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Research for better care

FluCov-Bulletin – May 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 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

Globally, **influenza** activity has decreased (see Figure 1). The following country patterns were observed for **influenza** in May 2023:

- In the Southern Hemisphere, a sharp increase in **influenza** detections (and positivity rate) was observed in **South Africa**, driven by **influenza** A(H1N1)pdm09. In **Australia**, a smaller increase in **influenza** detections was observed. Finally, Brazil reported a wave of **influenza** B in March and this continued to decrease in May.
- In the Northern Hemisphere, **influenza** detections in **China** decreased further over the month of May, after the big increase, driven by a mix of **influenza** A(H1N1)pdm09 and A(H3N2), that was observed in March.
- In all countries that had reported a wave of **influenza** B in February or March (**France**, **Germany**, **Poland**, **Spain** and **Brazil**), the decrease in **influenza** detections observed in April, continued in May. Detections also decreased in the **Netherlands**, where a mix of **influenza** A and B was present.
- In Mexico, however, **influenza** (B/Victoria) detections increased, as well as the percentage of specimens that tested positive.
- In **South Korea**, an increase in **influenza** A(H3N2) detections was observed. In other Asian countries, **influenza** activity was low (**India**, **Philippines** and **Thailand**) or decreasing (**China** and **Japan**).
- Low **influenza** activity was also observed in the **United States** (a mix of influenza A and B) as well as in **Canada**, **United Kingdom** and **Egypt** (all **influenza** B/Victoria or B lineage not determined).
- No update on **influenza** activity in May was available for **Israel**, **Italy** and **Vietnam**.

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

- A large increase in **SARS-CoV-2** detections was observed in **South Korea** (350,756 cases in April [1] and 476,087 in May).
- A small increase in **SARS-CoV-2** detections was observed in **Australia** and the **Philippines**.
- Relatively low numbers **SARS-CoV-2** detections, with some small increases or decreases, were reported in most countries in the Bulletin: **Brazil**, **Canada**, **China**, **Egypt**, **France**, **Germany**, **India**, **Israel**, **Italy**, **Japan**, **Mexico**, **Netherlands**, **Poland**, **South Africa**, **Spain**, **Thailand**, **United Kingdom**, **United States** and **Vietnam**

Implications

The recent wave of influenza B, that was observed in Europe in February/March seems to have come to an end, as well as the wave of influenza A that was observed in **China** in March-April 2023. **Mexico** was the only country in the Northern Hemisphere that reported an increase in influenza B detections in May.

In the Southern Hemisphere, a sharp increase in influenza detections was observed in **South Africa** (A(H1N1)pdm09). A smaller increase in influenza detections was also observed in **Australia** (a mix of influenza A and B, undetermined). A large increase in influenza detections (A(H1N1)pdm09 if subtyped) was also observed in **Chile** [2].

Thus far, only influenza B/Victoria was found to be the dominant lineage in countries covered by the Bulletin when this was determined. The detection and characterization of influenza B viruses has become increasingly important in the context of the COVID-19 pandemic, where influenza B/Yamagata appears to be extinct [3].

SARS-CoV-2 activity was relatively low in most countries in May. Globally, **SARS-CoV-2** detections have been decreasing since the peak in **China** in December 2022. There are, however, regional differences and an increase in **SARS-CoV-2** detections was seen in the Western Pacific region, according to the WHO [4], specifically in **South Korea**.

Importantly, WHO has announced that **SARS-CoV-2** is '*is now an established and ongoing health issue which no longer constitutes a public health emergency of international concern (PHEIC)*' [5]. Despite this development, the surveillance of **SARS-CoV-2** will remain very important in the coming 12 months.
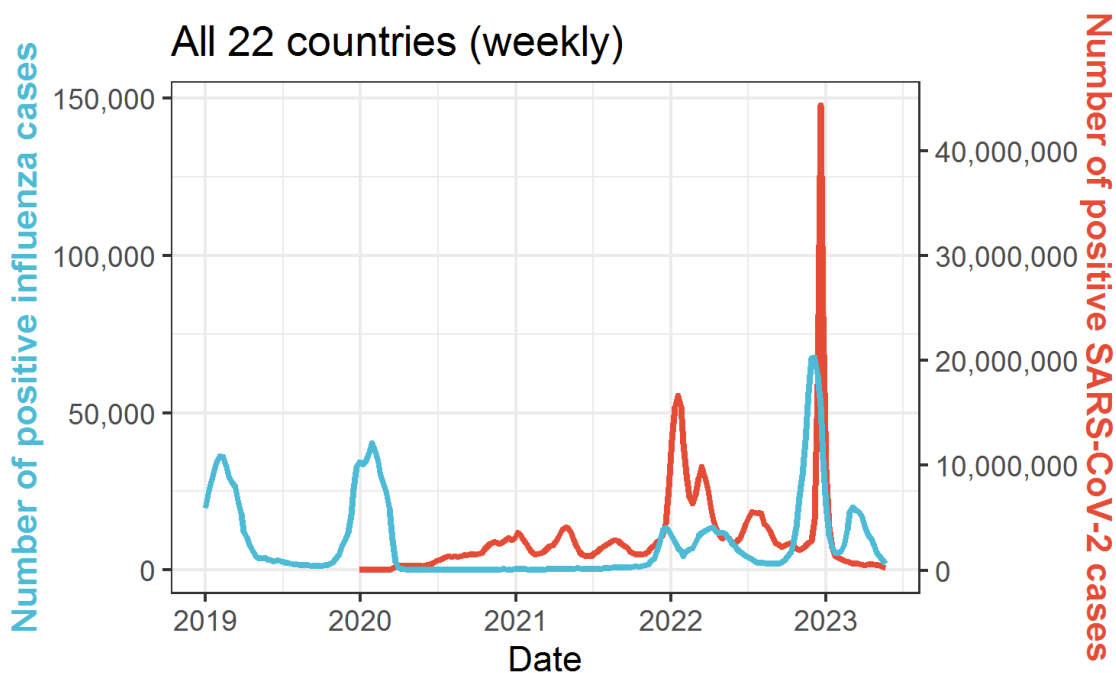

Figure 1: SARS-CoV-2 and influenza detections in the 22 countries covered by the Bulletin (period: from week 1/2019 to week 20/2023)

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 21 May, 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

Canada (weekly)
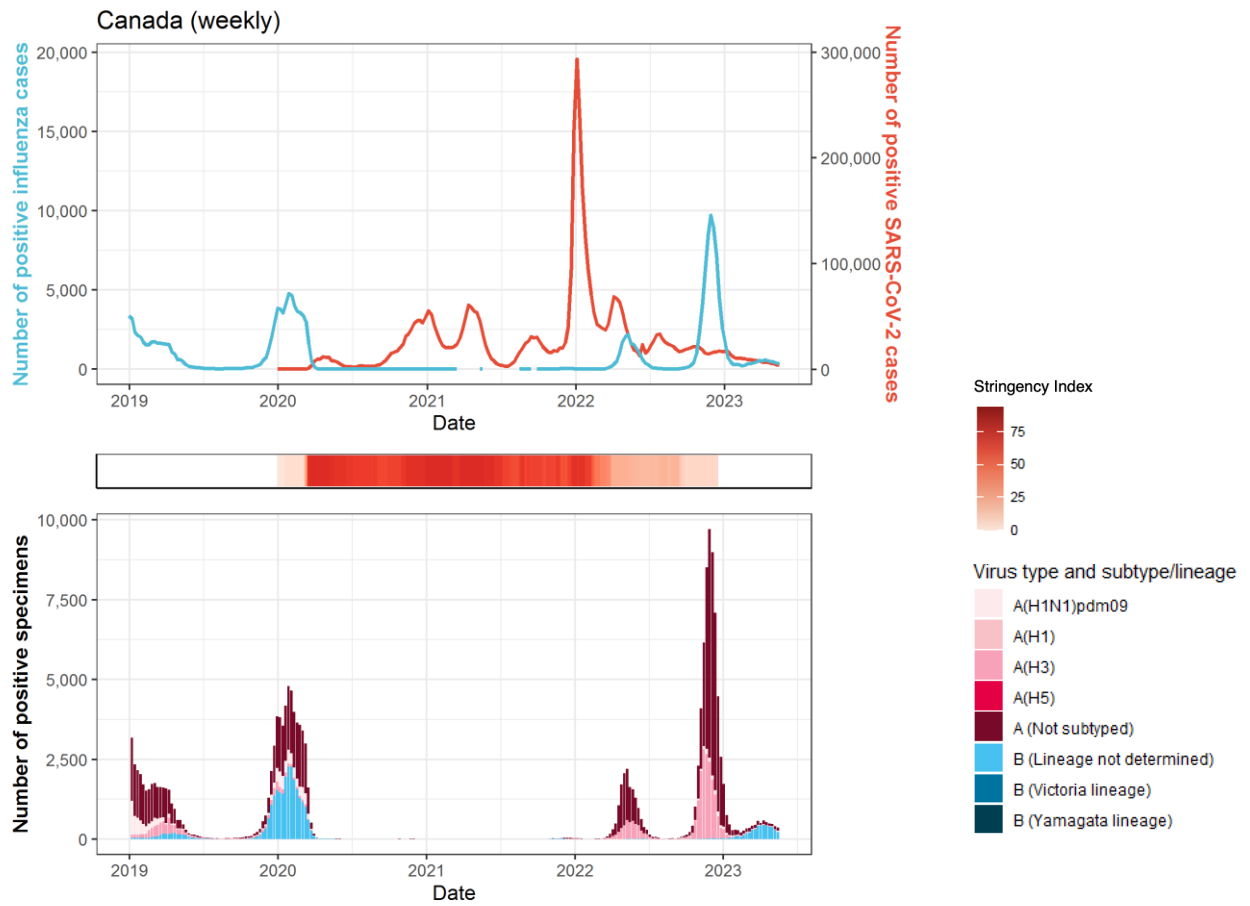
Percentage of specimens testing positive for influenza in different seasons

