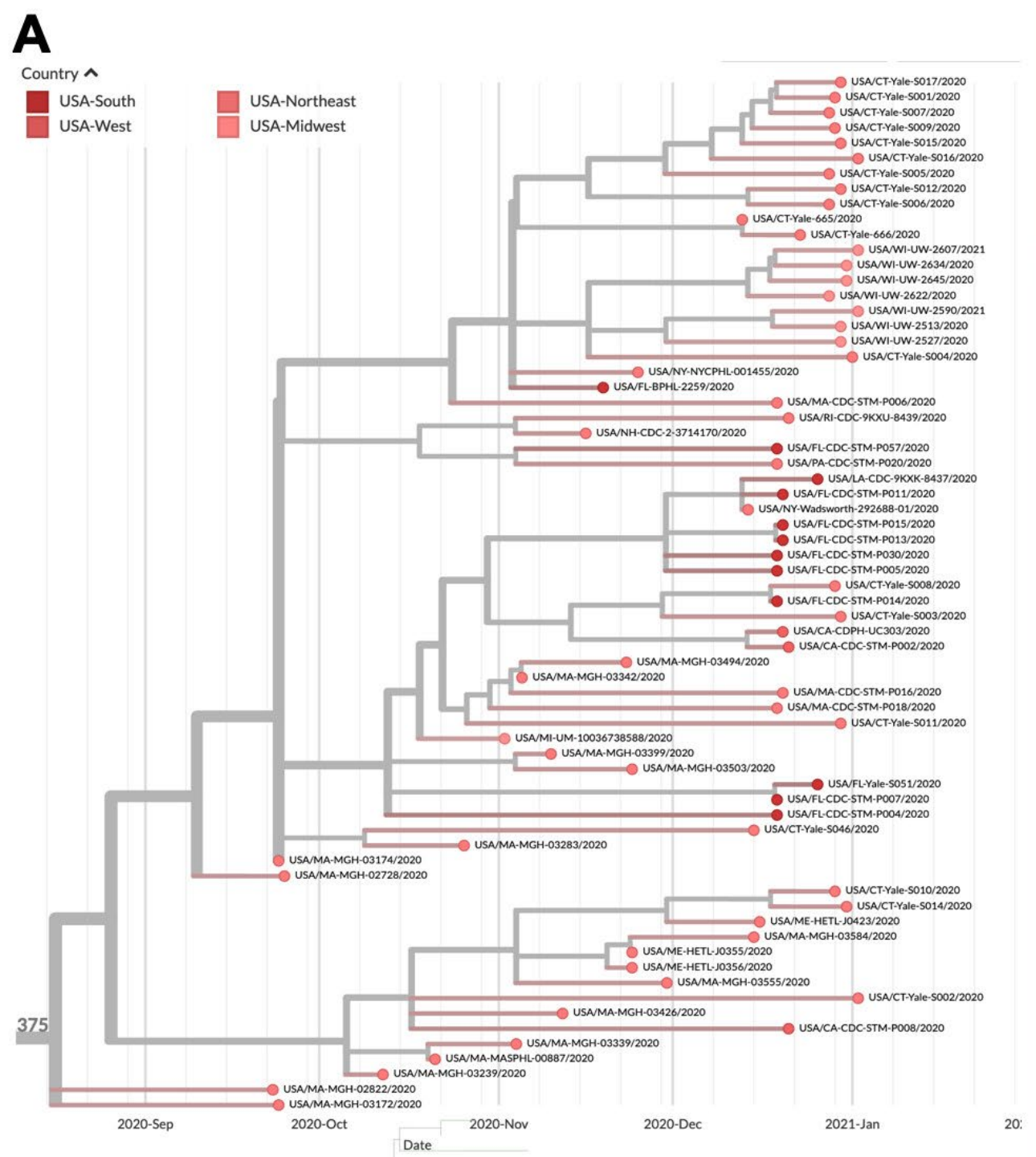


The Q677H or Q677P mutations converged from 7 different lineages simultaneously!



Evolutionary timeline:
not from a single ancestral strain. They were given bird names.




