



FluCov-Bulletin – April 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 April 2023:

- **Influenza** detections in **China** decreased over the month of April, after a large peak, observed in March, driven by a mix of **influenza** A(H1N1)pdm09 and A(H3N2).
- In all countries that reported a wave of **influenza** B (**France, Germany, Italy, Poland, Spain and Brazil**), a decrease in **influenza** detections was observed. Detections also decreased in the **Netherlands**, where a mix of **influenza** A and B was present.
- A small increase in **influenza** detections was observed in two of the Southern Hemisphere countries, covered by the Bulletin (**Australia and South Africa**). In **South Africa**, the percentage of positive tests is increasing in a similar manner to previous seasons.
- In **South Korea**, a small increase in **influenza** A(H3N2) detections was observed. In other Asian countries, **influenza** activity was low (**India, Philippines, Thailand, Vietnam**) or decreasing (**China, Japan**).
- Low **influenza** activity was also observed in the **United States** (a mix of A and B) as well as in **Canada, Mexico, United Kingdom and Egypt** (all influenza B/Victoria or B lineage not determined).

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

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

Implications

In all countries that reported a wave of **influenza** B in February – March, a decrease in detections was observed during April 2023. With the end of this (smaller) **influenza** B epidemic, the Northern Hemisphere **influenza** season appears to have ended, following an early season onset and initial peak in December 2022.

It is of note that **South Africa** (A(H1N1)pdm09) and **Australia** (a mix of influenza A and B, undetermined) both observed a small increase in **influenza** detections. This could possibly signal an early start of the 2023 **influenza** season in these two Southern Hemisphere countries. Another Southern Hemisphere country that saw an increase in **influenza** detections (A(H1N1)pdm09 if subtyped) in April was **Chile** [1].

The 2022 season was the first real **influenza** season for the Southern Hemisphere since the onset of the **SARS-CoV-2** pandemic. It started with an **influenza** A epidemic in **Australia**, **Brazil** and **South Africa**, followed by **influenza** B in **South Africa** [2]. Additionally, **Chile** reported an **influenza** A(H3N2) epidemic with an unusually early onset and atypical course [3]. The 2023 season will indicate whether **influenza** activity in the Southern Hemisphere has returned to a pre-**SARS-CoV-2** pattern.

SARS-CoV-2 activity was relatively low in most countries in April. Globally, **SARS-CoV-2** detections have been decreasing since the peak in **China** in December 2022. There are, however, regional differences and small increases in **SARS-CoV-2** detections were seen in South-East Asia, the Eastern Mediterranean and Western Pacific region, according to the WHO [4].

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, it is important to note that many countries are still reporting high numbers of **SARS-CoV-2** detections (e.g. there were 82,394 in **Australia**, 350,756 in **Korea**, 214,856 in **France** and 568,838 in the **United States** during the month of April 2023) and the surveillance of **SARS-CoV-2** will remain very important in the coming 12 months.

