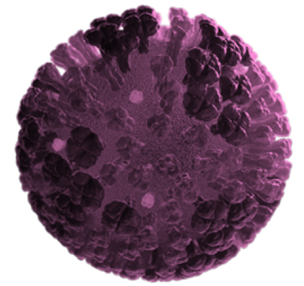


InFluNews



The monthly newsletter from the Global Influenza Initiative (GII)

SEPTEMBER 2021 | ISSUE 5

Welcome to the latest issue of InFluNews with this month's guest editor, Jan Kynčl.

Preparing for future flu seasons in the midst of COVID-19

Introduction

InFluNews Issue 1 (March 2021) discussed the effect of the COVID-19 pandemic on global influenza transmission and activity. With surveillance largely focused on COVID-19 and the introduction of non-pharmaceutical interventions (NPIs), the detection of influenza viruses has notably decreased. The concerns for the upcoming autumn/winter season are potential outbreaks of non-COVID-19 infections such as influenza, and challenges regarding strain selection for the influenza vaccine. The World Health Organization (WHO) has made recommendations for the 2021–2022 influenza vaccine for the Northern Hemisphere based on a smaller sample size than previous seasons. It is difficult to predict the consequences of low influenza circulation, and it is possible there may be unusual and more severe epidemics in future seasons.¹

This issue of *InFluNews* will continue to explore the effect of COVID-19 on influenza surveillance and focus on predictions and advice for the upcoming influenza season and future pandemics.

FOCUS THIS MONTH

INFLUENZA SURVEILLANCE

How has COVID-19 affected influenza surveillance?

PREPARING FOR UPCOMING FLU SEASONS

What should we expect from future flu seasons and how can we prepare?

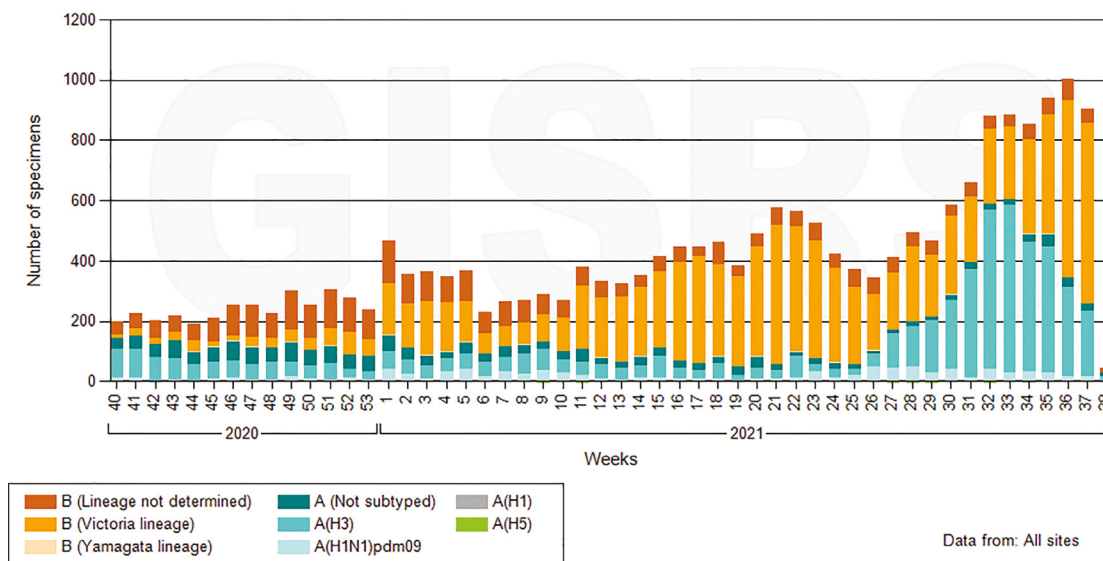
Influenza surveillance update

NPIs which have been implemented in response to the COVID-19 pandemic have likely contributed to notable reductions in global influenza circulation.²

As 2021 is progressing, the number of samples tested positive for influenza is increasing which can be due to relaxed restrictions globally.