United States
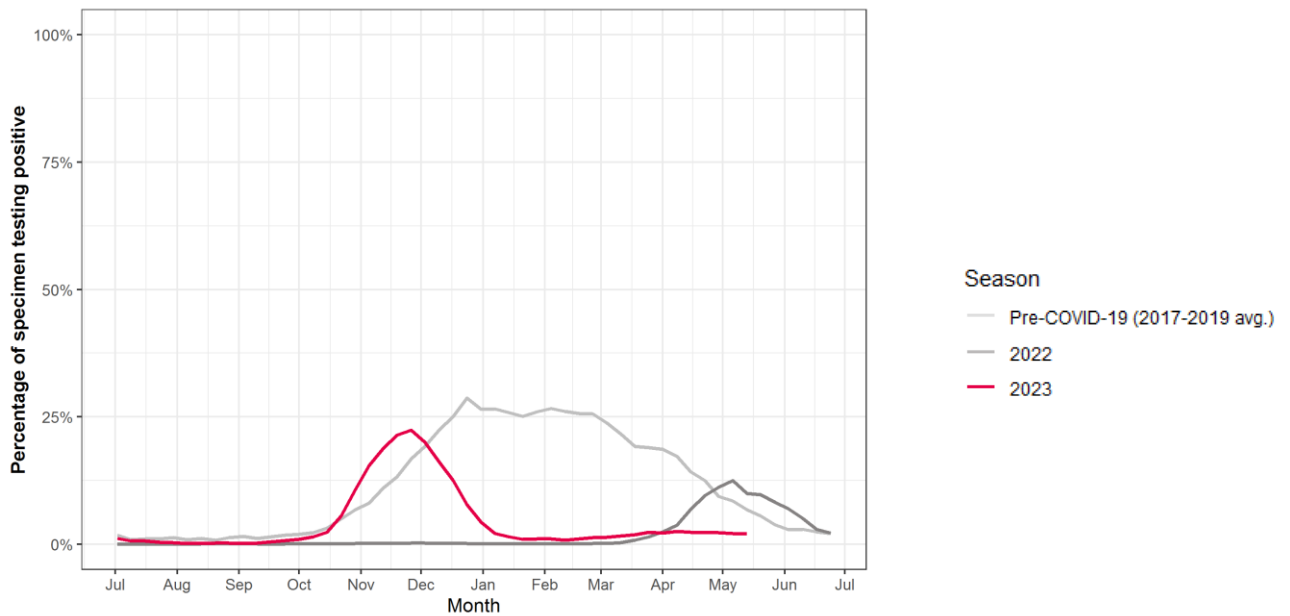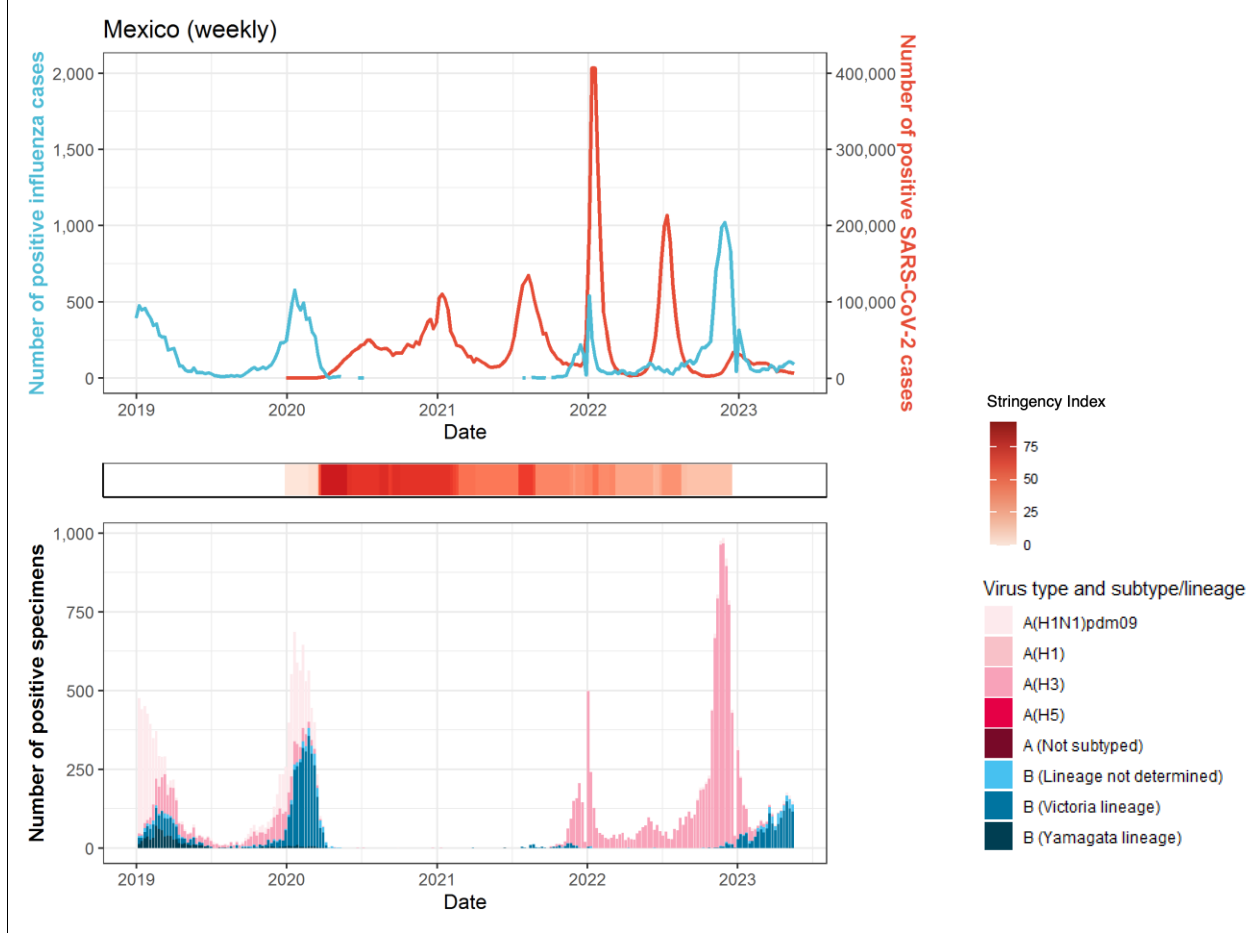
United States (weekly)
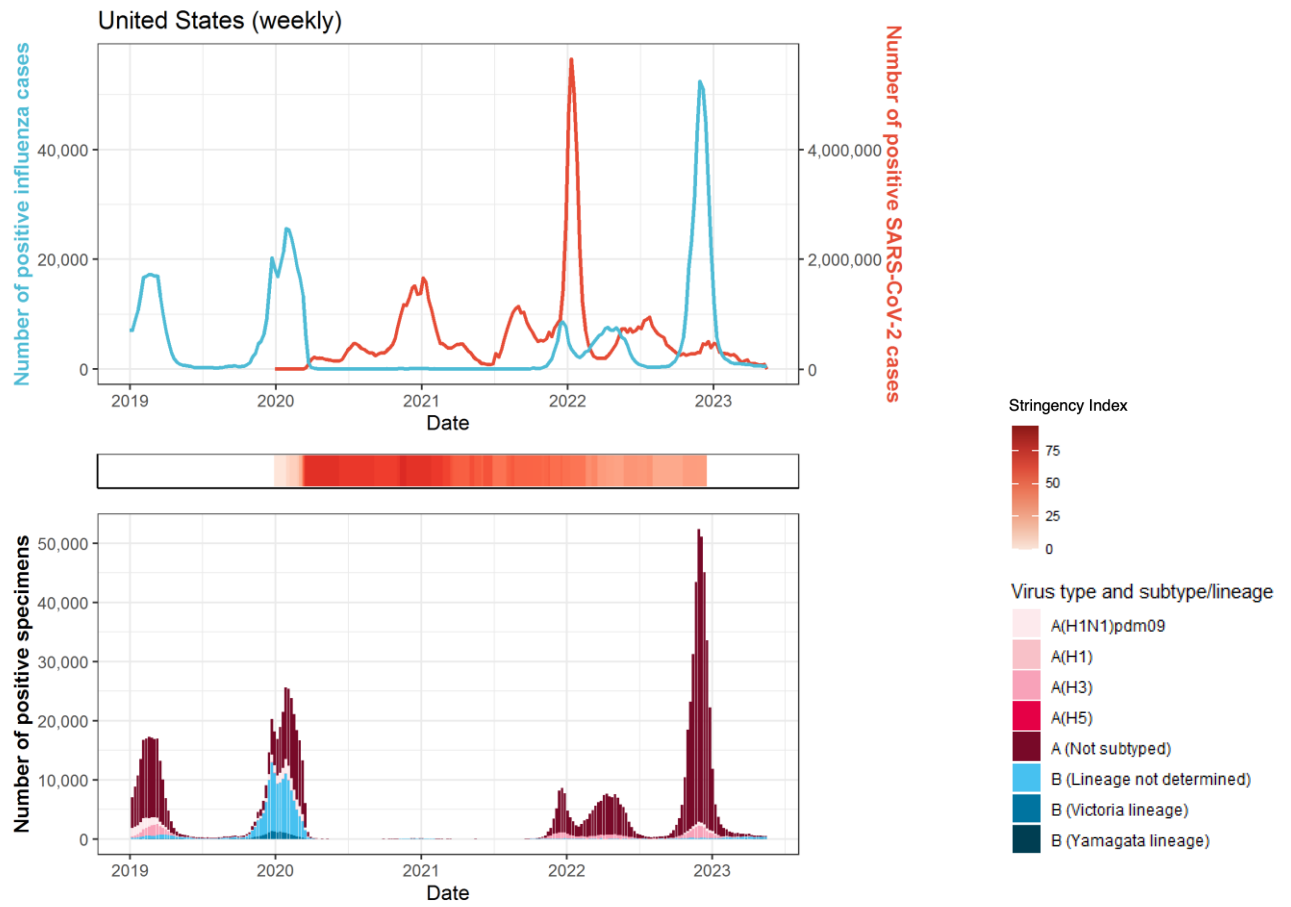
Percentage of specimens testing positive for influenza in different seasons
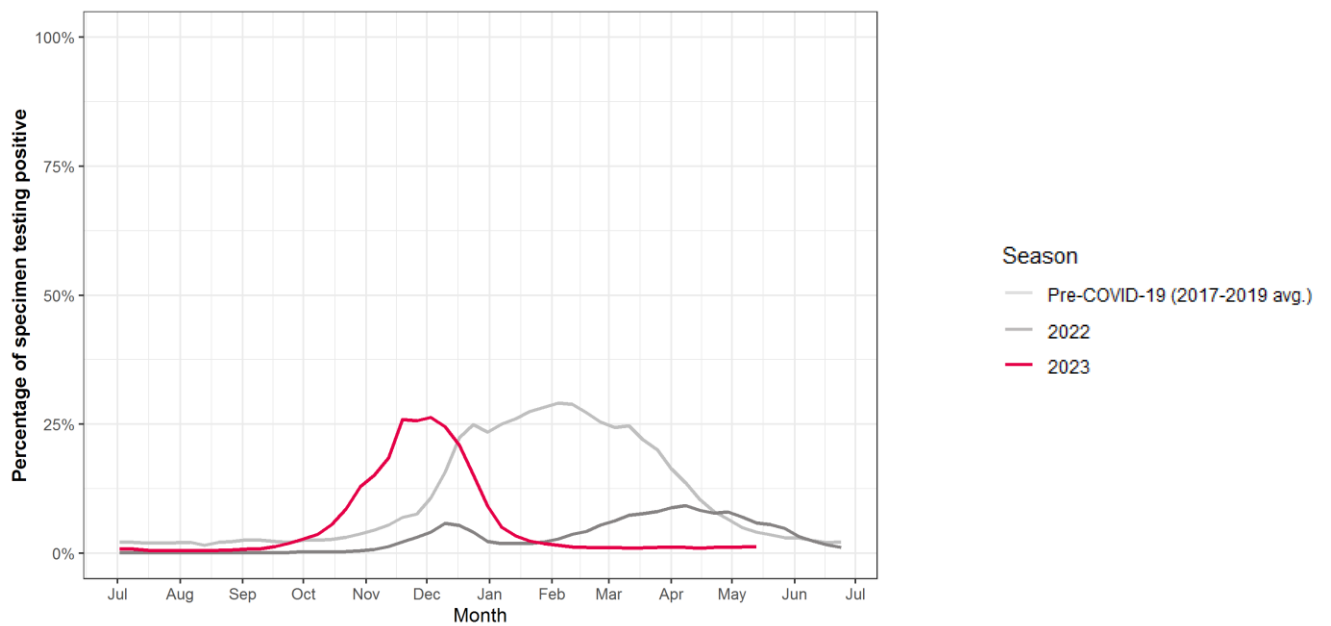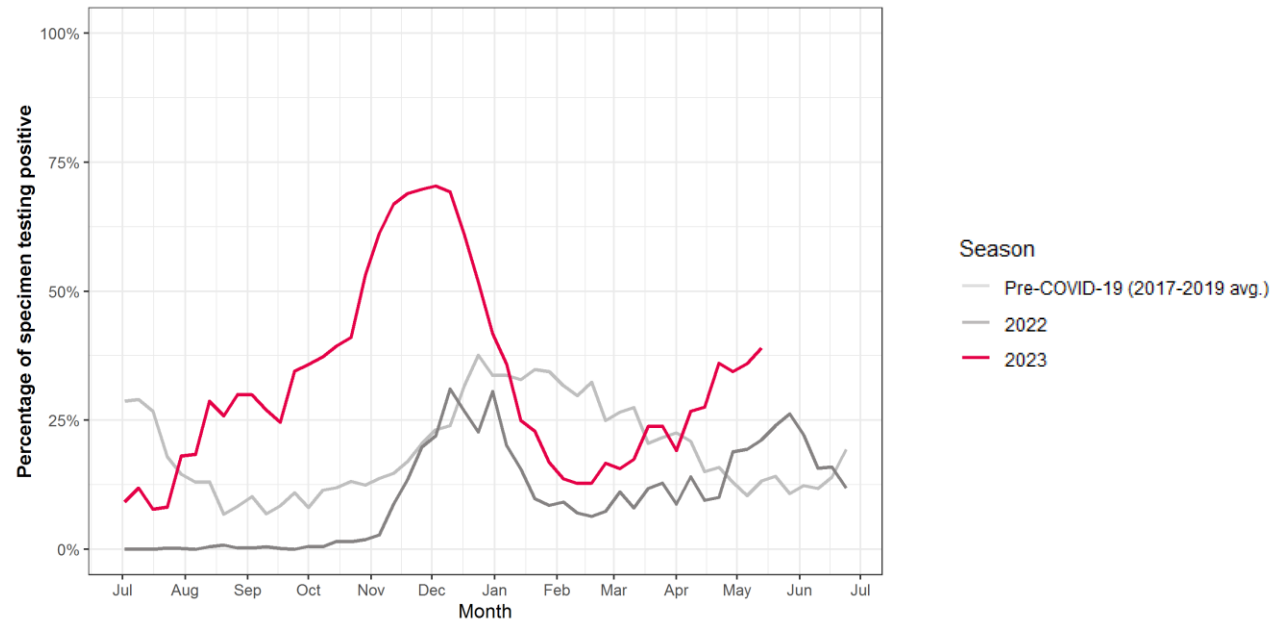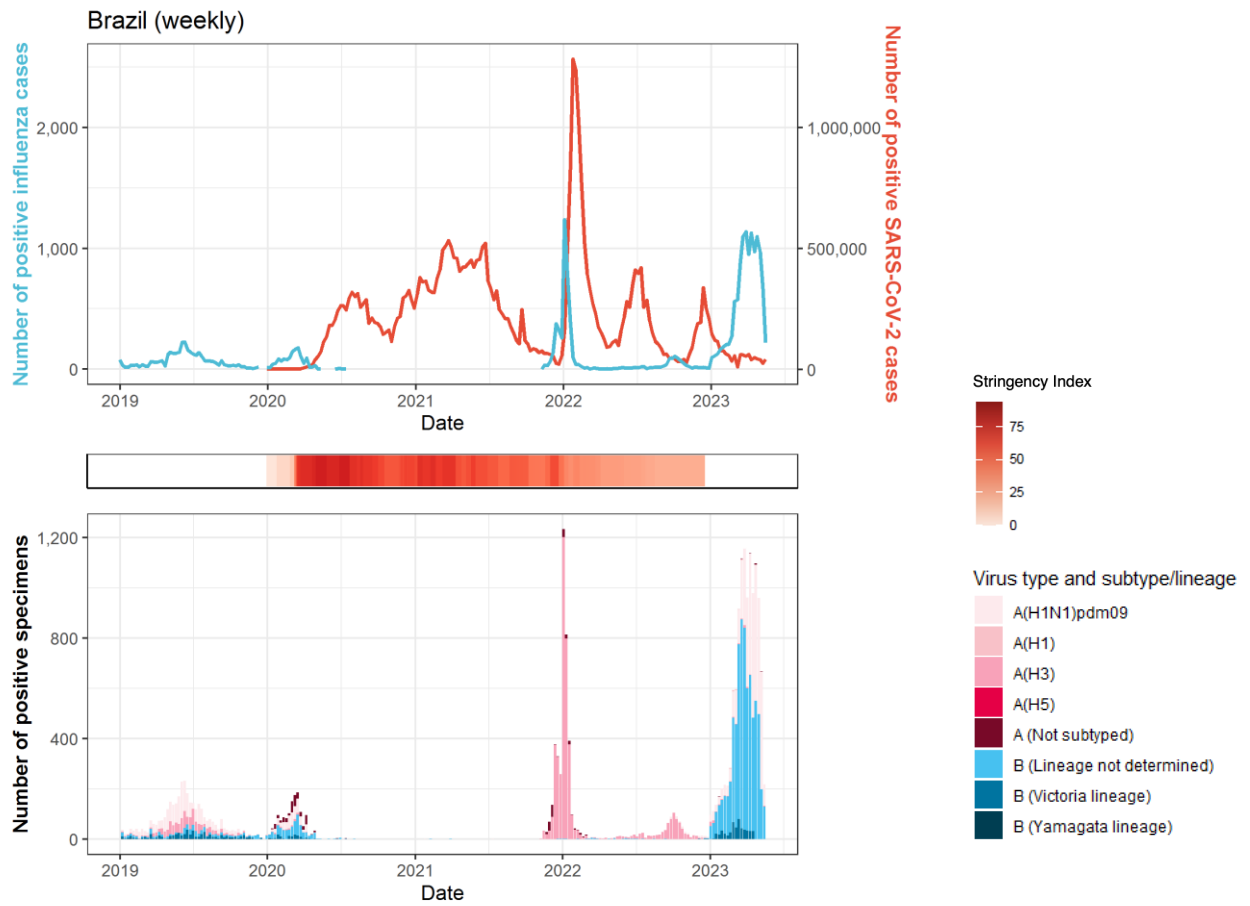
Central America Caribbean

Mexico

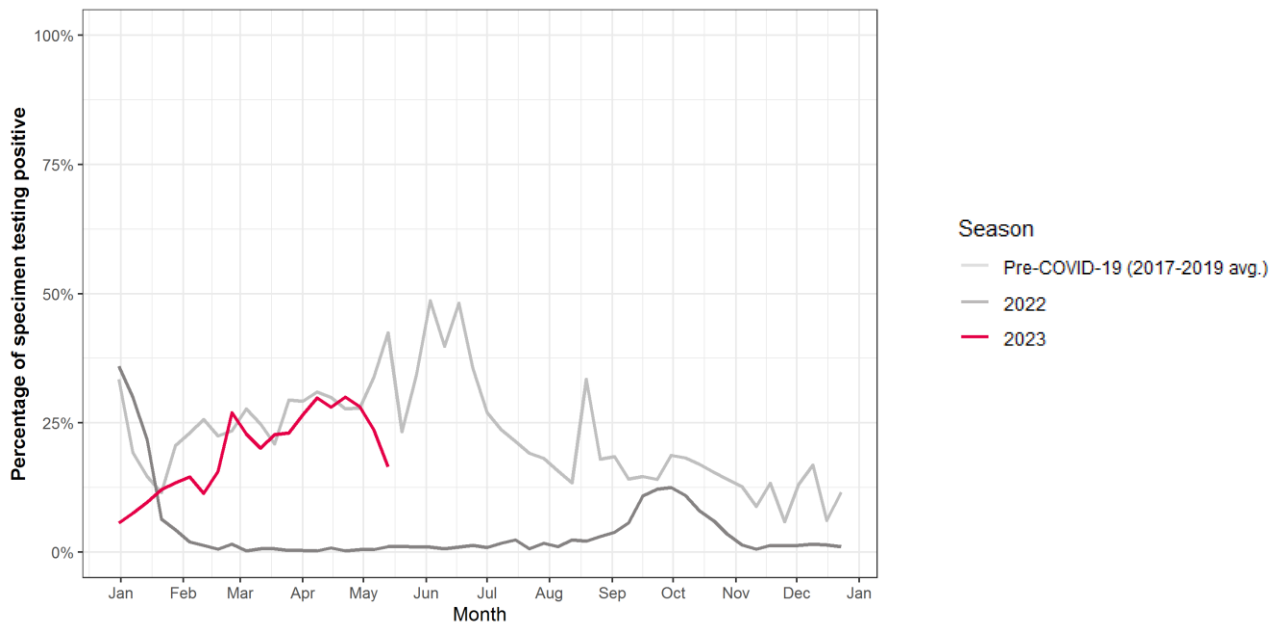**Percentage of specimens testing positive for influenza in different seasons**

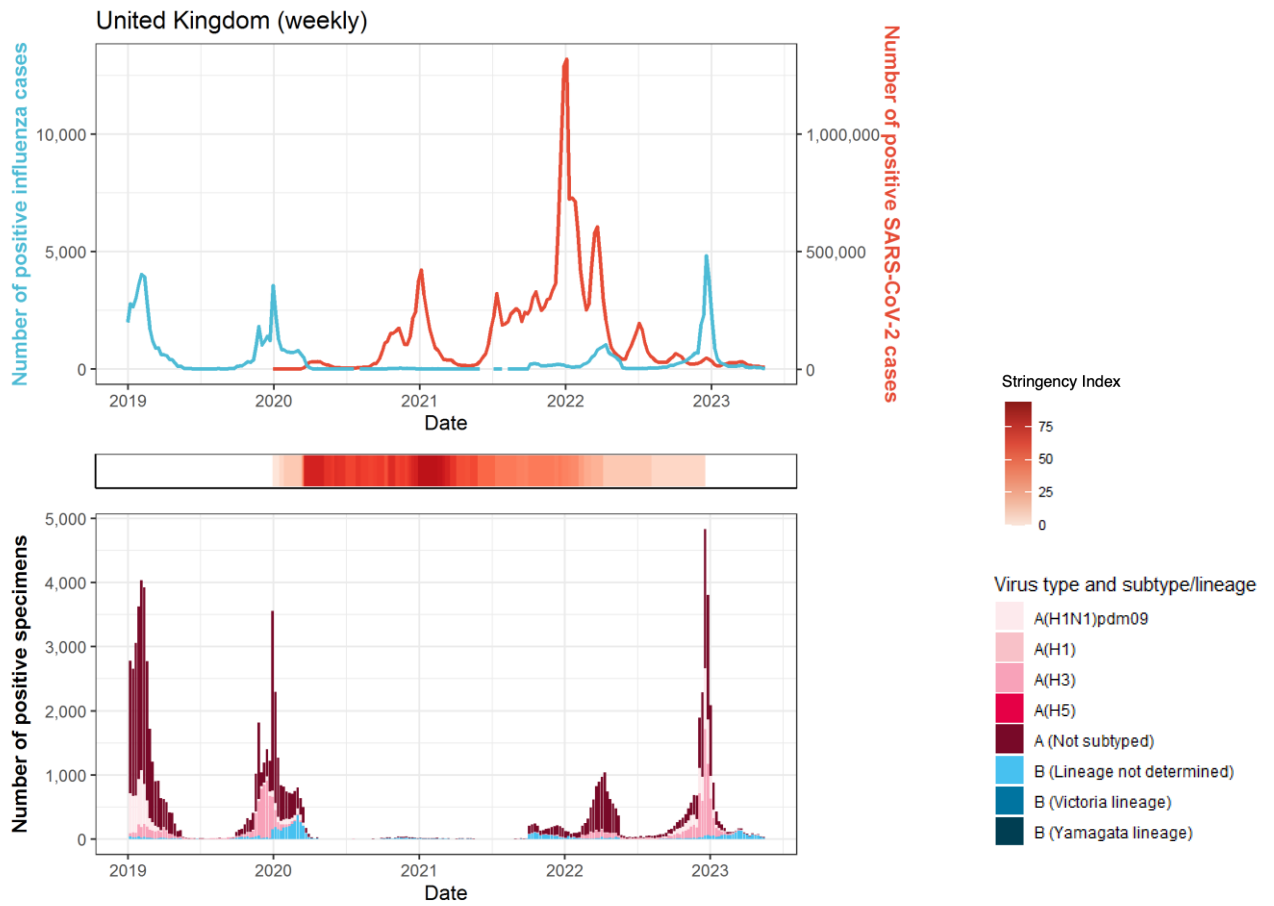# Tropical South America

Brazil

Brazil (weekly)

