NIVEL
Research for better care

FluCov-Bulletin – August 2023

FluCov project: ***combining data from around the world to better understand the impact of COVID-19 on influenza activity***

Commentary

Contents

It is now more than three-and-a-half 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 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 3).

Results

On a global level, **influenza** activity has decreased (see Figure 1). The following country patterns were observed for **influenza** in August 2023:

- In the Southern Hemisphere, the **influenza** season seems to be coming to an end. Among the countries covered by the Bulletin, detections were low in August in **Brazil** and **South Africa**. **Australia** also reported a decrease in activity, especially in the last two weeks of the month.
- A mixed pattern of viral circulation was observed in these three countries: a mix of **influenza** A and B (lineage not determined) was reported in **Brazil** (**influenza** A(H1N1pdm09) in particular) and **Australia**, while **influenza** A(H3N2) was dominant in **South Africa**.
- Despite the reported decrease since July, it is of note that activity was still quite high in **Australia**, with 15% of **influenza** detections of 2023 being reported in August (35% in July and 38% in June).
- In the Northern Hemisphere, **influenza** activity is low in Europe (**United Kingdom**, **Poland**, **France**, **Germany**, **Netherlands**, **Spain**), **Canada** and the **United States**.
- **Influenza** detections were low in **China**, **India**, **Japan**, the **Philippines**, and **Vietnam**.
- A decrease at the end of August was observed in South Korea, a month where **influenza** detections were higher than in previous months, with a mix of **influenza** A(H1N1)pdm09 and A(H3N2). A tentative increase was observed in **Thailand** (with a mix of A and B) and **Egypt** (mix of A(H3N2) and B, lineage not determined).
- No update on **influenza** activity was available for **Italy** and **Israel** in August**.**

Globally, **SARS-CoV-2** detections have been relatively low after the late 2022 peak in China (see Figure 1). The following country patterns were observed for **SARS-CoV-2** in August 2023:

- In **South Korea**, the number of **SARS-CoV-2** detections decreased compared to July.
- **SARS-CoV-2** detections were low in most other countries in the Bulletin: **Australia, Brazil, Canada, China, Egypt, France, Germany, India, Israel, Japan, Italy, Mexico, Netherlands, the Philippines, Poland, South Africa, Spain, Thailand, United Kingdom, and the United States.**

Implications

Globally, the month of August recorded the lowest number of influenza detections since October 2021, underscoring the ongoing trends in reduced influenza activity. SARS-CoV-2 activity has also been low worldwide.

Influenza detections in the Southern and Northern Hemispheres:

In the Southern Hemisphere, a noticeable decline in reported influenza detections has been observed across all countries covered by the Bulletin. The dominant influenza virus type varied from one country to another. For instance, **South Africa** primarily saw cases of influenza A(H3N2), while **Brazil** reported a mix of A(H1N1)pdm09 and B and **Australia** a combination of influenza A and B (subtype and lineage not determined). This decrease in influenza activity extends to other countries in the Southern Hemisphere, including **Argentina, Chile,** and **Peru**, where influenza activity peaked and is now categorized as moderate to low [1]. It should be noted that influenza activity is still quite high in **New Zealand** [1]. In the Northern Hemisphere, influenza activity remained generally low throughout the month of August, as is typical during the summer months.

Influenza A subtypes and Influenza B lineages:

Up until now, the dominant influenza B lineage in the countries reported in the Bulletin has exclusively been influenza B/Victoria (when the lineage was determined). This is noteworthy, especially considering the rarity of influenza B/Yamagata during the ongoing COVID-19 pandemic [2].
Regarding influenza A, the Southern Hemisphere's influenza season has primarily featured a mixture of influenza A(H1N1)pdm09 and influenza A(H3N2).

SARS-CoV-2:

SARS-CoV-2 detections have been on the decline worldwide since December 2022 when **China** experienced its peak. In August, detections remained relatively low. However, a new tentative increase in SARS-CoV-2 detections has recently been reported in many Northern Hemisphere countries, (e.g. **United States**, as reported by CDC) [3]. It is important to note that data availability in the Bulletin varies due to reduced surveillance systems (e.g., **France** conducting routine testing only on high-risk individuals) or non-reporting to WHO, causing these data to not appear in the FluCov Bulletin [4].

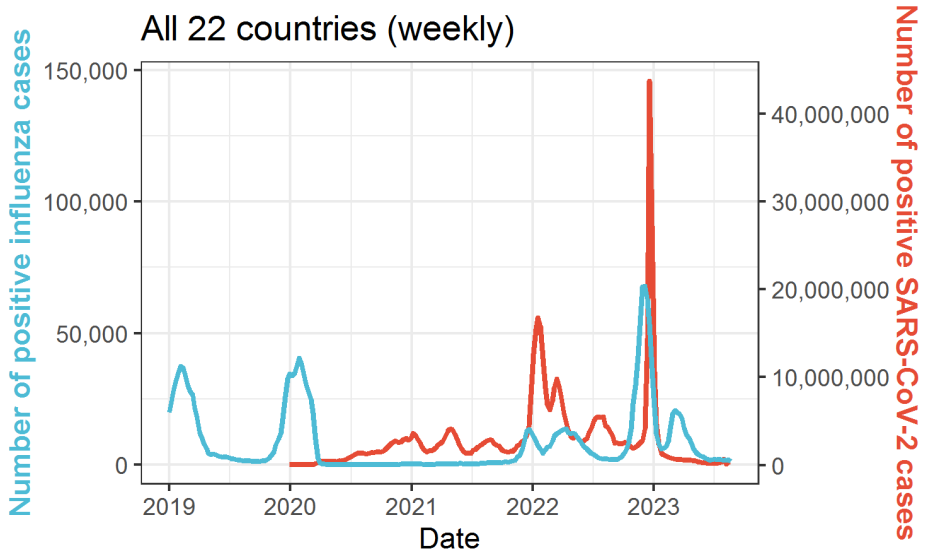


Figure 1: SARS-CoV-2 and influenza detections in the 22 countries covered by the Bulletin (period: from week 1/2019 to week 34/2023)

Disclaimer: Comparisons between countries and seasons of influenza and SARS-CoV-2 detections should be made with care, as national surveillance systems may differ (e.g. surveillance structures and testing intensity) and change over time.

Monthly plots by country

The plots per country show weekly data for **influenza** and of **SARS-CoV-2** infections from 1 January, 2019 up to 28 August, 2023. This FluCov-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 first plot displays the number of positive **influenza** (in blue) and **SARS-CoV-2** (in red) detections. An overview of the absolute number of **influenza** and of **SARS-CoV-2** detections per country can be found on **pages 26-28 of this FluCov-Bulletin (click here).** The bar displays the Stringency Index (SI; a country-specific composite metric of the mitigation measures that are in place) over time. The second plot shows the **influenza** detections by subtypes/lineages reported to FluNet. The third plot displays the percentage of specimens testing positive for **influenza** during the current season (in red), the last season, and the average of the two pre COVID-19 seasons (2017-18 and 2018-19).

The FluCov Dashboard is live!
All Figures and Tables in the FluCov-Bulletin can now be accessed (real-time) at:
https://www.nivel.nl/en/dossier-epidemiology-respiratory-viruses/flucov-dashboard

Countries (click to view plot)

North America
Canada
United States

Central America Caribbean
Mexico

Tropical South America
Brazil

Northern Europe
United Kingdom

Eastern Europe
Poland

South West Europe
France
Germany
Italy
Netherlands
Spain

Northern Africa
Egypt

Southern Africa
South Africa

Eastern Asia
China
Japan
South Korea

Southern Asia
India

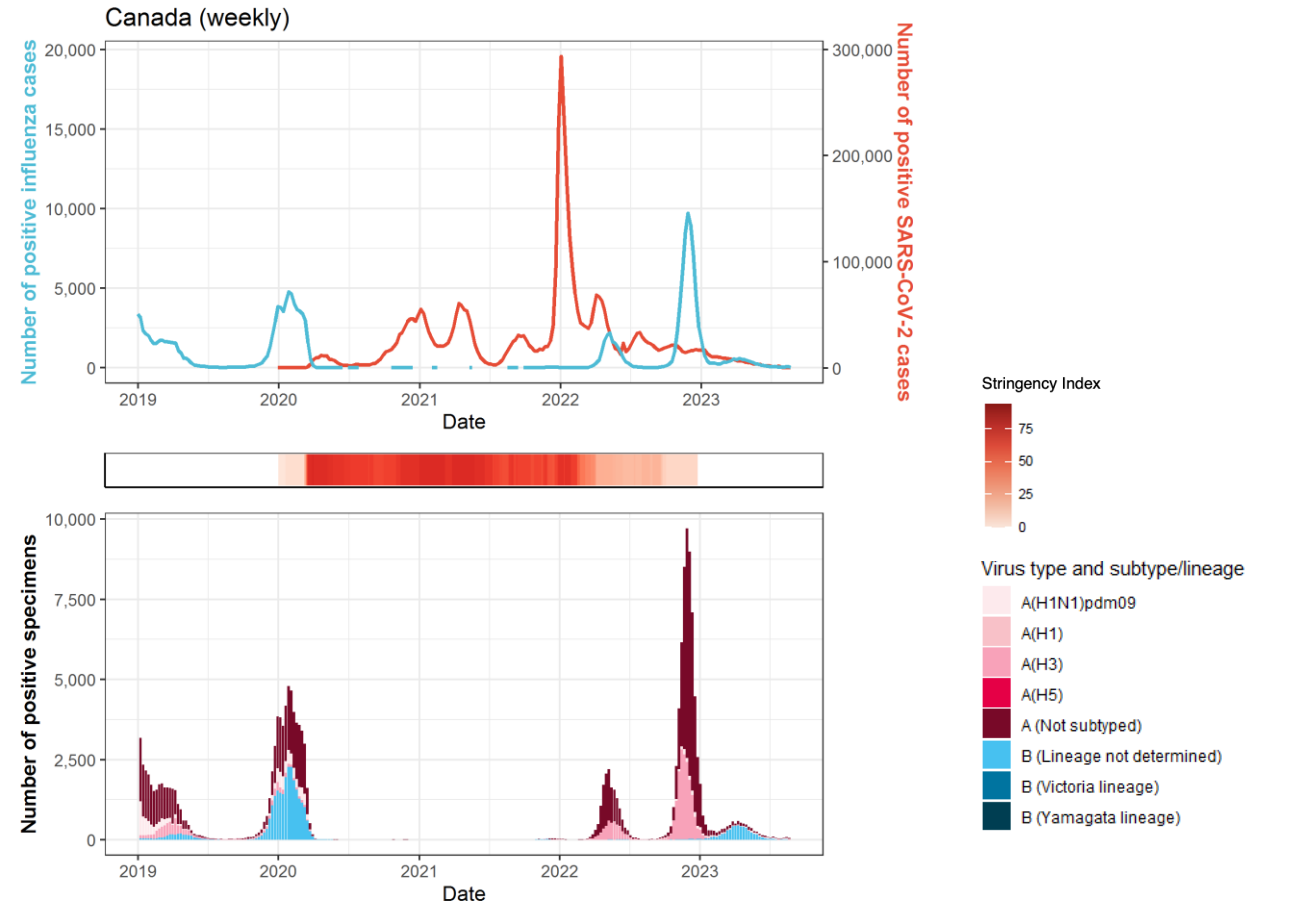
South East Asia
Philippines
Thailand
Vietnam