Global circulation of influenza viruses³

Number of specimens positive for influenza by subtype



Source: Global circulation of influenza viruses. WHO FluNet; 2021. <https://www.who.int/tools/flunet>. Licence: CC BY-NC-SA 3.0 IGO.

Different levels of influenza activity and subtypes have been identified in different regions, with low influenza activity in temperate regions of the Northern and Southern Hemispheres. Influenza A(H3N2) and sporadic influenza B have been detected in the Philippines and Mexico, respectively. India and Nepal have seen an increase in influenza detections over the second half of 2021 of predominately influenza A(H3N2) with an increasing proportion of specimens testing positive for influenza B in recent weeks.^{2,3,4} China is witnessing a rising number of influenza

positive specimens for the third time in 2021 with influenza B lineages dominating throughout the year.³ These differences may be due to factors such as testing and reporting capacity and/or NPIs and adherence to these control measures.

At Week 24 of 2021, the WHO European Region reported 51% influenza A with approximately equal distribution of A(H3N2) and A(H1N1), and 49% influenza B with 13 B/Victoria and three B/Yamagata lineage.⁵

Impact of COVID-19 on influenza surveillance

The surveillance of influenza has been impacted by the COVID-19 pandemic with reduced monitoring and a focus on COVID-19.¹ Surveillance of SARS-CoV-2 and influenza share common objectives including geographic spread, intensity of transmission, healthcare preparedness, and virus characterisation for vaccine development.⁶ The Global Influenza

Surveillance and Response System (GISRS) provides an efficient, economical and sustainable platform for the detection and surveillance of influenza, and has been a useful resource to monitor SARS-CoV-2. Genomic sequencing of SARS-CoV-2 can help to monitor the prevalence of genetic variants and inform public health interventions.⁷

Influenza and SARS-CoV-2 virus detections from sentinel surveillance reported to FluNet globally⁴

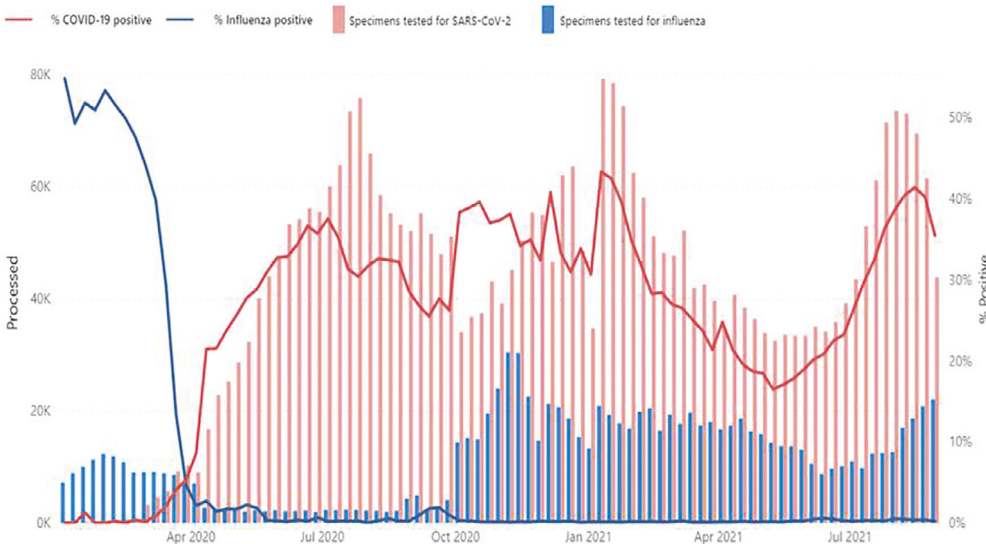


Figure source: Influenza Update N° 402 (29 Aug 2021). WHO; 2021. https://cdn.who.int/media/docs/default-source/influenza/influenza-updates/2021/2021_09_13_surveillance_update_402628d882e-bff2-4a04-aa95-f3814bc7c27e.pdf?sfvrsn=20039a7f_5. Licence: CC BY-NC-SA 3.0 IGO. Data source: WHO FluNet. <https://www.who.int/tools/fluNet>. Global Influenza Surveillance and Response System (GISRS). Data generated on 13/09/2021.