Percentage of specimens testing positive for influenza in different seasons

Northern Europe

United Kingdom

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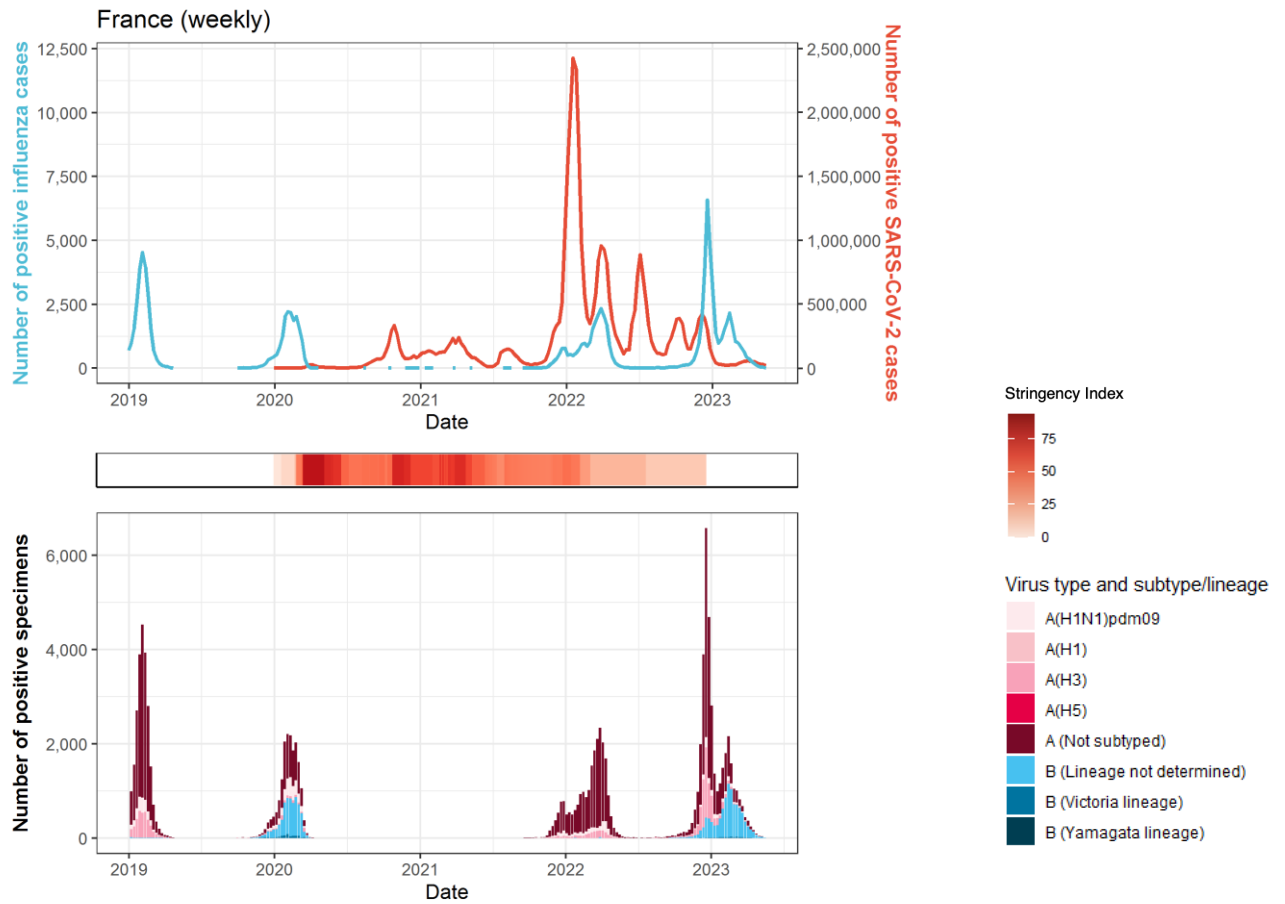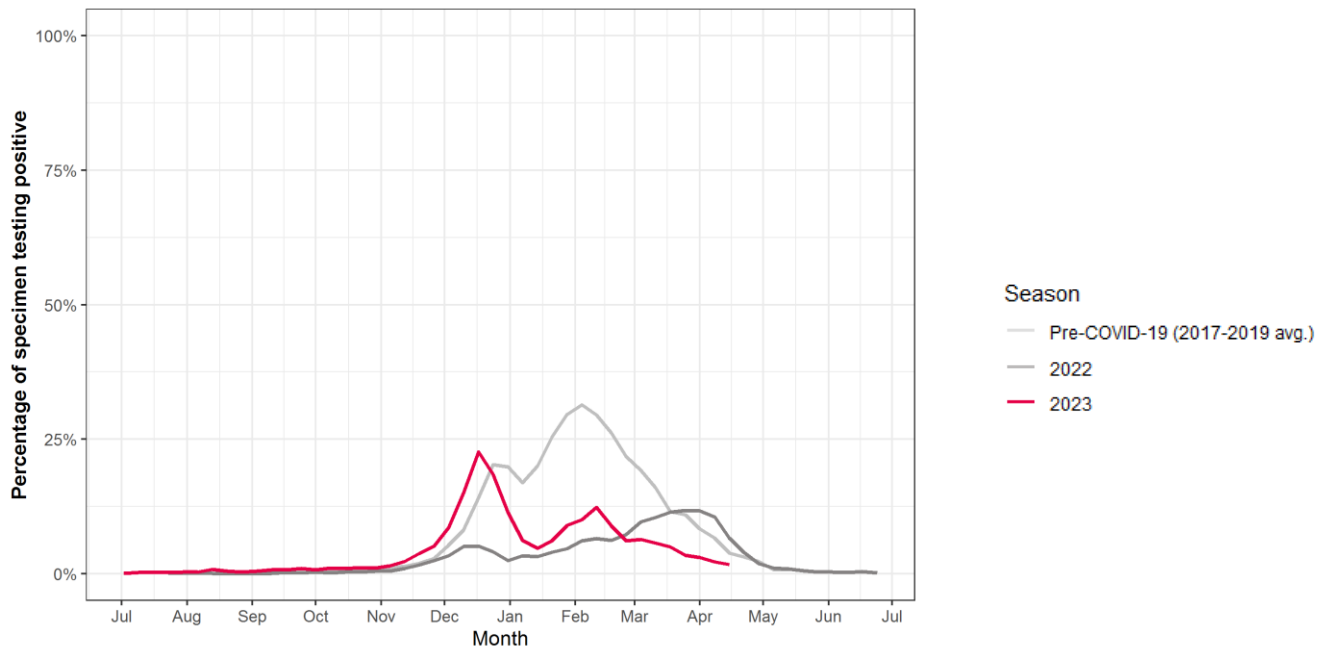
Eastern Europe

Poland

Poland (weekly)
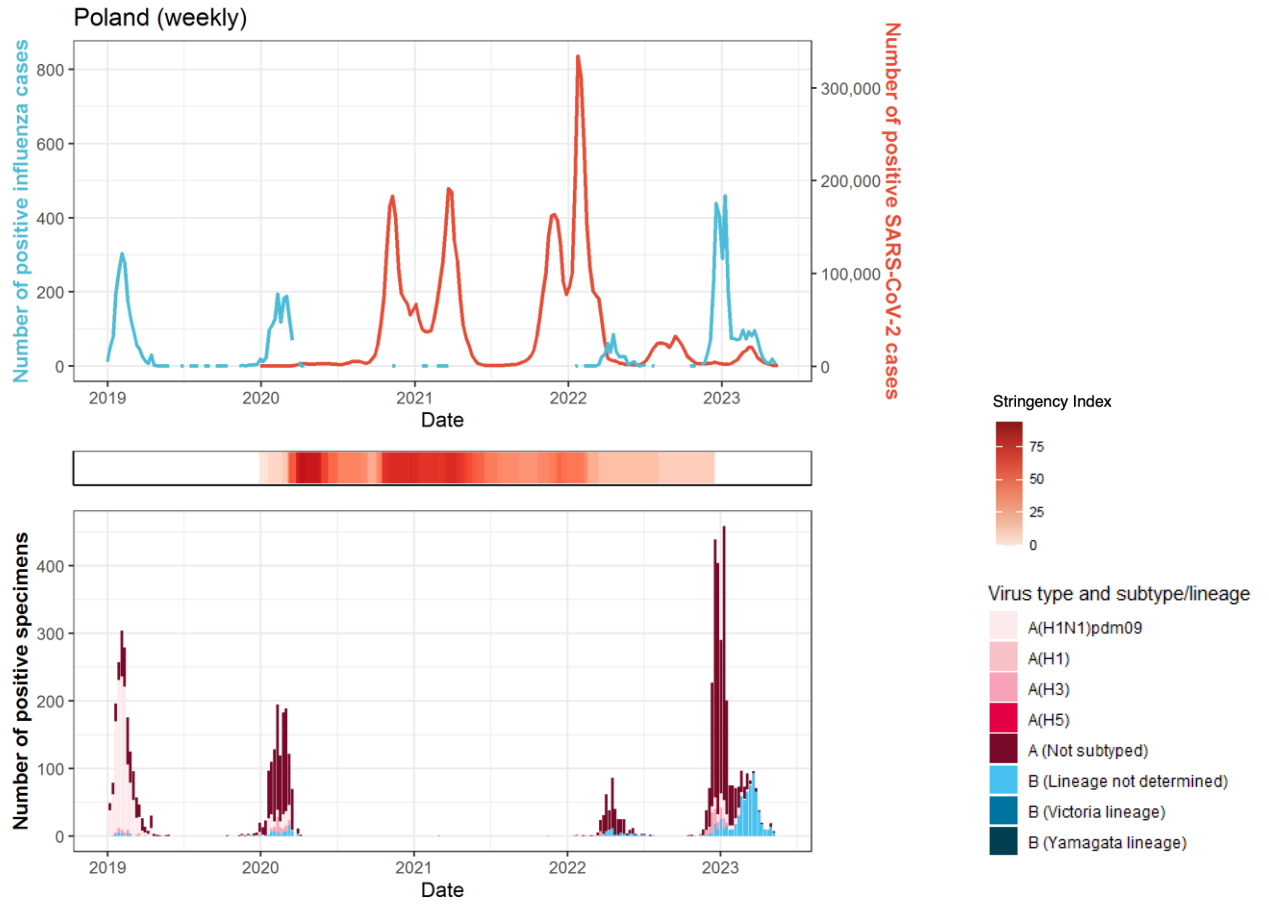
Percentage of specimens testing positive for influenza in different seasons
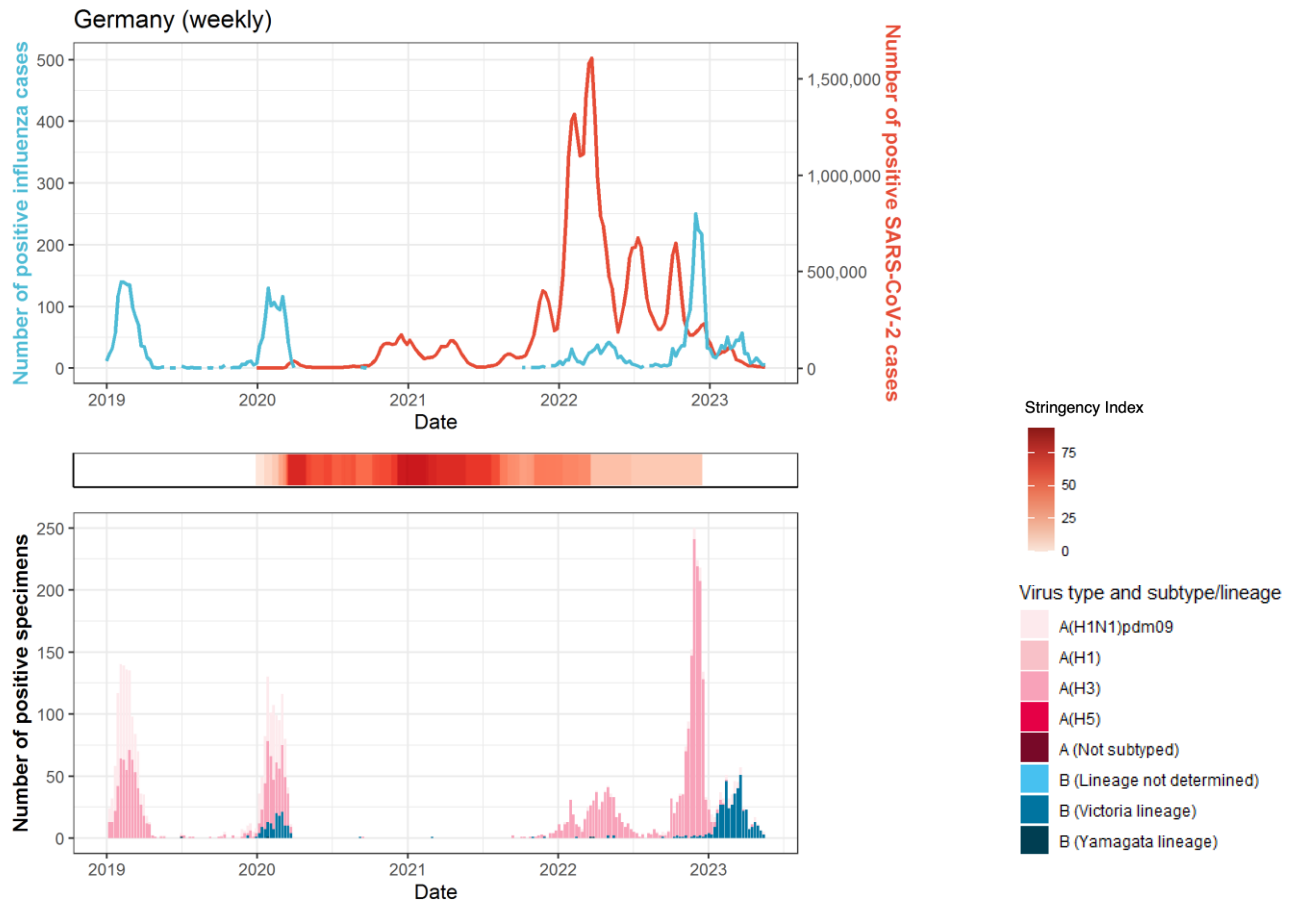
South West Europe

France

France (weekly)
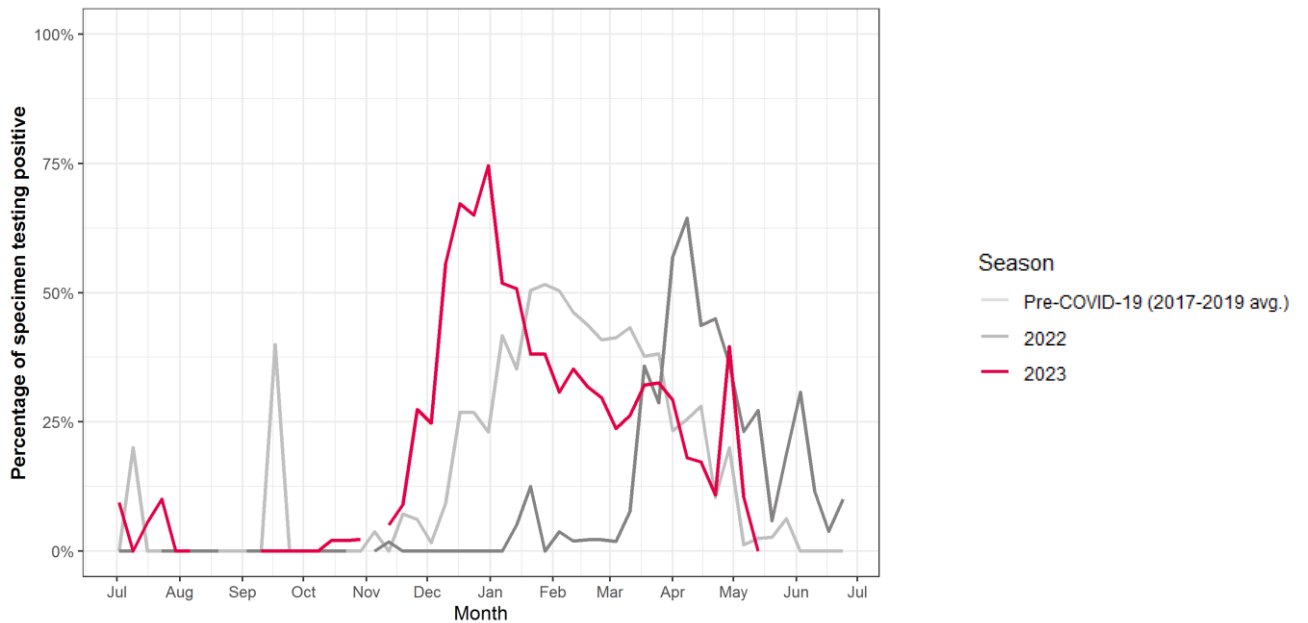
Percentage of specimens testing positive for influenza in different seasons