Western Asia
Israel

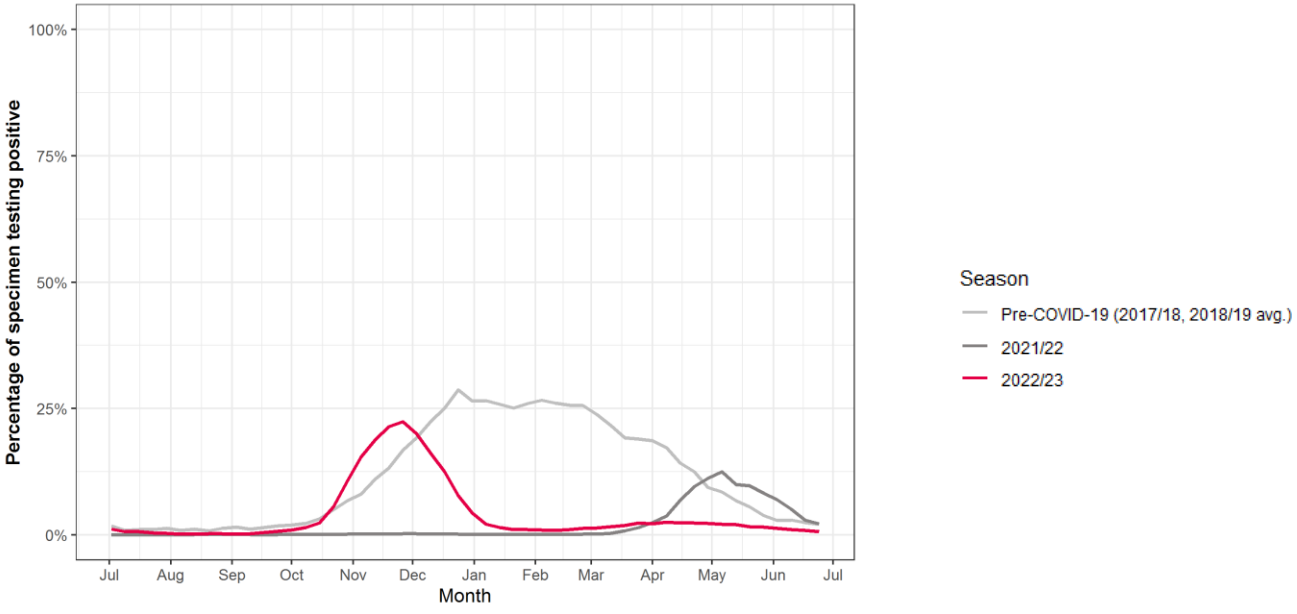
Oceania
Australia

North America

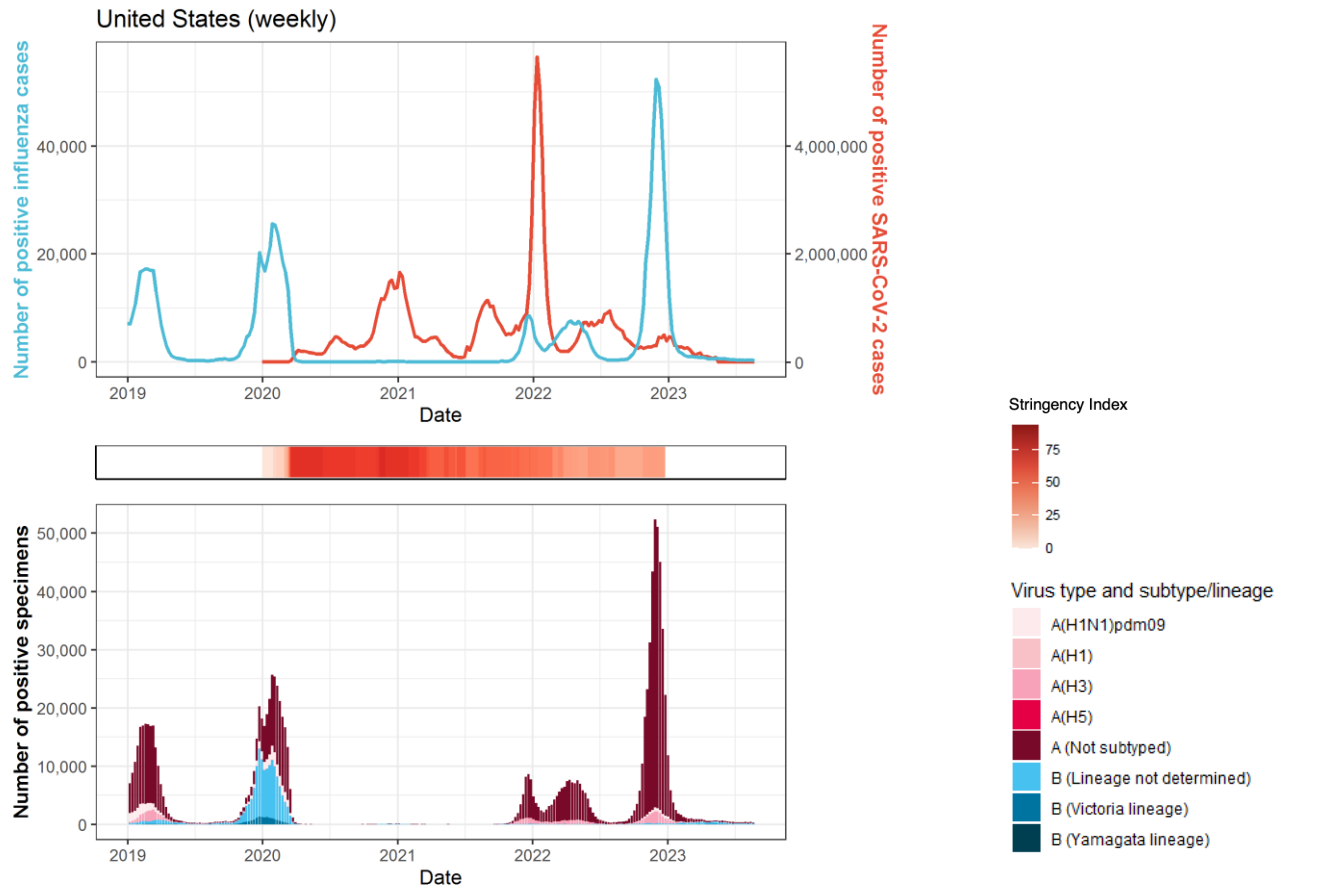
Canada



Percentage of specimens testing positive for influenza in different seasons



United States



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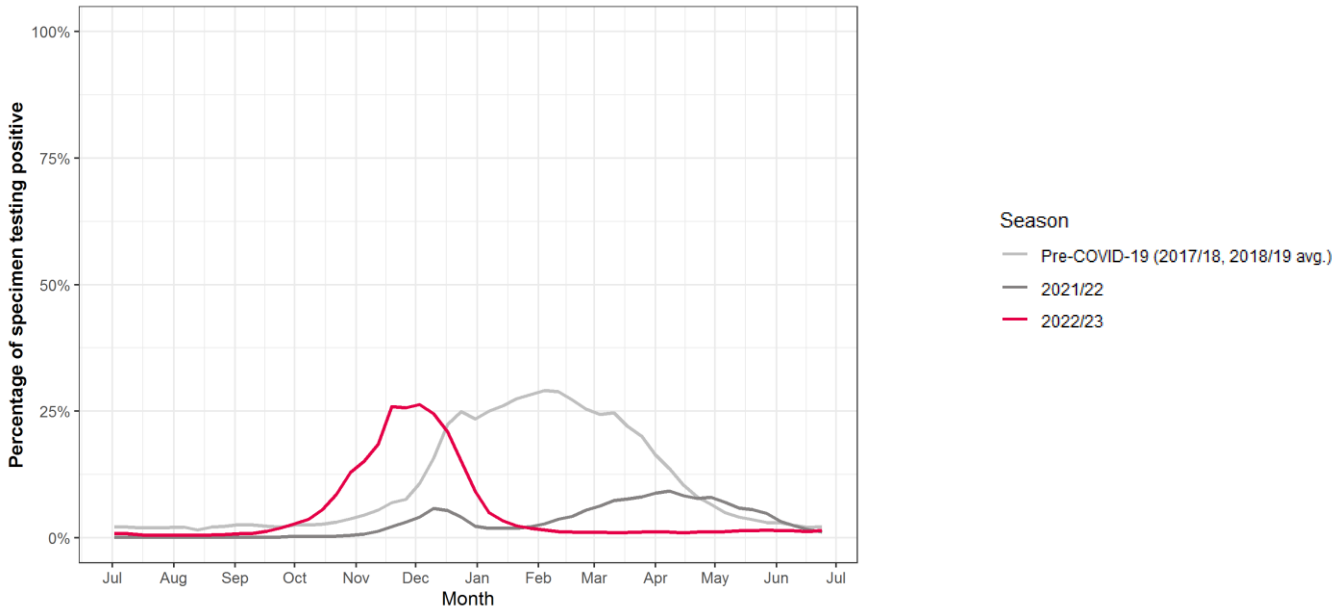
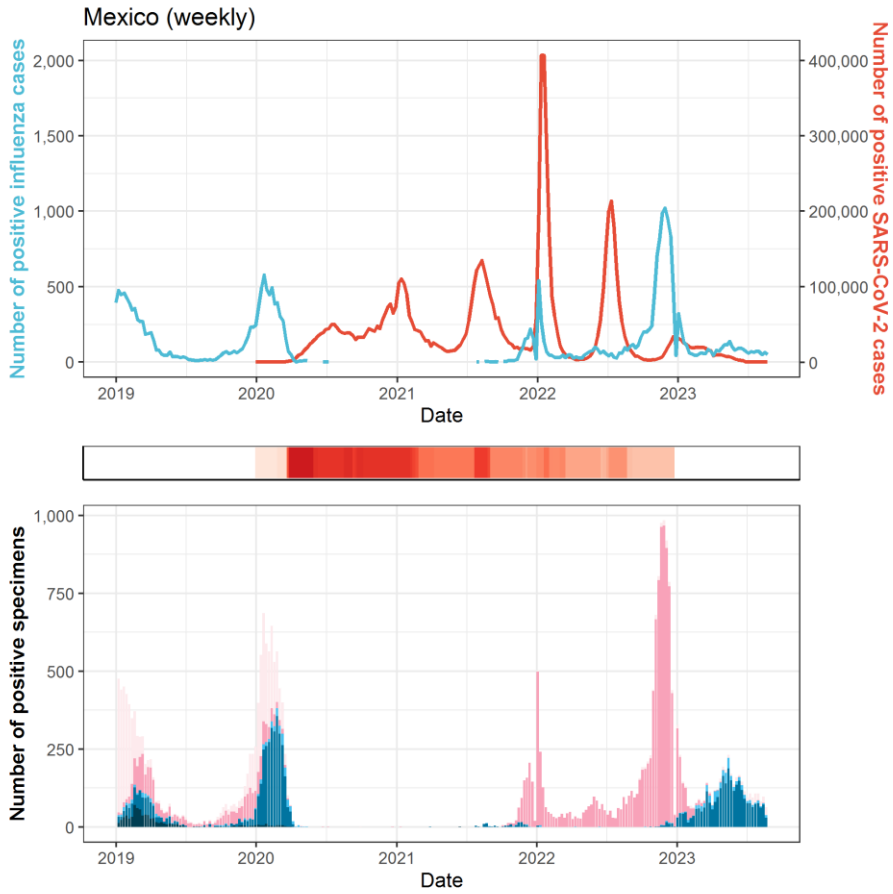
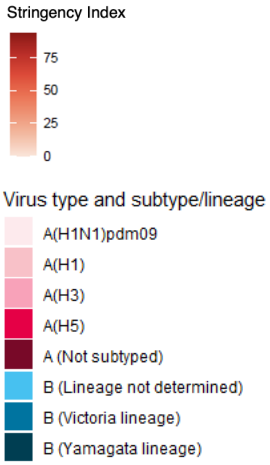


Central America Caribbean

Mexico





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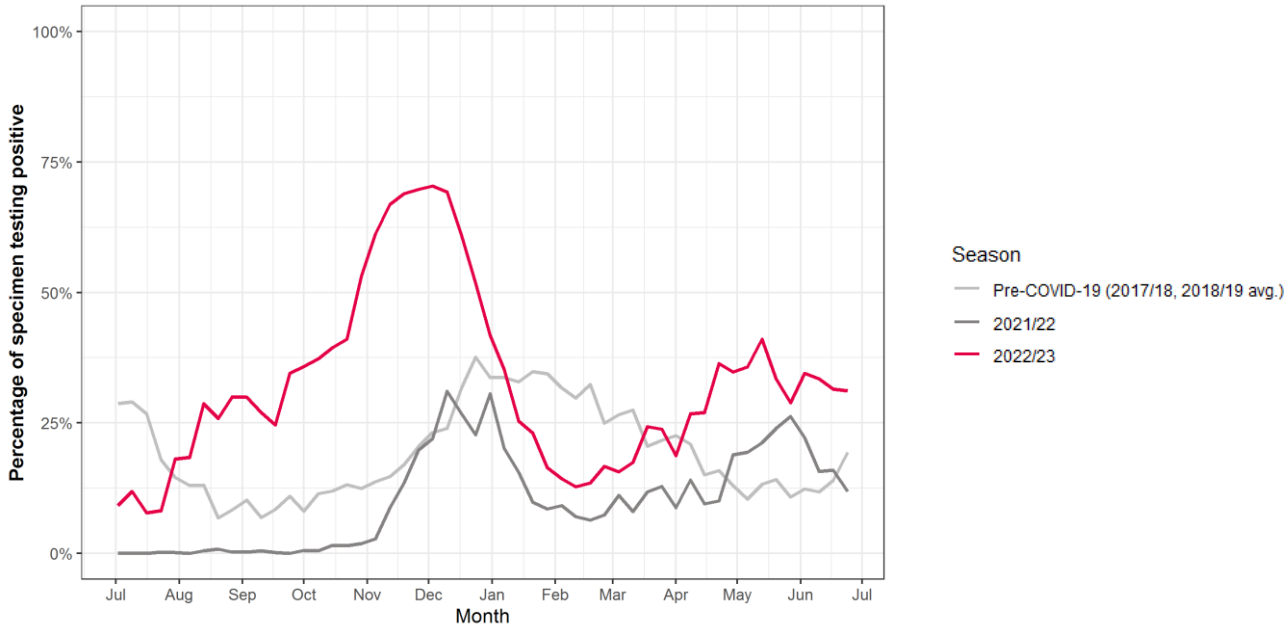
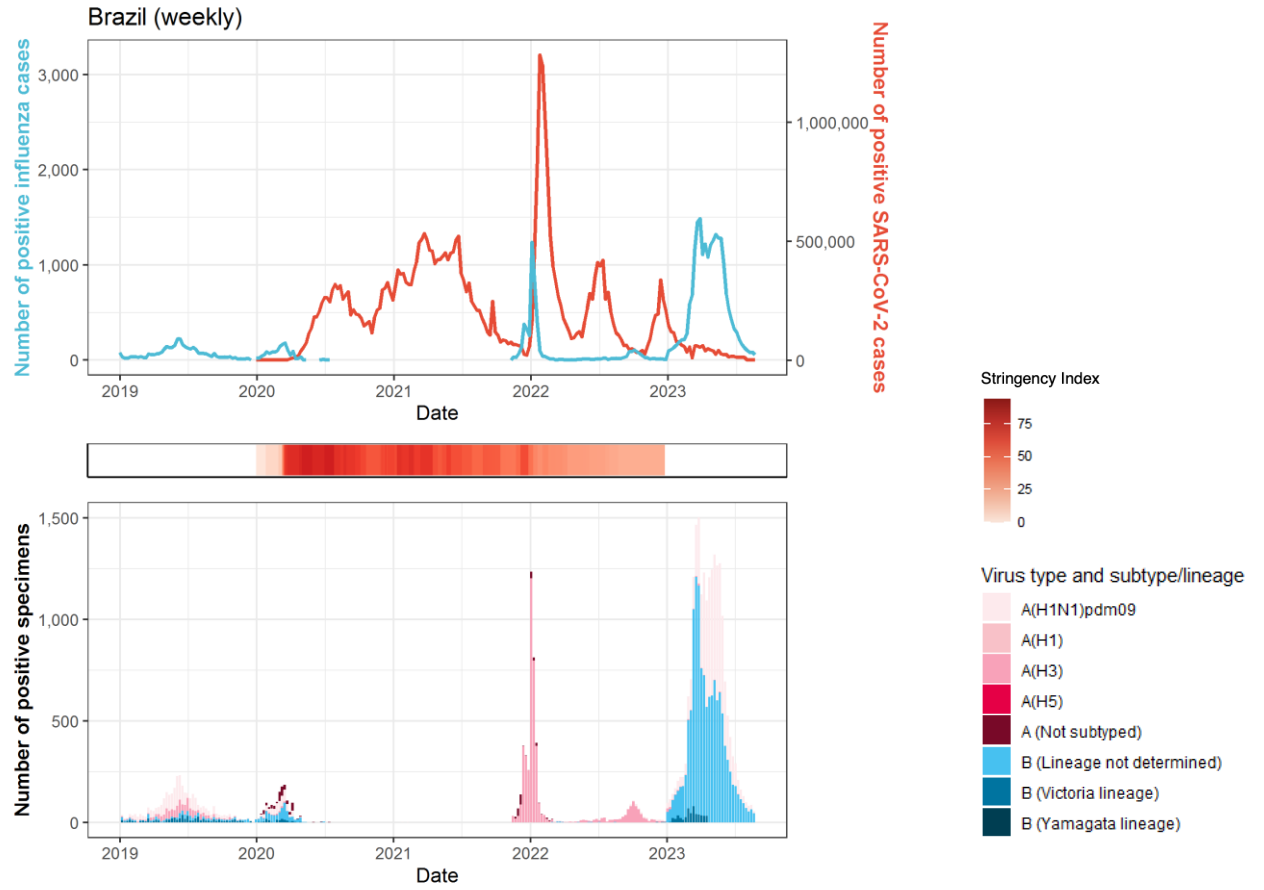


Tropical South America

Brazil



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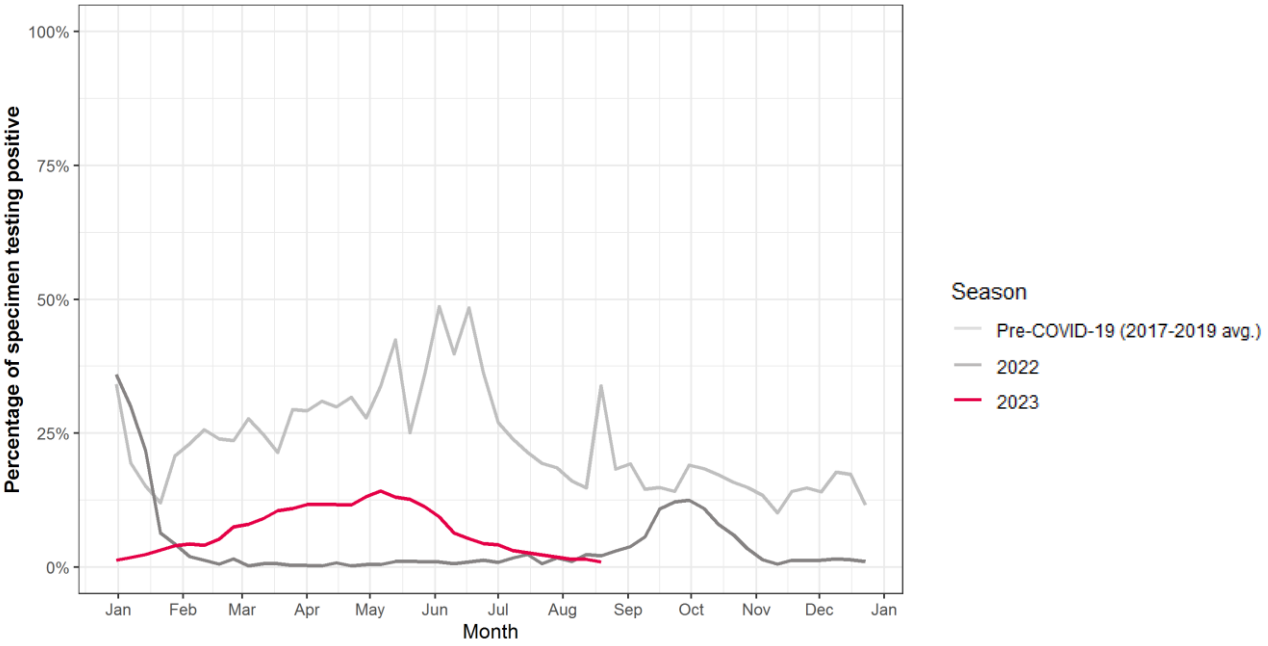
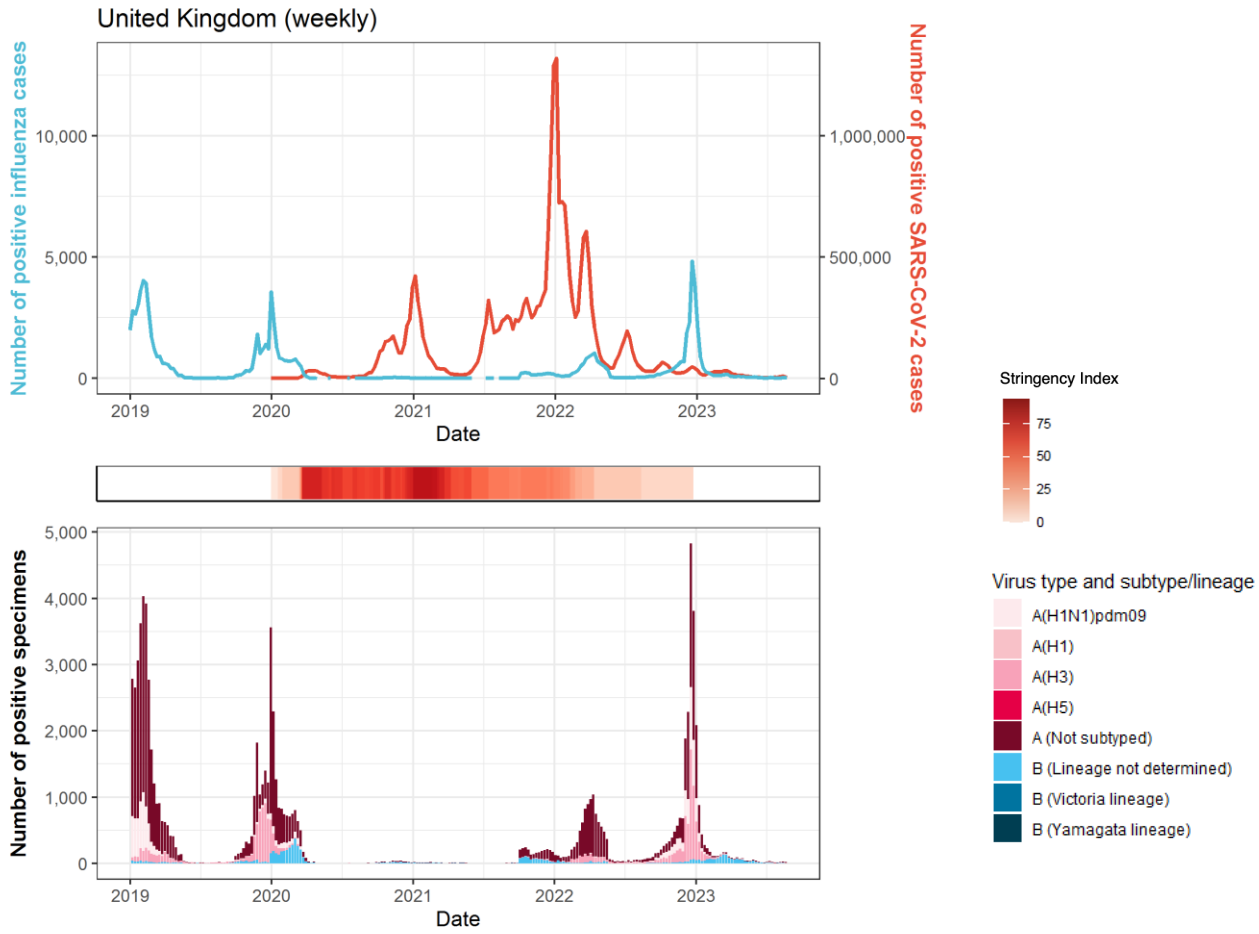