In 2020–2021, the European Centre for Disease Prevention and Control reported a marked reduction in the number of influenza cases testing positive compared with the previous 2019–2020 season. This may be due to large numbers of samples taken from patients who fulfil the criteria for influenza-like illness and/or acute respiratory infection but are infected with another pathogen such as SARS-CoV-2, in addition to NPIs such as travel restrictions and social distancing measures, and viral interference with SARS-CoV-2 impeding influenza infection.⁵

In France, sentinel surveillance and detection criteria of respiratory infections has adapted from influenza-like illness (defined as sudden fever of >39°C with myalgia and respiratory signs) to acute respiratory infections (defined as sudden onset of fever or feeling feverish and respiratory signs). This allows monitoring of both the COVID-19 pandemic and other respiratory epidemics such as influenza and respiratory syncytial virus (RSV).⁸

The CDC guidance for testing and treatment of influenza when SARS-CoV-2 and influenza are co-circulating recommends that multiplex testing is used, if available.⁹

Preparing for the upcoming flu season in an ongoing pandemic

NPIs such as social distancing, mask wearing and travel restrictions to reduce the spread of COVID-19 have also reduced the circulation of influenza. Due to low levels of population immunity, a surge in influenza infections is expected following the easing of these restrictions. While the global circulation of influenza has decreased during the COVID-19 pandemic, cases have been detected in several countries, although they have not reached epidemic level.³ The consequences of reduced influenza circulation remain uncertain with the possibility of unusual and severe epidemics in future seasons and challenges for strain characterisation for the influenza vaccine.¹

Projections of influenza activity after NPIs are relaxed in the US suggest that a large outbreak may occur due to the accumulation of susceptible individuals. A very recent modeling study from US showed that a longer COVID-19 control period may lead to a larger susceptible population and a higher epidemic peak. A ripple effect of COVID NPIs was predicted, whereby influenza epidemics continue to occur for several years, with epidemic size and frequency dependant on the duration of immunity.¹⁰

Preparing for future pandemics

Millions of people have lost their lives or have been affected by COVID-19 in the short time since this disease emerged. A five-pillar system proposed by Craven *et al.* may provide some solutions when preparing for future pandemics, with the aim of reducing the devastating effects we have experienced with the COVID-19 pandemic. Investing in epidemic-preparedness may provide populations with a more

The Academy of Medical Sciences has reported warnings of RSV and influenza outbreaks in the UK during autumn and winter 2021–2022. It is expected that these potential outbreaks, alongside COVID-19 circulation, could place a high burden on the healthcare system.¹¹ It is recommended that the government roll out joint testing of RSV, influenza, and COVID-19, and that people who are eligible are encouraged to accept the COVID-19 vaccine and boosters, as well as the influenza vaccine.¹¹

To prepare for the upcoming influenza season, other measures proposed by the Academy of Medical Sciences include prioritisation of child and adolescent vaccinations in the autumn, improving infection prevention and control, adequate resourcing for primary care, addressing non-COVID-19 cases, providing clear guidance for reducing risk of infection, influenza or multipathogen testing in a range of care settings, and continuing with NPIs.¹²

rapid and targeted response to future pandemics, reducing the chance of a pandemic crisis happening again. They recommend investing in disease surveillance, healthcare capacity, research and prevention plans with specific resources such as global stockpiles, immunisation programmes, and pathogen sequencing and monitoring.¹³

Guest editor Jan Kynčl comments:

The COVID-19 pandemic impacted influenza epidemiology and surveillance. The 2020/21 influenza season was quite exceptional – in terms of virus circulation, it rather resembled the inter-seasonal period. However, the fact that influenza cases have been reduced to a minimum does not mean that the disease has been eradicated. Influenza viruses have been with us for centuries, perhaps millennia, and have not been eradicated by pandemics that have afflicted humanity during that time.