Germany

Percentage of specimens testing positive for influenza in different seasons
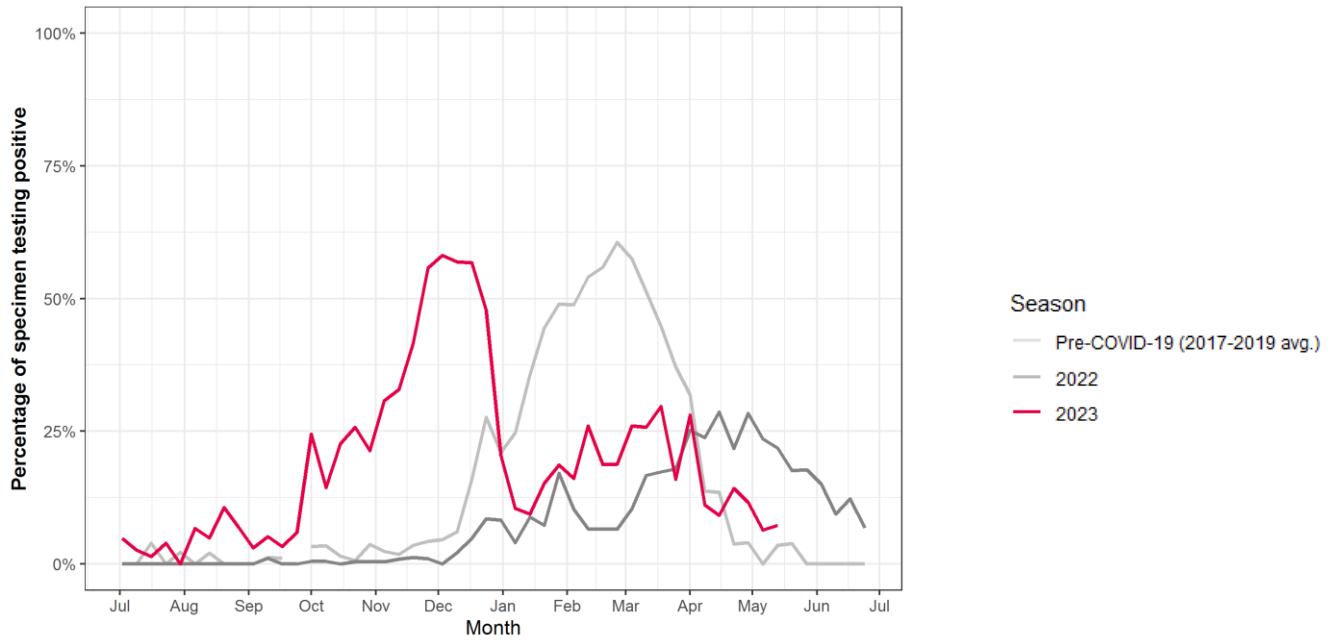
Italy
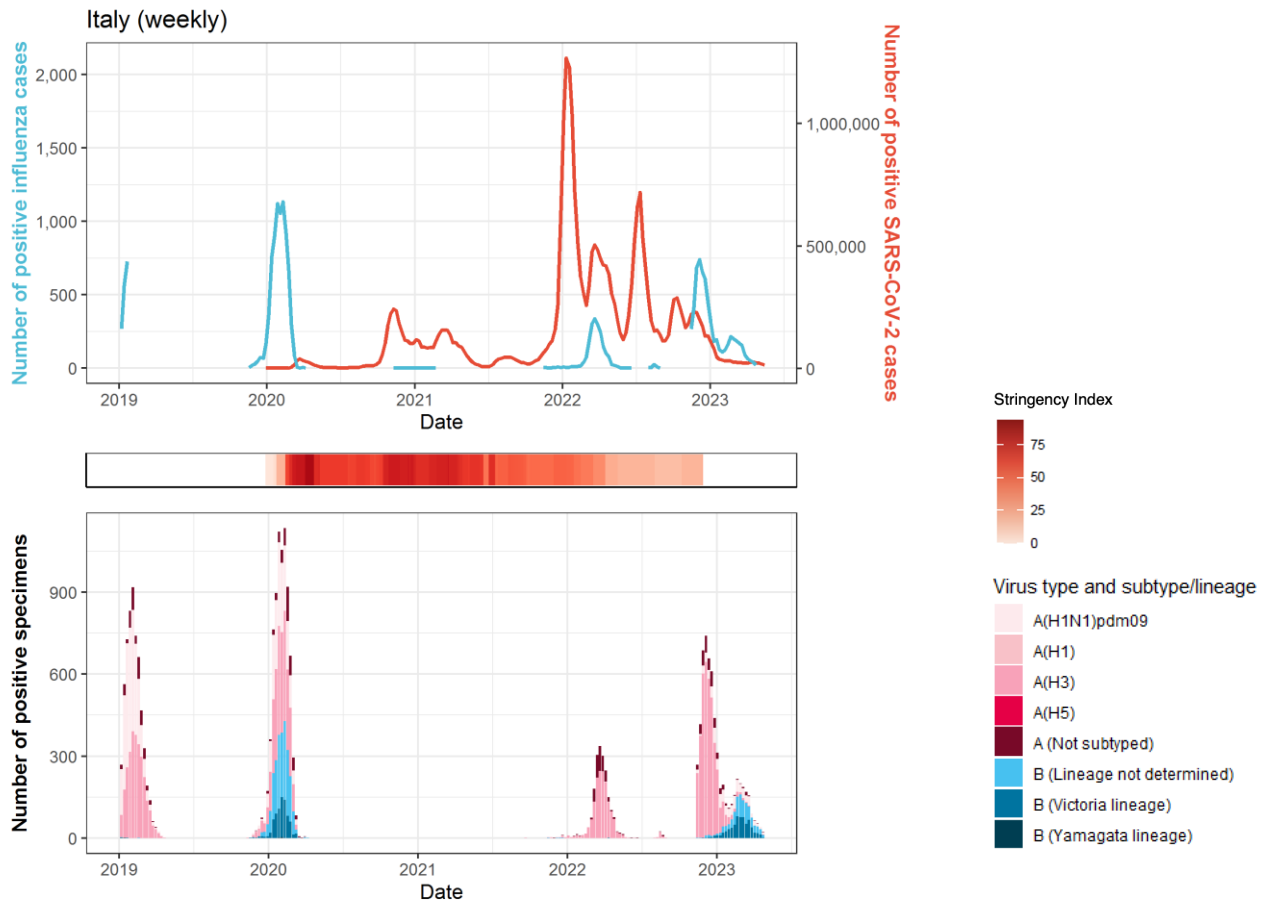

Italy (weekly)

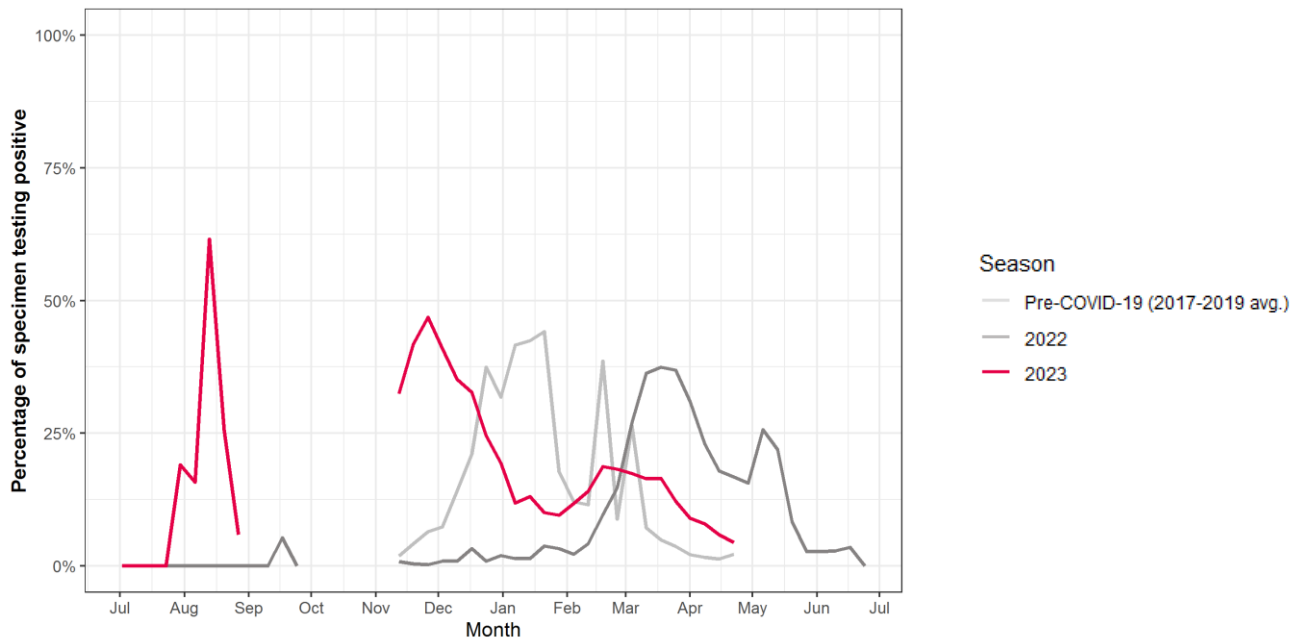## Percentage of specimens testing positive for influenza in different seasons

Netherlands

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

Spain

Percentage of specimens testing positive for influenza in different seasons

Northern Africa

Egypt

Egypt (weekly)

Percentage of specimens testing positive for influenza in different seasons

Southern Africa

South Africa

South Africa (weekly)

Percentage of specimens testing positive for influenza in different seasons

Eastern Asia

China

China (weekly)
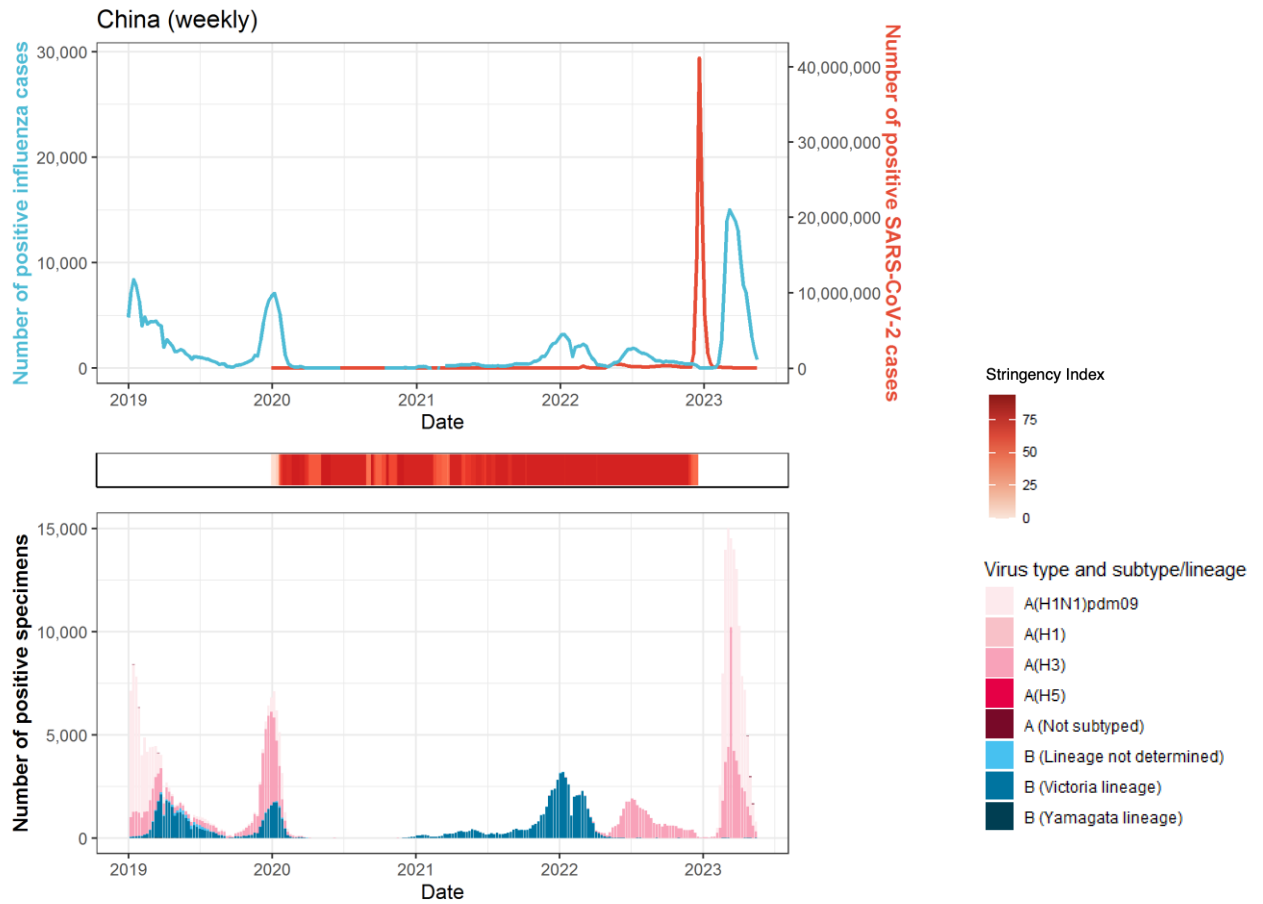
Note: Due to a high number of retrospectively added SARS-CoV-2 detections, the peak in China in late 2022 increased significantly, compared to previous Bulletins.