Northern Europe

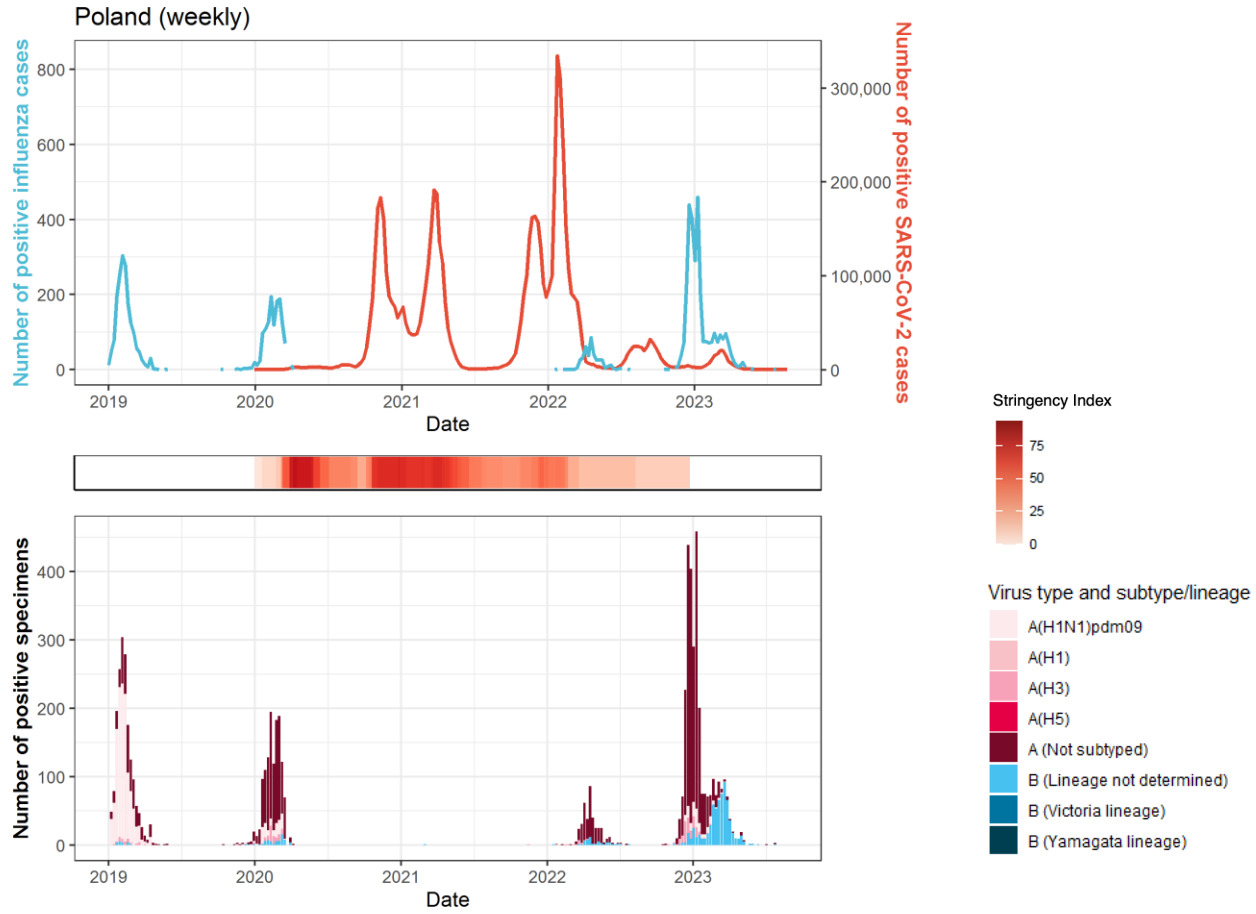
United Kingdom



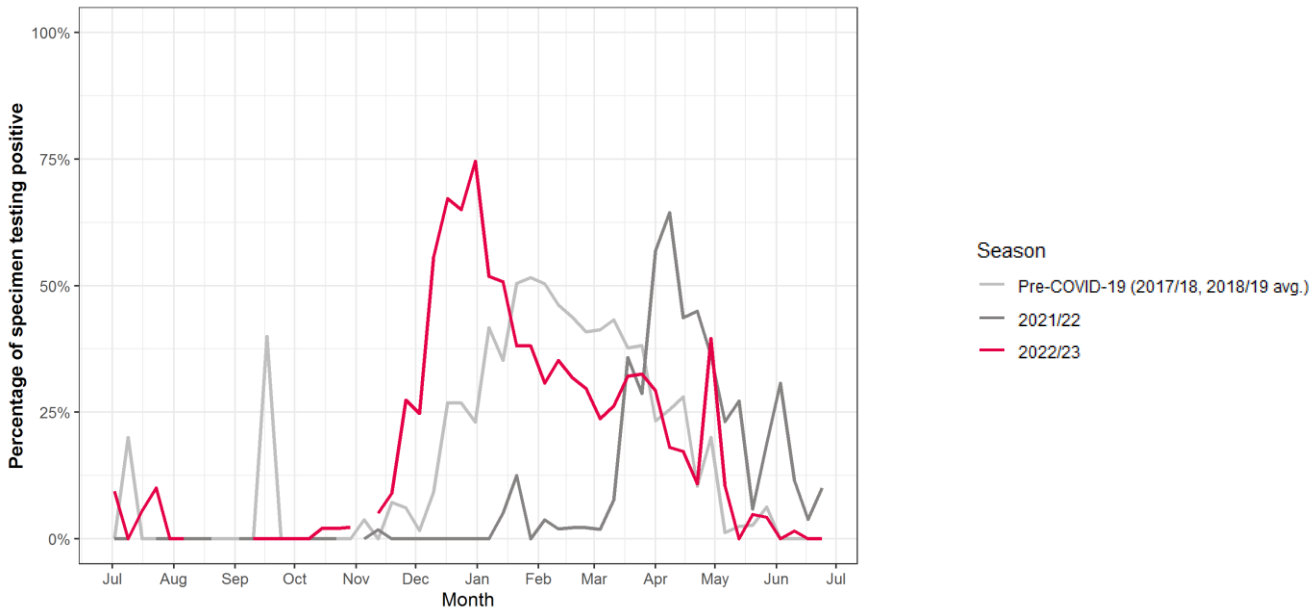
Percentage of specimens testing positive for influenza in different seasons: data not available

Eastern Europe

Poland

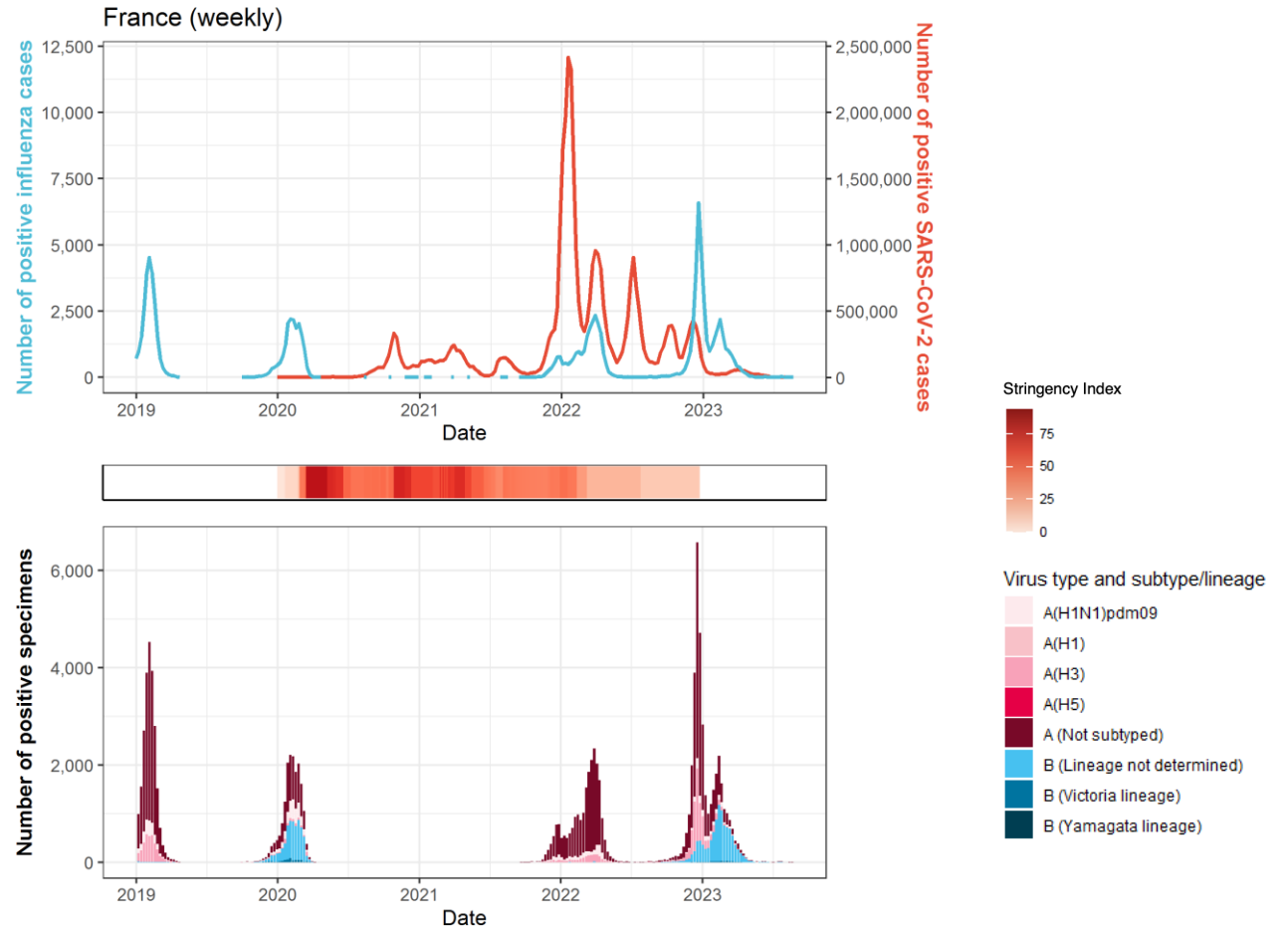


Percentage of specimens testing positive for influenza in different seasons



South West Europe

France



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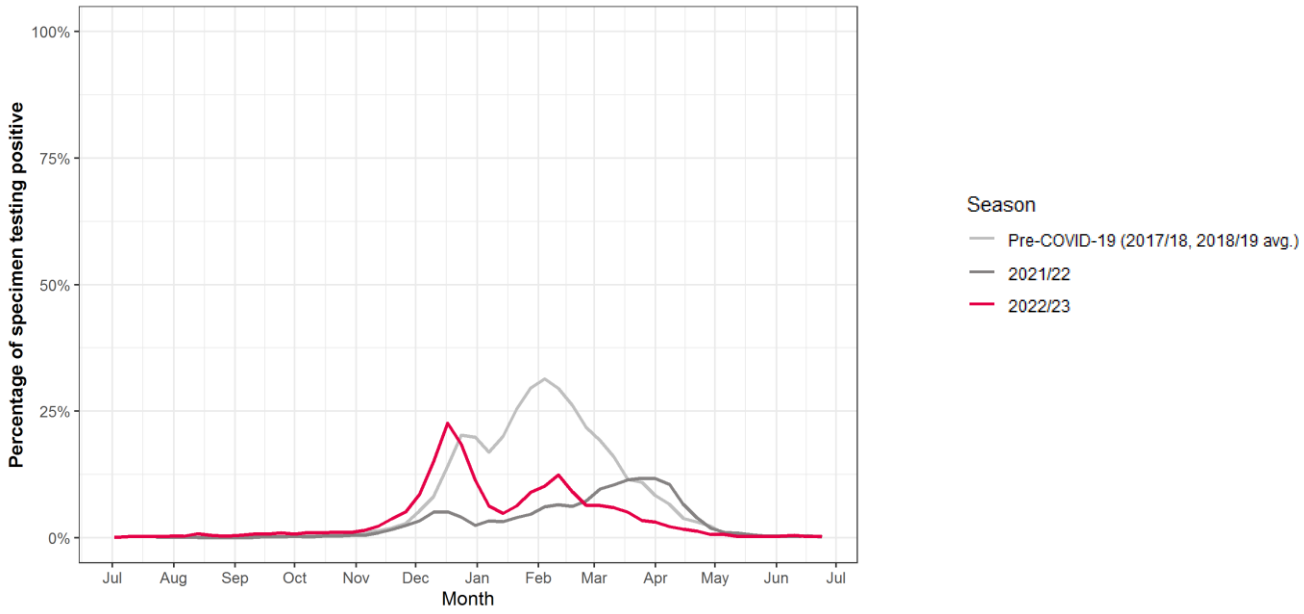
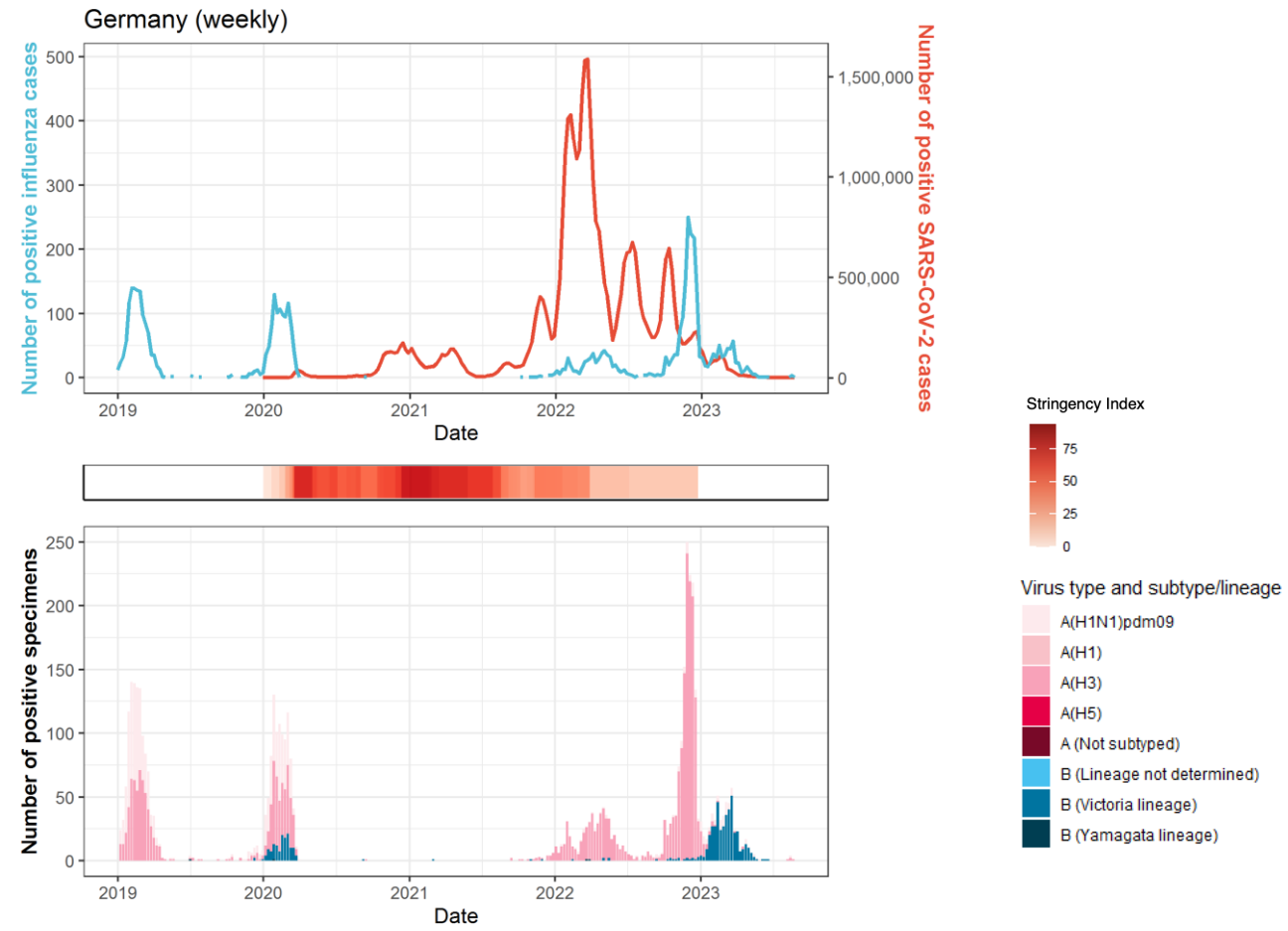