A
Country
USA-South
USA-West
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USA-Midwest
USA/CT-Yale-S017/2020
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USA/CT-Yale-S015/2020
USA/CT-Yale-S016/2020
USA/CT-Yale-S005/2020
USA/CT-Yale-S012/2020
USA/CT-Yale-S006/2020
USA/CT-Yale-665/2020
USA/CT-Yale-666/2020
USA/WI-UW-2607/2021
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USA/CT-Yale-S004/2020
USA/NY-NYCPHL-001455/2020
USA/FL-BPHL-2259/2020
USA/MA-CDC-STM-P006/2020
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USA/NH-CDC-2-3714170/2020
USA/FL-CDC-STM-P057/2020
USA/PA-CDC-STM-P020/2020
USA/LA-CDC-9KXK-8437/2020
USA/FL-CDC-STM-P011/2020
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USA/FL-CDC-STM-P005/2020
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USA/FL-CDC-STM-P014/2020
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USA/CT-Yale-S011/2020
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USA/MA-MGH-03399/2020
USA/MA-MGH-03503/2020
USA/FL-Yale-S051/2020
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USA/FL-CDC-STM-P004/2020
USA/CT-Yale-S046/2020
USA/MA-MGH-03283/2020
USA/MA-MGH-03174/2020
USA/MA-MGH-02728/2020
USA/CT-Yale-S010/2020
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USA/MA-MGH-02822/2020
USA/MA-MGH-03172/2020
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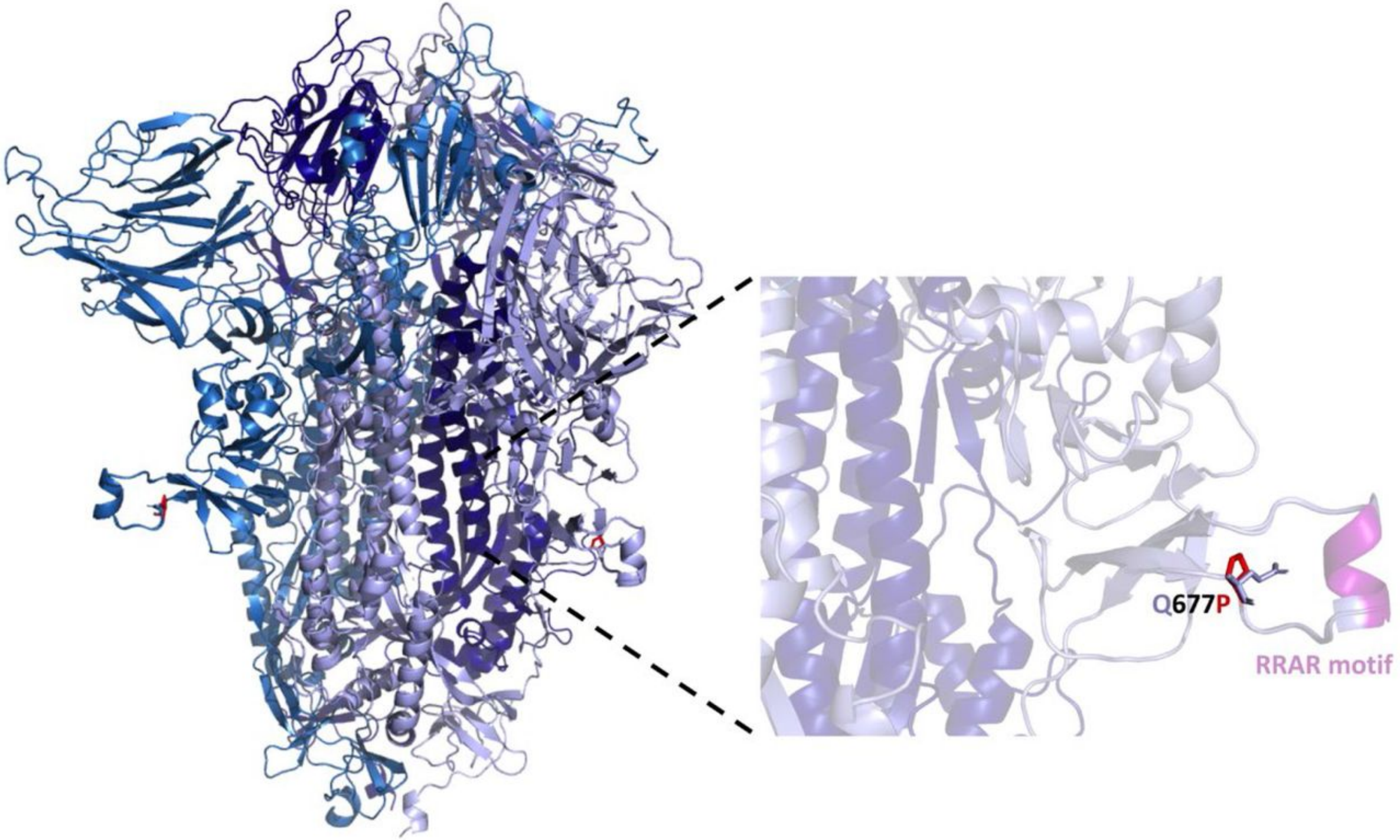
United States
San Francisco
San Diego
Chicago
Toronto
Ottawa
New York
Houston
Miami
Atlanta
Gulf of Mexico
Mexico
Guadalajara
Mexico City
Cuba
Bahamas
Haiti
Jamaica
Belize
Guatemala
El Salvador
Nicaragua
Costa Rica
Panama
Caribbean Sea
Maracaibo
Medellín


