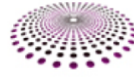


FluCov Epi-Bulletin – July 2022

*'Combining data from around the world to understand
the impact of COVID-19 on influenza activity'*



Global **Influenza** Initiative

Commentary

Contents

It has been over two years since a cluster of atypical pneumonia cases in Wuhan, China, was reported to the World Health Organization (WHO) (January 1, 2020) that was later linked to the new **SARS-CoV-2** virus. The FluCov Epi-Bulletin provides an overview of the number of positive cases of **influenza** and **SARS-CoV-2** and the percentage of specimens that tested positive from January 2019 onwards in 22 countries across most regions of the world (see [page 4](#)).

Results

Globally, **influenza** circulation is decreasing (see Figure 1). The following patterns have been observed for **influenza** during the month of July:

- The overall number of reported **influenza** cases has continued to decrease for most countries included in the bulletin;
- **China** reported an increase in **influenza** activity, although the peak might have been reached in week 27 considering that lower numbers were reported in weeks 28 and 29 and no cases were reported in week 30 (but this could be due to lag in data reporting);
- Interestingly, **influenza** B (Victoria) was dominant early in the season in **China** and **influenza** A(H3) is now dominant and continues to circulate in Southern China;
- **South Africa** and **Australia** experienced **influenza** activity in July (more than 10% of 2022 cases for these countries occurred during July); however, a decrease in **influenza** activity is now being observed in both countries;
- Most **influenza** cases observed in June and July were **influenza** A (H3) – see WHO FluNet figure on page 2;
- A number of countries reported no or very few **influenza** cases in July: **France, Germany, India, Japan, Netherlands, Philippines, Poland, South Korea, Thailand, and Vietnam**.
- The cases reported in July in **Japan** (6) and **South Korea** (17) are some of the very few **influenza** cases reported in 2022 (total for 2022: 8 in **Japan**, 18 in **South Korea**).
- A number of countries (**Italy, Egypt, USA**) did not report **influenza** updates in July.

The increase in the overall number of reported **SARS-CoV-2** cases reported in June, probably due to the emergence of the Omicron BA.4 and BA.5 variants and the relaxation of nonpharmaceutical interventions (NPIs) [1], continued in July. The following patterns have been observed for **SARS-CoV-2** in the month of July:

- The number of **SARS-CoV-2** cases that most countries reported in July was higher than in June (**South Africa** and **Thailand** are the only exceptions);
- Despite the overall increase in cases observed in July, a number of countries (**Australia, Brazil, France, Germany, Israel, Italy, Spain, UK**) may have peaked near the end of the month.
- A steep rise in **SARS-CoV-2** activity was observed in countries in Eastern Asia (**South Korea** and **Japan**) and Southeast Asia (**Vietnam**), with **Japan** reporting the highest number of cases per week (roughly 1.5 million) since the beginning of the pandemic.

Implications

The unusually long **influenza** season witnessed during the first half of 2022 in many Northern Hemisphere countries has ended after reaching its peak in a second wave in March-April (weeks 12-14). This decrease has now also started in the Southern Hemisphere countries tracked by the Epi-Bulletin (**Australia, Brazil and South Africa**).

The co-circulation of **influenza** and **SARS-CoV-2** during the 2021/22 Northern Hemisphere winter and 2022 Southern Hemisphere winter has continued in most countries. Different factors can explain the recent increases in **SARS-CoV-2** cases that have been observed in almost all the countries included in the Epi-Bulletin: the relaxation of non-pharmaceutical interventions, the emergence of the BA.4 and BA.5 Omicron variants and immunization with two doses of vaccine providing limited protection against these two variants [2].

Importantly, in some countries, **influenza** activity in the 2021/22 and 2022 winters (Northern and Southern Hemispheres, respectively) has reached pre-pandemic levels. However, differences between the circulating subtypes have been observed, with **influenza A(H3)** being dominant in most countries (e.g. **US, France and Australia**) and **influenza B (B/Victoria)** in **China**. There have been relatively few cases of **influenza A(H1N1)pdm09** and almost no cases of **influenza B/(Yamagata)** which needs to be further explored as this could be due to data reporting. Finally, the data from the Southern Hemisphere (**Argentina, South Africa and Australia** – see Figures 2-4) show that the current **influenza** circulation is mainly driven by subtypes A(H3) and A(H1N1)pdm09, and this may suggest these viruses will play an important role during the upcoming 2022/23 winter in the Northern Hemisphere.

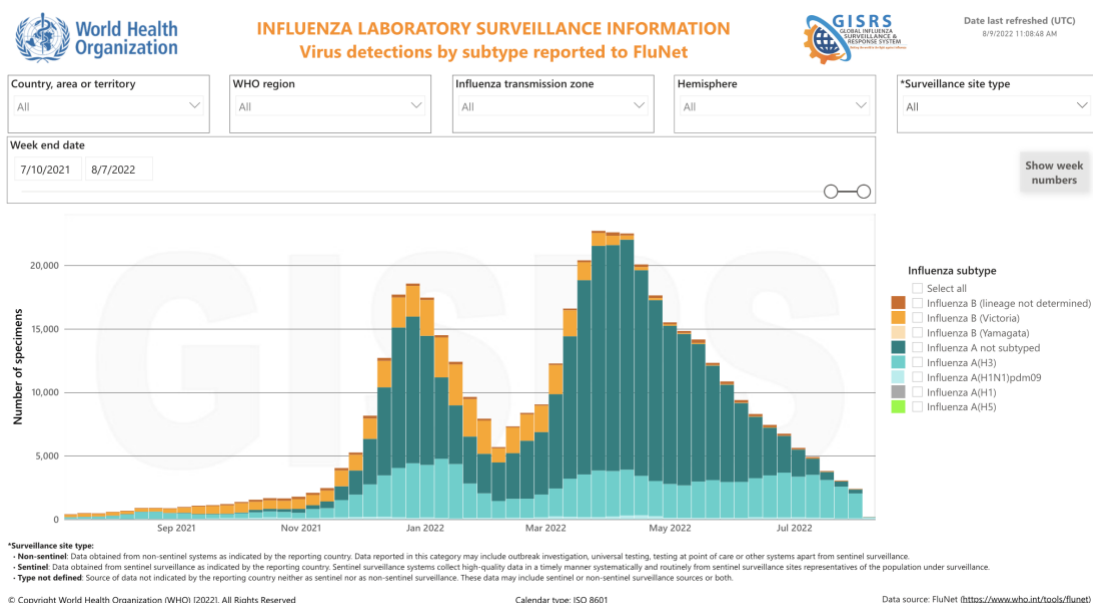


Figure 1: Virus detections by subtype reported to FluNet (all countries and areas)