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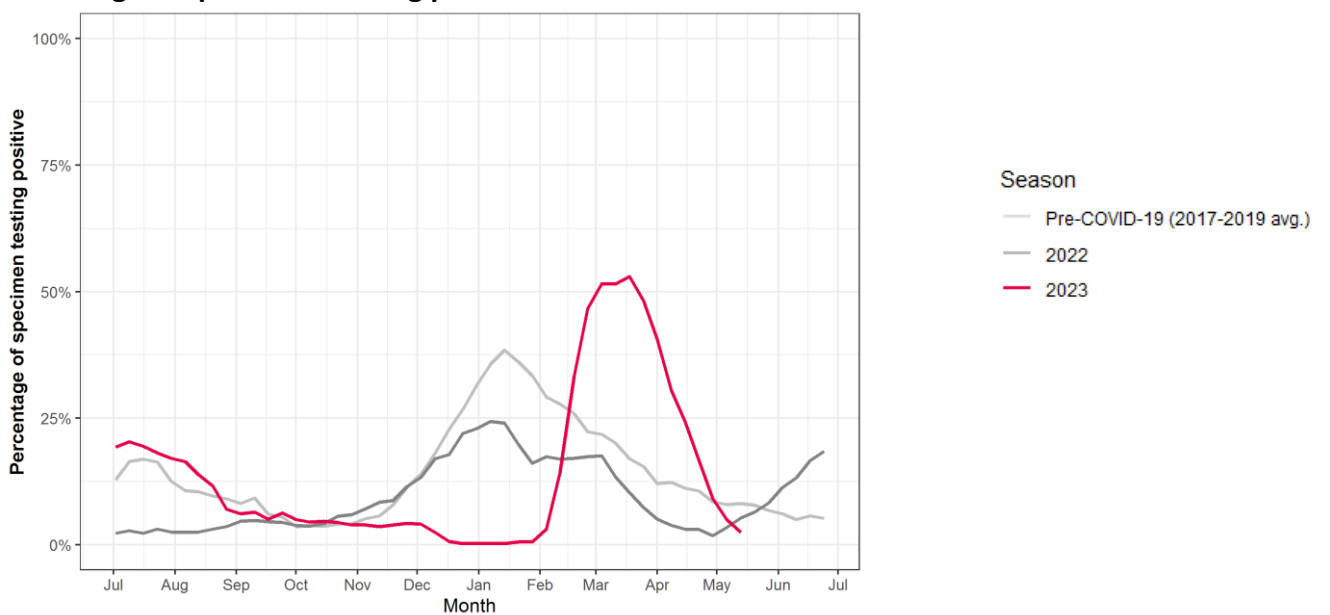
Japan
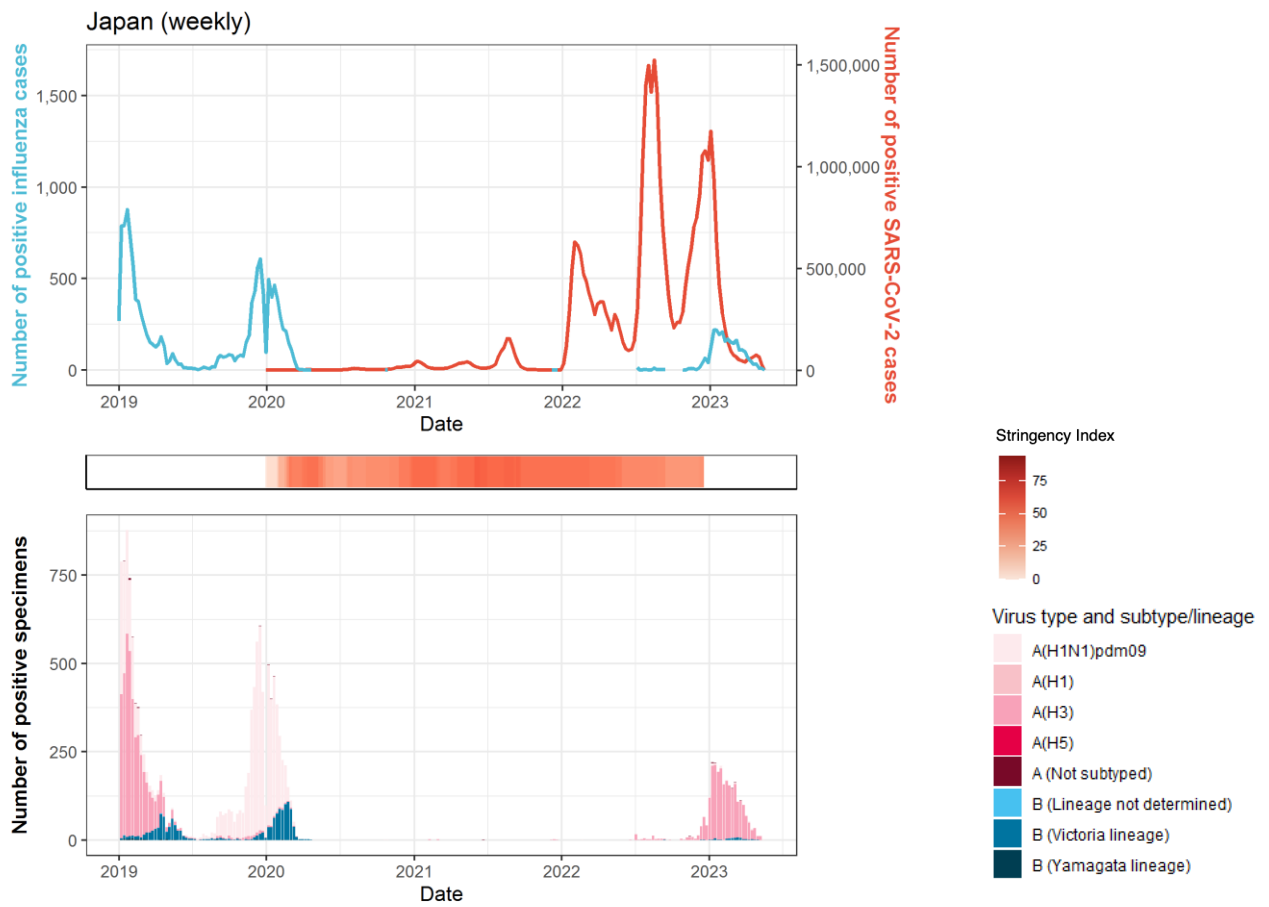
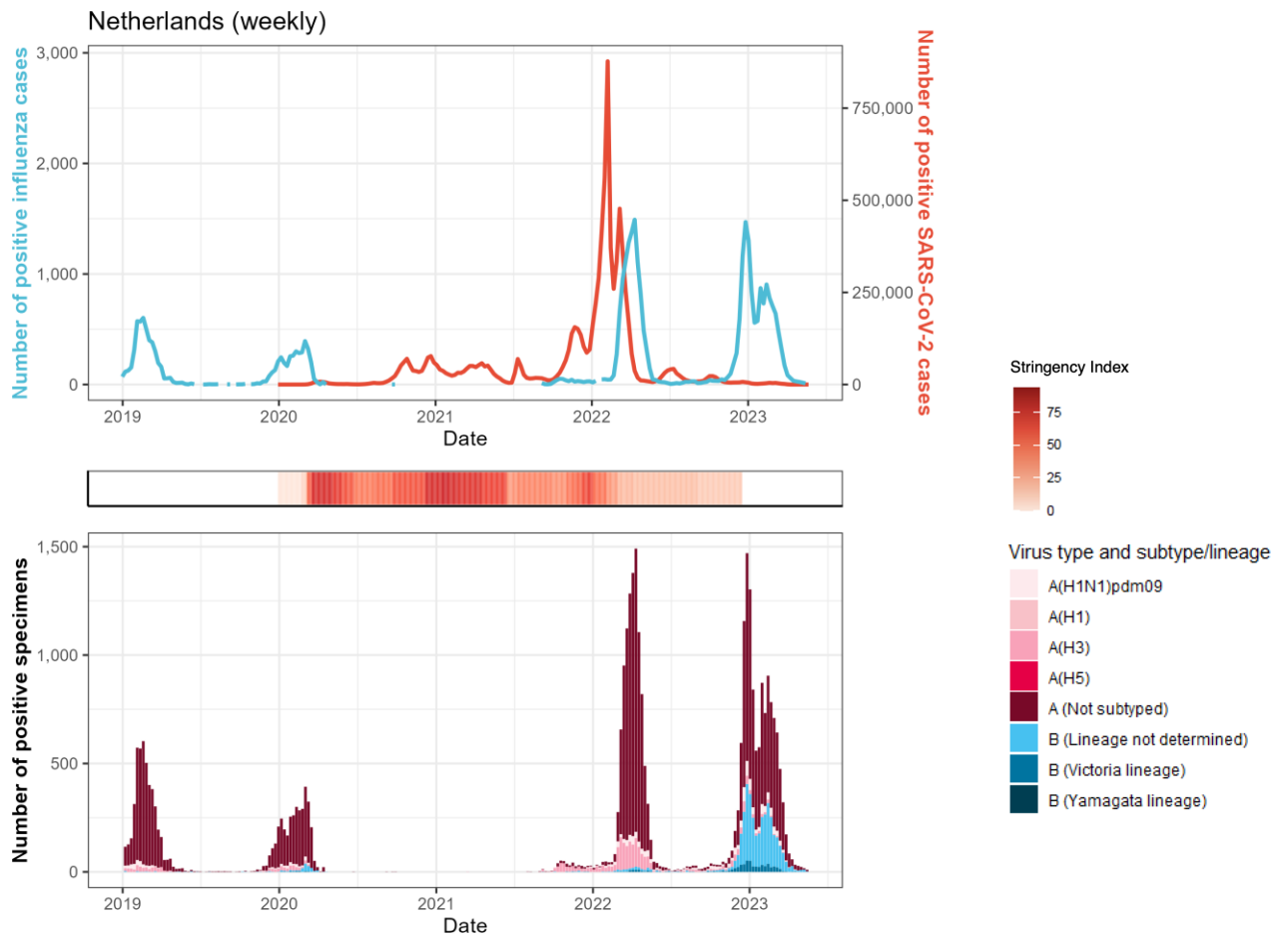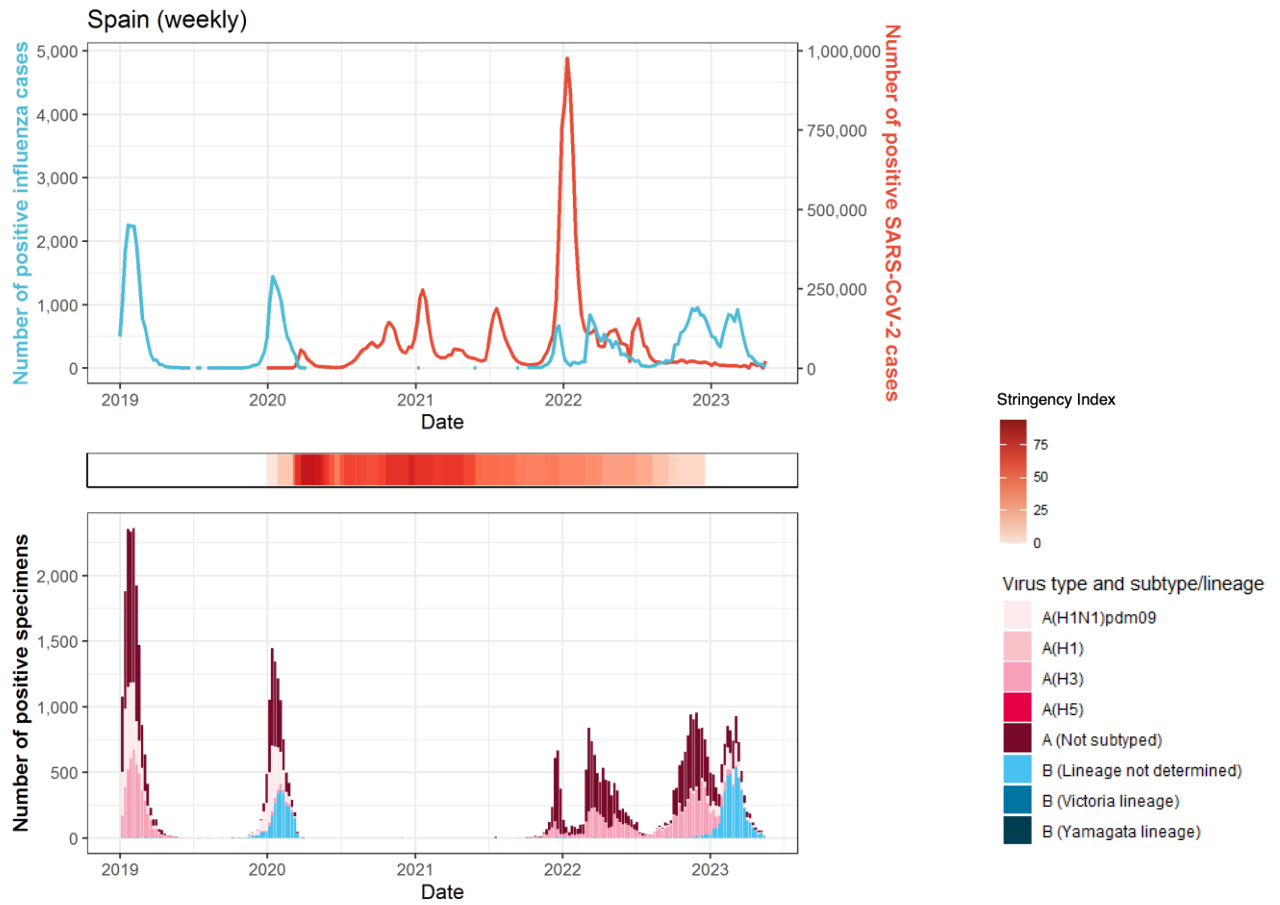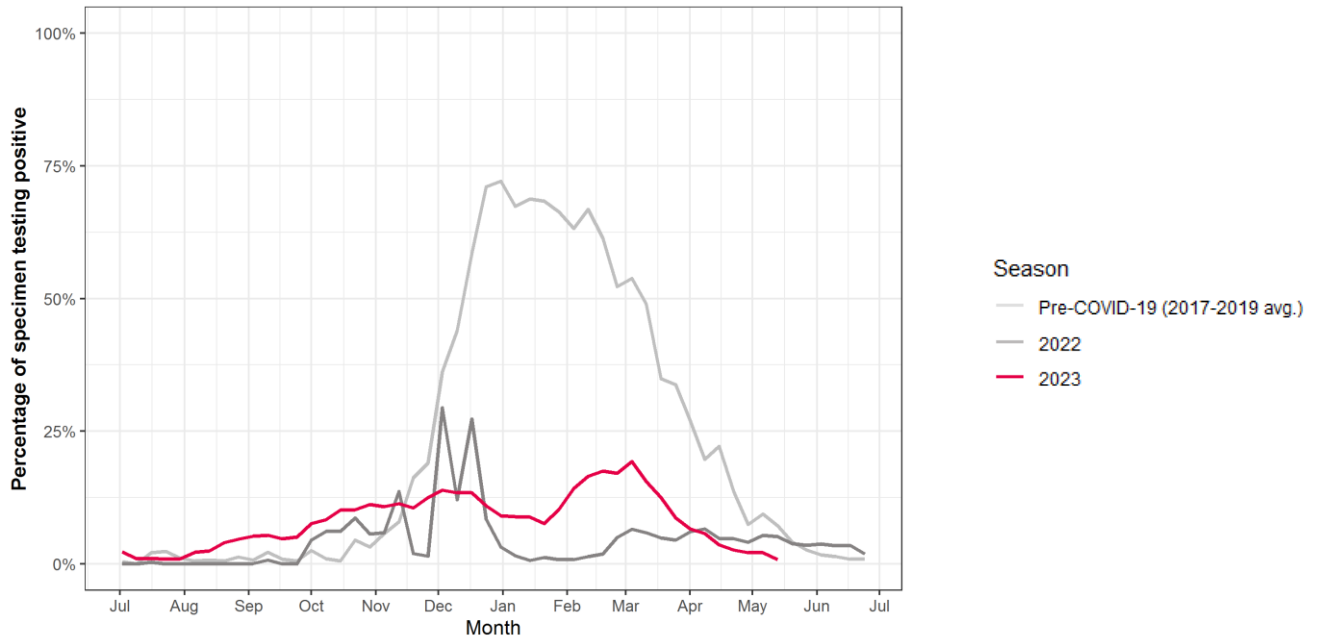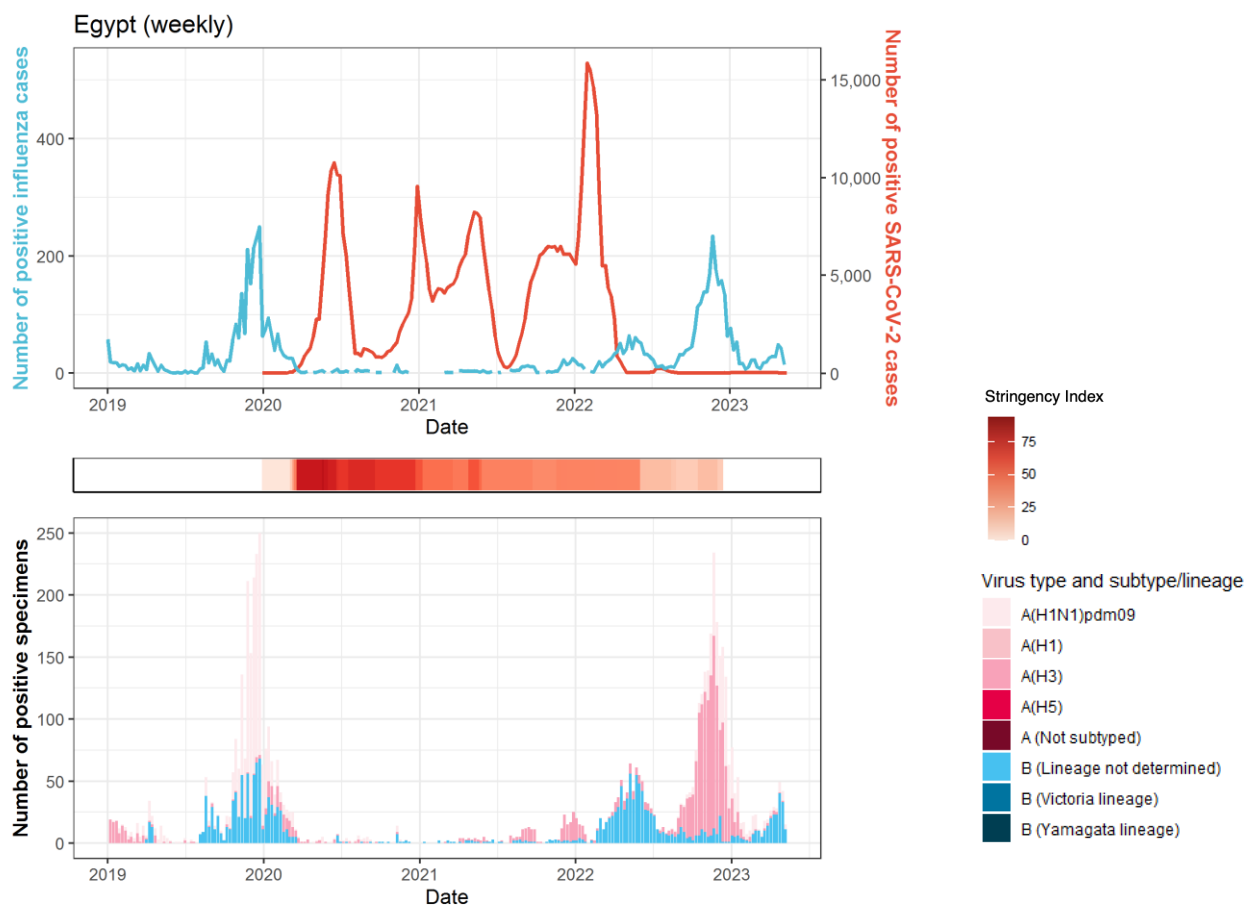*Percentage of specimens testing positive for influenza in different seasons: data not available*