Germany



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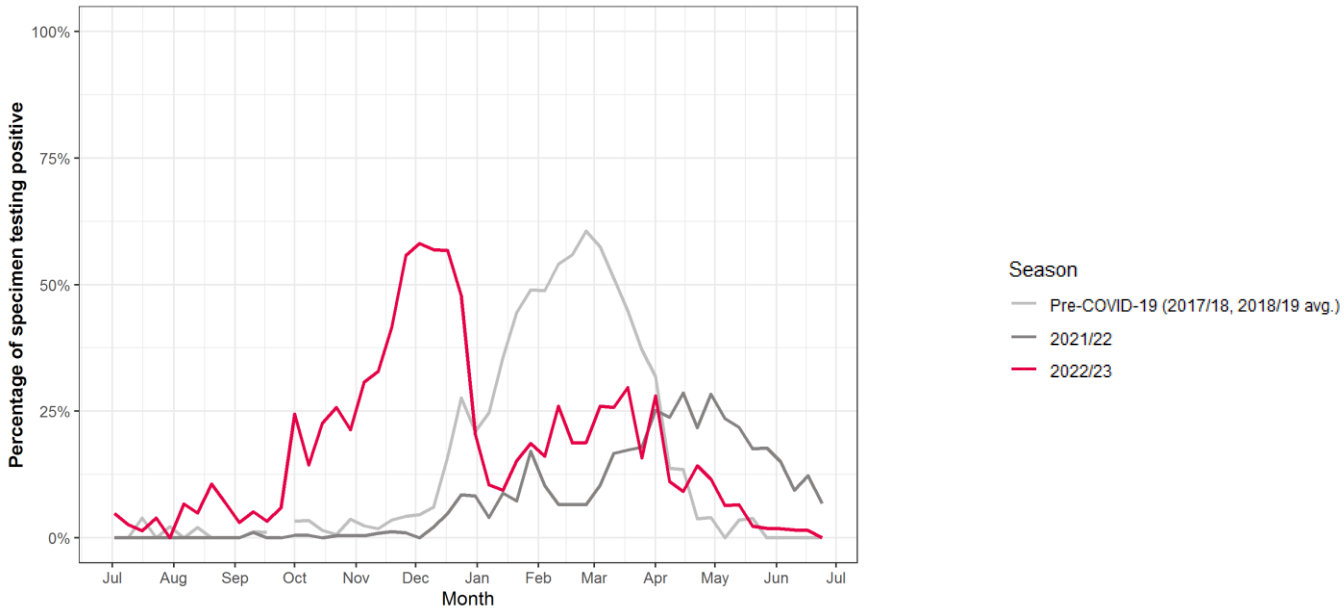
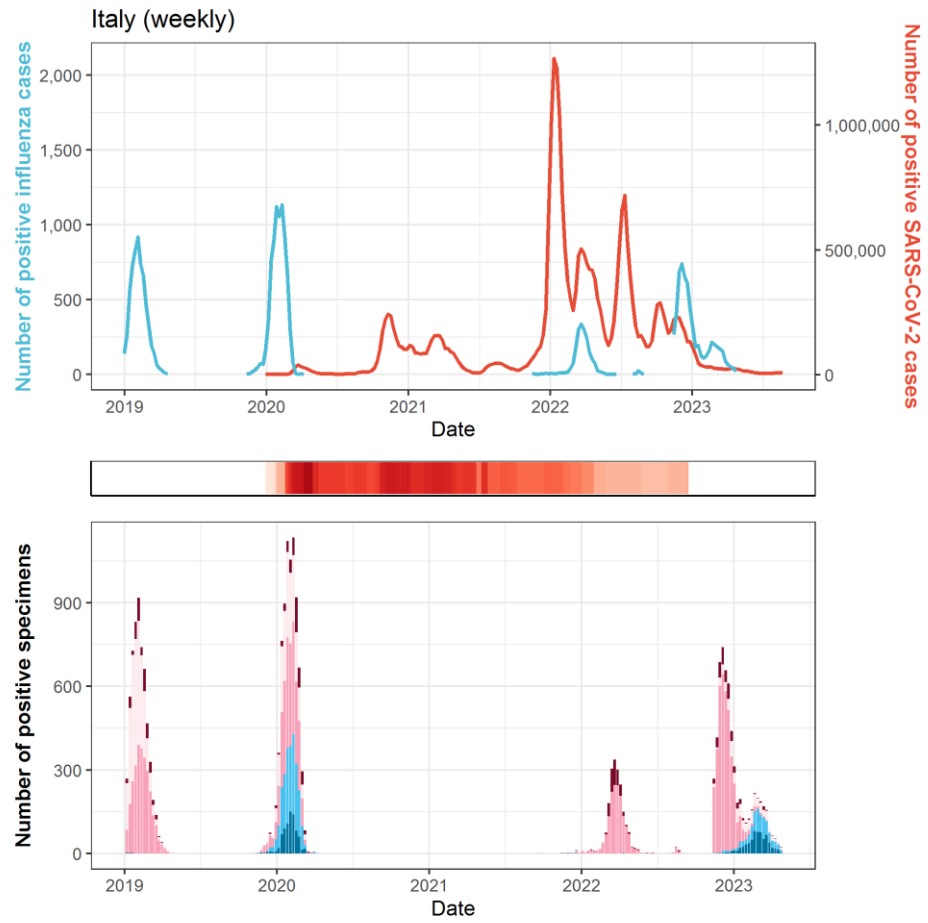


Italy



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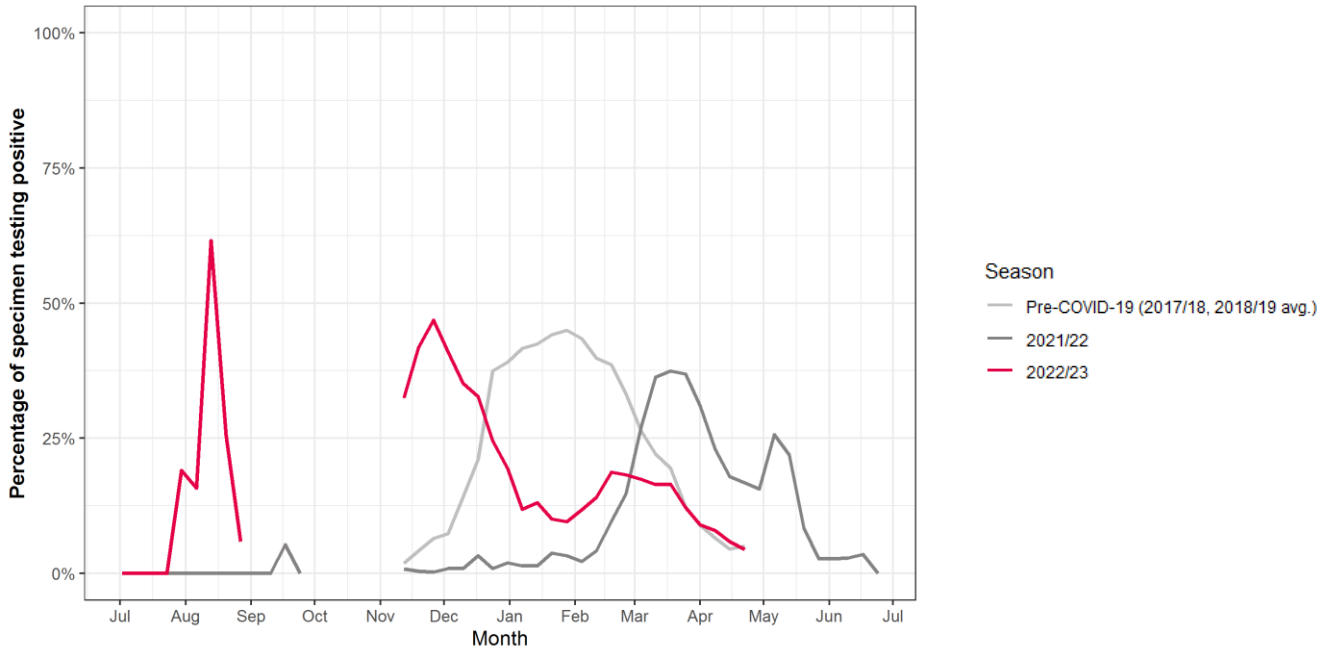
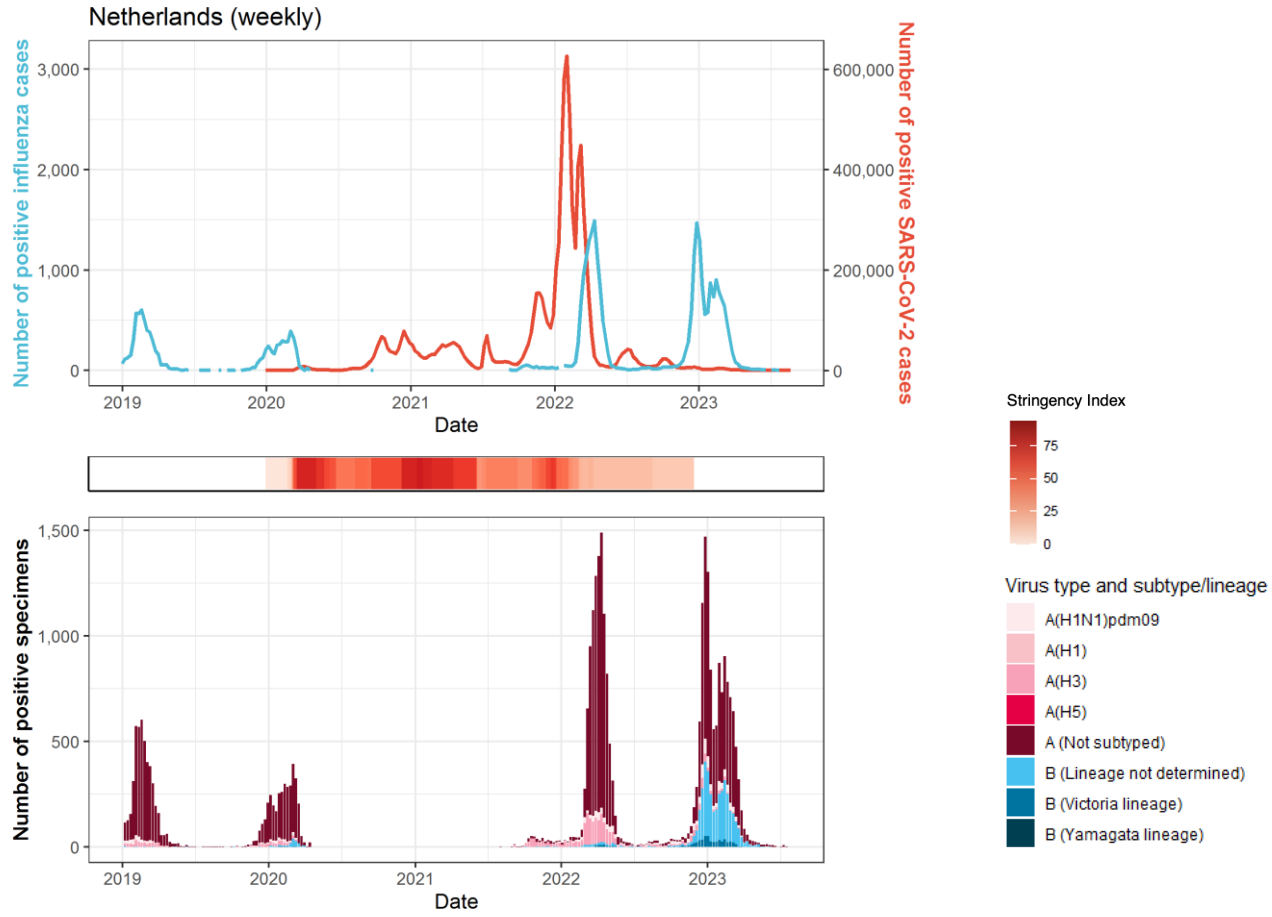
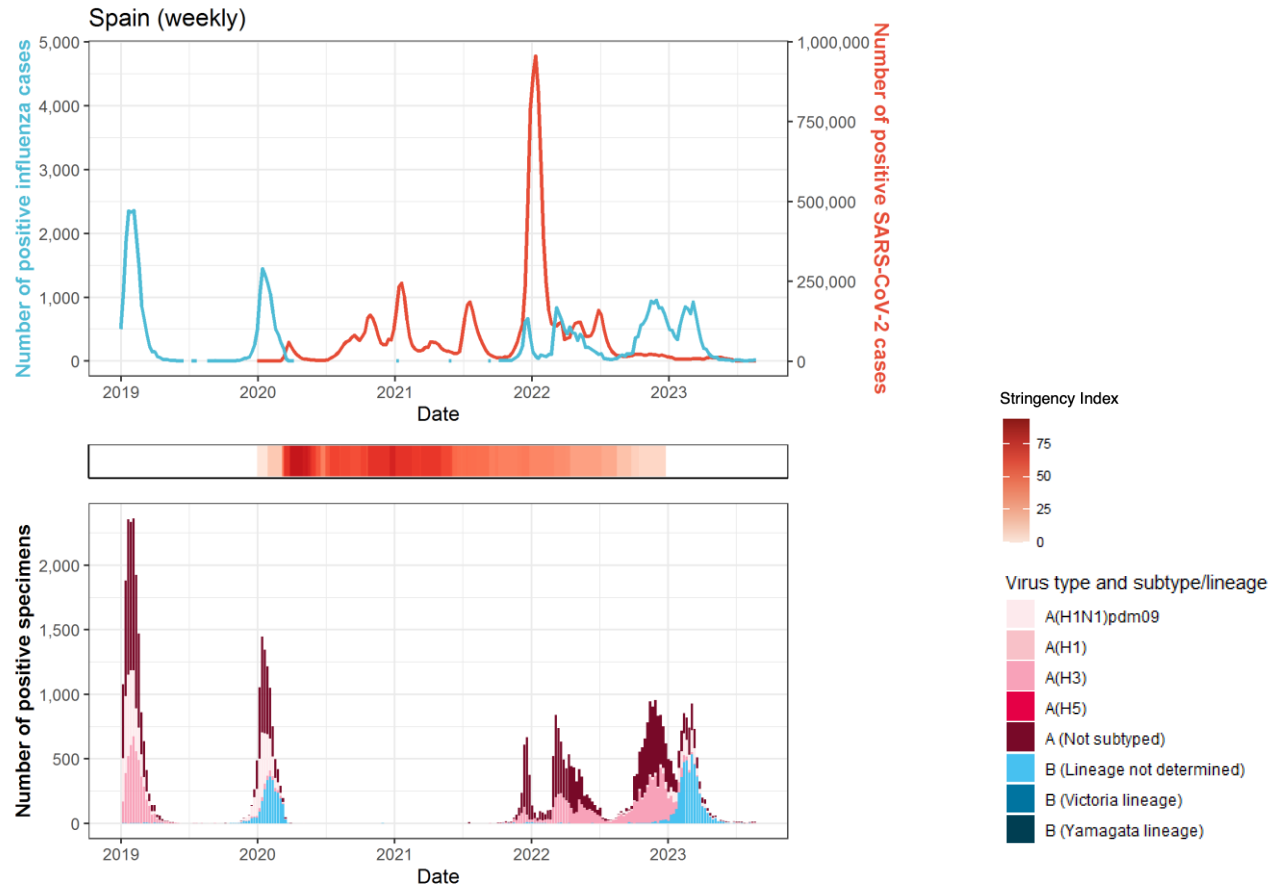


Netherlands



Percentage of specimens testing positive for influenza in different seasons: data not available

