TexWEB provides public health departments, medical communities, and decision-makers **access to near real-time data** about new and emerging viruses that are not yet on the clinical radar, allowing them to take measures **to prevent disease and keep schools and business running safely.**

TexWEB

Using Wastewater Science to Prepare Texans

WHAT IS TEXWEB?

In collaboration with UTHealth Houston School of Public Health and Baylor College of Medicine, TEPHI is establishing a statewide **Texas Wastewater Environmental Biomonitoring (TexWEB)** network, which (1) acts as an early detection system for community spread of viral pathogens, (2) establishes a long-term program to detect and monitor viruses with pandemic potential, and (3) creates an early alert system to help coordinate public health responses to emerging threats.

WHY WASTEWATER?

- ✓ Provides community-level data and a comprehensive view of community spread
- ✓ Fills gaps in clinical testing data
- ✓ Can detect community spread of viruses **before** they impact healthcare systems
- ✓ Can inform public health actions to **keep Texans safe from infectious diseases and businesses open**

COLLABORATION AND COMMUNICATION ARE CRITICAL

Early alert criteria are being established jointly with state and local public health departments and local wastewater utilities.

In partnership with DSHS, we are strategically expanding the network to ensure broader coverage across the state. This expansion will enable more communities to benefit from early warning signals, empowering local health officials with critical data to proactively respond to public health threats.

A statewide system based on viral-load thresholds will be used to activate key public health notifications.

A dashboard and visualizations are in development for real-time education and implementation of coordinated health responses to emerging threats.

Are you interested in partnering with us?
Email *info@tephi.texas.gov* to start the conversation.

Utility workers at an El Paso facility document samples of wastewater prior to sending to Baylor College of Medicine for analysis.

UTHealth Houston | TEPHI TEXAS EPIDEMIC PUBLIC HEALTH INSTITUTE

Baylor College of Medicine

Two laboratory technicians at BCM prepare samples to isolate DNA for sequencing.

PROGRAM HIGHLIGHTS

- Screens for a variety of viruses, including respiratory, enteric, mosquito-borne, and hemorrhagic
- Identifies seasonal trends in the types of viruses present — a key step towards proactive public health measures
- Detects new variants and novel viruses — aiding in early detection efforts for viruses of concern like H5N1
- Uses in-house scripts (computer programs) that swiftly sift through all the data, quickly generating reports for public health departments
- Regularly detects SARS-CoV-2, influenza, RSV, and Mpox with levels corresponding to trends in clinical data
- Expanding detection efforts to antimicrobial-resistant bacteria, including drug-resistant tuberculosis

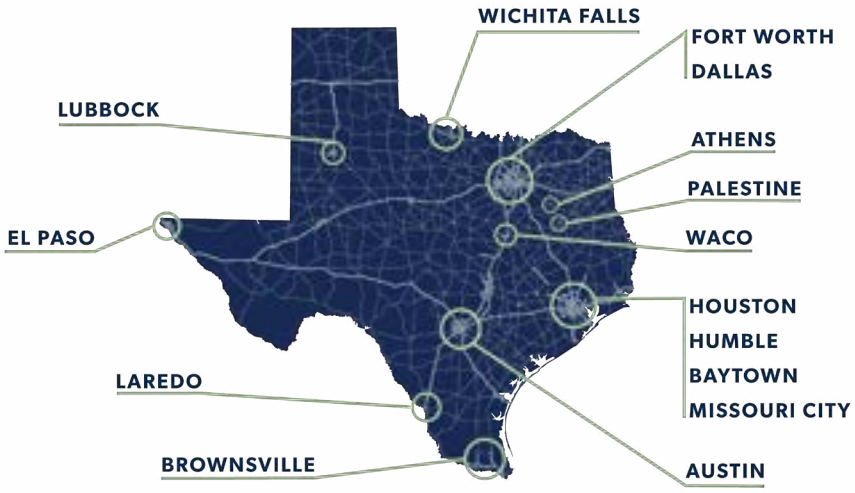
TEXWEB NETWORK AS OF OCTOBER 2024:

2,000+ samples tested to date
3,153 human and non-human viruses tested
More than 15,000 different viral variants
Approx. 550 different viruses reported weekly

15 CITIES

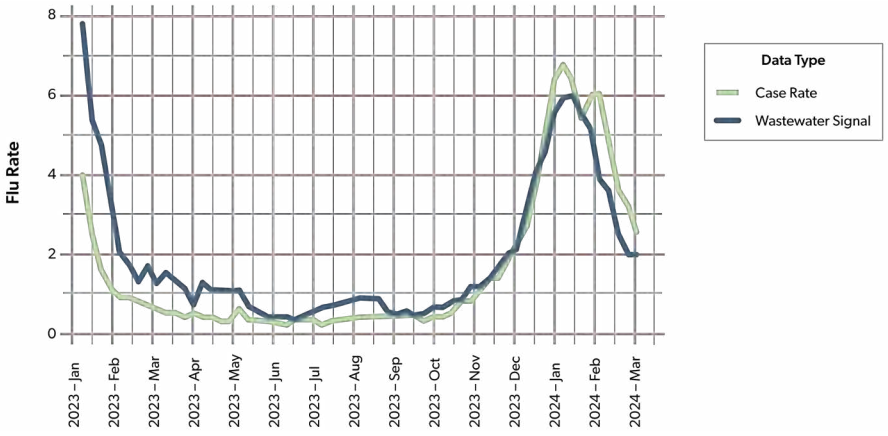
28 SAMPLE SITES

30+ CONSECUTIVE MONTHS OF WEEKLY SAMPLING (BEGAN MAY 2022)



AN EYE ON TRENDS

Routine monitoring and analysis of wastewater data may allow scientists to detect viruses and other pathogens before cases arrive in a hospital or doctor's office. When paired with clinical data, this approach can paint a more complete picture of an outbreak's spread, allowing for more precise response strategies.



Graph of Texas influenza A and B case rates and wastewater signal for all TexWEB sites January 2023 to March 2024 shows strong correlation.

Updated as of October 2024

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