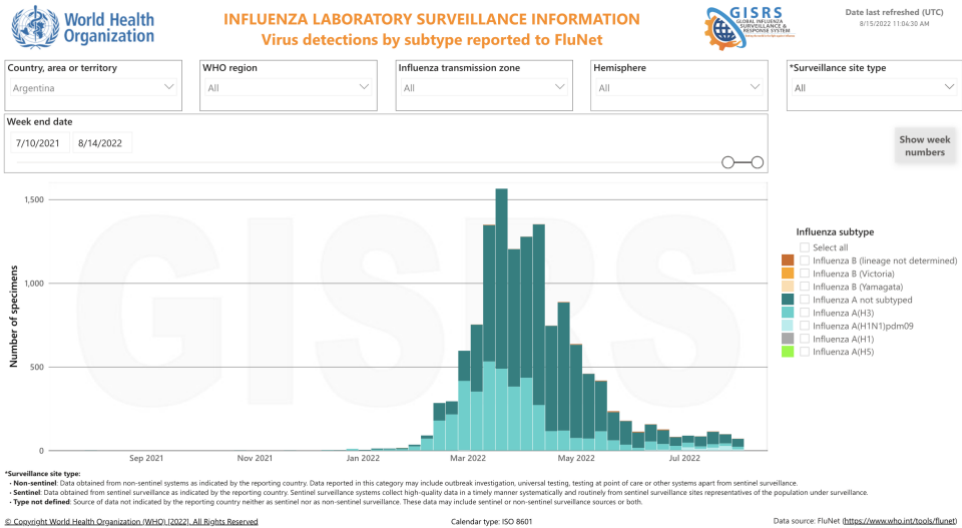


Figure 2: Virus detections by subtype reported to FluNet: Argentina

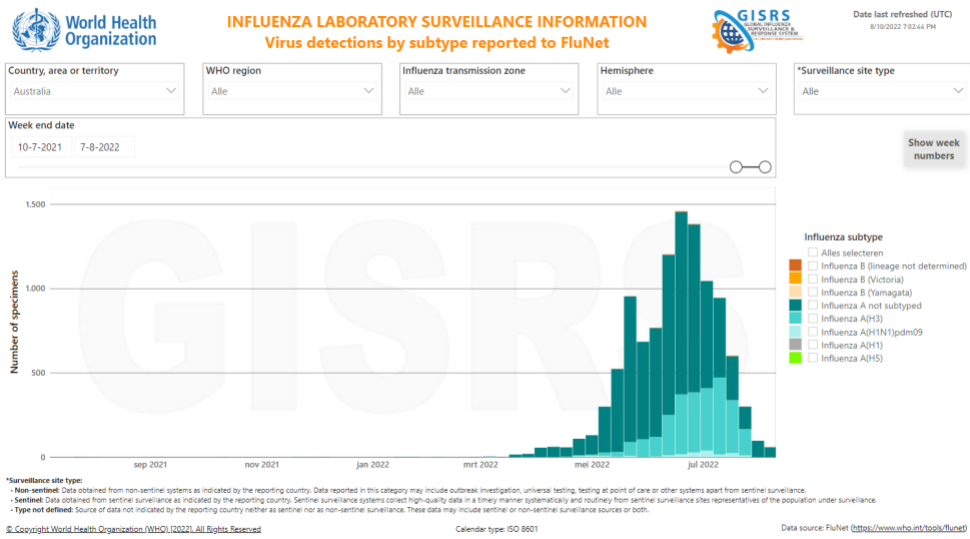


Figure 3: Virus detections by subtype reported to FluNet: Australia

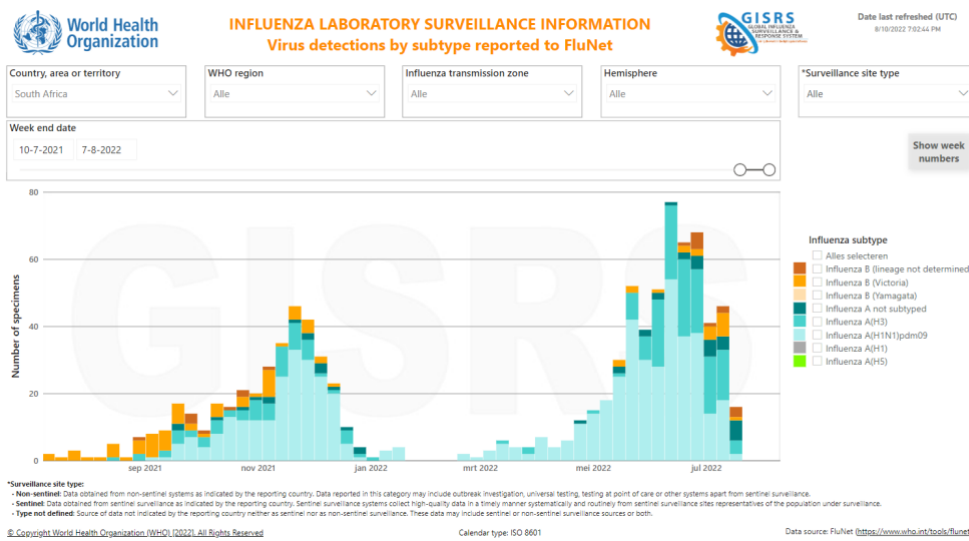


Figure 4: Virus detections by subtype reported to FluNet: South Africa

Monthly plots by country

The plots per country show weekly data for **influenza** and of **SARS-CoV-2** infections from January 1, 2019 up to August 7, 2022. This Epi-Bulletin includes the countries Canada, United States, Mexico, Brazil, United Kingdom, France, Germany, Italy, Netherlands, Spain, Poland, South Africa, Egypt, China, Japan, South Korea, India, Philippines, Thailand, Vietnam, Israel and Australia.

Per country, the top plot displays the number of positive **influenza** (in red) and of **SARS-CoV-2** (in blue) cases. An overview of the absolute number of **influenza** and of **SARS-CoV-2** cases per country can be found on [pages 16-15](#) of this Epi-Bulletin. The bar in the middle displays the Stringency Index (SI; a country-specific composite metric of the mitigation measures that are in place) over time, where light red indicates loose measures and dark red indicates strict measures. The bottom plot displays the percentage of **influenza** (in red) and of **SARS-CoV-2** (in blue) specimen testing positive.

Countries (click to view plot)