Spain



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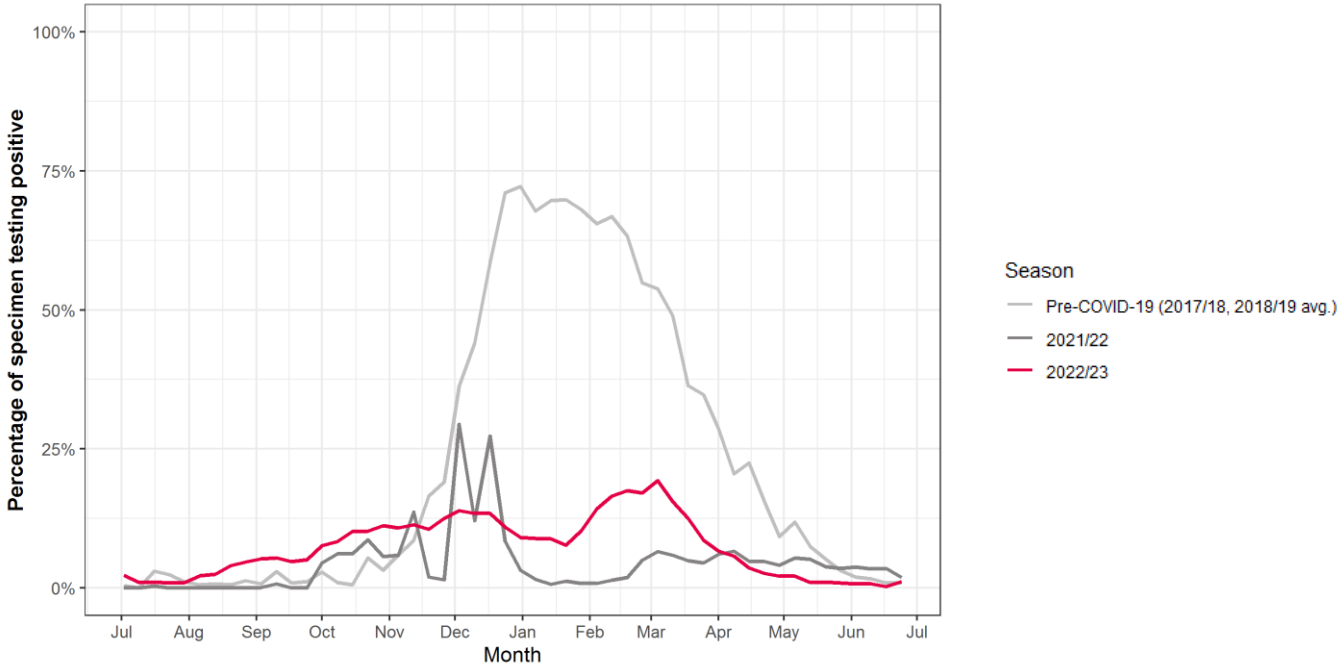
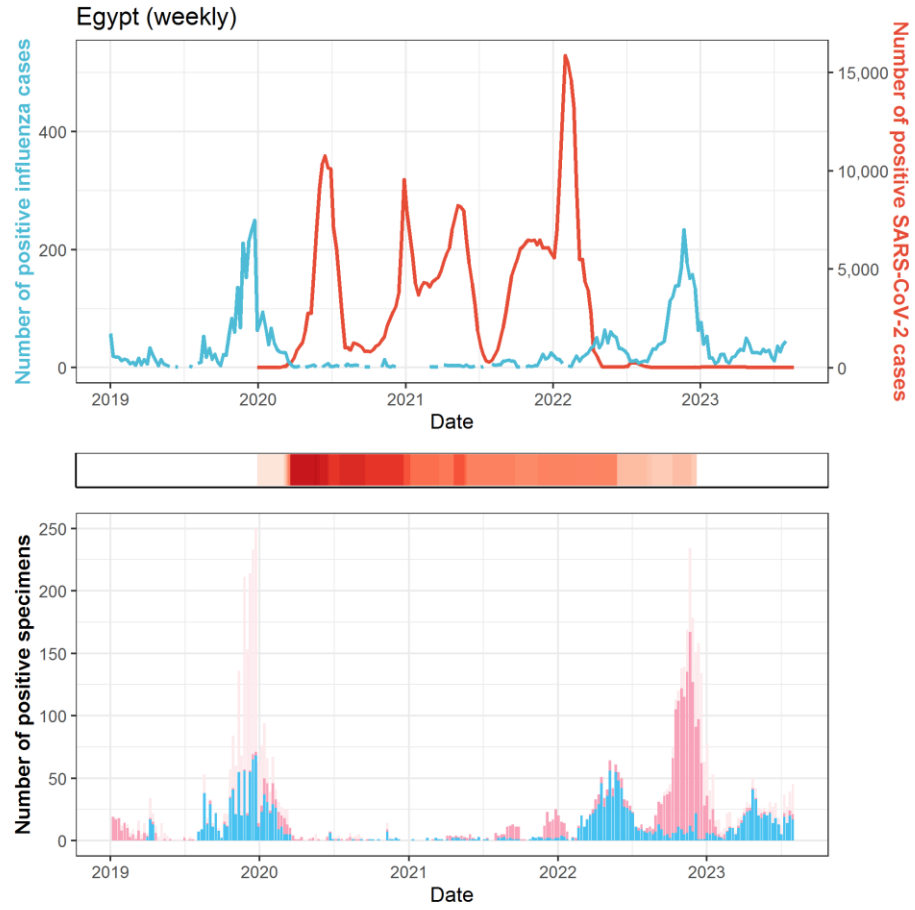


Northern Africa

Egypt



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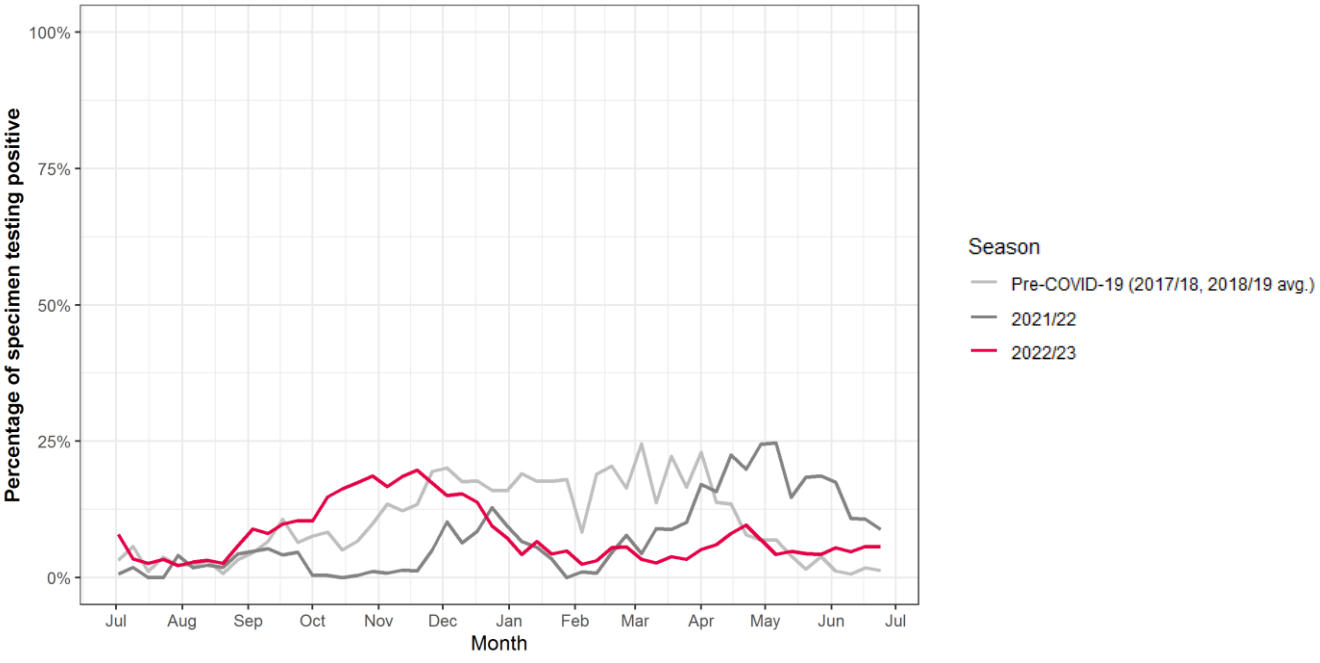
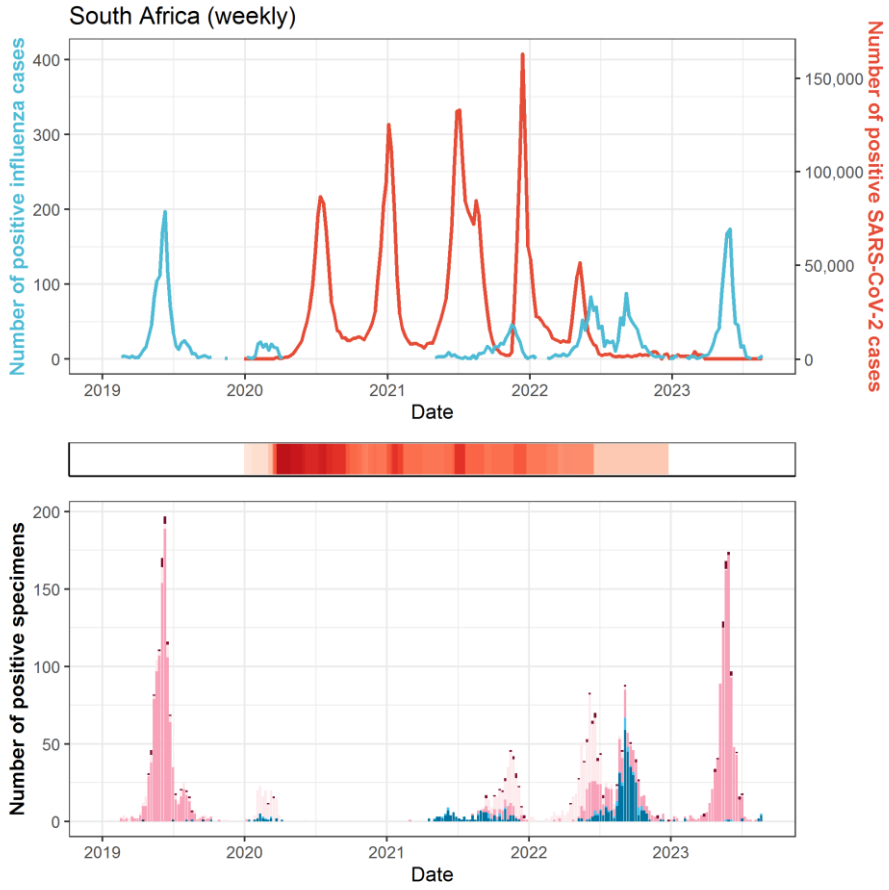
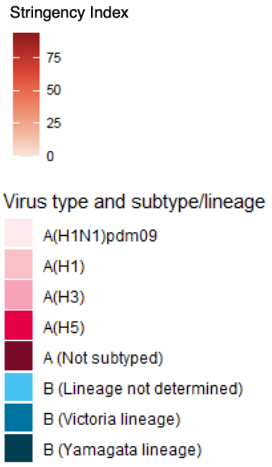


Southern Africa

South Africa





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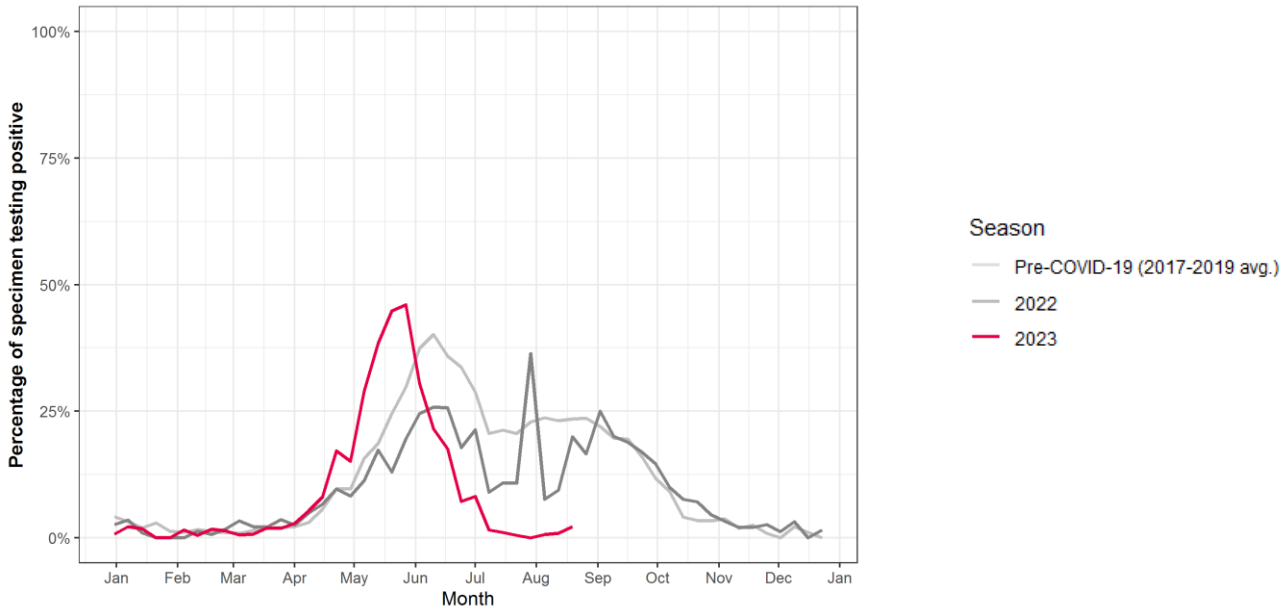
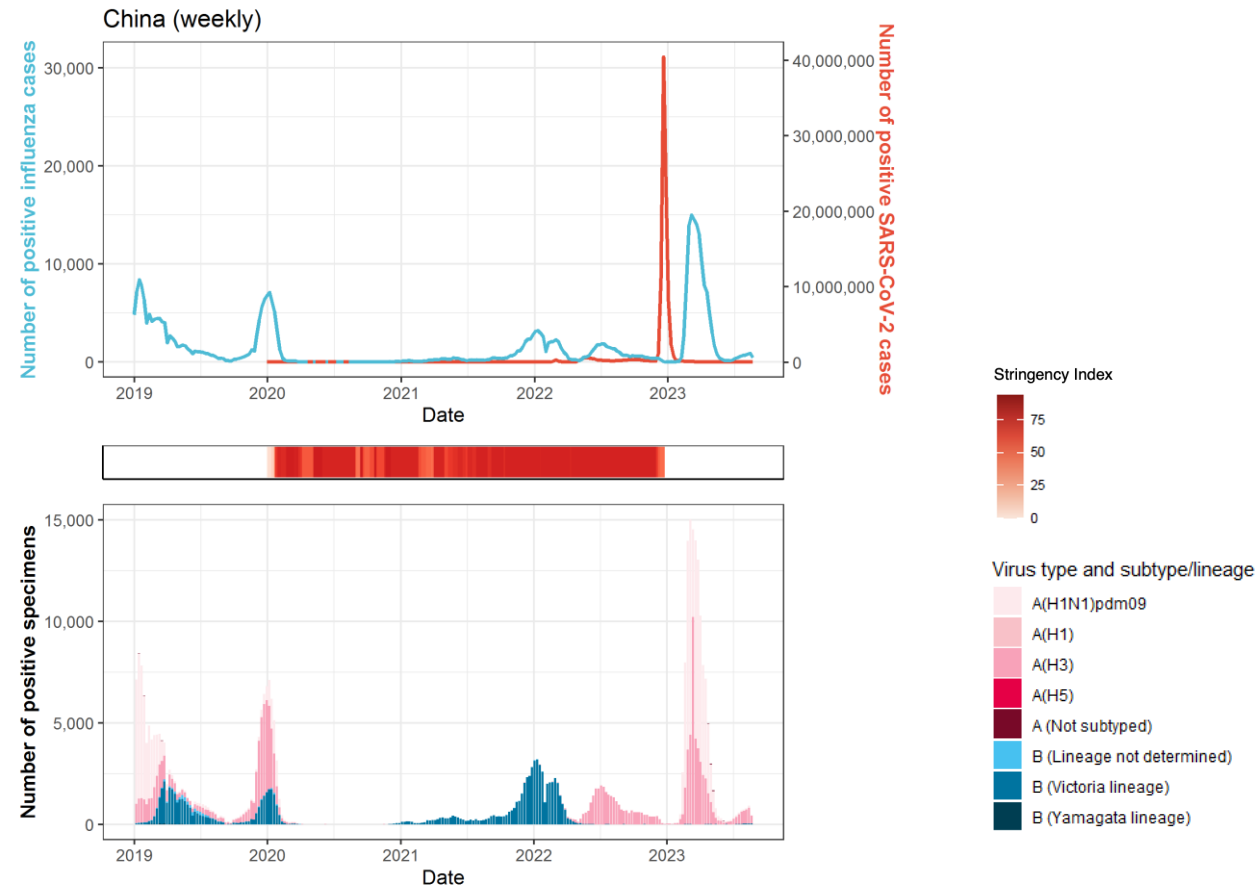