Q677P
RRAR motif

https://www.washingtonpost.com/world/2020/12/23/us-leads-world-coronavirus-cases-ranks-43rd-sequencing-check-variants/

World

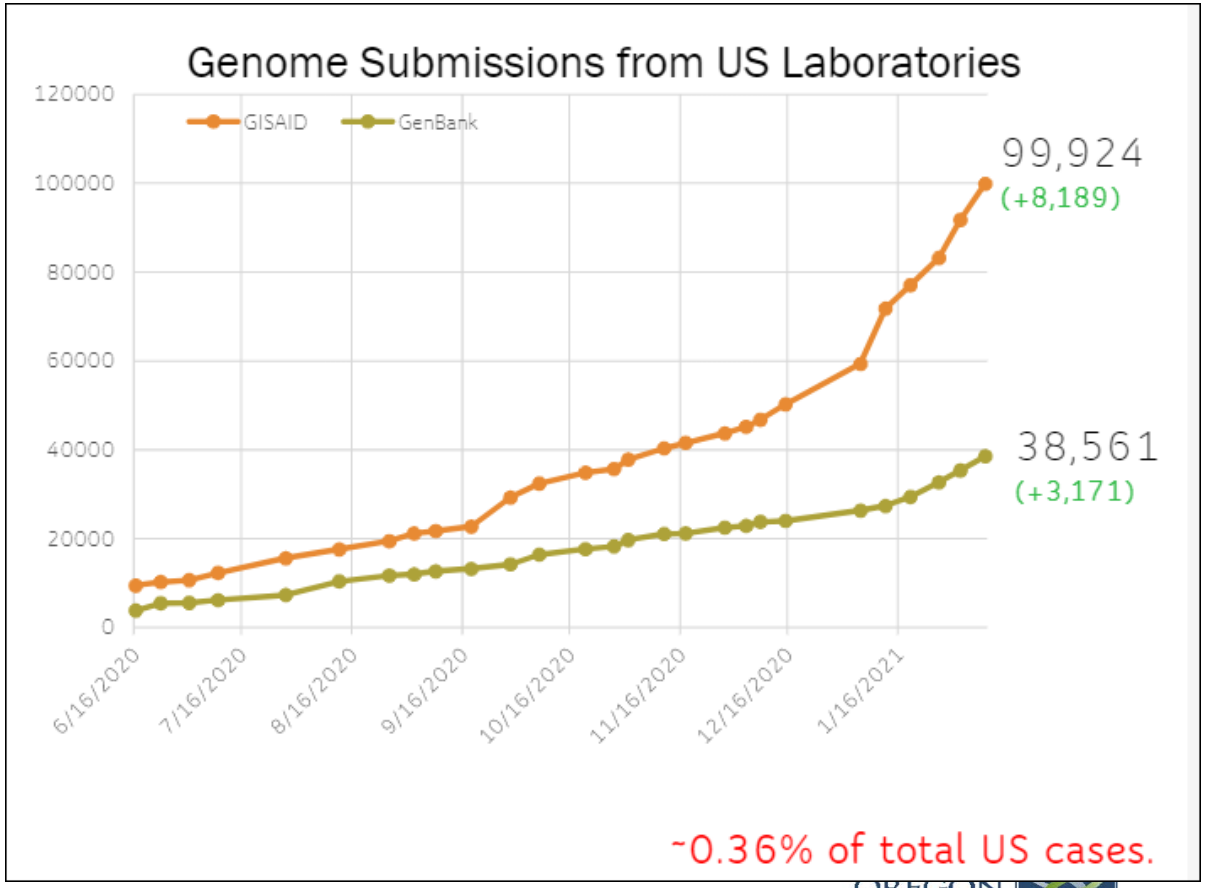
U.S. ranks 43rd worldwide in sequencing to check for coronavirus variants like the one found in the U.K.