South Korea
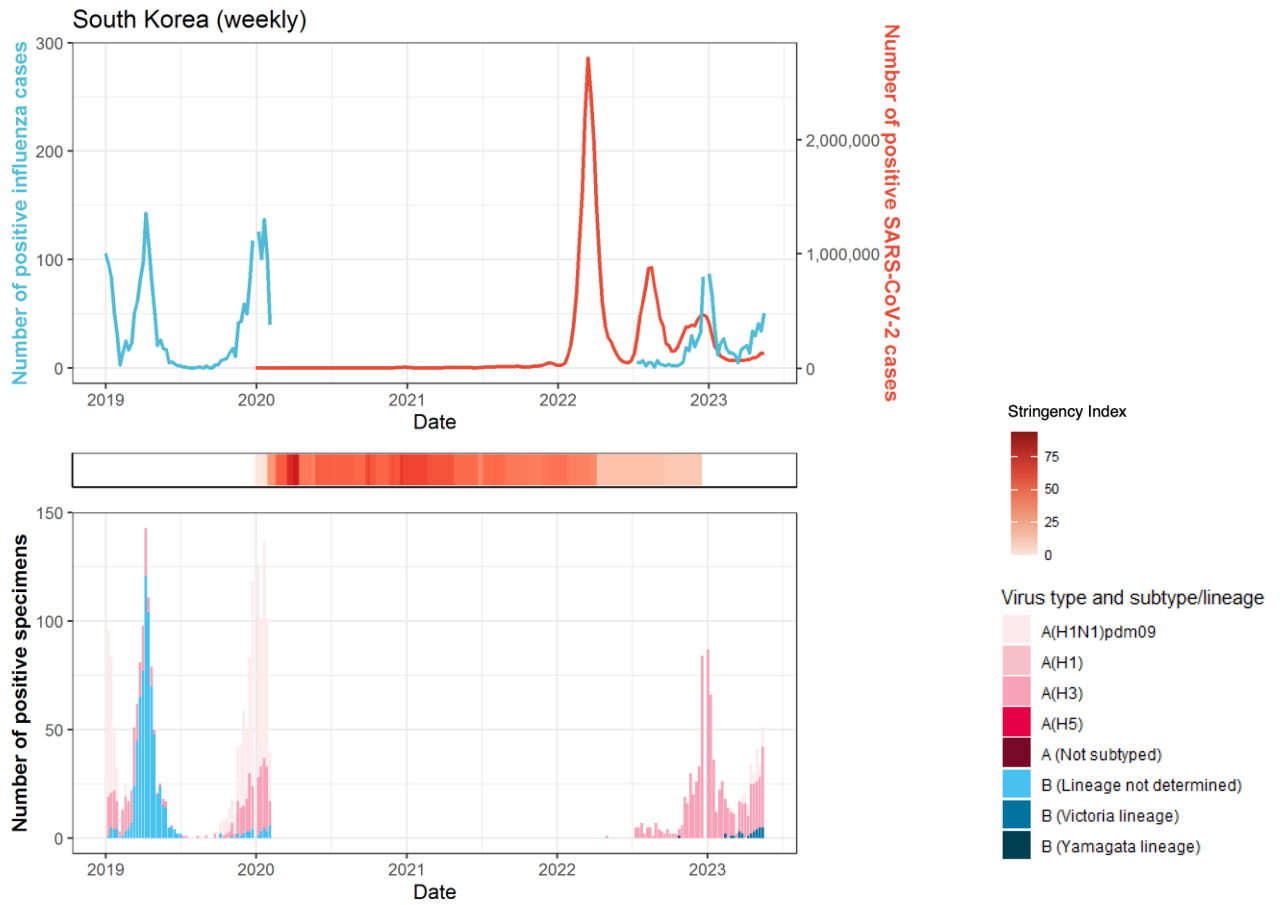
Percentage of specimens testing positive for influenza in different seasons
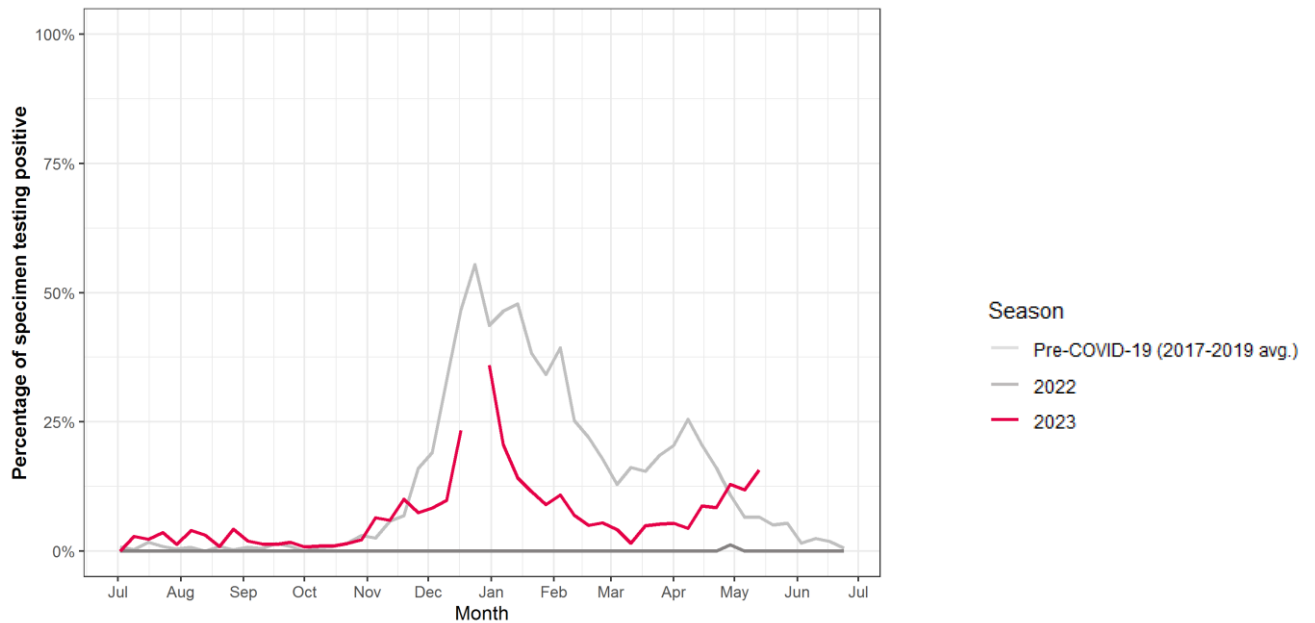
Southern Asia

India

India (weekly)
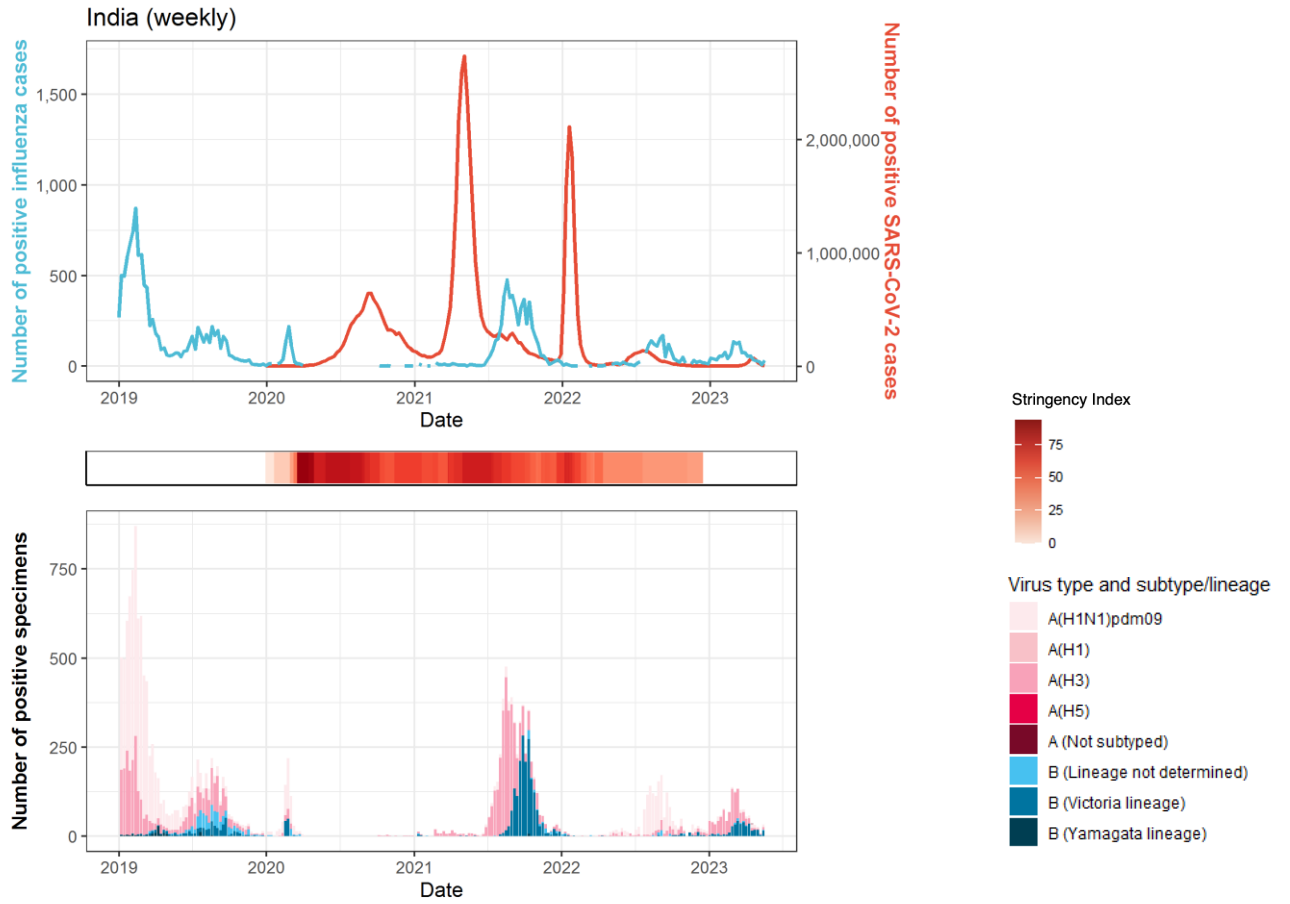
Percentage of specimens testing positive for influenza in different seasons
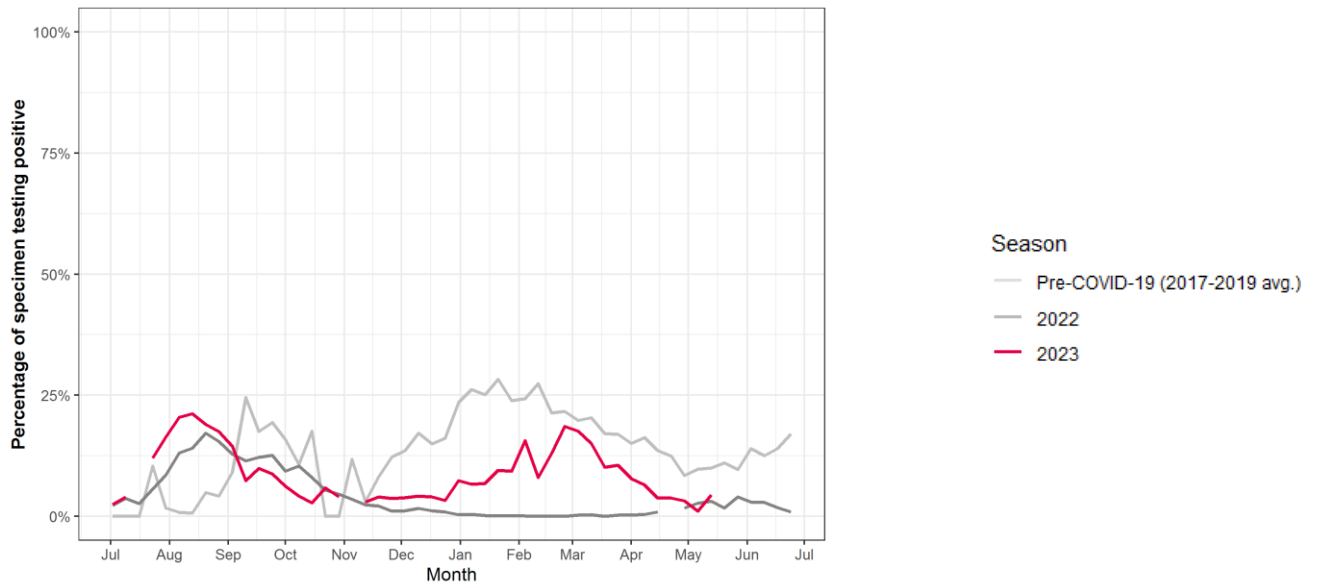
South-East Asia

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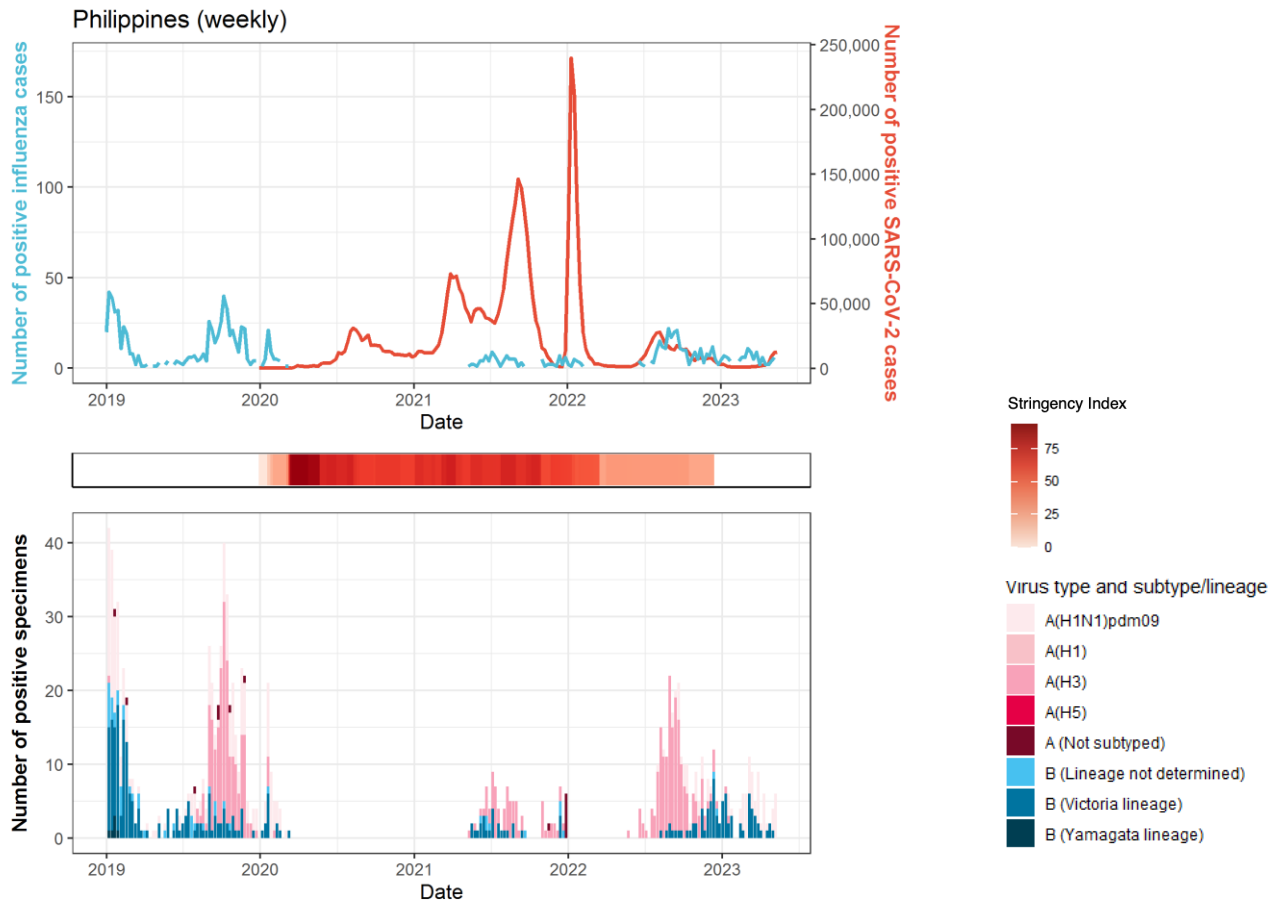
Percentage of specimens testing positive for influenza in different seasons: data not available