North America

Canada
United States

Central America Caribbean

Mexico

Tropical South America

Brazil

Northern Europe

United Kingdom

South West Europe

France
Germany
Italy
Netherlands
Spain

Eastern Europe

Poland

Northern Africa

Egypt

Southern Africa

South Africa

Eastern Asia

China
Japan
South Korea

Southern Asia

India

South East Asia

Philippines
Thailand
Vietnam

Western Asia

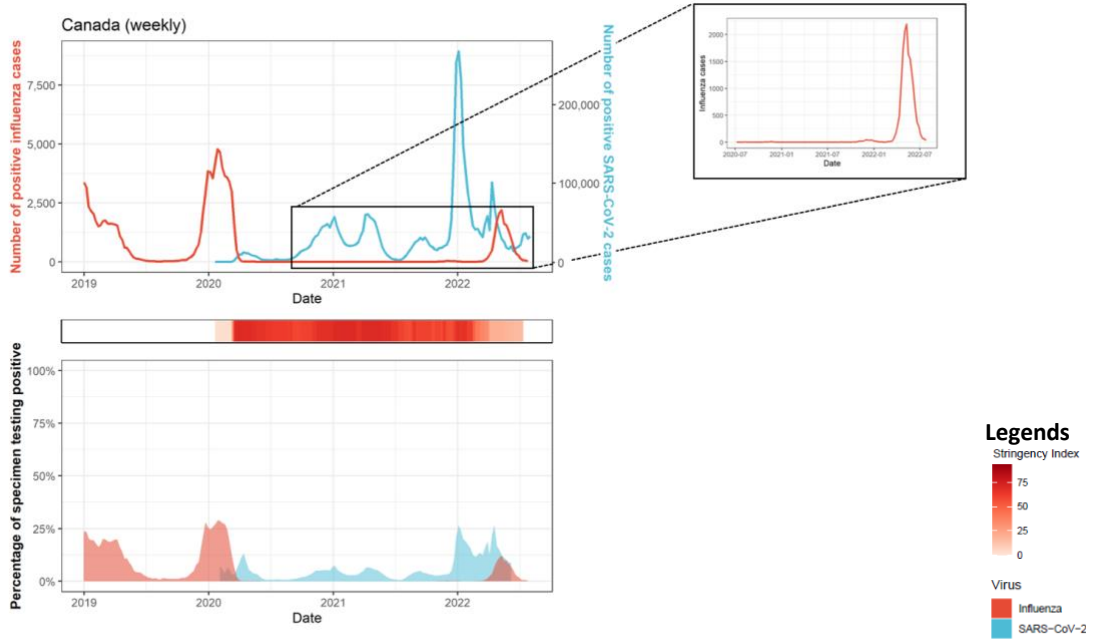
Israel

Oceania

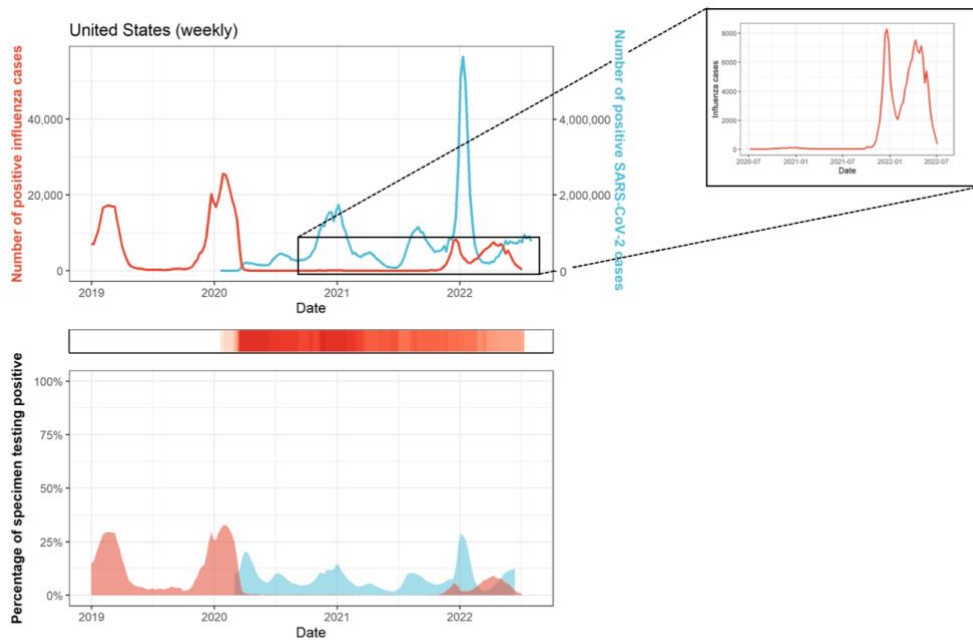
Australia

North America

Canada

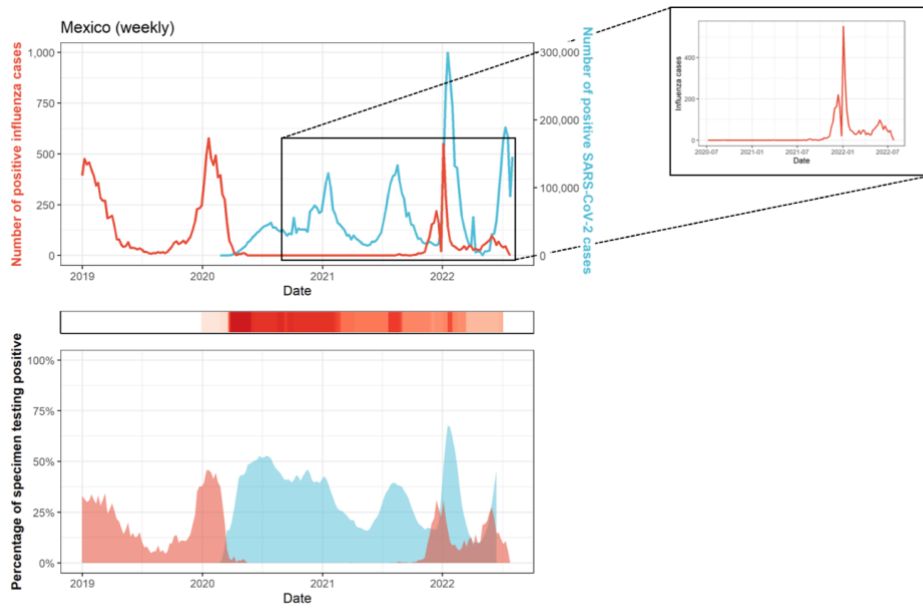


United States



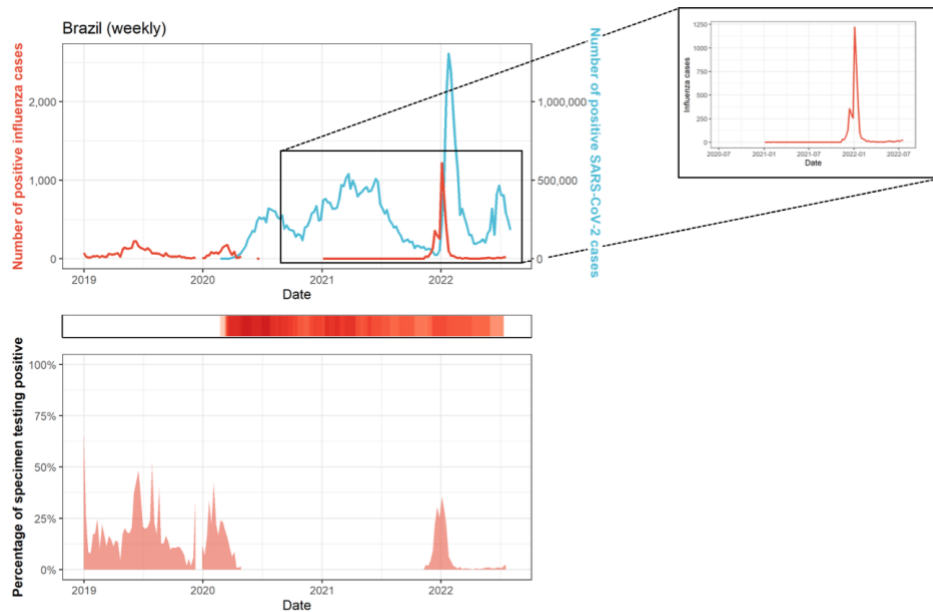
Central America Caribbean

Mexico

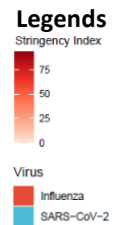


Tropical South America

Brazil

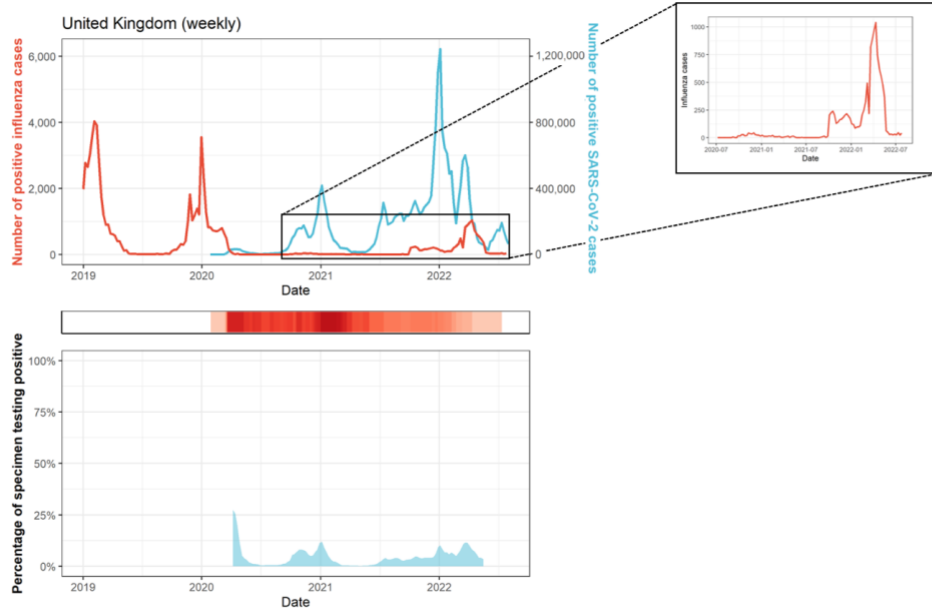


Note. Brazil has no positivity rate for SARS-CoV-2 because no denominator was available.



Northern Europe

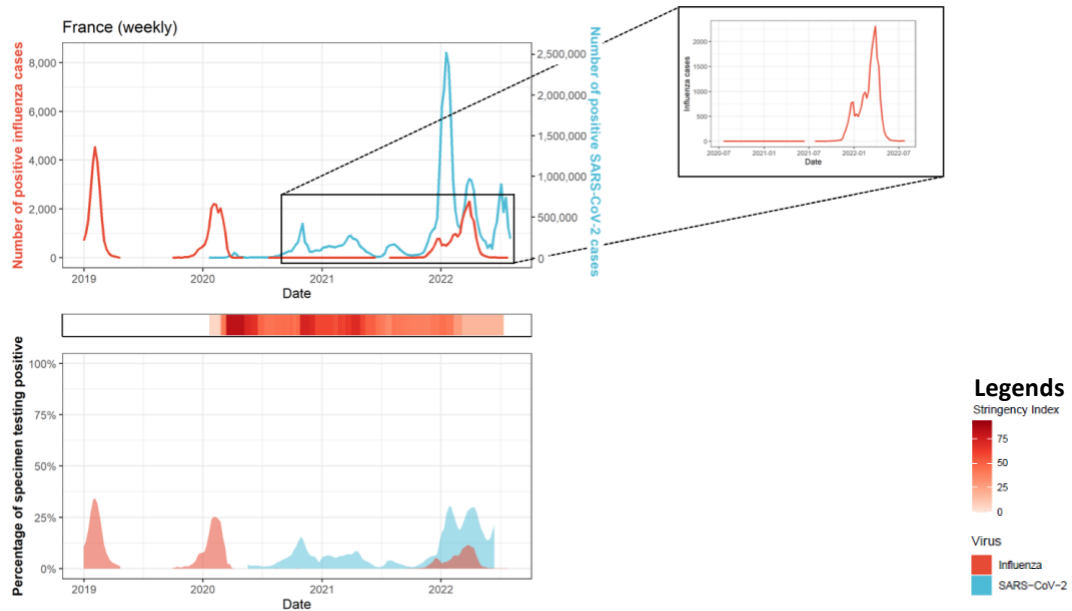
United Kingdom



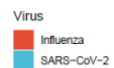
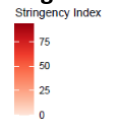
Note. The United Kingdom does not have a positivity rate for influenza because the denominator was deemed unreliable.