Eastern Asia

China



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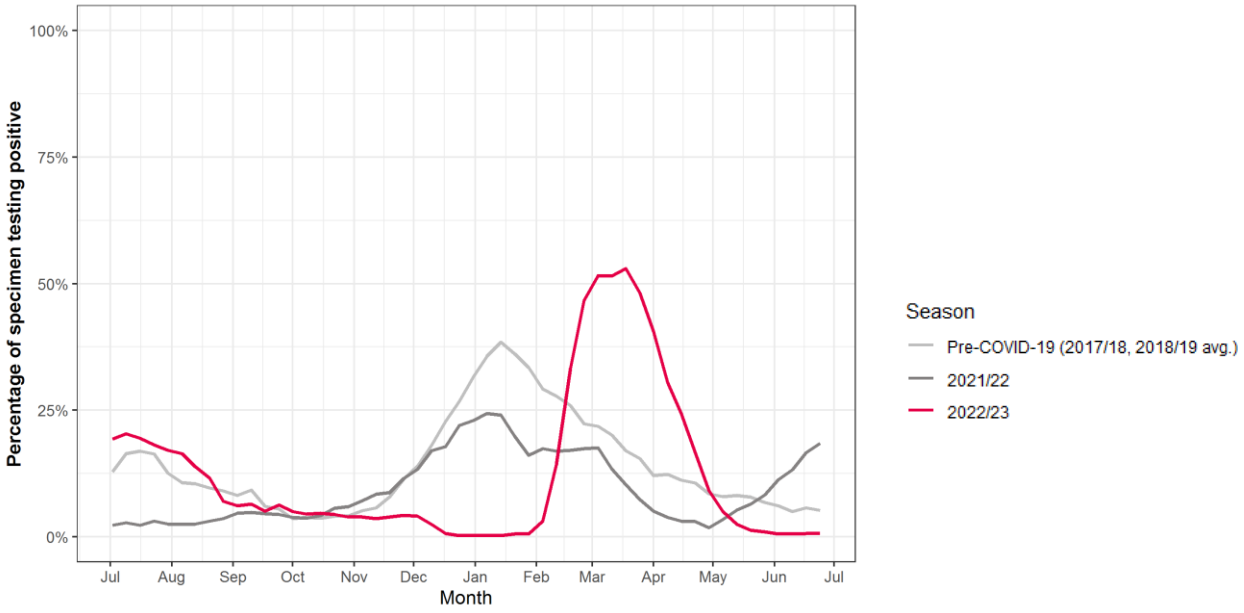
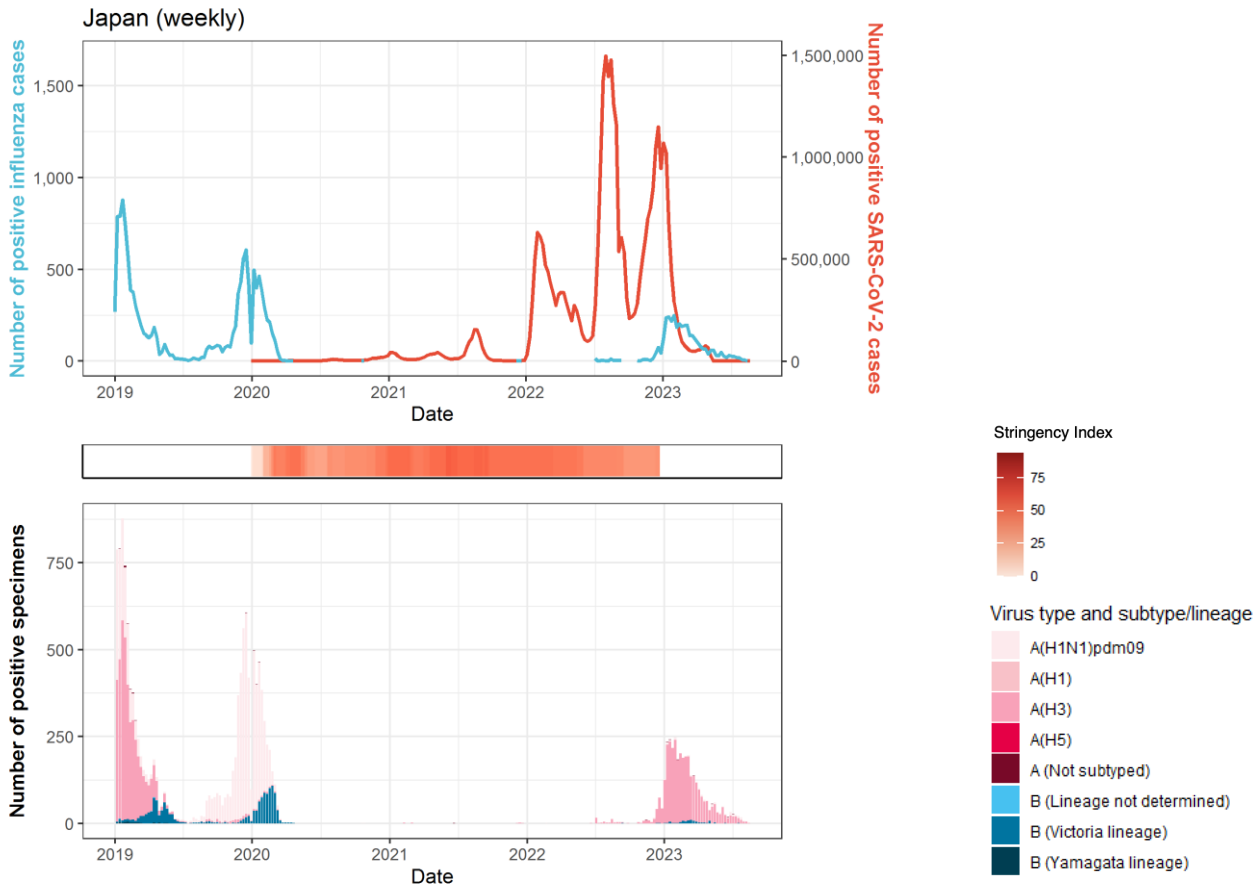
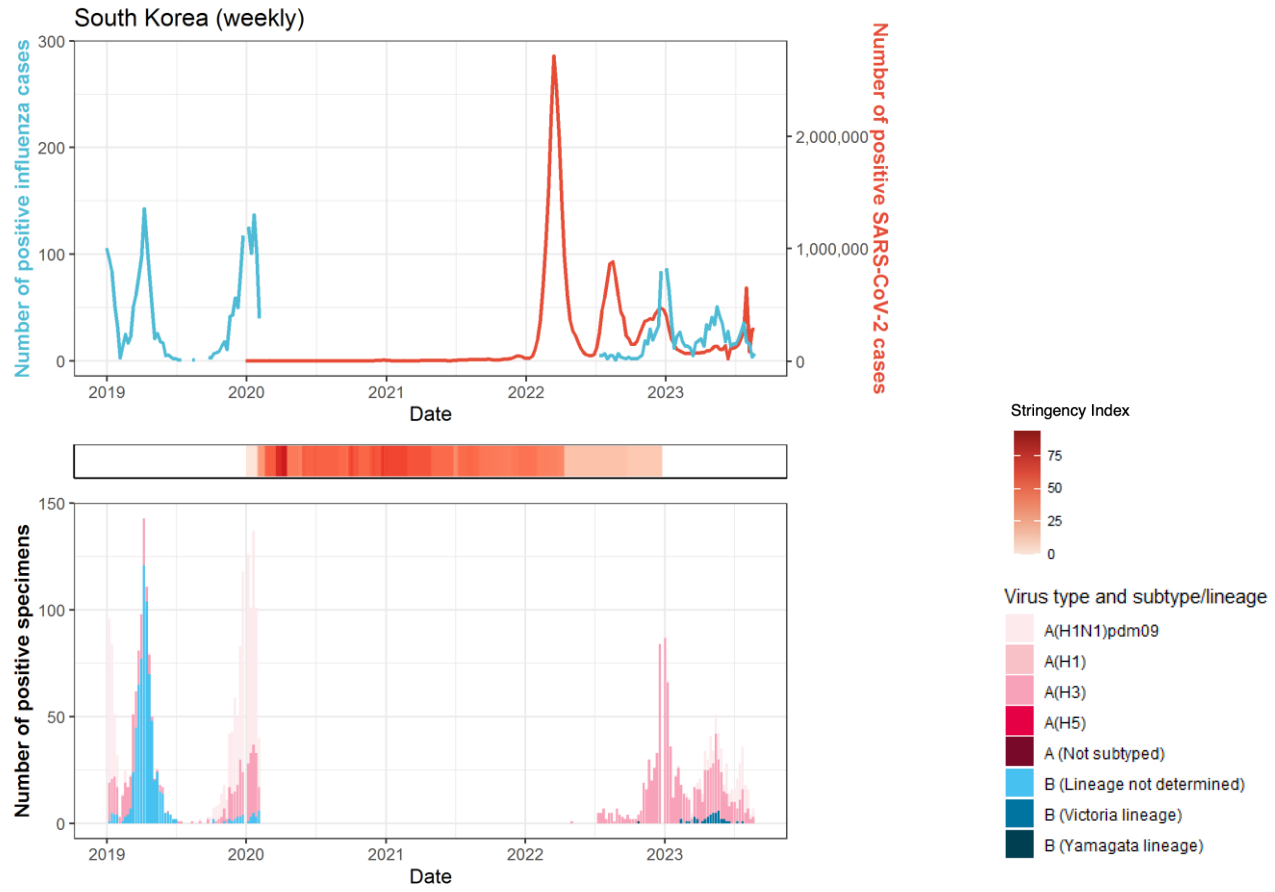


Japan

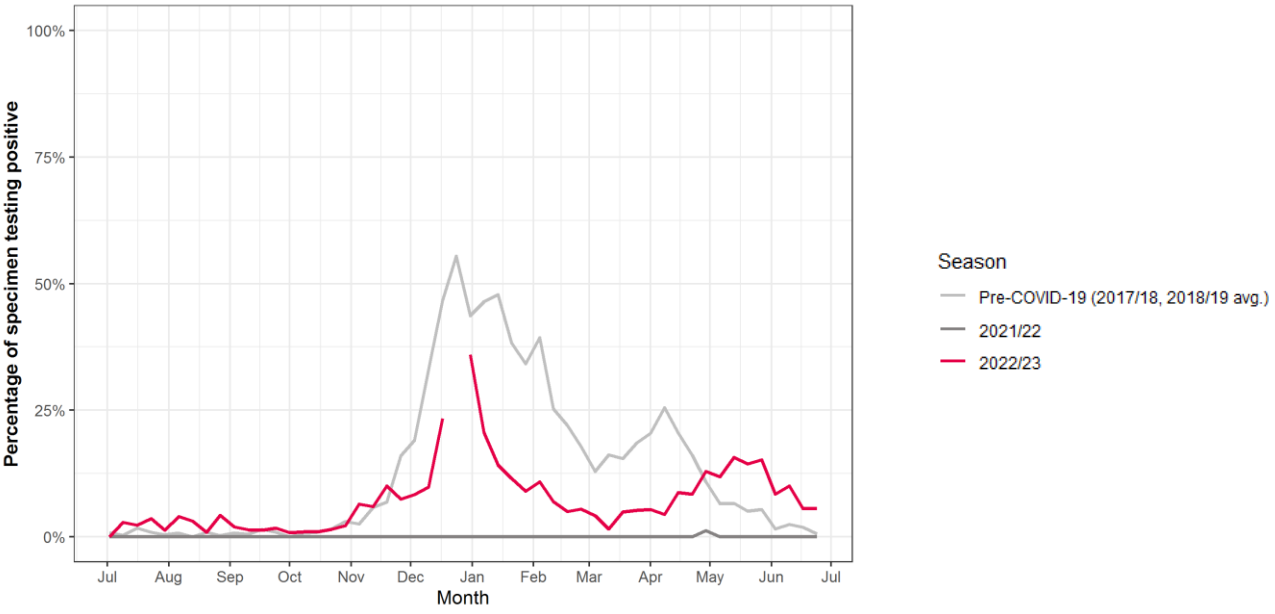


Percentage of specimens testing positive for influenza in different seasons: data not available

South Korea

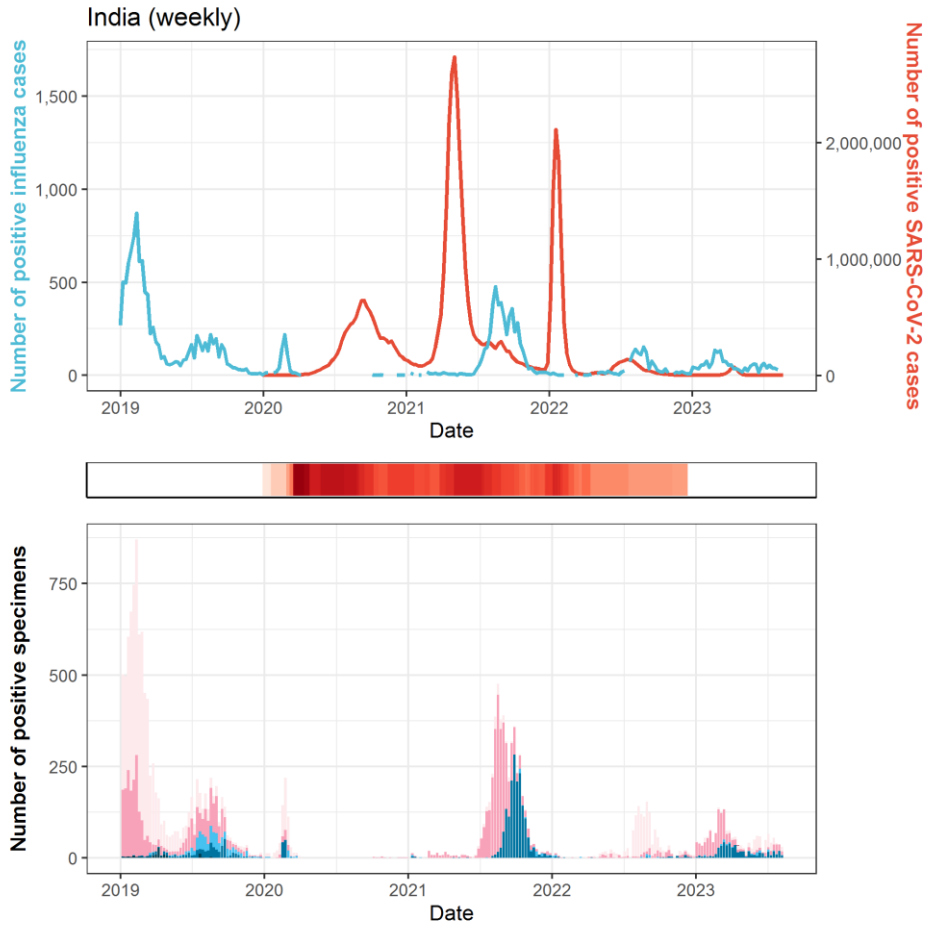


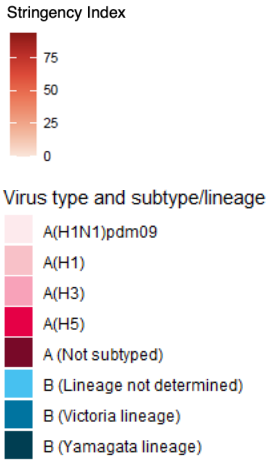
Percentage of specimens testing positive for influenza in different seasons



