

GISRS sentinel surveillance for COVID-19

Frequently Asked Questions (FAQ)

31 July 2020



1. What is sentinel surveillance for COVID-19?

Sentinel surveillance for COVID-19 helps reach some of the objectives of the overall COVID-19 surveillance, outlined in the [Surveillance strategies for COVID-19 human infection document](#), and complements the outbreak surveillance and investigations.

Sentinel surveillance is an efficient way to collect high-quality data in a timely manner systematically and routinely from representatives of the population under surveillance so that the information gathered can be applied to the population or among subpopulations at higher risk of developing severe disease.

Sentinel surveillance for COVID-19 using GISRS complements COVID-19 surveillance activities under the overall COVID-19 pandemic response and is intended to be efficient and cost-effective using the existing routine national and sub-national influenza surveillance systems.

2. What is the added value of including sentinel surveillance of COVID-19 in the overall COVID-19 pandemic response?

By using existing, well-functioning influenza surveillance systems and using a consistent testing strategy ([testing around 150 sentinel samples per week](#)), which is a relatively small fraction of the ongoing comprehensive COVID-19 laboratory testing volume, sentinel surveillance for COVID-19 is a cost effective way to meet some of the following objectives:

- monitor the geographic spread, intensity of transmission, and severity trends of community transmission of COVID-19 over time;
- understand the risk factors for disease;
- systematically monitor the genetic evolution of the COVID-19 virus; and
- assess the impact on health systems.

In addition, understanding the relative contribution of COVID-19 to the data captured in syndromic disease surveillance systems is critical to guide national responses and interpret the burden of disease caused by SARS-CoV-2 and influenza viruses. In addition, the data gathered can be used as a baseline for future evaluation of COVID-19 interventions such as vaccination, as has been undertaken already for influenza.

3. Why is the Global Influenza Surveillance and Response System (GISRS) well suited to implement sentinel surveillance of COVID-19?

GISRS has been the foundation of monitoring influenza viruses and diseases since 1952. It is a well-established network of more than 150 national public health laboratories in 125 countries. From year-round seasonal influenza surveillance, to sporadic zoonotic influenza outbreaks, to pandemic including the 2009 H1N1 Pandemic, GISRS and associated systems host expertise and experience at national, regional and global levels. Leveraging the GISRS system is an efficient and cost-effective approach to enhancing COVID-19 surveillance.

Same laboratories. Since the emergence of SARS-CoV-2, laboratories of the GISRS network have become COVID-19 testing centres in many countries. Notably, as of July 2020, approximately 85% of more than 220 national public health laboratories testing for COVID-19 globally were laboratories closely associated with GISRS.

Same sentinel sites. Well-functioning sentinel sites for sampling symptomatic patients exist in many countries. Because influenza and SARS-CoV-2 are both respiratory viruses and the diseases they cause can present with similar symptoms, symptomatic patients seen at sentinel sites can be sampled and their specimens can be tested for both influenza and SARS-CoV-2 viruses in addition to other respiratory viruses.

Same reporting platforms. Reporting channels for rapid sharing of information from this systematic, consistent testing system already exist.

4. How can countries implement sentinel surveillance of COVID-19 using GISRS?

To complement COVID-19 active case finding and reporting, countries with influenza surveillance systems already in place can add SARS-CoV-2 testing to routine epidemiological and virologic surveillance as outlined in the [Operational considerations for COVID-19 surveillance using GISRS: interim guidance](#).

Countries that conduct primary care or hospital-based sentinel surveillance for ILI, ARI, SARI, or pneumonia should continue to collect respiratory specimens using existing case definitions for these syndromes, through sentinel or syndromic networks. Laboratories should continue testing routine influenza surveillance samples for influenza with the addition of testing the samples for SARS-CoV-2 virus as well.

5. How can countries ensure well-functioning sentinel surveillance systems for influenza and COVID-19?

To ensure functioning of sentinel surveillance system for both influenza and COVID-19, the GISRS network, regional influenza networks, and national influenza surveillance officers are urged to consider realistic and practical solutions related to persistent influenza threats and the current COVID-19 response.

In preparation for the co-circulation of influenza and SARS-CoV-2 viruses during influenza seasons, both of which are of public health importance, it is recommended:

- to urgently strengthen and adapt existing national influenza surveillance systems for both influenza and COVID-19 responses;
- to integrate COVID-19 surveillance into ongoing influenza sentinel surveillance systems as much as possible under strategies tailored to the needs and capacity specific to the country;
- forecast demand, anticipate challenges and potential disruptions to existing infrastructures,
- and plan for surge capacity in National Influenza Centres and sentinel surveillance sites.

6. Which case definitions should be used for collecting sentinel surveillance samples for COVID-19 testing at sentinel sites?