U.S. lags behind dozens of other countries in sequencing the coronavirus

Share of coronavirus outbreak sequenced by countries with at least 100 reported cases

RANK	COUNTRY	REPORTED CASES	SAMPLES SEQUENCED	PERCENTAGE OF CASES SEQUENCED
1	Australia	28,238	16,537	58.6%
2	New Zealand	2,128	1,034	48.6
3	Taiwan	776	137	17.7
4	Denmark	144,047	16,790	11.7
5	Iceland	5,683	601	10.6
6	Gambia	3,791	360	9.5
7	Vietnam	1,421	113	8.0
8	Britain	2,116,609	157,439	7.4
9	Thailand	5,762	343	6.0
10	Japan	207,001	9,599	4.6
43	**United States**	**18,229,260**	**51,212**	**0.3**

Dec 23, 2020



Jan 12, 2021

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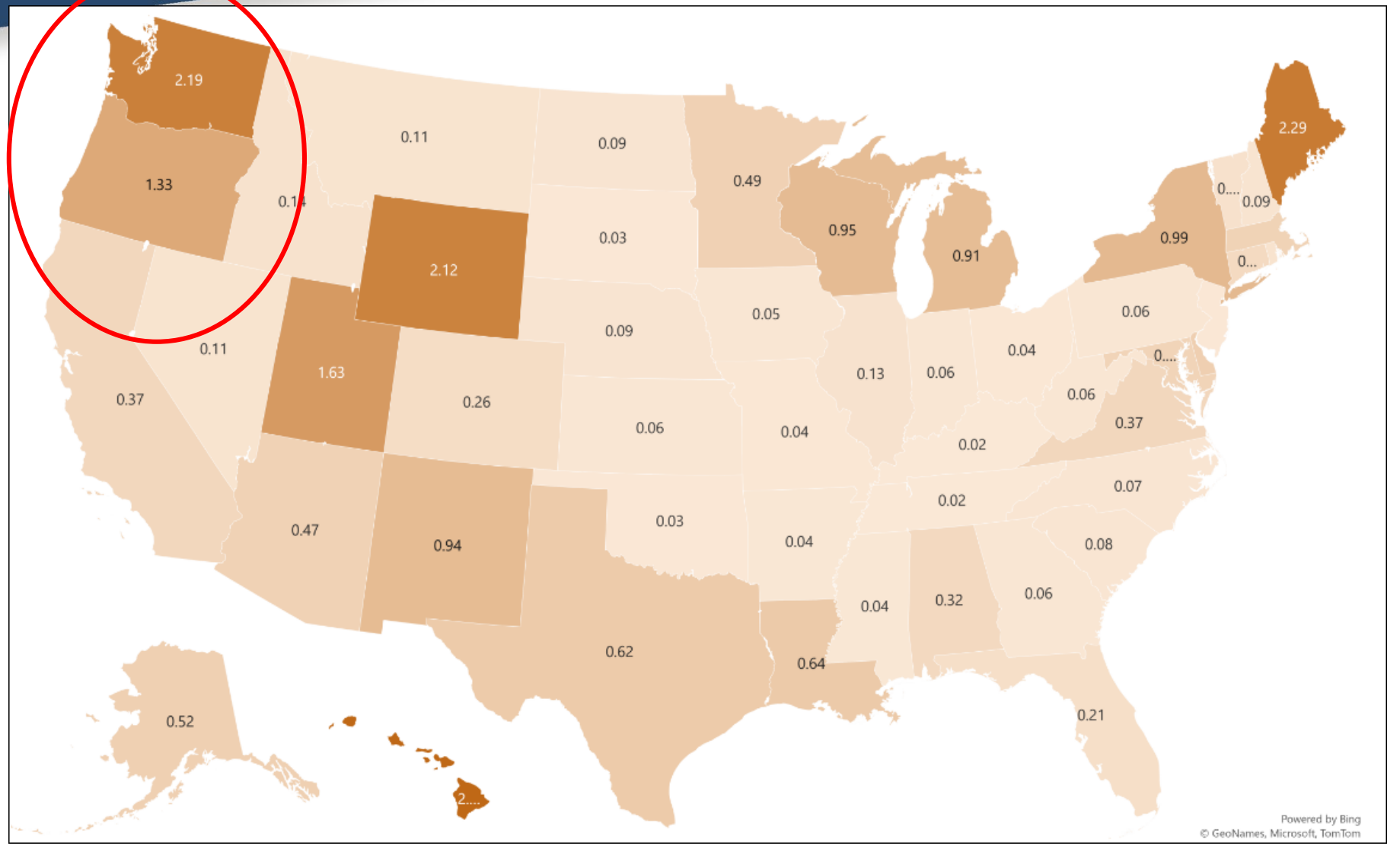
Percentage of Cumulative Cases Sequenced (2/8/21)



