

**Influenza surveillance** is an essential component of public health surveillance systems because it:

- tells us when influenza seasons begin and end
- describes the impact of influenza seasons on health
- indicates the impact of control and mitigation measures
- is used for making decisions on vaccine strain selection
- monitors the prevalence of resistance to antiviral drugs<sup>1</sup>

**WHO GISRS** has coordinated global influenza surveillance for **70 years**<sup>2</sup>

From 25 countries in 1952 to >127 countries areas or territories in 2022<sup>2</sup>

GISRS has served as a global alert system for several respiratory viruses, including:<sup>2</sup>

SARS-CoV-1  
Pandemic influenza (H1N1)  
SARS-CoV-2

The number of specimens tested by GISRS has increased dramatically:<sup>2</sup>

2014–2019  
(influenza only)

3.4 million per year

2020–2021  
(influenza plus SARS-CoV-2)

50.9 million per year

Today, influenza surveillance is not uniformly distributed globally and surveillance practices differ greatly between countries<sup>4</sup>

The prediction of future influenza activity, known as **influenza forecasting**, is important because it helps us:



prepare for an increased healthcare burden



plan the public health response



provide well-matched vaccines



prevent illness, hospitalization and death



reduce the economic burden



inform communications to health care providers<sup>3,5</sup>

Although forecasting capabilities have significantly improved in the last 10 years, influenza forecasting remains challenging.<sup>5</sup>

**Future challenges for respiratory virus surveillance:**



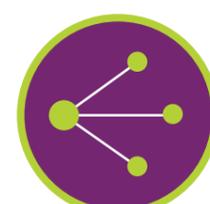
assist countries to build their surveillance capabilities



maximise use of low-cost digital surveillance options



integrate influenza and other respiratory virus surveillance



incorporate multi-stream data assimilation



improve influenza forecasting and provide better-matched vaccines

GII Steering Committee member **Jan Kynčl** comments: “There is an urgent need to develop and sustain resilient population-based integrated systems for influenza, COVID-19 and other respiratory virus infections”

**Footnote:** WHO GISRS, World Health Organization Global Influenza Surveillance and Response System.

**References:** 1. Ali ST and Cowling BJ. Influenza Virus: Tracking, Predicting, and Forecasting. Annu Rev Public Health 2021;42:43-57. doi: 10.1146/annurev-publhealth-010720-021049. 2. WHO. 2022. Celebrating 70 years of GISRS (Global Influenza Surveillance and Response System). Available at: Celebrating 70 years of GISRS (the Global Influenza Surveillance and Response System) (who.int). Accessed August 2022. 3. Moore KA, et al. A Research and Development (R&D) roadmap for influenza vaccines: Looking toward the future. Vaccine 2021;39(45):6573-6584. doi: 10.1016/j.vaccine.2021.08.010. 4. de Fougères TR, et al. National influenza surveillance systems in five European countries: a qualitative comparative framework based on WHO guidance. BMC Public Health 2022;22(1):1151. doi: 10.1186/s12889-022-13433-0. 5. CDC. FluSight: Flu forecasting. Available at: FluSight: Flu Forecasting | CDC. Accessed August 2022.