Currently, there is no change to the case definitions for influenza like illness (ILI) and severe acute respiratory infection (SARI) surveillance. Countries that conduct primary care or hospital-based sentinel surveillance for acute respiratory infection (ARI), ILI, SARI, or pneumonia, even if adding COVID-19 testing, should continue to collect respiratory specimens from patients using existing case definitions. The standard case definitions for ILI and SARI are defined in the [WHO global epidemiological surveillance standards for influenza](#). More information on ILI and SARI case definition can be found at https://www.who.int/influenza/surveillance_monitoring/ili_sari_surveillance_case_definition/en/.

It is important to note, the case definitions for ILI and SARI differ from the [COVID-19 case definitions](#) for suspect and probable cases because the surveillance objectives as well as the clinical manifestations slightly differ. Data is being gathered to support an examination of case definitions for sentinel surveillance that is optimized to meet objectives for influenza and COVID-19. This work will inform future recommendations regarding case definitions.

7. In some countries, surveillance of influenza typically runs during the influenza season only. Should sentinel surveillance for COVID-19 be conducted during the same period or year-round?

All countries are encouraged to conduct year-round sentinel surveillance for COVID-19. Depending on available resources, ILI and SARI specimens should be tested for influenza and SARS-CoV-2 viruses. The order of testing for influenza and SARS-CoV-2 viruses should be adjusted to the epidemiological situation in the country considering the prevalence of circulating viruses and influenza seasonality. Moreover, year-round ILI and SARI surveillance is useful for detecting unusual events that may occur outside the usual influenza season.

8. Why should weekly COVID-19 sentinel surveillance data be reported consistently to WHO and through which platform?

Weekly COVID-19 sentinel surveillance data are essential to monitor trends of community transmission at national, regional and global levels.

Global and regional reporting platforms have been adapted to receive COVID-19 data in addition to influenza data. Countries are recommended to report weekly aggregated COVID-19 sentinel surveillance data in the same format, frequency and timing as they have been reporting influenza surveillance data. Virologic data (such as the number of samples testing positive and negative for COVID-19) from cases sampled in existing sentinel or syndromic surveillance systems should be reported to established regional and global influenza platforms (FluNet) from the GISRS network laboratories. Regardless of the changes implemented to adapt existing systems, countries are encouraged to continue to report of epidemiological data (such as the number of ILI and SARI cases presenting to sentinel sites) through existing channels to FluID and to report details on those changes. For more information on reporting COVID-19 sentinel surveillance data and on the additional field to be reported to FluNet and FluID, visit: www.who.int/influenza/surveillance_monitoring/gisrs_covid19_reporting/en/.

9. Will sentinel surveillance for COVID-19 detect all cases of COVID-19?

Sentinel ILI and SARI surveillance is not designed to detect every case of influenza or COVID-19 but to recognize and monitor trends of community transmission over time, describe patterns of risk, and estimate impact of influenza, COVID-19 or diseases caused by other respiratory viruses. ILI and SARI sentinel surveillance can capture those cases that are symptomatic and seeking medical care at a sentinel site and presenting with symptoms that meet the ILI and SARI case definition. A symptomatic patient meeting the case definition may be sampled and tested depending on the sampling strategy of the sentinel site. Ideally, the strategy for sampling ILI and SARI cases for testing should be consistent over time to minimize biases.

To detect each and every COVID-19 case, countries conduct active case finding and use other surveillance systems to quickly identify COVID-19 cases among various populations and risk groups; for more information on COVID-19 surveillance visit: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/surveillance-and-case-definitions>.

10. What are the main changes/adjustments for GISRS and influenza surveillance systems with COVID-19 sentinel surveillance added to its routine influenza surveillance?

- Countries that conduct primary care or hospital-based surveillance are encouraged to review, prepare, and adjust ILI/ARI and SARI syndromic surveillance at sentinel and non-sentinel sites affected by COVID-19 and adapt existing systems to address emerging challenges, and ensure the quality and quantity of specimens collected, according to WHO ILI and SARI case definitions.
- Samples collected from sentinel sites should be clearly labelled as such and, if possible, the case definition applied should be included in the labelling (ILI, SARI, etc.).
- Laboratory testing algorithms, protocols, and corresponding platforms should be adapted to include both influenza and COVID-19 surveillance.
- Prioritize, wherever possible, a minimum of 150 respiratory specimens collected for influenza surveillance and SARS-CoV-2 for testing, weekly per country.
- As resources allow, test ILI and/or SARI specimens for influenza and SARS-CoV-2 viruses. Priority for SARS-CoV-2 testing should be given to influenza-negative specimens; however, the order of testing for SARS-CoV-2 and influenza viruses should be adjusted to epidemiological situation in the country considering the prevalence of circulating viruses, influenza seasonality and known epidemiological link.