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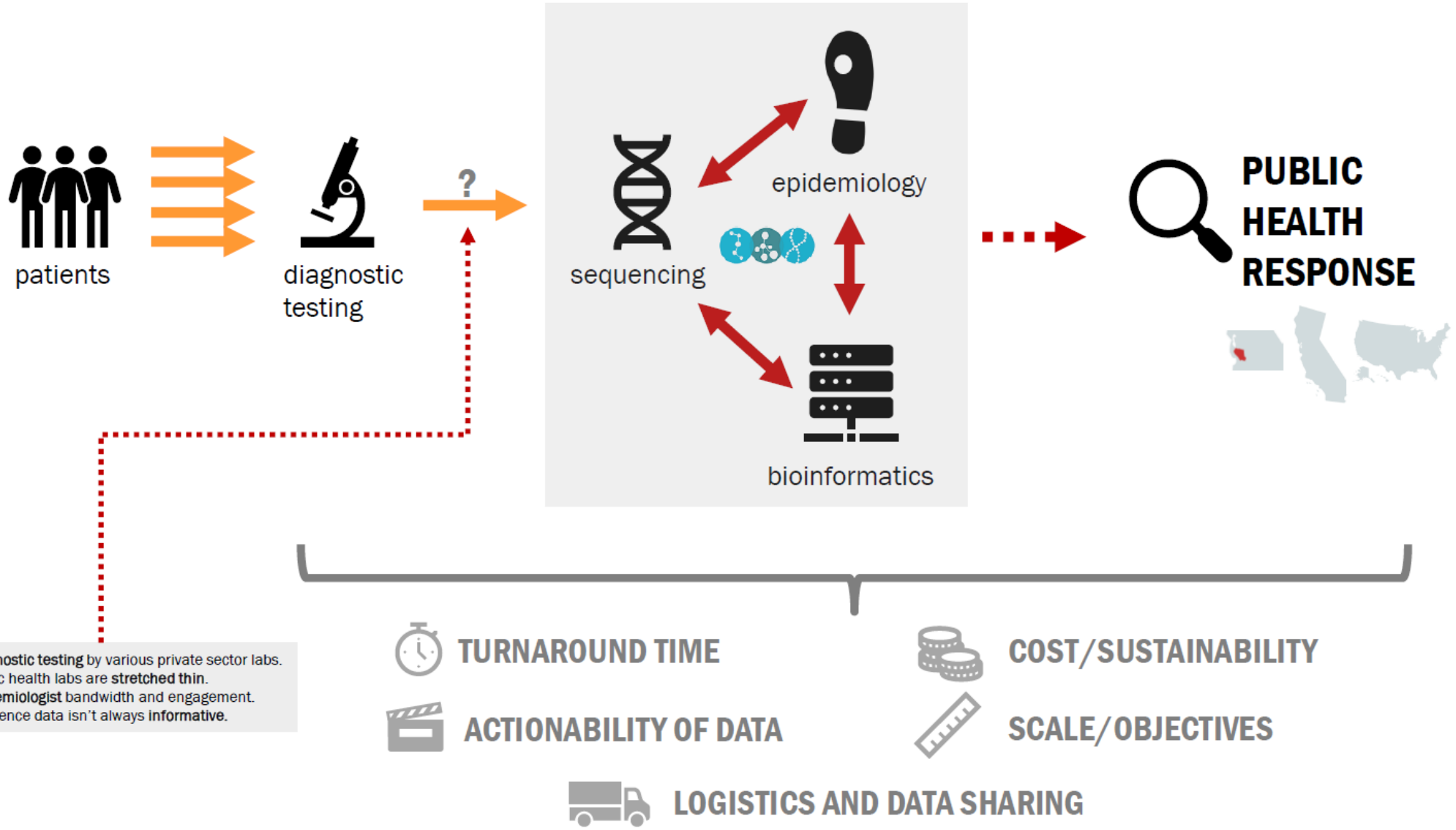