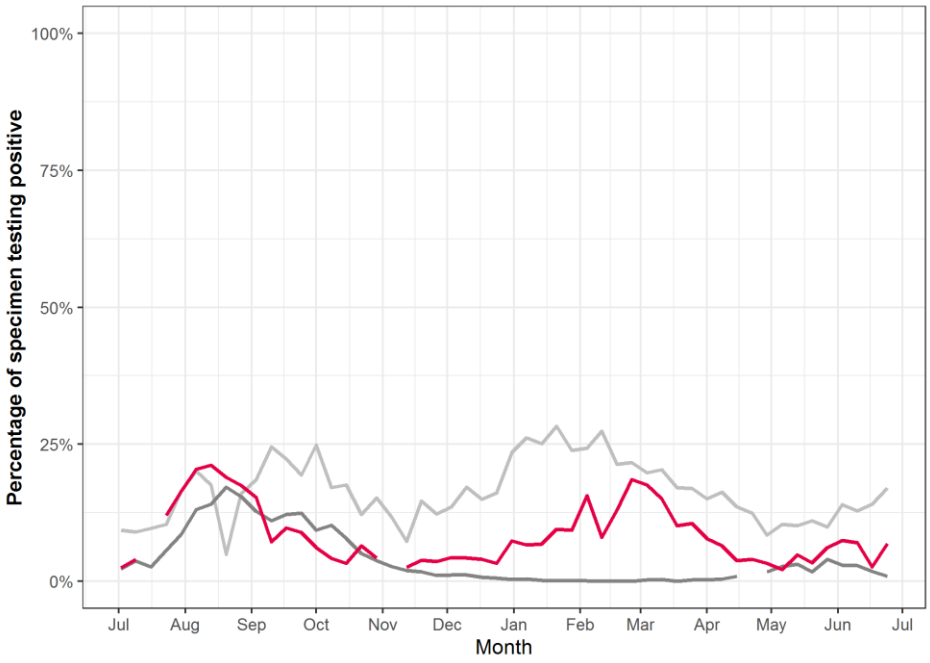
Southern Asia

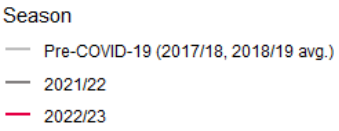
India





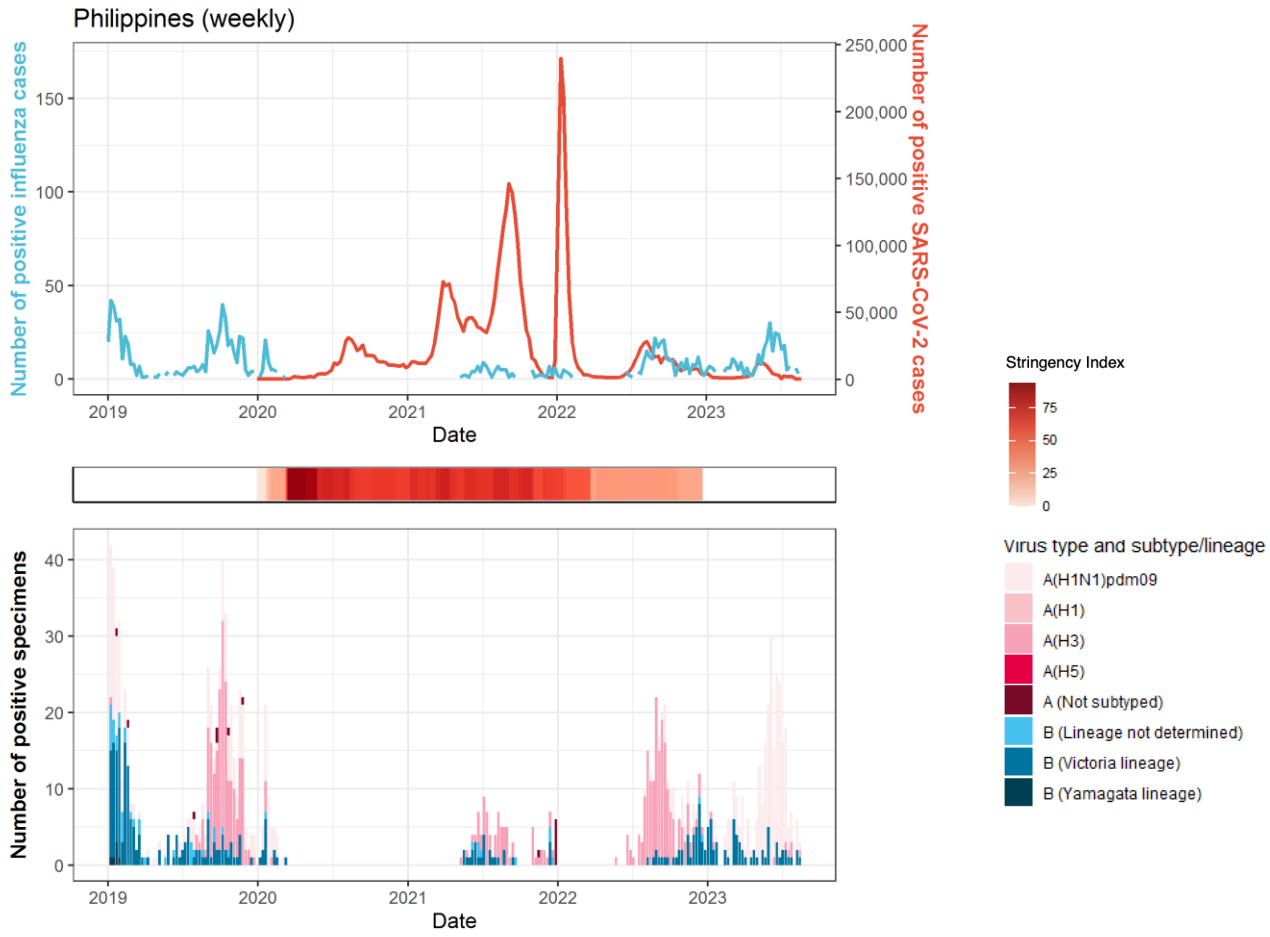
Percentage of specimens testing positive for influenza in different seasons



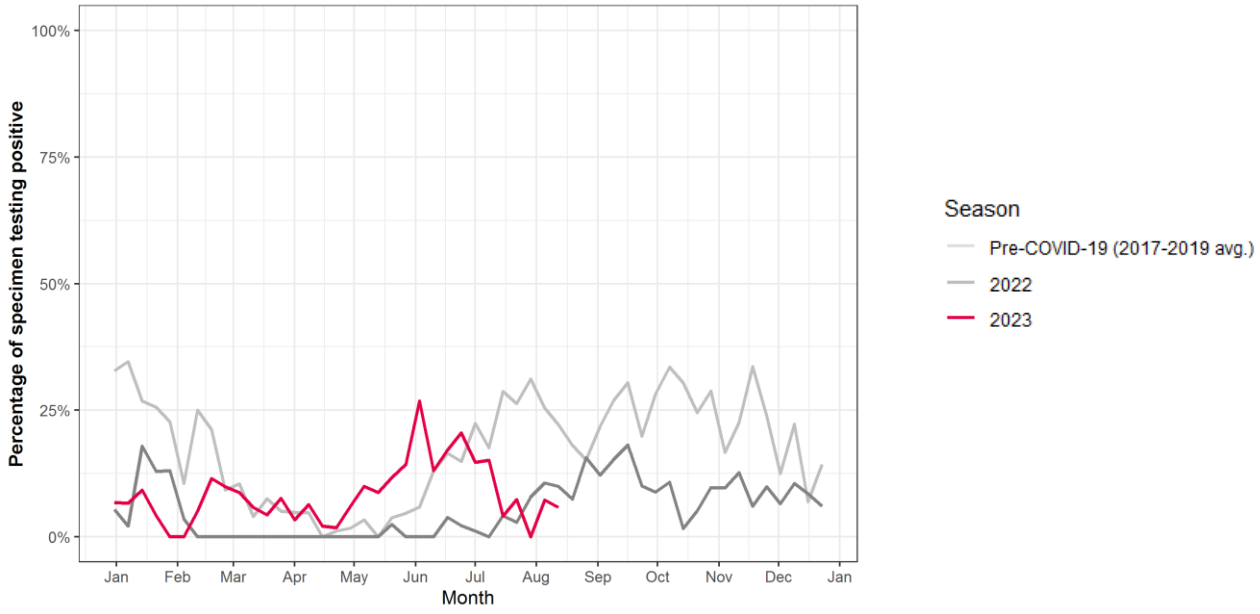


South-East Asia

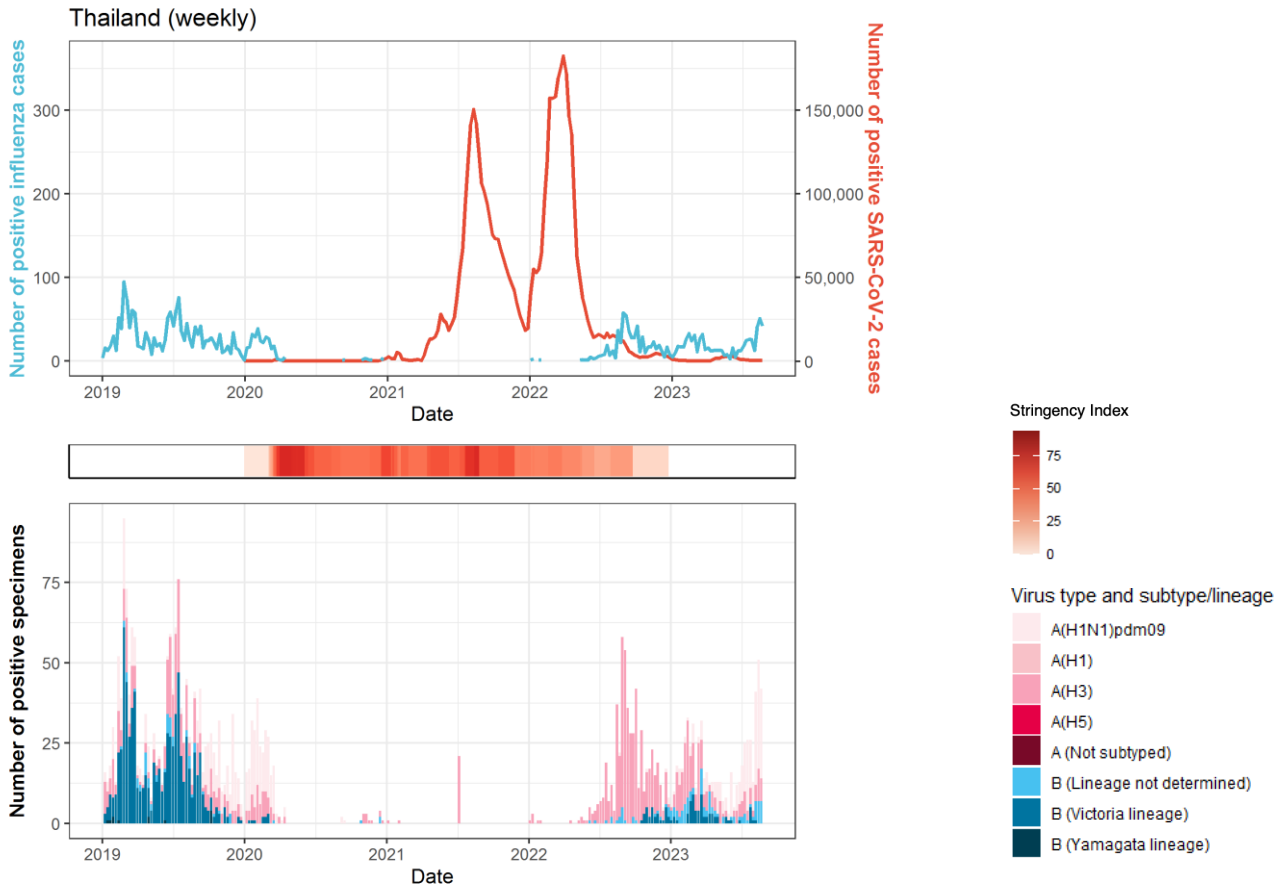
Philippines



Percentage of specimens testing positive for influenza in different seasons



Thailand



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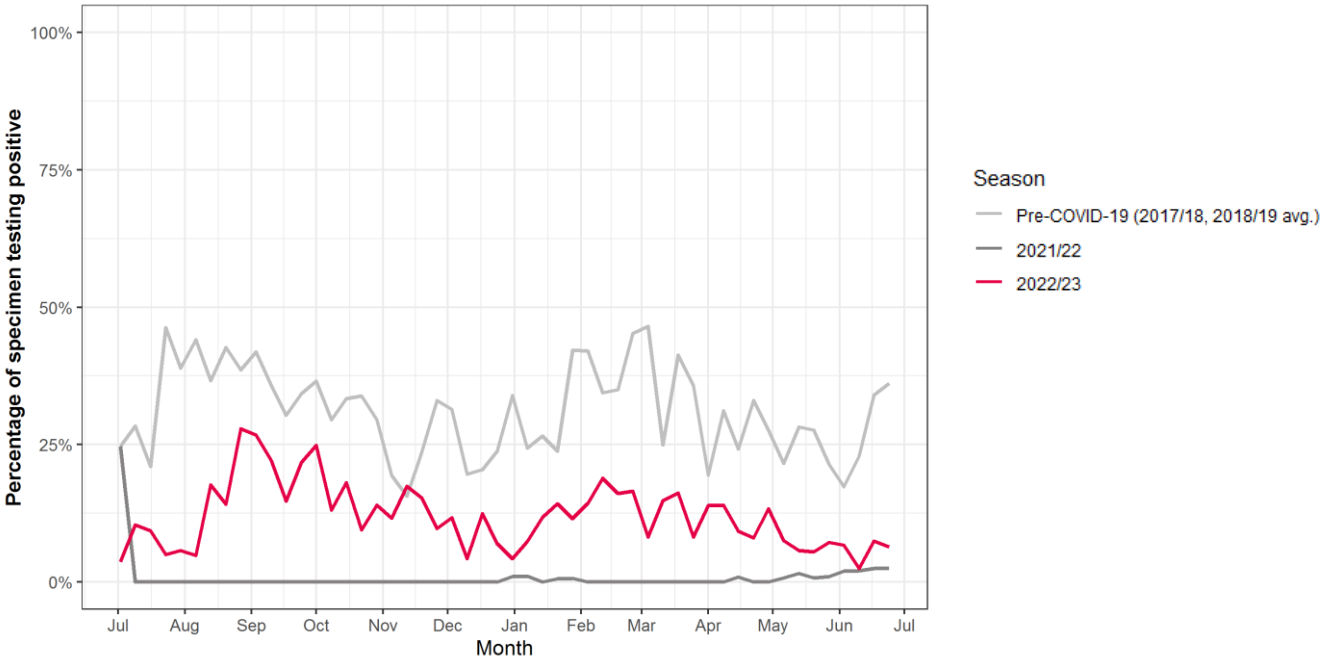
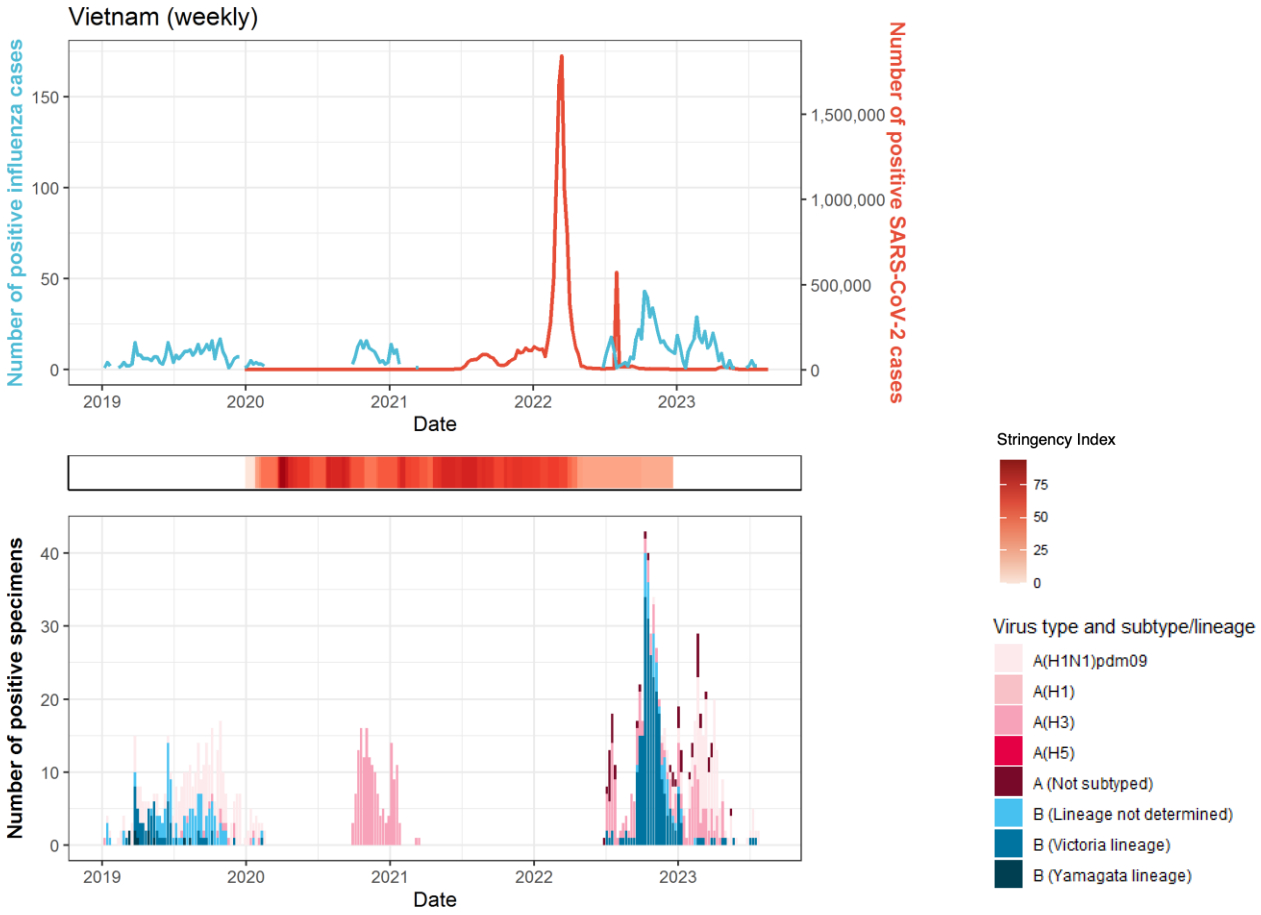