South West Europe

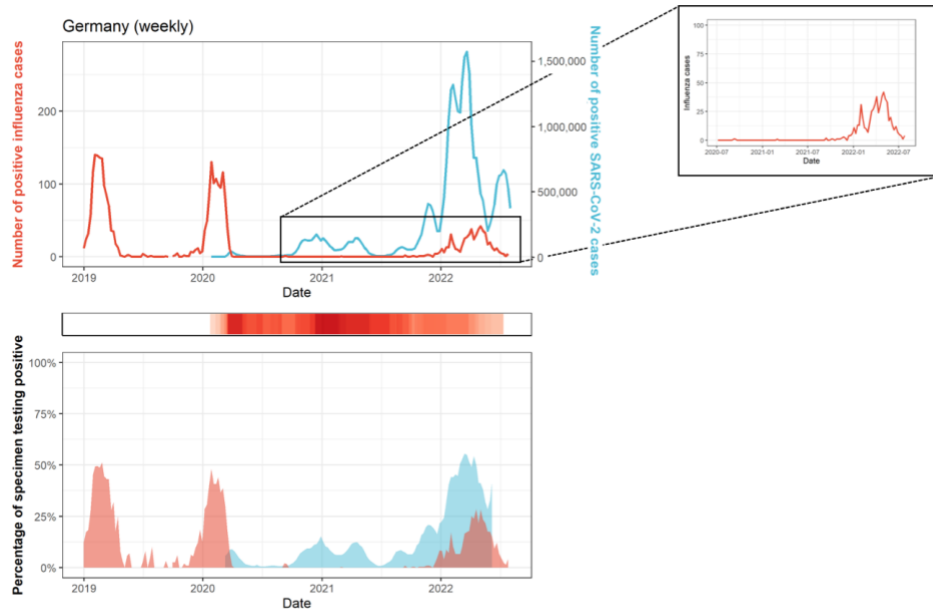
France



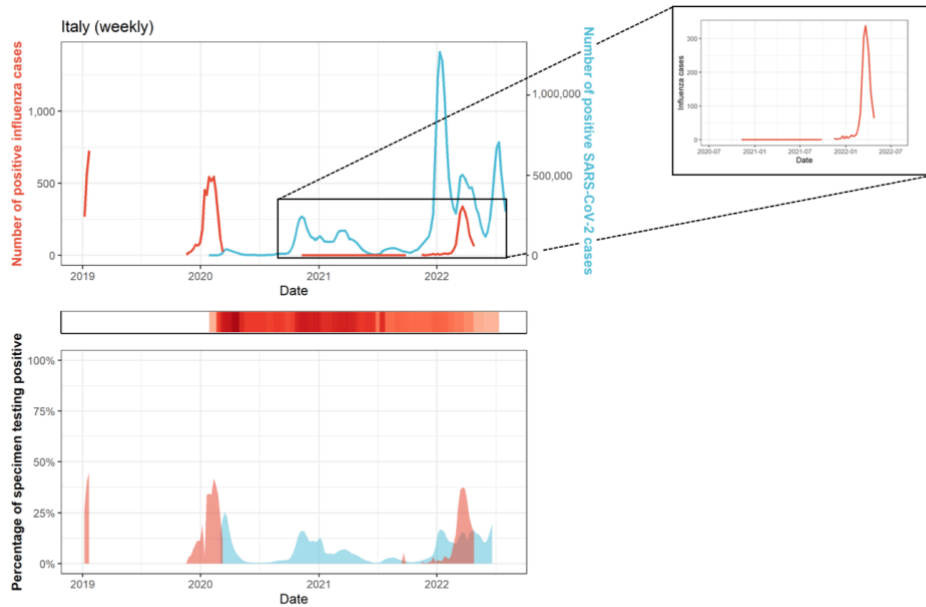
Legends



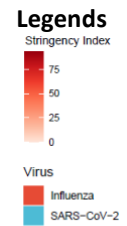
Germany



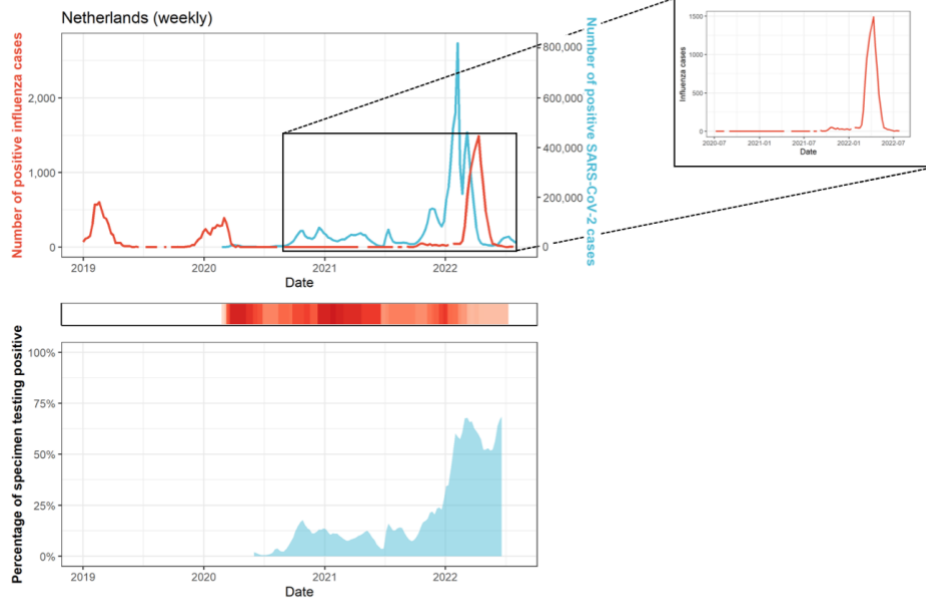
Italy



Note. No influenza data for Italy has been uploaded onto FluNet since week 17, 2022

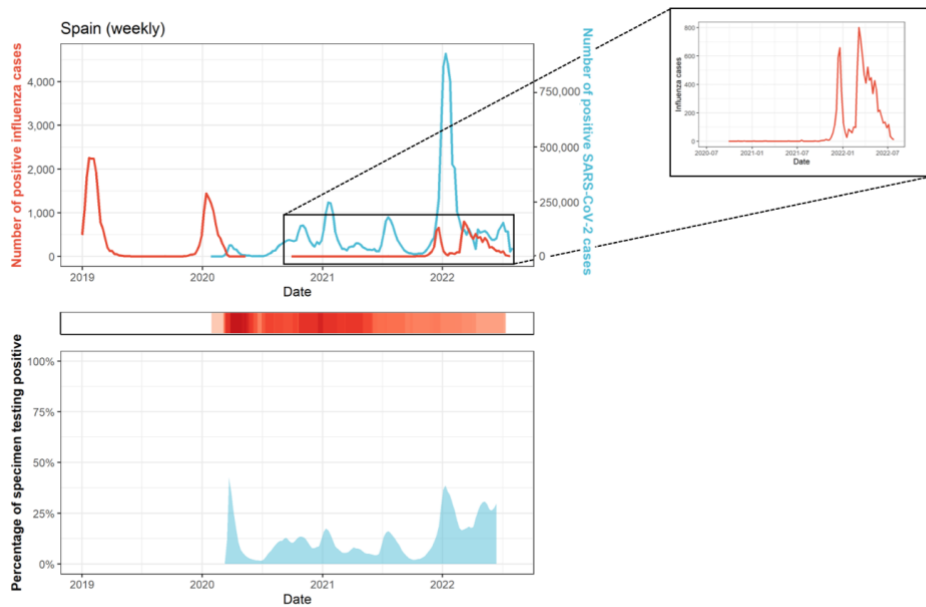


Netherlands



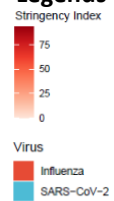
Note. The Netherlands does not have a positivity rate for influenza because the denominator was deemed unreliable.

