

**CoVars-NET**  
**Covid-19 Variant Surveillance Network**  
**Protocol**

**Tennessee Department of Health**  
**2025–2026**

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## About CoVars-NET: Program Overview

**CoVars-NET** (Covid-19 Variant Surveillance Network) is a statewide voluntary sentinel laboratory network coordinated by the Tennessee Department of Health's (TDH) Genomic Epidemiology Program and State Public Health Laboratory (SPHL).

This collaborative public health initiative is designed to generate timely, high-quality data on the prevalence, distribution, and evolution of SARS-CoV-2 variants across Tennessee. By monitoring both emerging and circulating variants, CoVars-NET strengthens preparedness, response, and informed decision-making to protect communities across the state.

We invite laboratories across Tennessee to take part in this effort by submitting **PCR-positive SARS-CoV-2 specimens** during the respiratory season (October 1, 2025 – April 30, 2026). Specimen submissions every two weeks are encouraged. Each submission helps build a clearer picture of variant trends and contributes to protecting the health of Tennesseans. Aggregate data on circulating variants and their distribution across Tennessee will be shared via the TN COVID-Variant Dashboard, updated monthly.

## Why Participate?

Participation directly contributes to **protecting the health of Tennesseans** by improving our understanding of variant circulation. In return, participating laboratories will receive:

- **Monthly Variant Surveillance Reports** – timely and actionable data on circulating and emerging variants statewide, including accessible variant data dashboards.
- **Certificate of Participation** – formal recognition of your lab's contribution, signed by TDH leadership.
- **Public Health Impact** – your contributions support variant monitoring and strengthen outbreak preparedness across Tennessee.



## Our Ask

### Statewide Specimen Submission Target Goal

To strengthen variant surveillance across Tennessee, we are aligning our efforts with guidance from the Association of Public Health Laboratories (APHL) and the Centers for Disease Control and Prevention ([APHL/CDC guidance document](#))

- Our statewide target is to generate a minimum of 90 PCR-positive SARS-CoV-2 sequencing every two weeks.
- PCR-positive SARS-CoV-2 specimens will be sequenced, with variant data shared monthly.
- This level of sampling helps ensure:
  - a. Timely detection of emerging variants
  - b. Reliable statewide representation of circulating strains
  - c. Improved outbreak response and forecasting capabilities

Every laboratory's participation plays a significant role in achieving these goals. Consistent specimen contribution will help maintain effective coverage across Tennessee. To support this effort, we plan to generate **90 sequenced genomes every two weeks**. To help meet this target, we encourage laboratories to send **up to 20 PCR-positive samples every two weeks** to SPHL. While **20** samples are ideal, any number of eligible submissions will be greatly appreciated.



## Guidance for Participating Laboratories

Specimens submitted are used **solely for surveillance purposes**. Please note that results will not be reported back to CoVars-NET submitting facilities nor providers.

### 1. Specimen Identification, Collection, and Storage

#### ➤ Preferred Specimen Types and Transport Media

For consistency and reliable sequencing results, the following specimen types and transport media types are acceptable:

##### **Specimen Types:**

- Nasopharyngeal swabs (preferred)
- Nasal swabs

##### **Transport Media:**

- Viral Transport Medium (VTM)
- Universal Transport Medium (UTM)

\*\*\* Swabs must be placed in one of the above transport media. Please note that MTM and Aptima media are **NOT** accepted \*\*\*

#### ➤ Specimen selection and volume

SPHL accepts only **SARS-CoV-2 positive samples** confirmed by **PCR or NAAT testing**. Antigen tests are not acceptable.

At least **1 mL (500 µl minimum)** of the positive SARS-CoV-2 respiratory specimen in VTM or UTM should be submitted.

#### ➤ Temperature

Proper handling of specimens is essential to preserve SARS-CoV-2 RNA integrity for laboratory testing (i.e., sequencing). Please follow these storage and shipping guidelines:

Store specimens at **2–8°C**, and freeze at **-70°C** within 72 hours of collection. Ship frozen specimens on dry ice to ensure they remain frozen during transit.

- **If shipping within 72 hours of collection:**
  - Store specimens at 2–8°C (refrigerated)
  - Ship promptly to SPHL
- **If not shipping within 72 hours:**
  - Store specimens at -70°C or colder until shipment
  - Use dry ice during transport to maintain frozen conditions

	Viral Transport Medium (VTM)	Universal Transport Medium (UTM)
2 - 8°C	✓	✓
≤ -70°C	✓	✓

Proper collection and storage directly impact the success of sequencing efforts. Please refer to SPHL’s guidelines for packaging and shipping procedures under [Laboratory Training and Workshops](#)

▼ Infectious Substance Packing and Shipping Training

**Infectious Substance Packing and Shipping Training**

**ONLINE TRAINING**

[Packing and Shipping Dangerous Goods: What the Laboratory Staff Must Know](#) (CDC Lab Training)

> Infectious Substance Packing and Shipping Resources and Guidance

Continuing Education for Laboratorians

CDC Lab Training

CDC TRAIN

CDC OneLab Reach

APHL Training Portal

APHL Training and Events

**CDC Laboratory Training**

CDC Laboratory Training offers numerous on demand training modules.