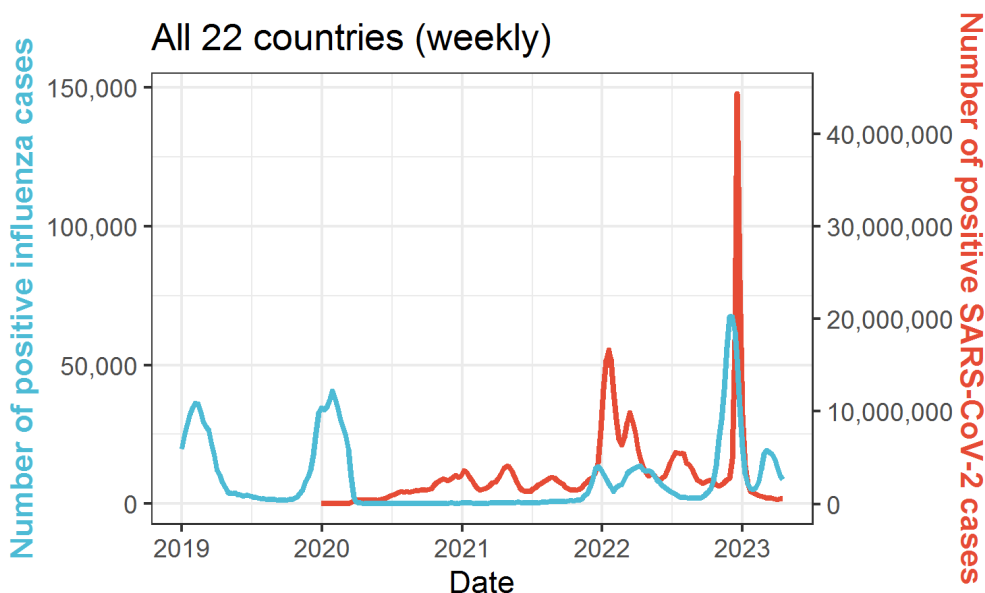


Figure 1: SARS-CoV-2 and influenza detections in the 22 countries covered by the Bulletin (period: from week 1/2019 to week 17/2023)

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 30 April, 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/fluconv-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