Spain



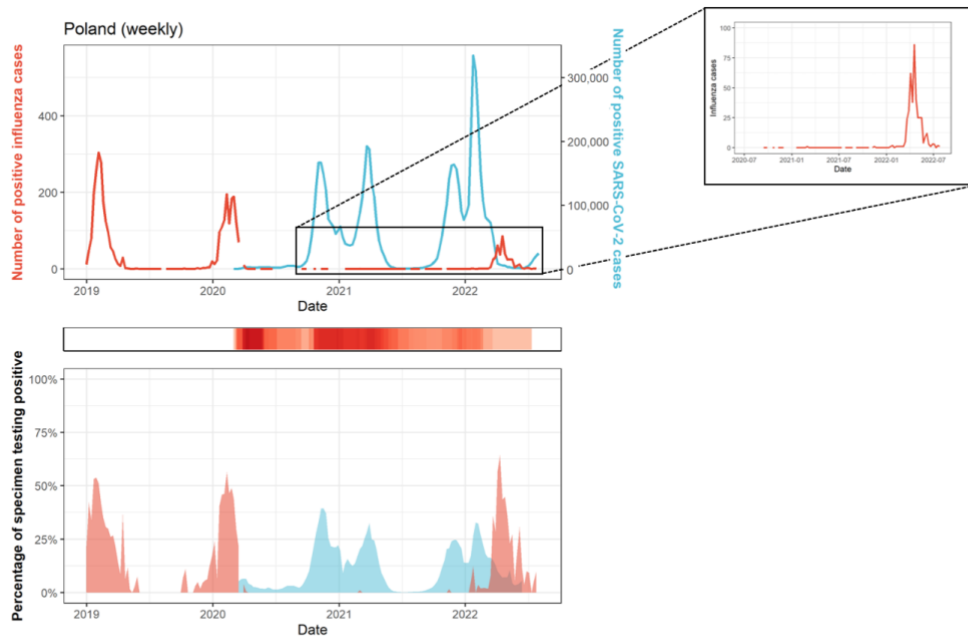
Note. Spain does not have a positivity rate for influenza because the denominator was deemed unreliable.

Legends



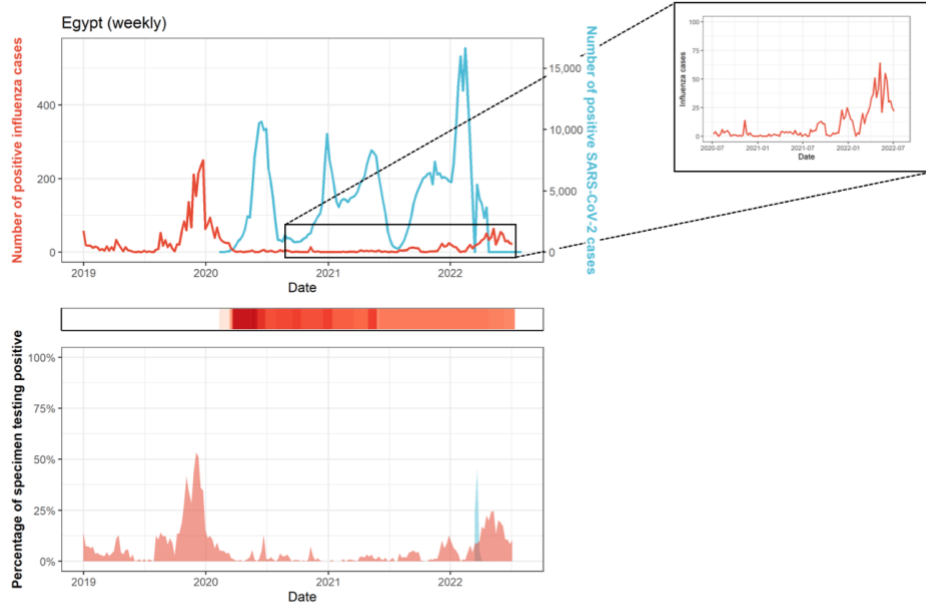
Eastern Europe

Poland



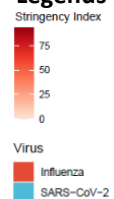
Northern Africa

Egypt



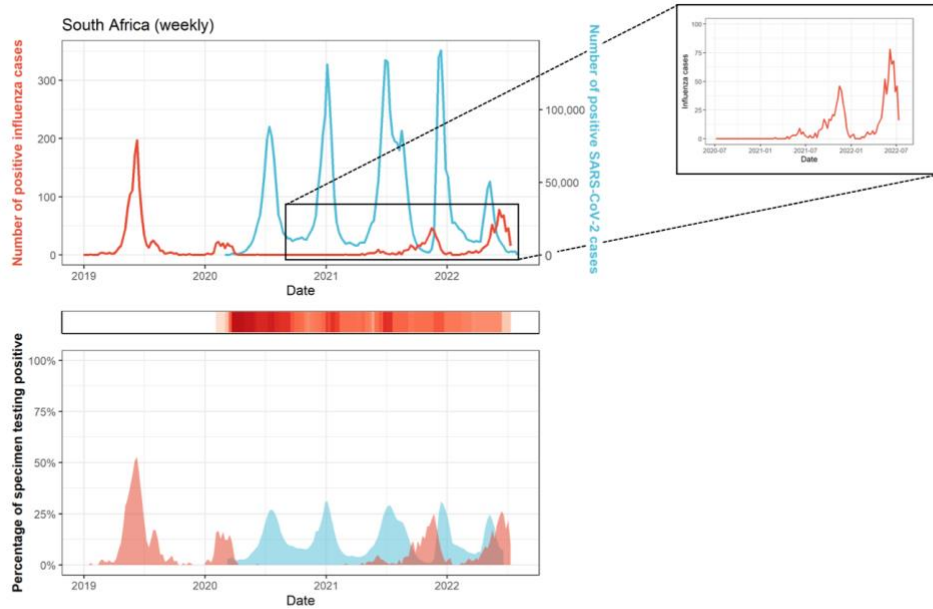
Note. Egypt does not have a positivity rate for SARS-CoV-2 because no denominator was available. No influenza data for Egypt has been uploaded onto FluNet since week 16, 2022