Topics include: COVID-19, Diagnostic Testing, Preparedness, Core Science, Safety, Informatics, and Packing and Shipping.

CDC Laboratory Training also offers many [Laboratory Job Aids!](#)

## 2. Specimen Submission Process

### ➤ Lab Web Portal

All specimen submissions for sequencing are required to be submitted through SPHL's Lab Web Portal (LWP). Access the LWP for order entry via [Lab Web Portal](#).

Scan the QR code to visit LWP



**Order testing electronically and print out the pre-filled Requisition Form to accompany specimens in packaging**

Please reach out to [lab.informatics@tn.gov](mailto:lab.informatics@tn.gov) for questions concerning the LWP.

Or visit: [Login page - LWP](#)

## New User Registration

- Click the **New User Registration** link located under the **Login Button** on the LWP home page.
- A registration request will be sent to the LWP administrator for approval. You will receive a confirmation email once your request has been approved.

### ➤ Ordering Steps – Individual Tests

#### Access Test Requisition Form

- From the Dashboard, use the Navigation bar to click on the **ORDER TESTS** button.
- Select the **“TN Clinical Test Requisition Form”** to open the electronic test requisition form.
- Select **“Virology”** for the Test Section.
- Select **“Nasal Swab”** or **“Nasopharyngeal Swab”** for the Specimen Type.
- Select **“SARS-CoV-2 Whole Genome Sequencing”** for the test.

#### Complete Patient Information

- **For an existing patient:** Under the patient information section of the requisition form, type in the Last Name and select the patient from the drop-down menu. Alternatively, you may click the magnifying glass icon and search for the patient by last name.
- Confirm the patient by verifying the date of birth (DOB). To update information, click the pencil icon next to the patient’s name.
- **For a new patient:** Click the plus sign (+) next to the Last Name field. Enter the patient information and click **Submit**. The new patient will then be added to the system, and the information will be visible on the main form.

#### Complete Submitter Information

- If you are associated with only one facility, the facility name and address will automatically populate based on your registered affiliation.
- **For users linked to multiple facilities:** Your default facility will automatically populate. To select a different facility, click the magnifying glass icon beside the facility name.
- The point-of-contact (POC) will default to the registered facility affiliation.
- **For the ordering provider:** Type the name directly or use the magnifying glass icon to search for and select the relevant POC. Then click **Select** to confirm.



## Complete Specimen Information

- Under **Collection Date and Time**, either type the information directly or select it using the calendar icon.
- Select the appropriate **specimen type** from the listed options.
- Choose the testing **Laboratory: Nashville**.
- *(Optional)* Enter any related sample outbreak ID or additional comments, if applicable.

## Submit Order

- When all sections are complete, click the **Submit** button at the bottom of the page to submit the order, or select **Save** if you wish to submit later.
- Once the test order is ready, a **"Certification of Test Order"** message will appear. Click **AGREE** to proceed.
- After the order is submitted, a confirmation message will display.
- The confirmation will include the assigned **Portal Order ID**, which uniquely identifies the test order in the system.
- Click the **Print** button to generate the Order Manifest in PDF format. Please include the printed manifest with the specimen shipment.

## ➤ Ordering Steps - Batch Ordering

- From the Dashboard, use the Navigation bar to click the **BATCH ORDER** button.
- Click the **three dots** next to **"SARS-CoV-2 Whole Genome Sequencing"** to download the Import Template.
- Complete all required fields and response options in the Batch Order template **before** specimen collection and submission.
- Once the Excel template is complete, either:
  - Click **IMPORT FROM FILE** on the Batch Order page, **or**
  - Use the three-dot menu next to **"SARS-CoV-2 Whole Genome Sequencing"** to upload the completed Import Template.
- After the spreadsheet is imported, carefully verify that all entries are correct, then click **SUBMIT** to finalize the batch order.



## ➤ Specimen Labeling Requirements

Accurate labeling is essential to maintain specimen integrity and avoid processing delays.

**Please ensure that each specimen is labeled with at least two unique identifiers** (e.g., first and last name, date of birth) that match the entries in the LWP. Specimens may also be labeled with a medical record number (MRN) or Patient ID.

Labels should be clear, legible, and securely attached to the specimen container. Specimens that are improperly labeled may be delayed or deemed unsatisfactory for testing.

## 3. Packaging & Shipping

### ➤ Packaging

- Ship **unfrozen specimens** with icepacks.
- Ship **frozen specimens** on dry ice.

