



Updated December 14, 2022

## Criteria for requesting COVID-19 sequencing at OSPHL

The Oregon State Public Health Laboratory (OSPHL) performs next generation sequencing of SARS-CoV-2, the virus that causes COVID-19 to support public health priorities established by the Oregon Health Authority (OHA). Only certain specimens meet criteria for requesting sequencing at OSPHL. Specimens will be sequenced as capacity allows; when capacity is exceeded, samples may be frozen and held for possible future sequencing.

SARS-CoV-2 sequencing is essential to understanding variants and several issues of public health importance, including COVID-19 transmissibility and vaccine effectiveness. When an [emerging variant of concern](#) is identified, it can inform public health response.

**Specimens submitted for no-cost COVID-19 sequencing must meet the criteria outlined below.** OSPHL may consult with public health officials to verify acceptance. If the laboratory that performed the initial COVID-19 test has also performed COVID-19 sequencing on the specimen, the specimen does not need to be forwarded to OSPHL.

For specimens not meeting these criteria, clinicians may pursue COVID-19 sequencing at their discretion through academic and commercial laboratories.

### Criteria & approvals for requesting sequencing at the Oregon State Public Health Laboratory

1. Criteria for requesting sequencing of COVID-19 positive specimens for **individual cases** is limited to cases with one or more of the following features:
  - a. Individual with history of **international travel** in the 14 days prior to the onset of COVID-19
  - a. Any scenario of particular interest to public health authorities for epidemiologic purposes
2. Criteria for requesting sequencing for **clusters and outbreaks** are limited to any of the following scenarios:
  - a. Unusual outbreak size or “super-spreader” event suspected
  - b. Unusual outbreak severity (e.g., high hospitalization or case fatality rate)
  - c. Index case of the outbreak with history of **international travel** in the 14 days prior to the onset of COVID-19

- d. Outbreaks in long-term care facilities<sup>1,2</sup>
- e. Any scenario of particular interest to public health authorities for epidemiologic purposes

In consult with state epidemiologists, OSPHL may perform sequencing on a sample of specimens from clusters or outbreaks.

To obtain approval: The public health authority should contact the OHA epidemiologist assigned to the outbreak.

- 3. Clinical laboratories with **residual SARS-CoV-2 positive specimens** displaying unusual result features on molecular testing. S-gene target failures are not currently considered unusual result features.

To obtain approval: Call the Oregon State Public Health Laboratory at 503-693-4100 (main laboratory) and leave a message with the receptionist. A laboratorian will return your call to discuss.

### Specimen criteria

1. Specimens submitted must meet OSPHL's standard criteria for specimen submission. Please follow the instructions for SARS-CoV-2 & Influenza A/B Multiplex Real-Time RT-PCR, available at [www.healthoregon.org/labtests](http://www.healthoregon.org/labtests). Submit a specimen volume of 1.0-3.0 mL for primary specimens or 20-60 µL for RNA extracts.
2. Specimens should be received at OSPHL within 7 days of specimen collection.
3. For specimens which have been previously tested for COVID-19, **only specimens with a cycle threshold (Ct) value ≤ 30** are accepted for sequencing<sup>3</sup>. Submission of the RNA extract is accepted, if available.
4. For specimens which have been tested using a method which does not report Ct values, submit original material if acceptable for testing at OSPHL.
5. If no residual sample is available **recollection is not typically recommended** as it is unlikely to result in sufficient genetic material for sequencing.

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<sup>1</sup> Long-term care facilities include skilled nursing facilities, assisted living facilities and residential care facilities.

<sup>2</sup> During COVID-19 surge conditions, a sampling of all positive specimens from long-term care facilities may be requested rather than sequencing all positive samples.

<sup>3</sup> Specimens with Ct values > 30 do not contain sufficient genetic material for sequencing.

## Specimen submission and required form

Submit each specimen with a completed Virology/Immunology Test Request Form, available at [www.bitly.com/phl-forms](http://www.bitly.com/phl-forms). Incomplete request forms will delay sequencing.

To prevent common specimen submission errors, the following will be helpful:

1. Two unique patient identifiers must be on the Test Request Form and on the specimen label.
  - a. Full patient name, date of birth, or MRN or lab ID may be used as unique identifiers.
  - b. Each identifier must be fully spelled out, without abbreviations.
2. List your laboratory or facility information for Submitting Facility. Include name, address, and HIPAA-secure fax number to receive results.
3. Include a facility contact with phone number for questions.
4. For Ordering Clinician, list the name of the physician that originally ordered the COVID-19 test. Provide the full first and last name without abbreviations.
5. In the “Molecular” section, select “SARS-CoV-2, RT-PCR or NAAT” for the test order.
6. Provide the Ct values in the Comments box, if available.
7. At the bottom of the form, write “For SARS-CoV-2 Sequencing.”

## Specimen transport

Transport specimens for receipt at OSPHL during laboratory receiving hours:

1. Monday–Friday, between 7:00 AM and 5:00 PM
2. Saturday, between 10:00 AM and 12:00 PM

Existing courier or shipping mechanisms should be used to transport specimens to OSPHL. If courier support is needed, contact OSPHL at 503-693-4100.

## Resources and Questions

1. Oregon State Public Health Laboratory: [www.healthoregon.org/phl](http://www.healthoregon.org/phl) or 503-693-4100
2. Acute and Communicable Disease Prevention Epidemiologist On-call: 971-673-1111
3. Local Public Health Authority Contact Information: [www.healthoregon.org/lhddirectory](http://www.healthoregon.org/lhddirectory)
4. COVID-19 Field Operations/Testing: [ORES8.AOCTestingBranch@dhsosha.state.or.us](mailto:ORES8.AOCTestingBranch@dhsosha.state.or.us)

**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@dhsosha.state.or.us](mailto:COVID19.LanguageAccess@dhsosha.state.or.us)