Thailand
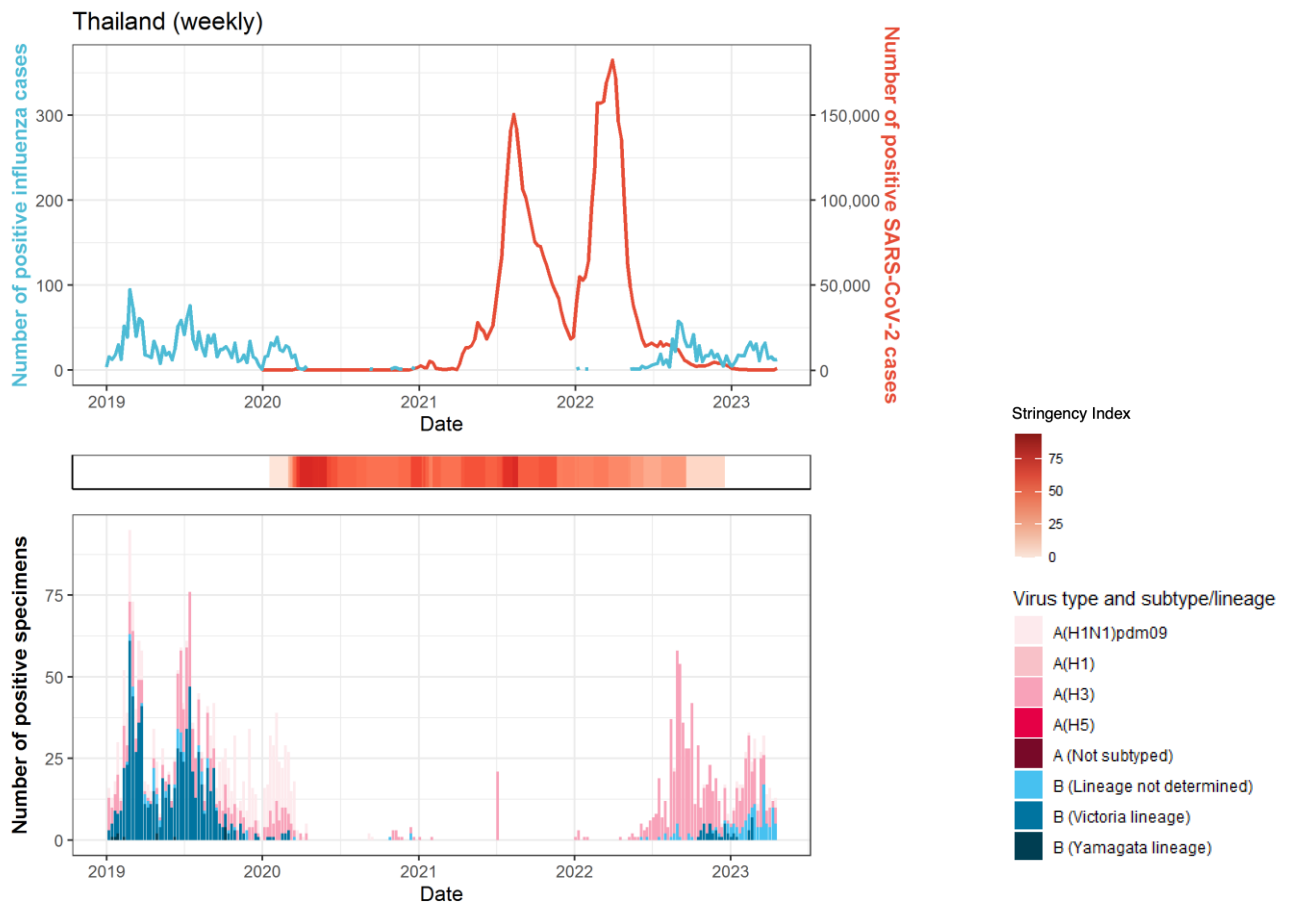
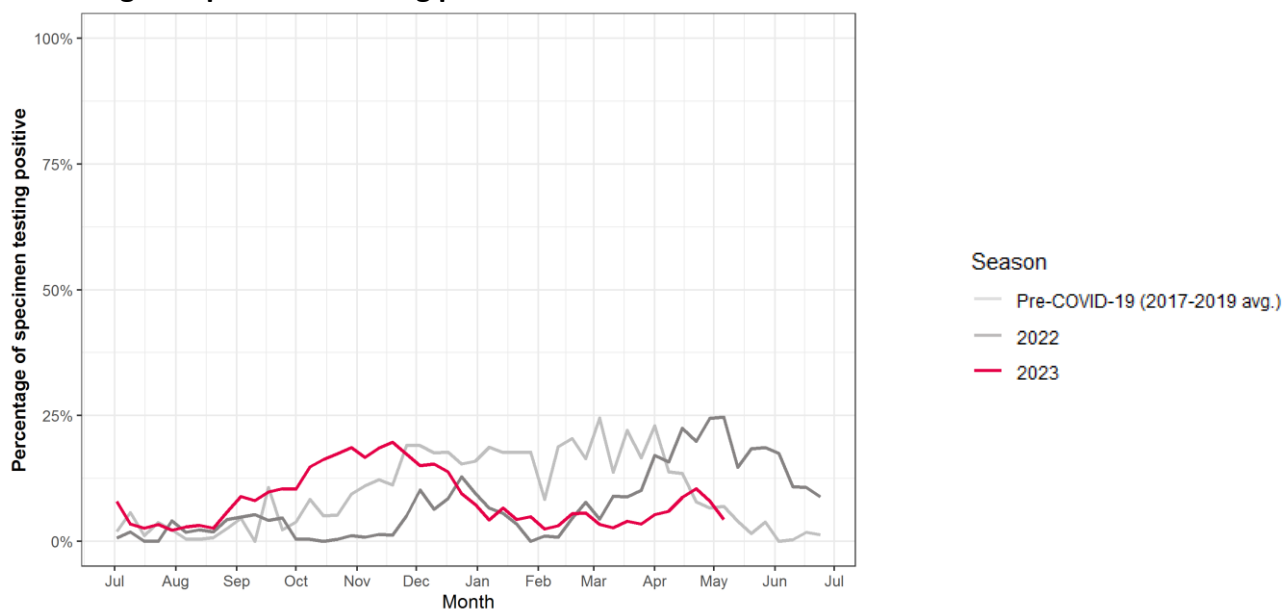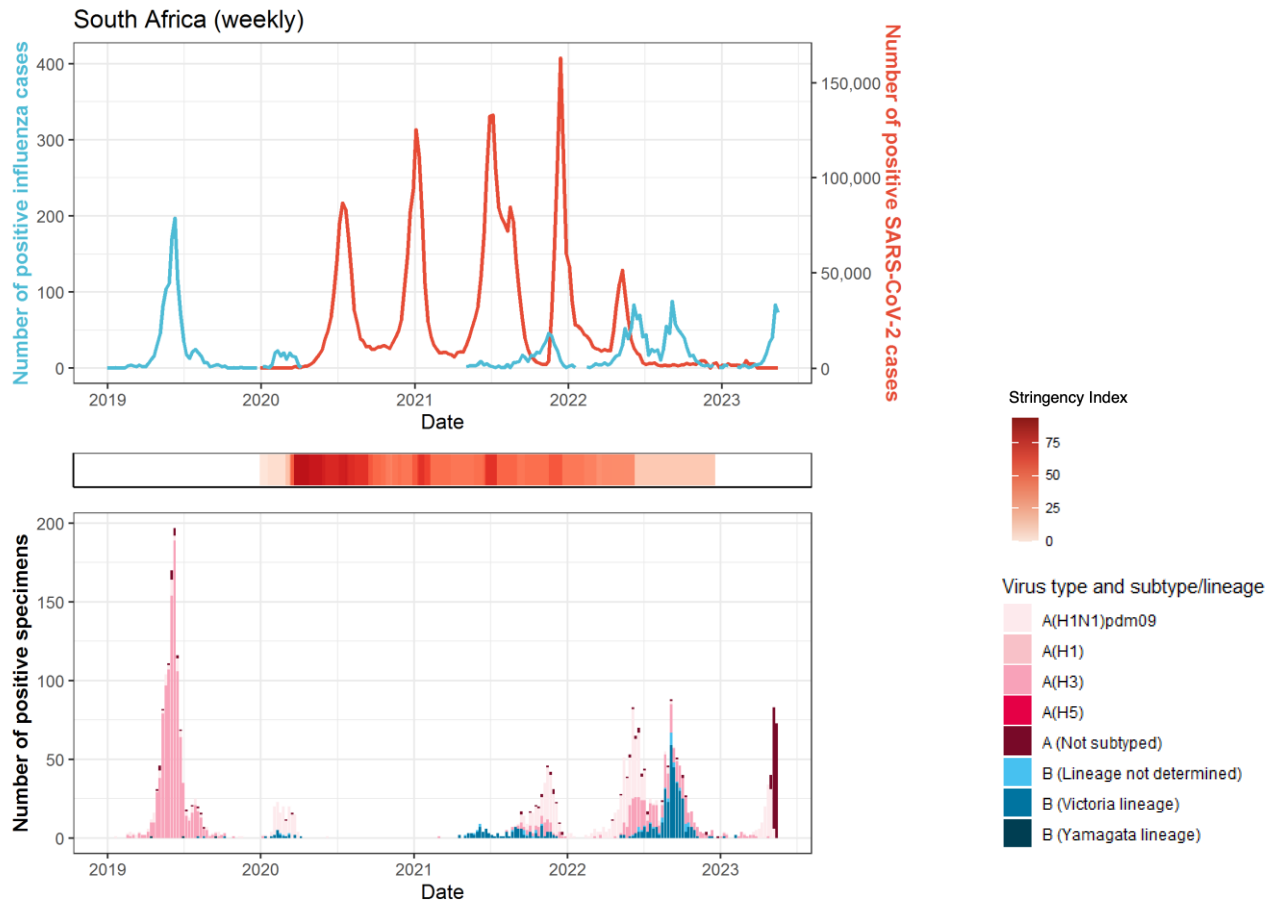**Percentage of specimens testing positive for influenza in different seasons**
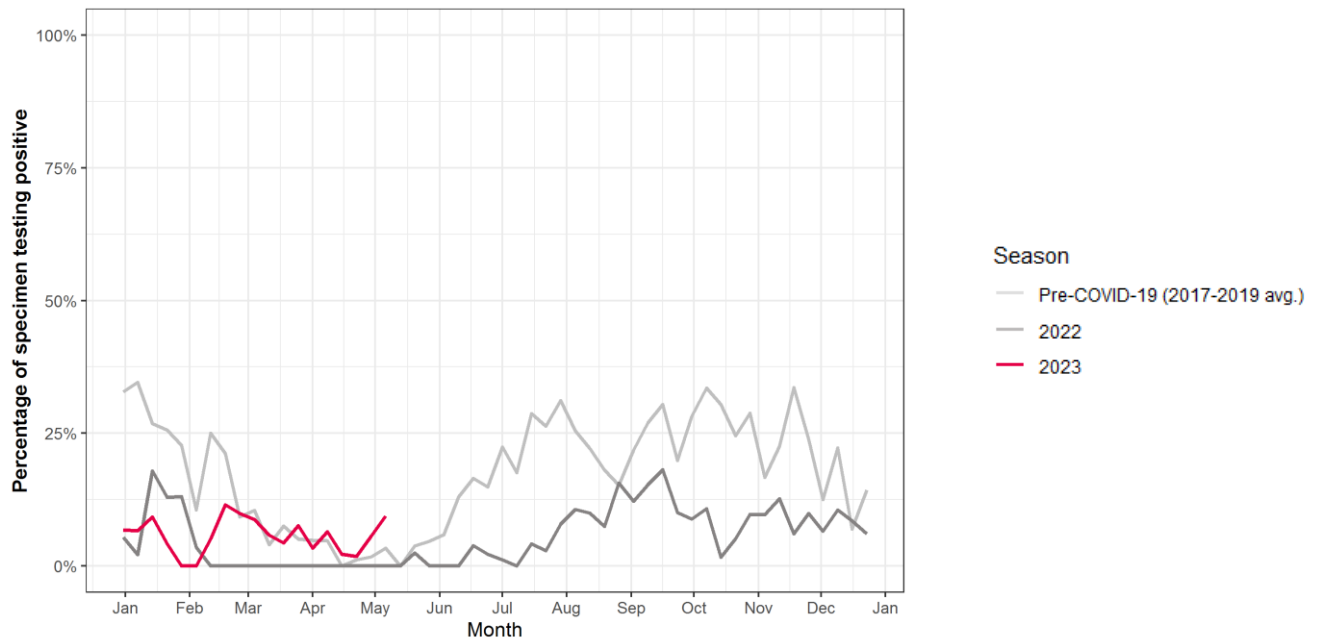
Vietnam

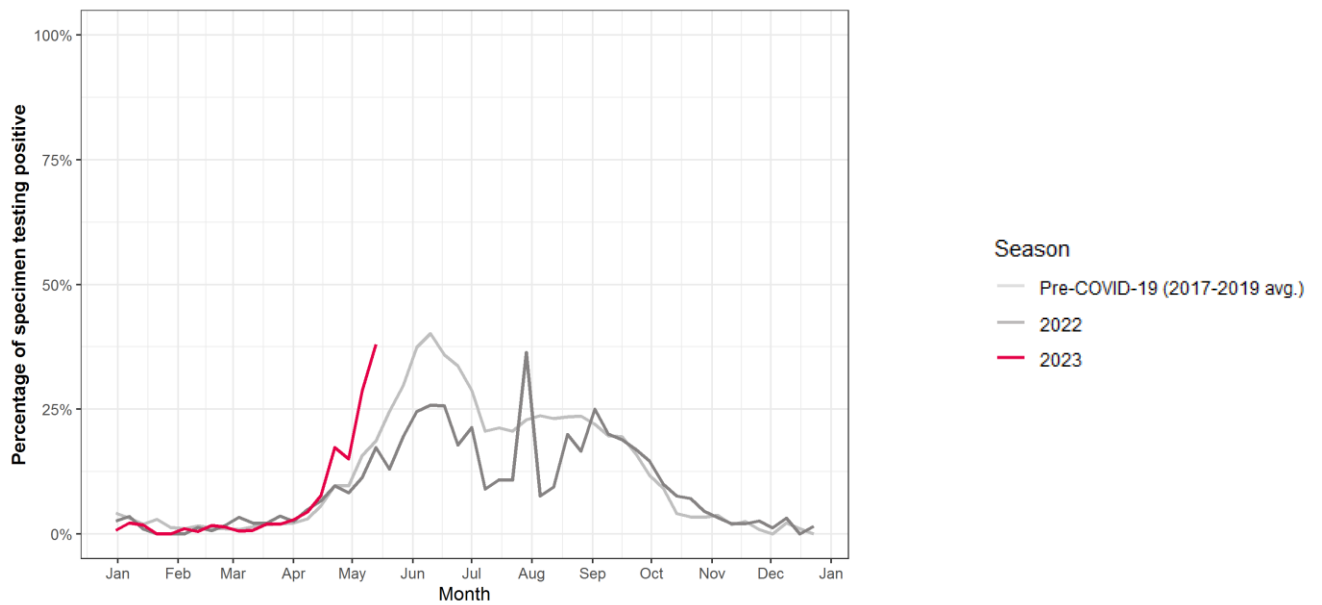*Percentage of specimens testing positive for influenza in different seasons: data not available*

Western Asia

Israel

Israel (weekly)

Percentage of specimens testing positive for influenza in different seasons

Oceania

Australia

Australia (weekly)
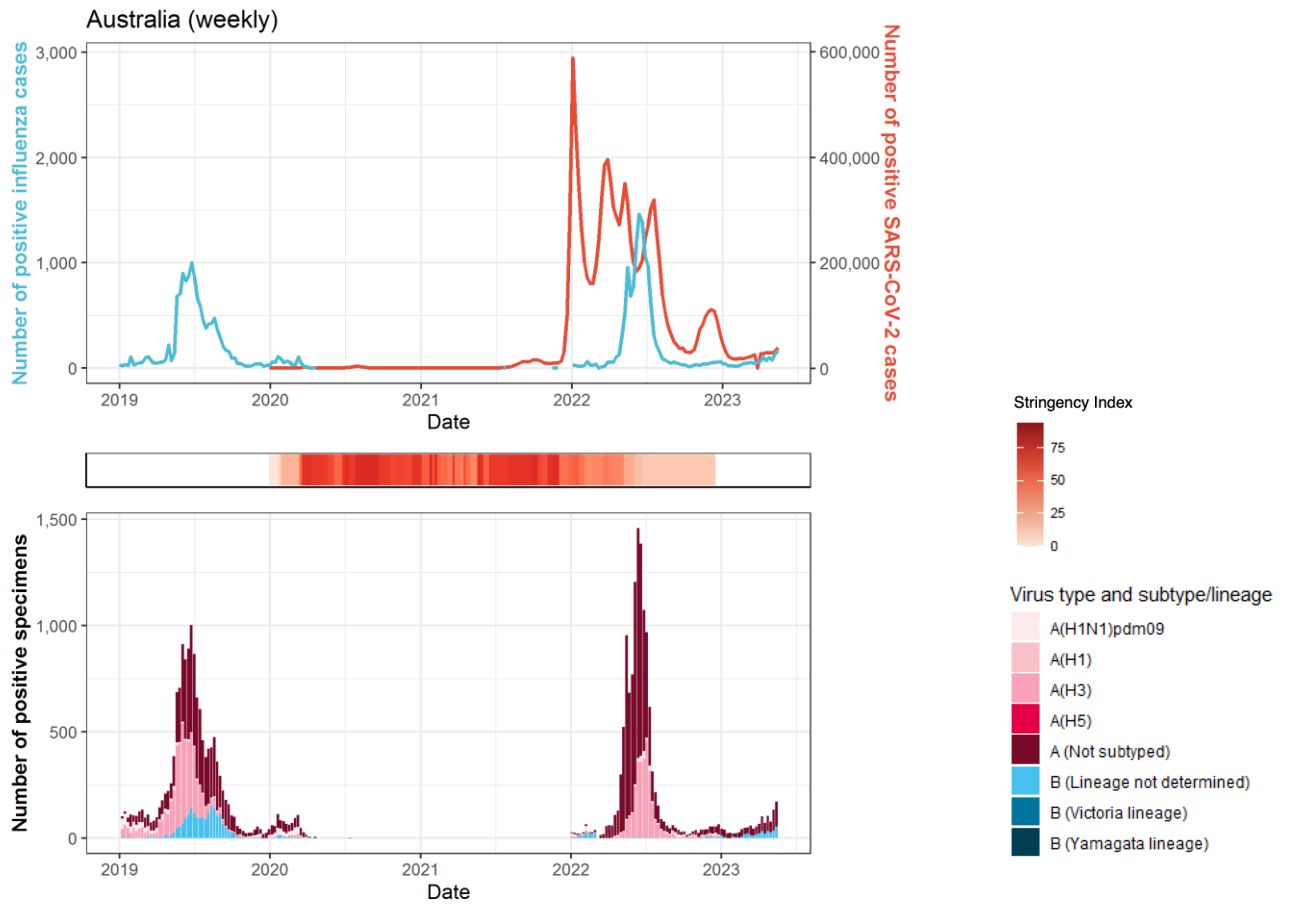
Percentage of specimens testing positive for influenza in different seasons
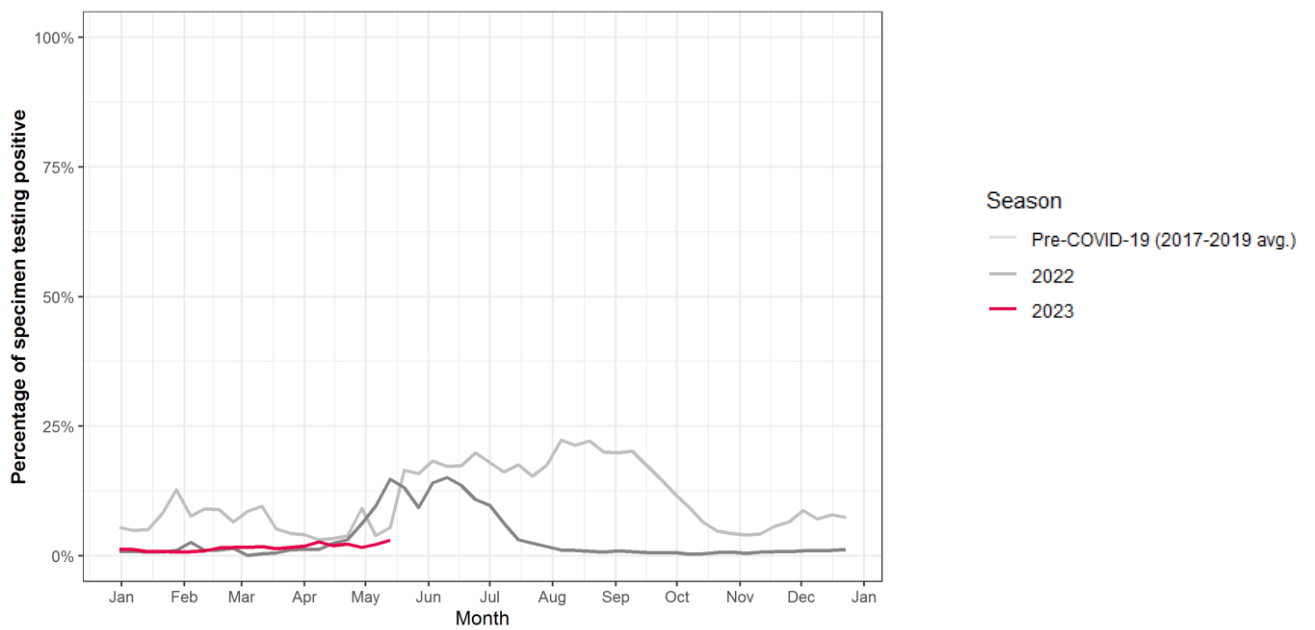
Absolute numbers per country