#### Inner Container

- Do not place more than 5 specimens in each inner plastic container
- Include absorbent pad & bubble wrap to cushion the specimens & hold the specimens upright

#### Outer Container

- Inner plastic container with specimens
- Two frozen cold packs in zip-lock plastic bags
- Completed requisition form for each specimen being shipped
- Enough cushioning material to fill the cavity of the box

### ➤ Shipping

Specimens should be shipped as **“UN3373 – Biological Substance, Category B”** to the following address via **FedEx** for next-day delivery. If FedEx is unavailable, please email [GenomicEpi.Health@tn.gov](mailto:GenomicEpi.Health@tn.gov) for further assistance.

**Note:** Shipping containers provided by TDH Laboratory Services will already include the appropriate **“UN3373 – Biological Substance, Category B”** label. If another shipping container is used, this exact information must be clearly written on the outside of the container.

Tennessee Department of Health  
Nashville Central Laboratory – Virology Department  
630 Hart Lane  
Nashville, TN 37216

As a participating laboratory in the CoVars-NET program, **specimen shipping costs will be covered by TDH.**

**IMPORTANT:** To use the TDH account as a third-party payer, the provider must have an active account with FedEx. Without such an account, the FedEx may decline the third-party billing request.







**FedEx (Preferred)**

- Select "Priority Overnight shipping on waybill
- Use the TDH CEDS Account as the third-party payer



Account # **4595-3286-2**

## CoVars-NET Quick Guide

	<h3>Specimen Collection</h3> <ul style="list-style-type: none"><li>Nasopharyngeal swabs (preferred) or nasal swabs</li><li>Specimen collected in <b>Viral Transport Medium or Universal Transport Medium</b>. MTM and Aptima media not accepted</li></ul>
	<h3>Specimen Submission Criteria</h3> <ul style="list-style-type: none"><li><b>PCR/NAAT Positive (+)</b> SARS-CoV 2 specimens</li><li>Specimen volume should be <b>1 mL</b> (500µl minimum)</li><li>Specimen should be <b>kept cold (2-8°C)</b> and shipped to SPHL within 72 hours <b>OR</b> must be frozen (-70°C) within 72 hours of collection</li></ul>
	<h3>Labeling Tube for Submission</h3> <ul style="list-style-type: none"><li>Specimen should be labeled with at least two identifiers used to submit specimen requests via the SPHL's Lab Web Portal (<b>patients full name, date of birth (DOB) or date of specimen collection (DOC)</b>)</li></ul>
	<h3>Submission via LWP</h3> <ul style="list-style-type: none"><li>All specimens should be submitted through the State Public Health Laboratory's <b>Lab Web Portal</b> (LWP)</li></ul>
	<h3>Packaging</h3> <ul style="list-style-type: none"><li>Specimen should be kept cold (<b>2-8°C</b>) and shipped to SPHL <b>within 72 hours</b> of collection using <b>ice packs</b> to maintain temperature (<b>OR</b>)</li><li>If not shipped to SPHL within 72 hours of collection, specimen must be <b>frozen down (-70°C)</b>. Frozen specimen should be shipped to SPHL on dry ice</li></ul>
	<h3>Shipping</h3> <ul style="list-style-type: none"><li>Ship only between <b>Monday through Thursday</b> via <b>FedEx Priority Overnight</b>. <b>DO NOT</b> ship on Fridays or the day before a state holiday</li><li>Ship to : "<b>Tennessee Department of Health Nashville Central Laboratory - Virology Dept 630 Hart Lane, Nashville, TN 37216</b>" with the label of "<b>UN3373 - Biological Substance, Category B</b>" via Fedex Overnight.</li></ul>



## Resources

SPHL Packing and Shipping Guidelines - [Laboratory Training and Workshops](#) (Infectious Substance Packing and Shipping Resources and Guidance)

LWP Memo - [Memo LWP Expansion.pdf](#)

TN LWP Registration Form - [TN LWP New Client Form 20250320 updated.pdf](#)

## Contact List

For questions or coordination:

<b>Genomic Epidemiology Program</b>	Genomic Surveillance Team	GenomicEpi.Health@tn.gov
	<b>Keith Morris</b>	
<b>SPHL CoVars Testing Program</b>	PH Laboratory Assistant Director - Serology & Virology	<a href="mailto:Keith.Morris@tn.gov">Keith.Morris@tn.gov</a> 615-262-6300
<b>SPHL Shipping and Transport</b>	<b>Rusty Bowden</b>  PH Laboratory Lab Outreach Coordinator	<a href="mailto:Russell.Bowden@tn.gov">Russell.Bowden@tn.gov</a> 615-262-6300
<b>Lab Web Portal</b>	Lab Informatics	Lab.informatics@tn.gov