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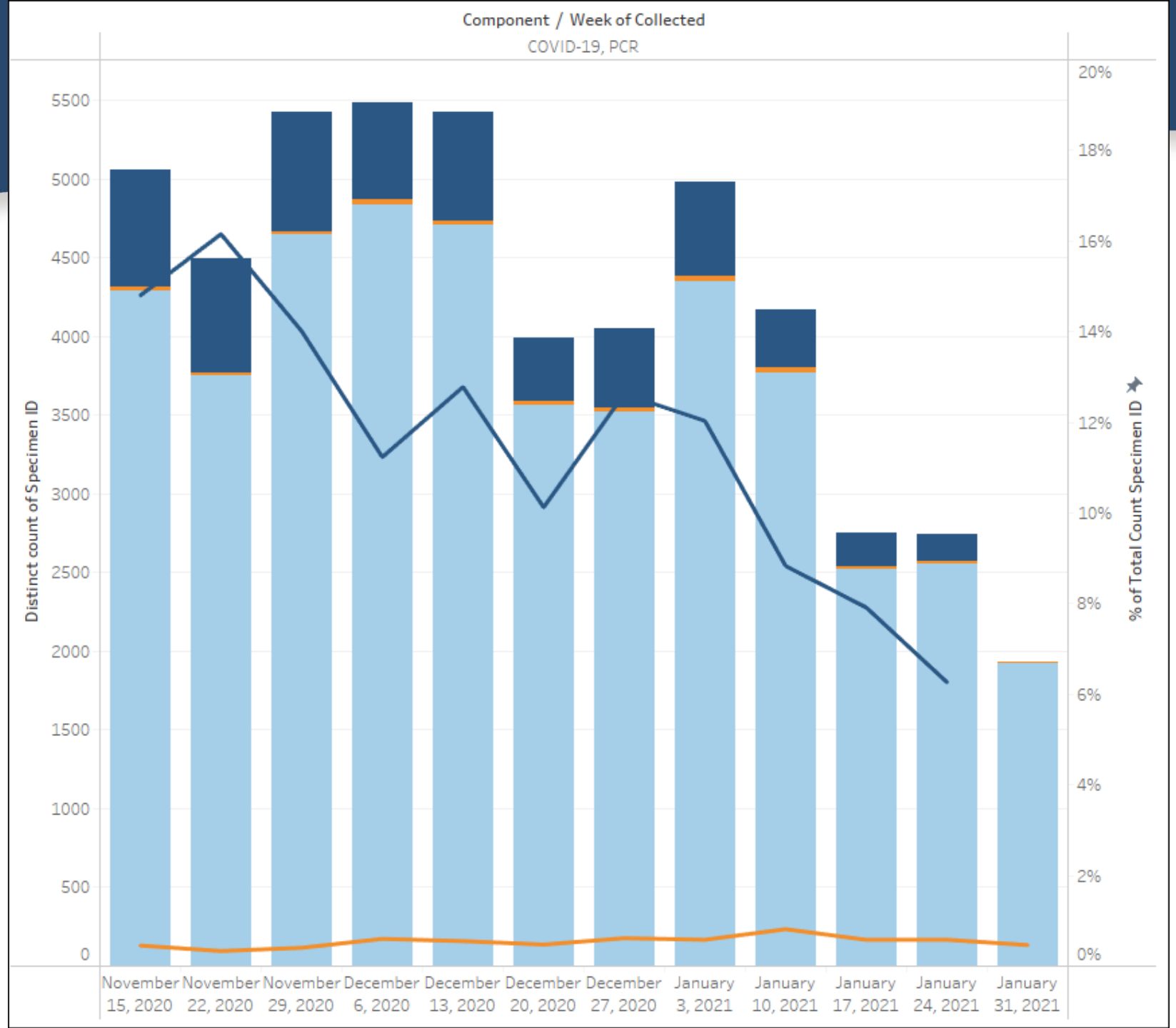
"…many of my colleagues have been asking me why the case count has been going down, particularly with the new variants, and if it truly means that COVID is less prevalent in the community or if it is related to less test (more resources going to vaccination), COVID variants are not being detected, effects of heard immunity/vaccination, or a combination of these?"