Legends



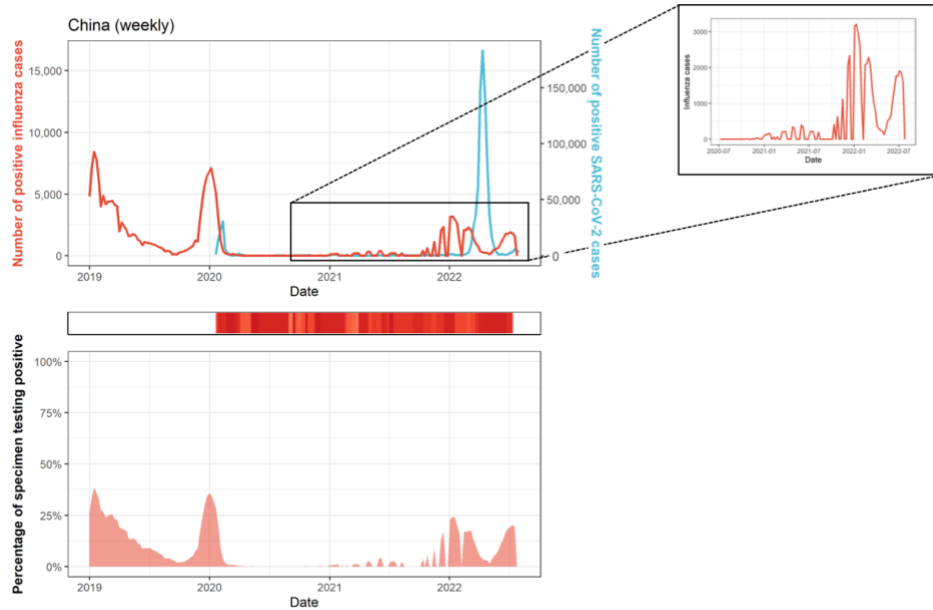
Southern Africa

South Africa

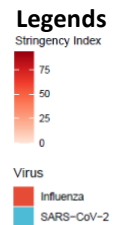


Eastern Asia

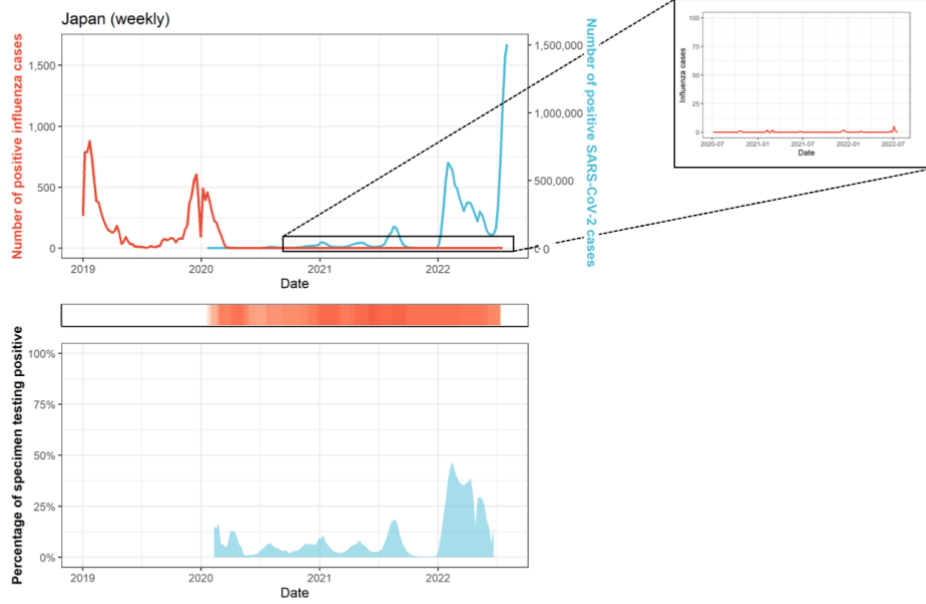
China



Note. China has no positivity rate for SARS-CoV-2 because no denominator was available.

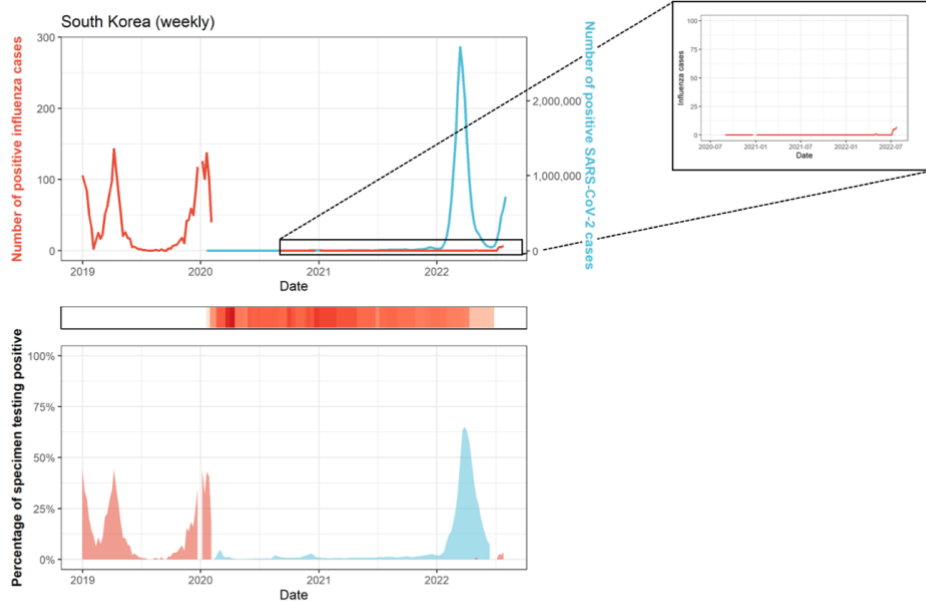


Japan



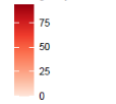
Note. Japan does not have a positivity rate for influenza because the denominator was deemed unreliable.

