



Influenza Virologic Surveillance Right Size Roadmap:

Using Alternative Data for Influenza Virologic Surveillance

What is Alternative Data?

In the context of influenza virologic surveillance, **alternative data is existing virologic data from non-public health laboratory sources that can be used to supplement public health laboratory (PHL) testing data for improved situational awareness.** Alternative data typically consists of influenza virologic data from clinical and commercial diagnostic laboratories and can include a variety of influenza testing methods ranging from influenza virus antigen detection systems (IVADs, also known as rapid influenza diagnostic tests [RIDTs]) to molecular influenza assays. Alternative sources should ONLY be used for determining situational awareness. Only PHL rRT-PCR test data should be used to meet national novel influenza event detection thresholds.

Why Should I Consider Using Alternative Data?

Since the 2009 influenza A (H1N1) pandemic, both the number and the quality of influenza diagnostic tests used in the clinical setting has increased. Many hospital laboratories offer molecular testing for influenza or higher quality rapid antigen detection assays, including those that are machine-read. CDC requires that assays, whose results are used for national influenza virologic surveillance, test for and differentiate between influenza A and influenza B viruses and should not include serologic assays (those that test for influenza antibodies in patient serum). Currently, the majority of available clinical assays for influenza meet these requirements. If results can be reported to public health, they can represent a valuable source of data for influenza situational awareness allowing states to meet Right Size sample size goals, identify and request submission of influenza positive specimens during times of low influenza prevalence (e.g., summer) and detect geographic clusters or outbreaks more quickly.

What Types of Alternative Data Can I Use?

The selection of alternative data test methods (molecular tests and/or IVADS) and participating sites is determined by the jurisdiction and will depend in large part on what data is available and the willingness of clinical or commercial laboratory partners to participate in surveillance. If the volume of data is large enough to meet Right Size situational awareness sampling goals some jurisdictions may want to limit enrollment to only sites performing molecular assays. Others may prefer to meet Right Size situational awareness sampling goals by enrolling a mix of molecular test sites and rapid test sites to provide better geographic coverage or to receive a more representative mix of out-patient and in-patient test results.



What Information Do I Need to Receive From Alternative Data Providers?

Most jurisdictions currently collecting alternative data are receiving aggregate data from each site on a weekly basis. **At a minimum, each site should report weekly the number of patient specimens tested for influenza and the number that were positive by influenza virus type and subtype if available. If subtype data are collected, jurisdictions should collect information annually on the test method(s) and the test manufacturer(s) used by each site so that data can be properly interpreted.** Optional information that may be collected includes providing age group and, if multiple test methods are used at a facility, test type.

If specimen (patient) level data are being reported, additional information may be available. Date of specimen collection and general information on patient residence and county, city, or zip code, allows for a more detailed interpretation of the data by public health officials. Additional variables that may be of interest include, but are not limited to, age, sex, race/ethnicity, vaccination status, antiviral treatment status, outpatient/inpatient status and association with an institutional outbreak.

You may want to consider requesting full respiratory virus panel data from participating laboratories that use these assays. A number of states have reported the value of these data for better interpretation of their respiratory illness surveillance and, when shared on a regular basis, as an incentive for providers to participate in specimen and data submissions. This is not a requirement for Right Size influenza surveillance but can add value to alternative data collection activities.

Example Mechanisms for Data Collection

There are many ways to collect alternative data and each jurisdiction will need to determine which method(s) work best for their surveillance program and for their partners. Listed below are a few ideas and more detailed state-specific examples can be found on the [Right Size Example Practices and Resources](#) webpage.

- Several states have found that the use of standardized reporting tools such as electronic surveys (e.g., SurveyMonkey) for aggregate data collection improve efficiency and accuracy.
- Pulling data from NREVSS or the US WHO Collaborating Laboratories System can make efficient use of data that some providers are already submitting without having to request a separate report.
- Electronic Laboratory Reporting (ELR) may be useful for states with required influenza reporting especially for specimen level data. However, for situational awareness, information is needed on both the number of specimens tested as well as the number of positive specimens.

Example Use of Alternative Data for Right Size Situational Awareness

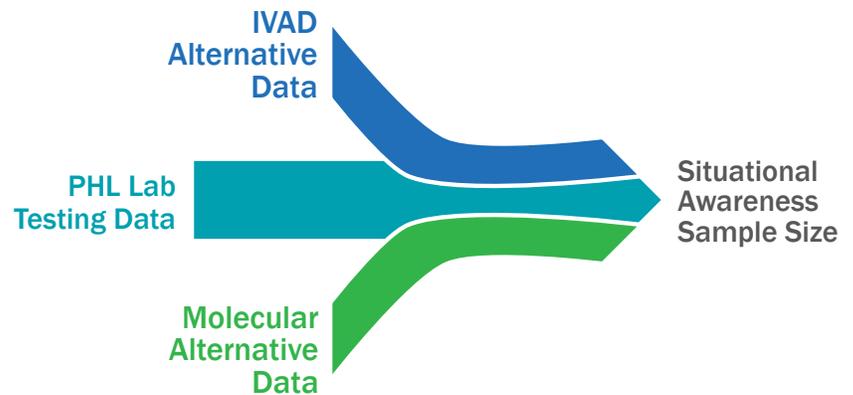
For my state, the [situational awareness calculator](#) tells me I need to have data from **130** unscreened medically attended influenza-like illness (MA-ILI) specimens in order to be 95% confident that the true prevalence of influenza out of MA-ILI cases is 10% (+/- 5%). Therefore, if the participating labs and/or IVAD sites in my state, in aggregate, test and report results from **100** unscreened specimens from ILI patients, my PHL only needs to test an additional **30** unscreened specimens to meet my target sample size to meet my situational goals.

$$\begin{aligned} &\text{Alternative Data} \\ &+ \\ &\text{Public Health Lab Testing Data} \\ &= \\ &\text{Jurisdictional Situational} \\ &\text{Awareness} \end{aligned}$$



Important Considerations for Using Alternative Data

- **Alternative sources should ONLY be used for determining situational awareness. Only PHL rRT-PCR tested data should be used to meet national novel influenza event detection thresholds.**
- Laboratories should understand what tests are being performed and what algorithm is being used by their alternative data submitters. This will help ensure the data are interpreted correctly and help limit biases due to test method. For example, some laboratories use molecular tests that do not test for any or certain subtypes. This should be taken into consideration if you receive subtype data from those laboratories in order to correctly interpret the data.
- Establishing an alternative data network can be time and resource intensive, but investing in this process can have large dividends and improve data representativeness, confidence, access to clinical samples, partnerships and efficiency.
- Alternative data can be used to supplement and enhance situational awareness allowing your jurisdiction to increase sample sizes, improve data confidence levels and decrease error rates.



Additional Resources

For jurisdictions that want to use existing alternative data systems or want to build a system, you are encouraged to reach out to CDC, APHL and your state and local colleagues to discuss strategies and best practices. The APHL Right Size listserv is meant to be a discussion platform for these topics as well. To enroll, please contact stephanie.chester@aphl.org. For additional and more detailed example mechanisms for obtaining alternative data please see the [Right Size Example Practices and Resources](#) webpage.

Questions?

Contact stephanie.chester@aphl.org.

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