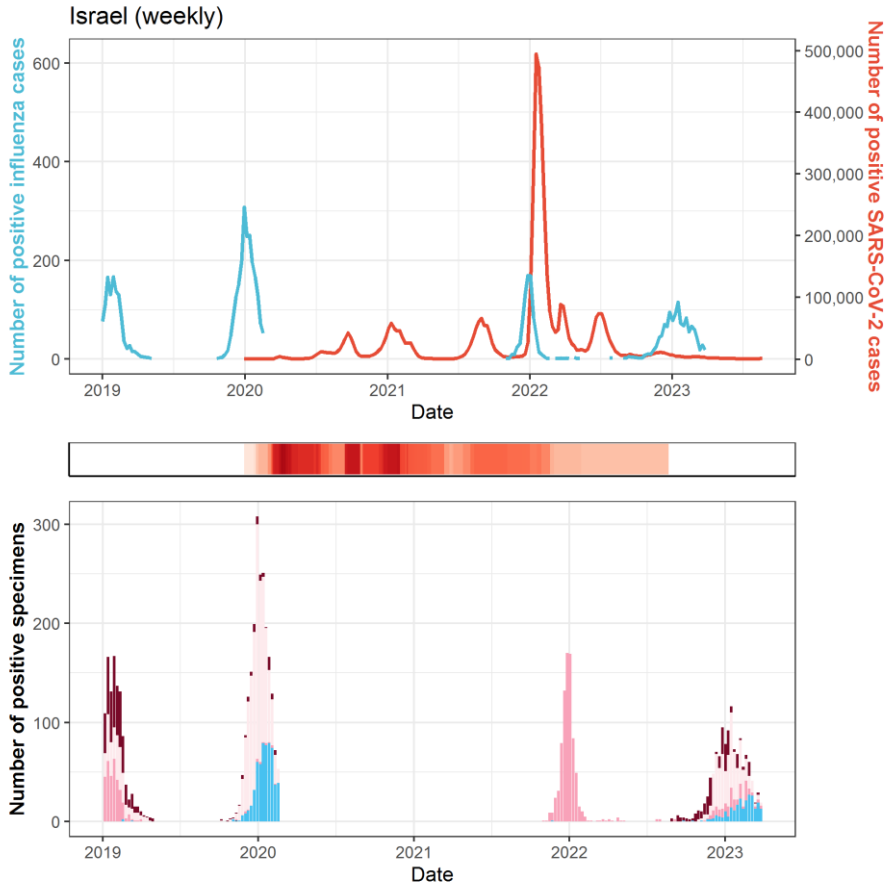
Vietnam

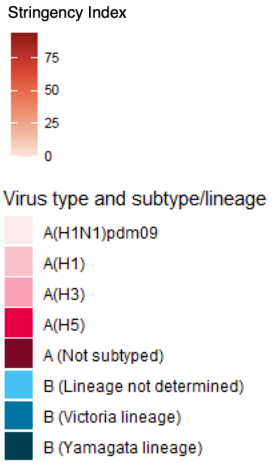


Percentage of specimens testing positive for influenza in different seasons: data not available

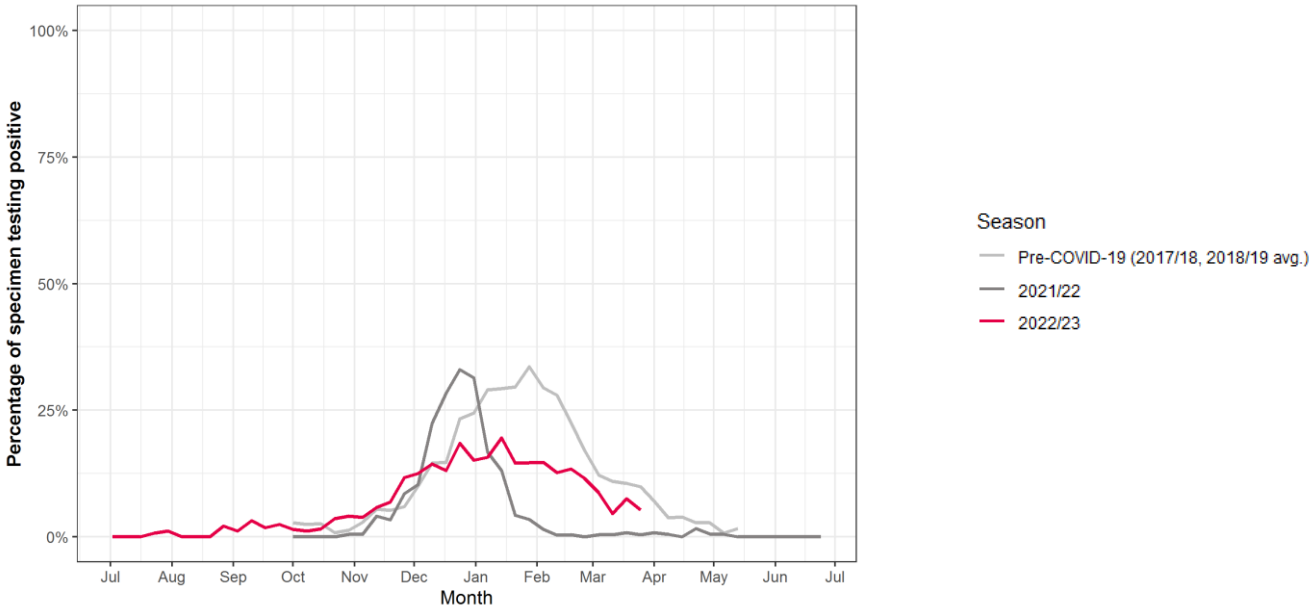
Western Asia

Israel



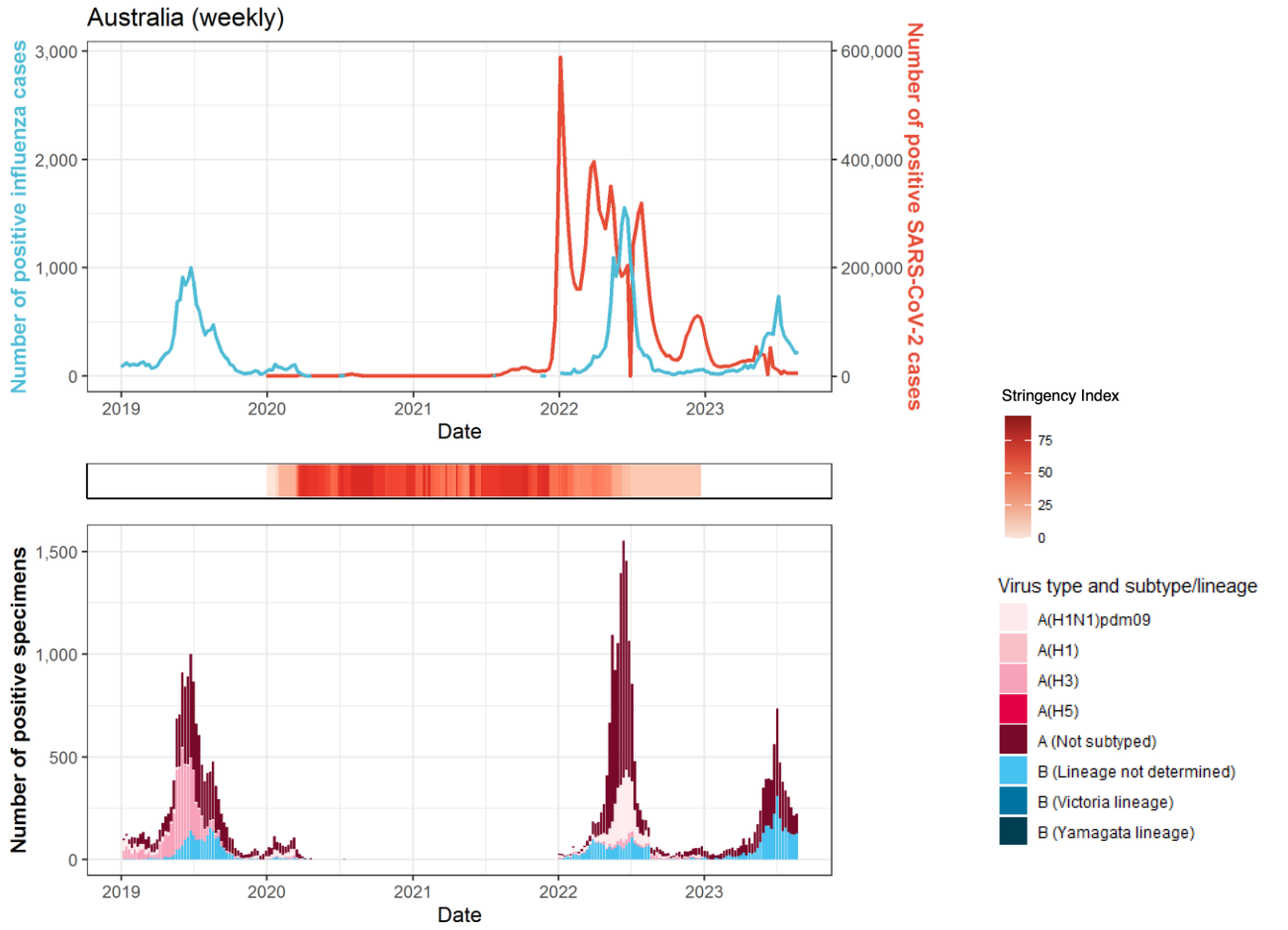


Percentage of specimens testing positive for influenza in different seasons



Oceania

Australia



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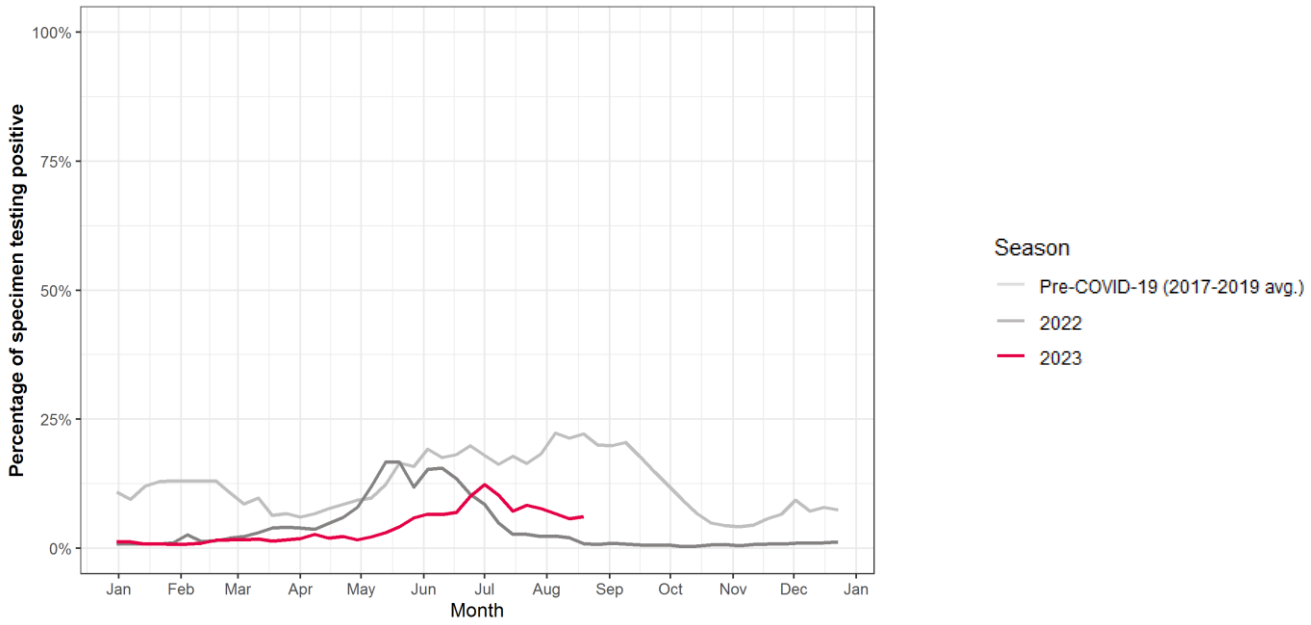

Absolute numbers per country

Country	Year	Cases[a,b] of SARS-CoV-2	+/- since last month[c]	Cases[a] of influenza	+/- since last month[c]	Week of last influenza update
Australia	2019			14,002		
Australia	2020	28,381		949		
Australia	2021	338,226		8		
Australia	2022	10,418,952		14,430		
Australia	2023	796,311	20,623	6,474	999	2023-34
Brazil	2019			3,459		
Brazil	2020	7,563,551		1,391		
Brazil	2021	14,700,856		1,240		
Brazil	2022	14,038,581		3,648		
Brazil	2023	1,414,647	0	20,650	325	2023-34
Canada	2019			43,196		
Canada	2020	565,508		44,956		
Canada	2021	1,536,966		337		
Canada	2022	2,390,310		71,314		
Canada	2023	204,724	0	11,391	246	2023-34
China	2019			122,757		
China	2020	96,673		31,295		
China	2021	35,398		26,183		
China	2022	84,792,971		56,455		
China	2023	14,379,403	6,193	123,964	2,899	2023-34
Egypt	2019			1,999		
Egypt	2020	136,644		659		
Egypt	2021	248,084		233		
Egypt	2022	130,805		2,709		
Egypt	2023	490	0	866	45	2023-31
France	2019			25,405		
France	2020	2,338,258		16,589		
France	2021	6,371,668		3,071		
France	2022	29,279,621		40,148		
France	2023	1,007,943	0	18,843	22	2023-34
Germany	2019			1,215		
Germany	2020	1,660,178		958		
Germany	2021	5,353,865		29		
Germany	2022	30,227,893		1,923		
Germany	2023	1,195,820	0	545	6	2023-34
India	2019			10,428		
India	2020	10,266,679		655		
India	2021	24,572,130		4,789		
India	2022	9,840,329		1,421		
India	2023	318,579	1,538	1,759	67	2023-32
Israel	2019			1,796		
Israel	2020	419,661		1,424		
Israel	2021	962,276		456		
Israel	2022	3,381,654		774		
Israel	2023	70,392	3,231	801	0	2023-13

Country	Year	Cases[a,b] of SARS-CoV-2	+/- since last month[c]	Cases[a] of influenza	+/- since last month[c]	Week of last influenza update
Italy	2019			6,361		
Italy	2020	2,083,689		7,485		
Italy	2021	3,897,739		31		
Italy	2022	19,187,010		5,817		
Italy	2023	772,402	41,308	2,415	0	2023-17
Japan	2019			10,343		
Japan	2020	230,304		2,915		
Japan	2021	1,503,484		9		
Japan	2022	27,371,282		272		
Japan	2023	4,698,502	0	3,203	15	2023-33
Mexico	2019			6,963		
Mexico	2020	1,496,067		4,799		
Mexico	2021	2,538,755		960		
Mexico	2022	3,236,805		10,314		
Mexico	2023	361,728	0	3,018	238	2023-34
Netherlands	2019			5,166		
Netherlands	2020	773,198		3,235		
Netherlands	2021	2,312,304		471		
Netherlands	2022	5,480,565		14,863		
Netherlands	2023	50,699	692	9,210	0	2023-30
Philippines	2019			612		
Philippines	2020	472,523		52		
Philippines	2021	2,371,346		105		
Philippines	2022	1,218,790		260		
Philippines	2023	111,314	965	297	9	2023-33
Poland	2019			1,786		
Poland	2020	1,297,400		1,282		
Poland	2021	2,811,801		2		
Poland	2022	2,259,187		1,604		
Poland	2023	150,447	746	1,869	0	2023-34
South Africa	2019			1,164		
South Africa	2020	1,039,161		157		
South Africa	2021	2,407,371		413		
South Africa	2022	602,048		1,171		
South Africa	2023	23,953	0	943	8	2023-34
South Korea	2019			1,702		
South Korea	2020	60,722		505		
South Korea	2021	574,528		0		
South Korea	2022	28,424,023		295		
South Korea	2023	5,120,527	1,234,746	875	45	2023-34
Spain	2019			17,228		
Spain	2020	1,919,549		8,827		
Spain	2021	4,180,589		2,206		
Spain	2022	7,654,824		18,100		
Spain	2023	225,378	0	8,828	44	2023-34
Thailand	2019			1,568		
Thailand	2020	6,919		297		
Thailand	2021	2,216,551		23		
Thailand	2022	2,500,484		575		
Thailand	2023	32,487	1,231	715	210	2023-34

Country	Year	Cases[a,b] of SARS-CoV-2	+/- since last month[c]	Cases[a] of influenza	+/- since last month[c]	Week of last influenza update
United Kingdom	2019			42,447		
United Kingdom	2020	2,563,561		14,377		
United Kingdom	2021	10,878,143		2,755		
United Kingdom	2022	10,752,834		26,896		
United Kingdom	2023	486,028	33,049	5,839	79	2023-34
United States	2019			268,524		
United States	2020	19,577,585		229,766		
United States	2021	33,956,701		39,507		
United States	2022	45,877,410		469,968		
United States	2023	4,025,133	0	45,908	1,539	2023-34
Vietnam	2019			355		
Vietnam	2020	1,456		146		
Vietnam	2021	1,729,801		39		
Vietnam	2022	9,793,887		399		
Vietnam	2023	97,563	1,008	257	0	2023-33

[a] Laboratory-confirmed cases.

[b] As of the 24th bulletin, the data source, used by Our World In Data, for SARS-CoV-2 cases has been changed retrospectively. As a result, yearly totals displayed in this table may differ from those in previous bulletins.

[c] 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. +/- since last month includes all cases over the last full calendar month.

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 [5]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [6]. 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 FluCov-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) [7].

Data sources

- **Influenza**: FluNet [8] 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 [9]. We used this platform to extract data on the number of cases, as well as tests performed per country. As of 8 March 2023, Our World in Data changed their primary data source from the John Hopkins repository on daily confirmed COVID-19 cases to the WHO [10].
- **Government response tracker**: The Oxford COVID-19 Government Response Tracker (OxCGRT) [7] 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 24 July 2023 and cover the period 1 January 2019 to 28 August 2023 (influenza) and 2 Sept (SARS-CoV-2). 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 flucov@nivel.nl.

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FluCoV Dashboard: https://www.nivel.nl/en/dossier-epidemiology-respiratory-viruses/flucov-dashboard

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