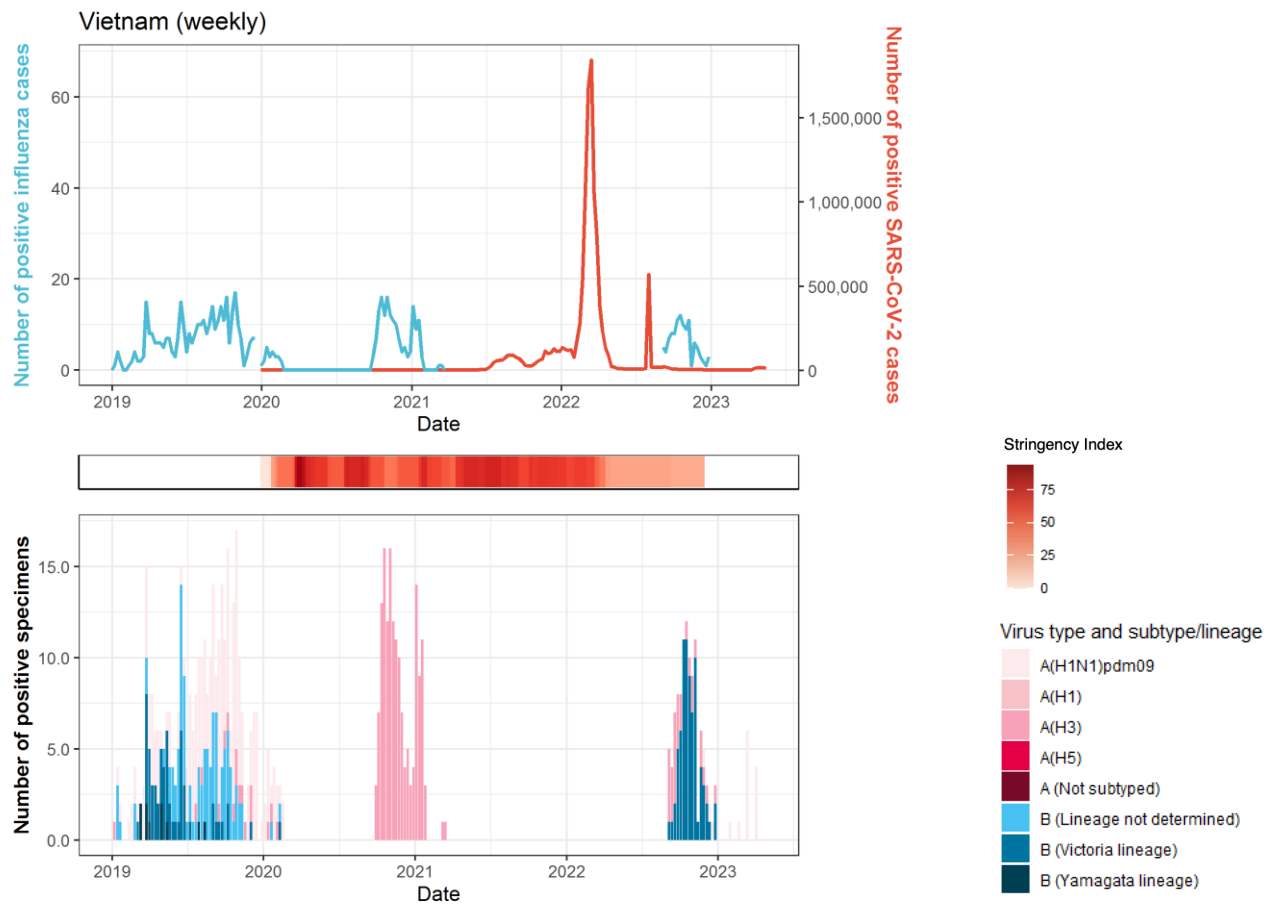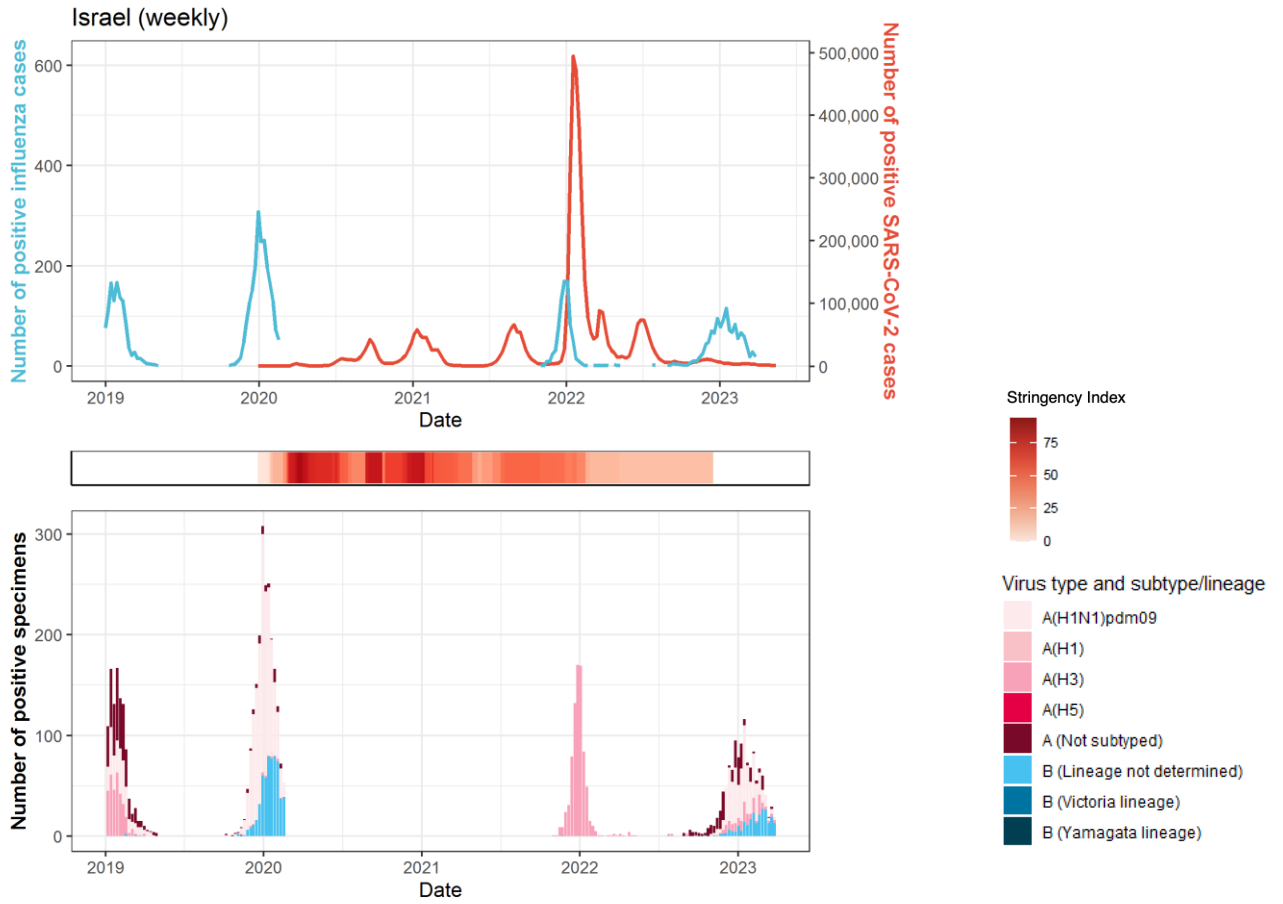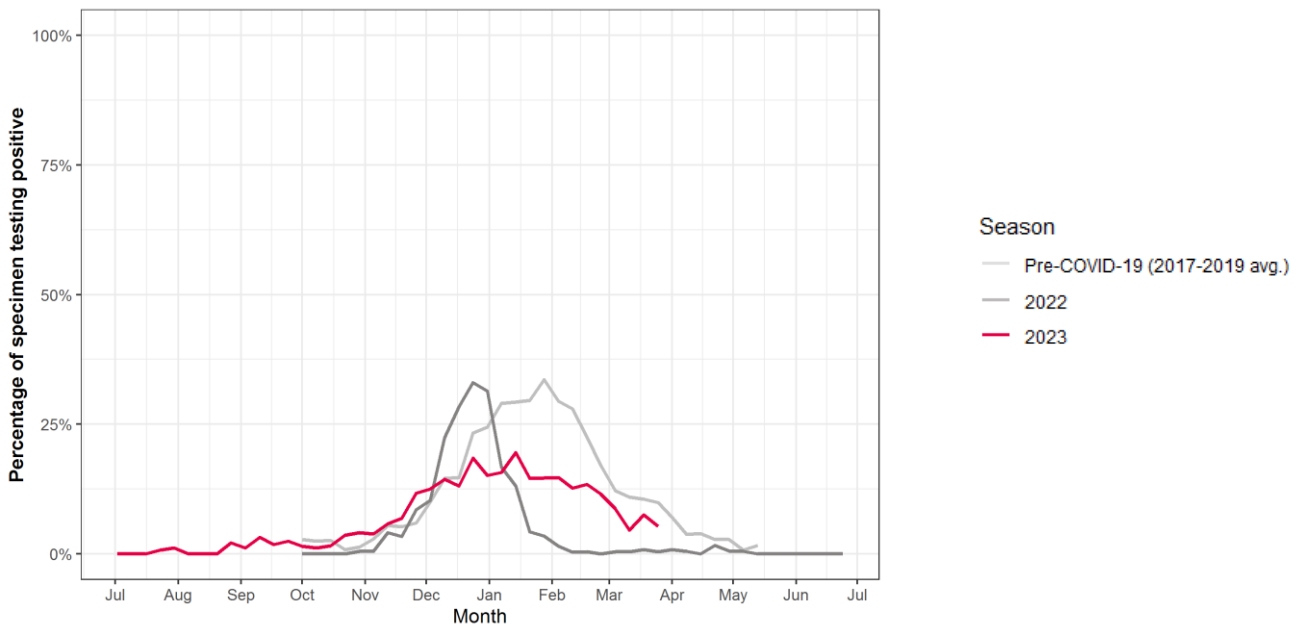| Country	Year	Cases[a,b] of SARS-CoV-2	+/- since last month[c]	Cases[a] of influenza	+/- since last month[c]	Week of last influenza update
Australia	2019			12,404		
Australia	2020	28,381		784		
Australia	2021	338,226		8		
Australia	2022	10,418,952		12,312		
Australia	2023	595,612	138,721	1,466	620	2023-20
Brazil	2019			3,320		
Brazil	2020	7,563,551		1,361		
Brazil	2021	14,700,856		1,240		
Brazil	2022	14,038,581		3,648		
Brazil	2023	1,276,613	129,610	11,610	1,853	2023-20
Canada	2019			43,196		
Canada	2020	565,508		44,956		
Canada	2021	1,536,966		337		
Canada	2022	2,390,153		71,314		
Canada	2023	184,255	16,316	9,975	1,484	2023-20
China	2019			122,757		
China	2020	96,673		31,164		
China	2021	35,398		25,812		
China	2022	86,958,455		56,455		
China	2023	12,189,494	21,279	117,742	5,676	2023-20
Egypt	2019			1,998		
Egypt	2020	136,644		659		
Egypt	2021	248,084		233		
Egypt	2022	130,805		2,709		
Egypt	2023	490	0	510	57	2023-19
France	2019			25,405		
France	2020	2,564,972		16,589		
France	2021	6,917,610		3,071		
France	2022	28,717,231		40,126		
France	2023	835,227	109,679	18,337	93	2023-20
Germany	2019			1,215		
Germany	2020	1,734,470		958		
Germany	2021	5,430,510		29		
Germany	2022	30,220,061		1,923		
Germany	2023	1,041,267	22,386	533	22	2023-20
India	2019			10,426		
India	2020	10,266,679		652		
India	2021	24,572,130		5,093		
India	2022	9,840,329		1,663		
India	2023	311,894	44,889	1,225	82	2023-20
Israel	2019			1,796		
Israel	2020	419,661		1,424		
Israel	2021	962,277		456		
Israel	2022	3,381,643		774		
Israel	2023	62,450	4,236	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			2,787		
Italy	2020	2,083,689		7,485		
Italy	2021	3,897,739		31		
Italy	2022	19,187,010		5,817		
Italy	2023	689,134	62,063	2,415	0	2023-17
Japan	2019			10,343		
Japan	2020	230,304		2,915		
Japan	2021	1,503,484		9		
Japan	2022	27,478,747		258		
Japan	2023	4,591,037	89,555	2,296	23	2023-20
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	343,144	23,886	1,900	303	2023-20
Netherlands	2019			5,145		
Netherlands	2020	785,874		3,168		
Netherlands	2021	2,329,020		471		
Netherlands	2022	5,454,287		11,082		
Netherlands	2023	41,191	0	9147	50	2023-20
Philippines	2019			612		
Philippines	2020	472,523		52		
Philippines	2021	2,371,346		105		
Philippines	2022	1,218,790		260		
Philippines	2023	76,636	47,441	94	10	2023-19
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	148,502	3,009	1,859	26	2023-20
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	296	196	2023-20
South Korea	2019			1,702		
South Korea	2020	60,722		505		
South Korea	2021	574,528		0		
South Korea	2022	28,481,550		295		
South Korea	2023	2,530,173	476,087	618	168	2023-20
Spain	2019			16,580		
Spain	2020	1,955,216		8,827		
Spain	2021	4,550,685		2,206		
Spain	2022	7,178,335		18,099		
Spain	2023	183,991	34,271	8,625	135	2023-20
Thailand	2019			1,568		
Thailand	2020	6,919		297		
Thailand	2021	2,216,551		23		
Thailand	2022	2,500,484		575		
Thailand	2023	15,069	6,687	353	33	2023-20

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	2,563,565		14,377		
United Kingdom	2021	10,878,110		2,755		
United Kingdom	2022	10,752,351		26,905		
United Kingdom	2023	424,410	31,627	5,436	152	2023-20
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		470,074		
United States	2023	4,025,133	170,425	39,456	2,061	2023-20
Vietnam	2019			355		
Vietnam	2020	1,456		146		
Vietnam	2021	1,729,801		39		
Vietnam	2022	9,793,974		106		
Vietnam	2023	84,647	50,016	12	0	2023-17

[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 [6]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [7]. 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) [8].

Data sources

- **Influenza**: FluNet [9] 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 [10]. 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 [11].
- **Government response tracker**: The Oxford COVID-19 Government Response Tracker (OxCGRT) [8] 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 4 June 2023 and cover the period 1 January 2019 to 21 May 2023 (influenza) and 1 June (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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Project Team

Websites

Project Website: https://www.nivel.nl/en/flucov

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

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