It has been more than 18 months since the WHO declared a COVID-19 pandemic. While the fight against COVID-19 is ongoing, it is important to realise that other diseases have not disappeared and are still with us. An increase in respiratory infections over the forthcoming autumn and winter could place enormous pressure on our COVID-19 test and trace capacity in particular. For this reason, it is necessary to re-establish the surveillance of influenza and other respiratory viruses in order to get timely data. In addition, influenza vaccination programmes should be continued because they provide benefits at a personal as well as a public health level. Lastly, influenza vaccination plays an important role in protecting the elderly, a group that is extremely vulnerable to COVID-19.

GII summary statement

NPIs implemented to curb the spread of SARS-CoV-2 are thought to have also reduced transmission of other respiratory viruses, including influenza. However, influenza surveillance has also been impacted as the focus of surveillance shifted to COVID-19. As restrictions have begun to ease in the latter part of 2021, global influenza cases have increased and concerns remain that unusual and more severe influenza epidemics may occur as a result of reduced population immunity. It is unclear to what extent SARS-CoV-2 will continue to circulate during the upcoming flu season and the impact this will have on the circulation of influenza. Influenza surveillance may need to adapt to more effectively distinguish between COVID-19 and influenza cases. Whether or not we see a resurgence of COVID-19 this winter, COVID-19 and influenza vaccines for those who are eligible, alongside other preventative measures remain our best defence against outbreaks of these respiratory diseases in the future.

References

1. Global Influenza Initiative. InFluNews Issue 1. Available at: <https://www.nivel.nl/en/nivel-zorgregistraties-eerste-lijn/project-flucov-2021-2022>. Accessed September 2021.
2. WHO. Influenza update 400. Available at: <https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-updates/current-influenza-update>. Accessed August 2021.
3. WHO. FluNet. Available at: <https://www.who.int/tools/flunet>. Accessed August 2021.
4. WHO. Influenza update 402. Available at: https://cdn.who.int/media/docs/default-source/influenza/influenza-updates/2021/2021_09_13_surveillance_update_402628d882e-bff2-4a04-aa95-f3814bc7c27e.pdf?sfvrsn=20039a7f_5. Accessed September 2021.
5. ECDC. Influenza virus characterisation. Surveillance report. Summary Europe, June 2021. Available at: <https://www.ecdc.europa.eu/en/publications-data/influenza-virus-characterisation-summary-europe-june-2021>. Accessed September 2021.
6. ECDC. Operational considerations for influenza surveillance in the WHO European Region during COVID-19: Interim guidance. Available at: <https://www.ecdc.europa.eu/en/publications-data/operational-considerations-influenza-surveillance-european-region-during-covid-19>. Accessed September 2021.
7. WHO. Influenza COVID-19 interface. Available at: <https://www.who.int/teams/global-influenza-programme/influenza-covid19>. Accessed September 2021.
8. Sentinelles. COVID-19 and influenza surveillance: Role of the Sentinelles network. Available at: <http://www.sentiweb.fr/france/en/>. Accessed September 2021.
9. CDC. Influenza (flu). Information for clinicians on influenza virus testing. Available at: <https://www.cdc.gov/flu/professionals/diagnosis/index.htm>. Accessed September 2021.
10. Qi Y, et al. Quantifying the impact of COVID-19 non-pharmaceutical interventions on influenza transmission in the United States, *The Journal of Infectious Diseases* 2021; jjab485, <https://doi.org/10.1093/infdis/jjab485>.
11. Burki TK, et al. Circulation of influenza, RSV, and SARS-CoV-2: An uncertain season ahead. *Lancet Respir Med* 2021;S2213-2600(21)00364-7.
12. The Academy of Medical Sciences. COVID-19: Preparing for the future. July 2021.
13. Craven M, et al. McKinsey & Company. Not the last pandemic: Investing now to reimagine public-health systems. Available at: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/not-the-last-pandemic-investing-now-to-reimagine-public-health-systems>. Accessed September 2021.