Are we out of the woods yet? Is it the quiet before the storm?

- On a good note—
  - The vaccine and masks/social-distancing are doing something – a critical mass of positive spreaders are reduced.
  - The VOC strains have not become the predominant strains in the community?
  - The VOC strains are partially covered by the current vaccines?
- Concerns –
  - Why VOC all emerged at the same time?
  - Mutations as a result of evolutionary convergence is suggestive of viral adaptation to human host. Some emerged from patients with underlying conditions who are maintained by drug/antibody interventions for prolonged period of time.
  - Viral recombination among various VOCs with increased transmissibility and virulence.
  - The detection of VOC by sequencing is currently in the research space (not in patient records, PCP will not get this info). The reporting or tracking system is yet to be established that adheres to CLIA and HIPAA standards.

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Vaccine breakthrough cases in Oregon!

CORONAVIRUS

Four people in Oregon who received both doses of vaccine test positive for coronavirus

There are two cases each in Yamhill and Lane counties, the state's Health Authority said.

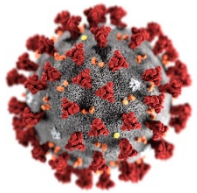
Feb. 13, 2021, 12:59 PM PST

By Minyvonne Burke

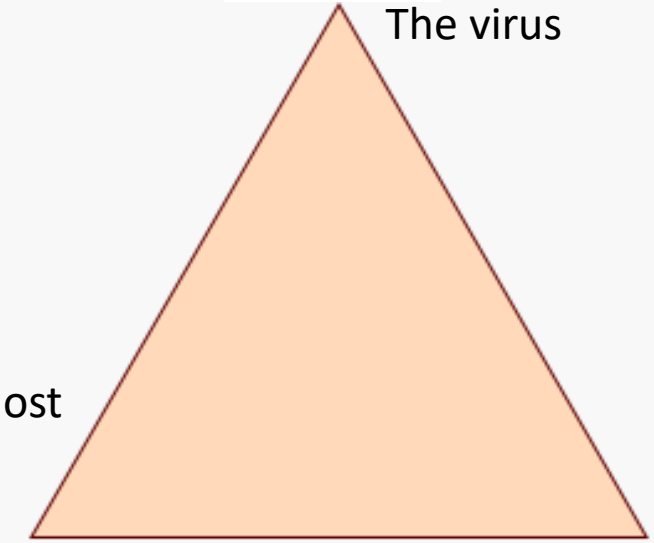
Four people in Oregon have tested positive for the coronavirus after receiving both doses of the Covid-19 vaccine, health officials said.

There are two cases each in Yamhill and Lane counties, the state's Health Authority said in a series of tweets on Friday. The cases are either mild or asymptomatic.

A non-equilateral triangle



The virus



The animal host

The human host

The interventions: drugs, antibody, or vaccine

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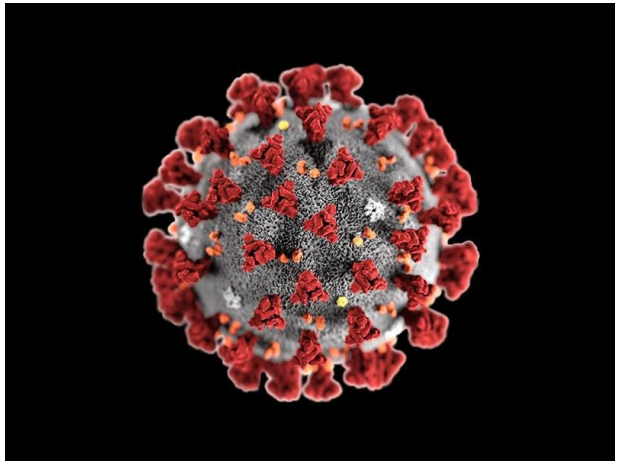
Questions

Moderated by Shelby Lee Freed, FNP

Important Reminder

Next COVID-19 Response ECHO for Oregon Clinicians:

Thursday, March 4th at noon: *"Long Haulers"*



oregonechonetwork.org