South Korea



Legends

Stringency Index

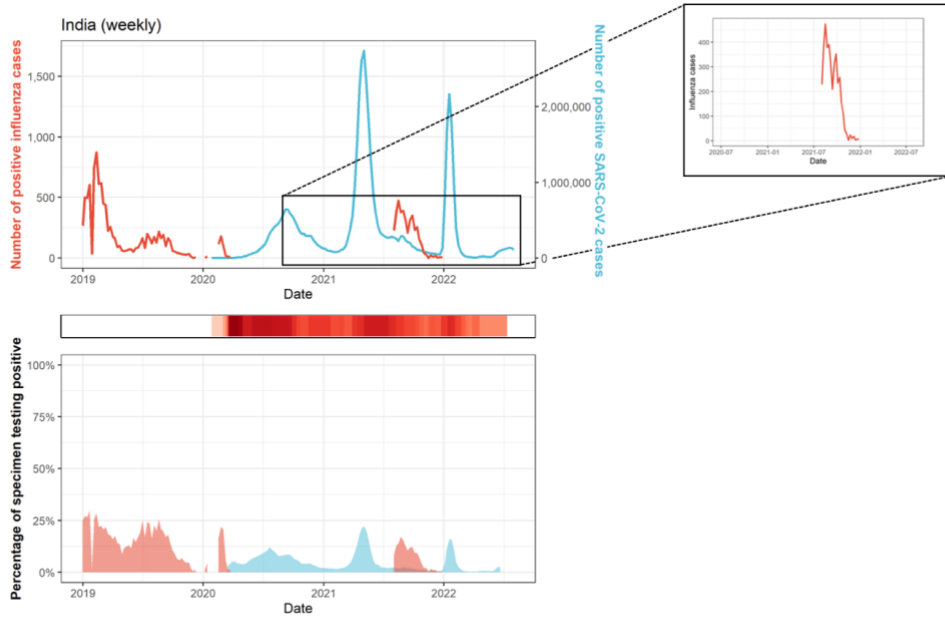


Virus



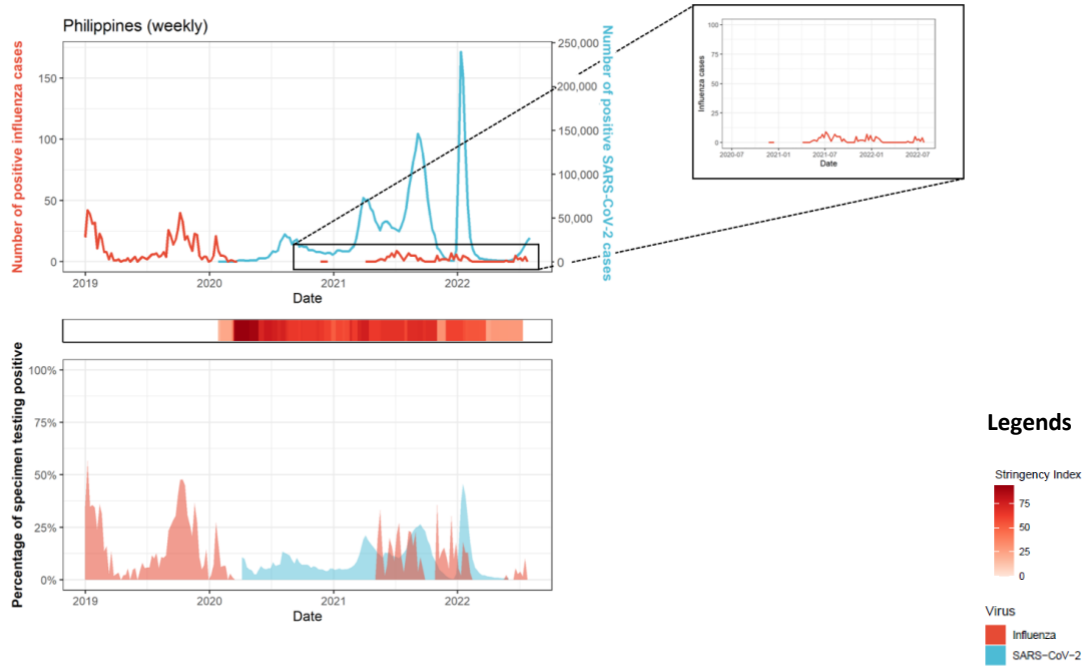
Southern Asia

India

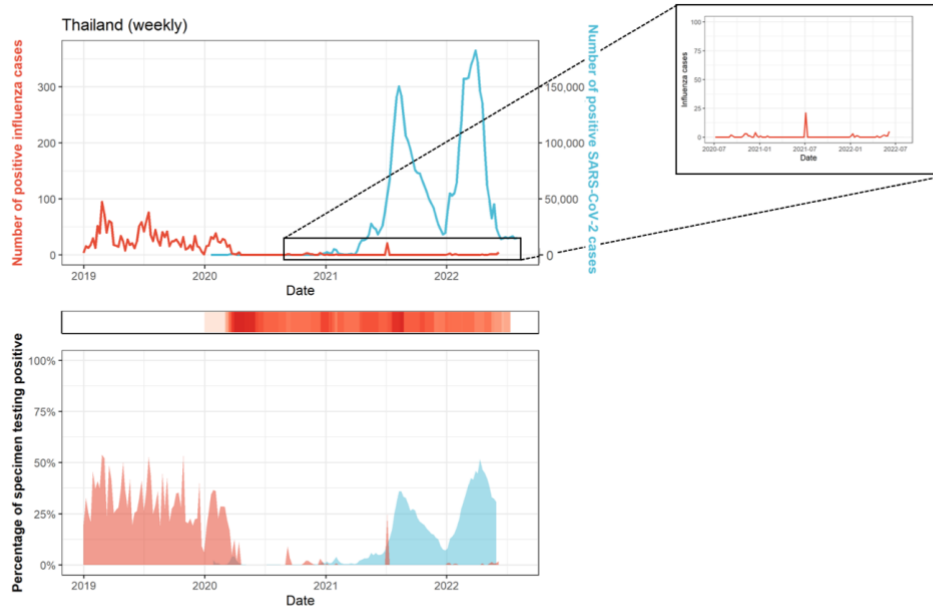


South East Asia

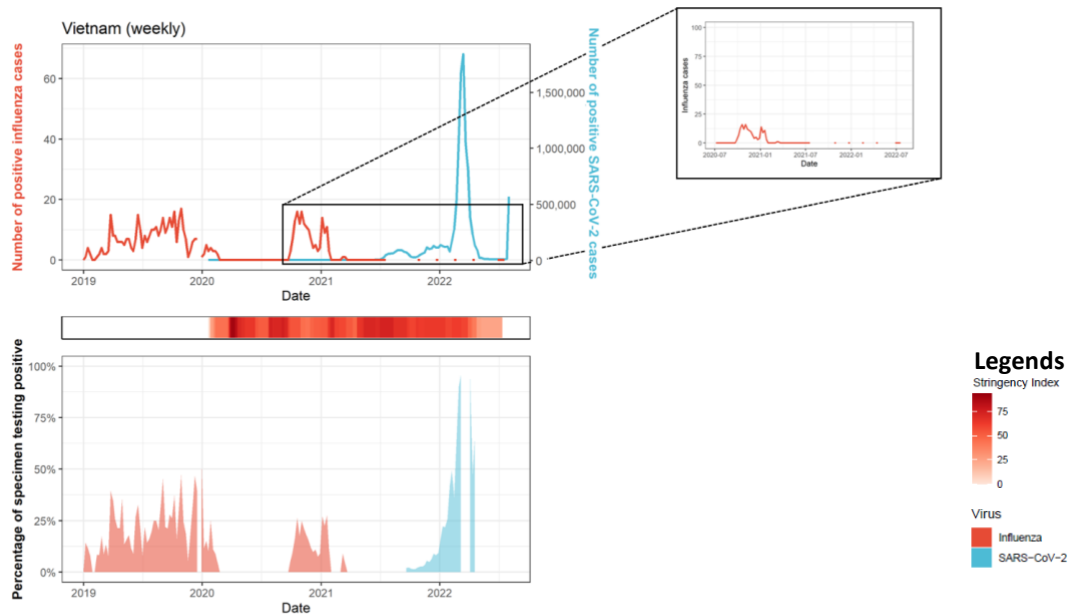
Philippines



Thailand

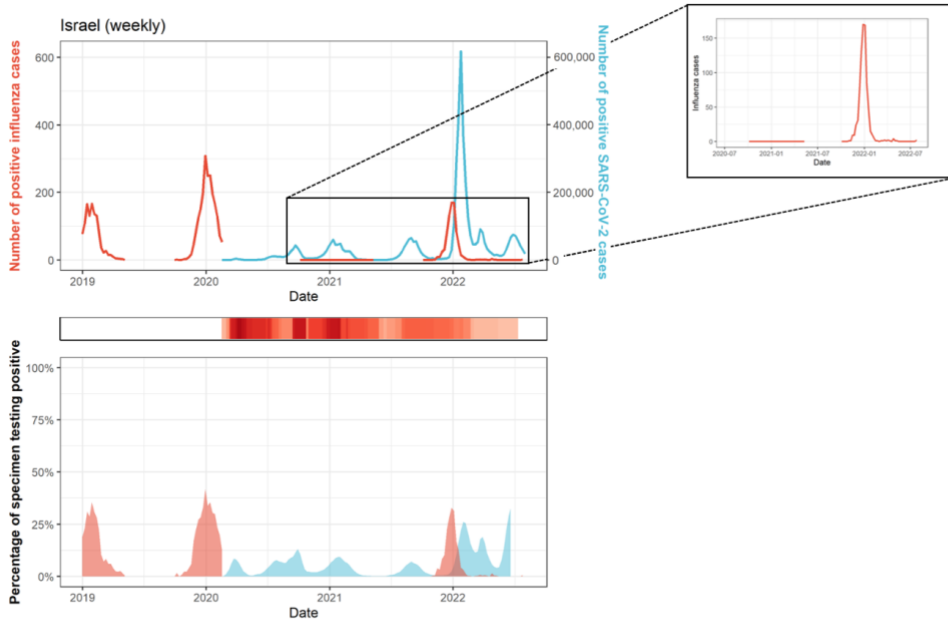


Vietnam



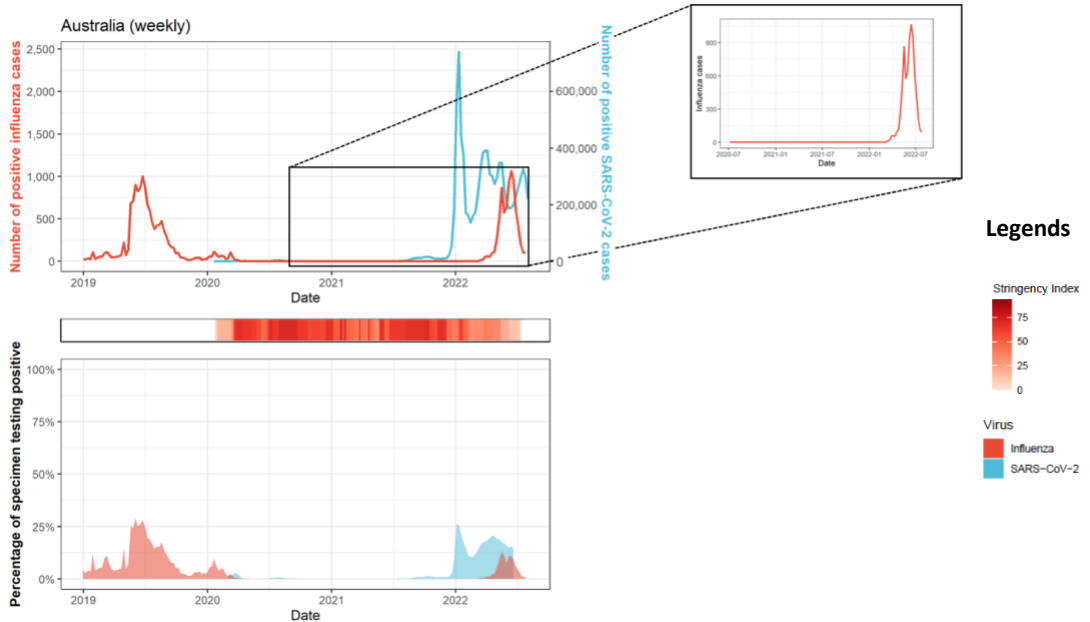
Western Asia

Israel



Oceania

Australia



Absolute numbers per country

Country	Year	Cases ^a of SARS-CoV-2	+/- since last month ^b	Cases ^a of influenza	+/- since last month ^b	Week of last influenza update
Australia	2019			12,404		
Australia	2020	28,425		784		
Australia	2021	397,071		7		
Australia	2022	9,039,773	1,271,166	7,654	825	2022-30
Brazil	2019			3,320		
Brazil	2020	7,700,828		1,314		
Brazil	2021	14,485,929		1,183		
Brazil	2022	11,542,061	1,475,882	2,817	53	2022-31
Canada	2019			43,196		
Canada	2020	590,249		44,956		
Canada	2021	1,633,486		337		
Canada	2022	1,877,033	130,388	15,303	319	2022-30
China	2019			122,757		
China	2020	93,153		31,164		
China	2021	21,489		10,145		
China	2022	790,824	17,335	39,519	5,357	2022-30
Egypt	2019			1,998		
Egypt	2020	138,062		659		
Egypt	2021	247,513		233		
Egypt	2022	130,070	0	697	22	2022-27
France	2019			25,405		
France	2020	2,735,590		16,589		
France	2021	7,706,191		3,071		
France	2022	23,860,053	2,703,848	19,463	30	2022-30
Germany	2019			1,215		
Germany	2020	1,719,737		958		
Germany	2021	5,430,685		29		
Germany	2022	23,703,809	2,560,215	553	14	2022-30
India	2019			9,698		
India	2020	10,286,709		457		
India	2021	24,574,870		4,085		
India	2022	9,174,696	567,041	0	0	2022-31
Israel	2019			1,796		
Israel	2020	423,290		1,424		
Israel	2021	961,872		456		
Israel	2022	3,198,124	229,023	350	2	2022-30
Italy	2019			2,787		
Italy	2020	2,107,314		3,598		
Italy	2021	4,018,517		31		
Italy	2022	14,914,342	2,516,914	1,868	0	2022-17
Japan	2019			10,287		
Japan	2020	235,747		2,883		
Japan	2021	1,496,547		9		
Japan	2022	11,046,875	3,462,217	8	6	2022-29

Country	Year	Cases ^a of SARS-CoV-2	+/- since last month ^b	Cases ^a of influenza	+/- since last month ^b	Week of last influenza update
Mexico	2019			6,963		
Mexico	2020	1,426,094		4,799		
Mexico	2021	2,553,629		960		
Mexico	2022	2,732,524	677,245	2,247	107	2022-31
Netherlands	2019			5,166		
Netherlands	2020	806,620		3,235		
Netherlands	2021	2,346,892		454		
Netherlands	2022	5,188,431	147,281	10,563	20	2022-30
Philippines	2019			612		
Philippines	2020	474,064		52		
Philippines	2021	2,369,926		105		
Philippines	2022	933,282	72,220	32	8	2022-30
Poland	2019			1,786		
Poland	2020	1,294,878		1,282		
Poland	2021	2,813,337		2		
Poland	2022	1,961,450	54,673	407	6	2022-30
South Africa	2019			1,164		
South Africa	2020	1,057,161		157		
South Africa	2021	2,382,539		413		
South Africa	2022	546,269	11,111	575	62	2022-28
South Korea	2019			1,702		
South Korea	2020	61,768		505		
South Korea	2021	573,484		0		
South Korea	2022	19,185,486	1,451,882	18	17	2022-30
Spain	2019			16,580		
Spain	2020	1,938,671		8,829		
Spain	2021	4,440,910		2,097		
Spain	2022	6,933,469	492,541	7,798	187	2022-30
Thailand	2019			1,568		
Thailand	2020	6,882		297		
Thailand	2021	2,216,551		23		
Thailand	2022	2,378,191	69,369	40	19	2022-30
United Kingdom	2019			42,447		
United Kingdom	2020	2,491,790		14,369		
United Kingdom	2021	10,480,124		2,755		
United Kingdom	2022	9,583,968	592,384	8,997	140	2022-30
United States	2019			268,524		
United States	2020	20,190,878		229,766		
United States	2021	34,643,122		38,453		
United States	2022	36,497,434	3,661,213	113,958	372	2022-27
Vietnam	2019			355		
Vietnam	2020	1,465		146		
Vietnam	2021	1,729,792		39		
Vietnam	2022	9,048,375	33,162	0	0	2022-29

Note. ^a Laboratory-confirmed cases. ^b Influenza cases are reported by FluNet on a weekly basis. To convert these data to months, weekly data are assigned to the month most days in that week belong to. SARS-CoV-2 cases are reported per day and assigned to each month by date.

Methodology

Background

After assessment of alarming levels of spread and severity of SARS-CoV-2 virus, on March 11, 2020 WHO declared COVID-19 a pandemic [4]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [5]. The FluCov project aims to understand and communicate the impact of Covid-19 on: i) influenza activity and ii) prevention and control measures (e.g. vaccination) in the coming years.

Scope

The countries included in this Epi-Bulletin are distributed over the Americas (North, Central and Tropical South), Europe (Northern, South West and Eastern), Africa (Northern and Southern), Asia (Eastern, Southern, South East and Western) and Oceania. These data are compared to the prevention and control measures applied in each country using the Stringency Index from the Oxford COVID-19 Government Response Tracker (OxCGRT) [6].

Data sources

- **Influenza:** FluNet [7] is a global web-based tool for influenza virological surveillance first launched in 1997. The virological data entered into FluNet, e.g. number of influenza viruses detected by subtype, are critical for tracking the movement of viruses globally and interpreting the epidemiological data. The data are provided remotely by National Influenza Centres (NICs) of the Global Influenza Surveillance and Response System (GISRS) and other national influenza reference laboratories collaborating actively with GISRS, or are uploaded from WHO regional databases.
- **SARS-CoV-2:** Our World in Data systematically collects COVID-19 data which is presented in their online tool [8]. We used this platform to extract data on the number of cases, as well as tests performed per country. This data is extracted both from the John Hopkins repository on daily confirmed COVID-19 [9] cases as well as various national public health institutions.
- **Government response tracker:** The Oxford COVID-19 Government Response Tracker (OxCGRT) [6] systematically collects information on several different common policy responses that governments have taken to respond to the pandemic on 20 indicators such as school closures and travel restrictions. It now has data from more than 180 countries. OxCGRT data is downloaded directly from the Our World in Data platform.

Extraction details

Data were extracted on 9 July 2022 and cover the period 1 January 2019 to 7 August 2022. Data from both platforms are regularly updated and **sometimes retrospectively corrected**. This might explain any discrepancies between our reported figures and the data published online, even when using data for the exact same period. In case of any unclarities or perceived irregularities, feel free to contact us at flu cov@nivel.nl.

References

- [1] Nature. What Omicron's BA.4 and BA.5 variants mean for the pandemic <https://www.nature.com/articles/d41586-022-01730-y>
- [2] Andrews N, Stowe J, Kirsebom F, et al. Covid-19 Vaccine Effectiveness against the Omicron (B.1.1.529) Variant. N Engl J Med. 2022;386(16):1532-1546. doi:10.1056/NEJMoa2119451
- [3] Koutsakos M, Wheatley AK, Laurie K, Kent SJ, Rockman S. Influenza lineage extinction during the COVID-19 pandemic?. Nat Rev Microbiol. 2021;19(12):741-742. doi:10.1038/s41579-021-00642-4
- [4] WHO. Listing of WHO's response to COVID-19. <https://www.who.int/news/item/29-06-2020-covidtimeline> [accessed 1 July 2022].
- [5] WHO. Influenza Update N° 416. <https://www.who.int/teams/global-influenza-programme/surveillance-and-monitoring/influenza-updates/current-influenza-update> [accessed 7 April 2022]
- [6] Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford. <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker> [accessed 16 June 2021]
- [7] WHO. FluNet. <https://www.who.int/tools/flunet> [accessed 15 June 2021]
- [8] Ritchie, H., Ortiz-Ospina, E., Beltekian, D., Mathieu, E., Hasell J., Macdonald B. et al. Coronavirus Pandemic (COVID-19). <https://ourworldindata.org/coronavirus> [accessed 15 June 2021]
- [9] COVID-19 Dashboard, Center for Systems Science and Engineering, Johns Hopkins University. <https://coronavirus.jhu.edu/map.html> [accessed 15 June 2021]

Team

Nivel

Marco Del Riccio, Willemijn van Waarden, Saverio Caini, Jean-Sebastien Casalegno, John Paget

Global Influenza Initiative

Ben Cowling: School of Public Health, University of Hong Kong, Hong Kong, China

Ann Falsey: Rochester General Hospital, University of Rochester School of Medicine, Rochester, NY, USA

Angele Gentile: Ricardo Gutiérrez Children's Hospital, Buenos Aires, Argentina

Jan Kyncl: Department of Infectious Diseases Epidemiology, National Institute of Public Health, Prague, Czech Republic

Bruno Lina: Virpath Laboratory, University of Lyon, Lyon, France

Raina McIntyre: The Kirby Institute, University of New South Wales, Sydney, Australia

Sanofi Pasteur

Erica Dueger, Clotilde El Guerche-Séblain, Meral Akçay, Cecile Eymin

Project website

<https://www.nivel.nl/en/fluov>

Funding

The FluCov project is funded by Sanofi.