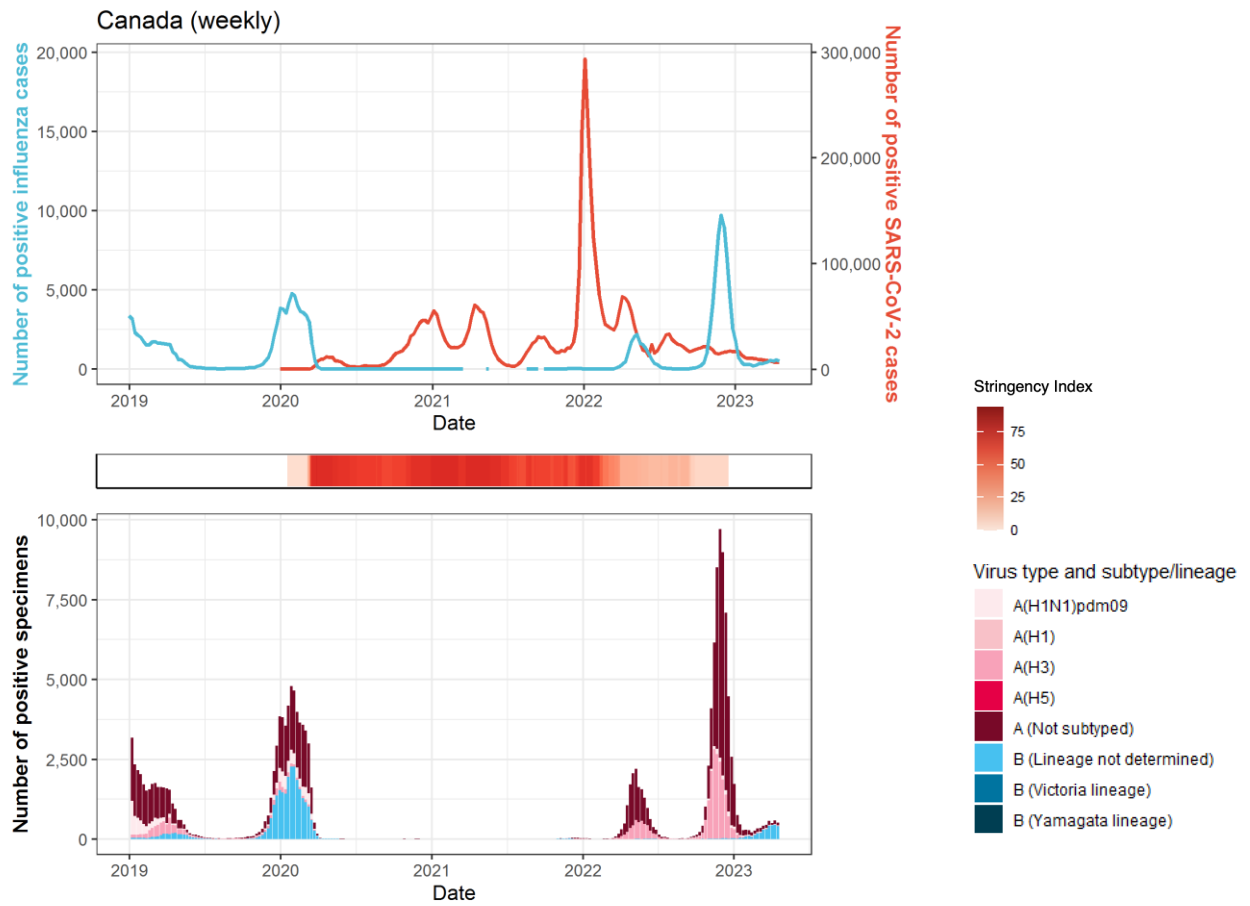
Israel

Oceania

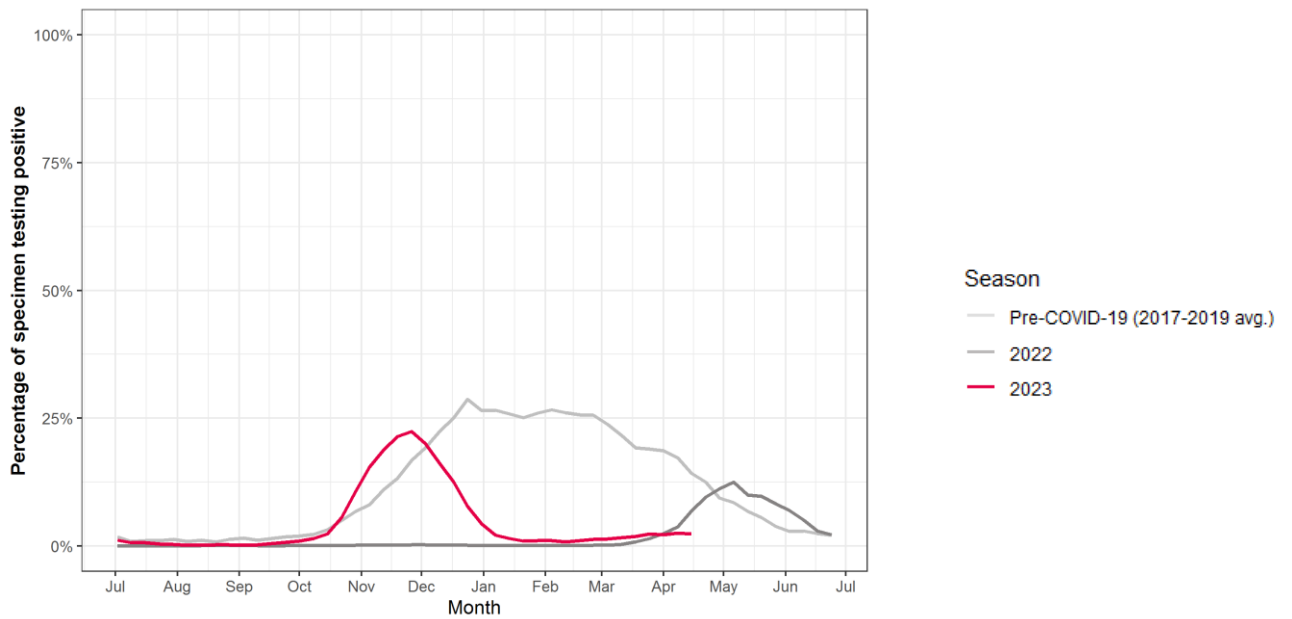
Australia

North America

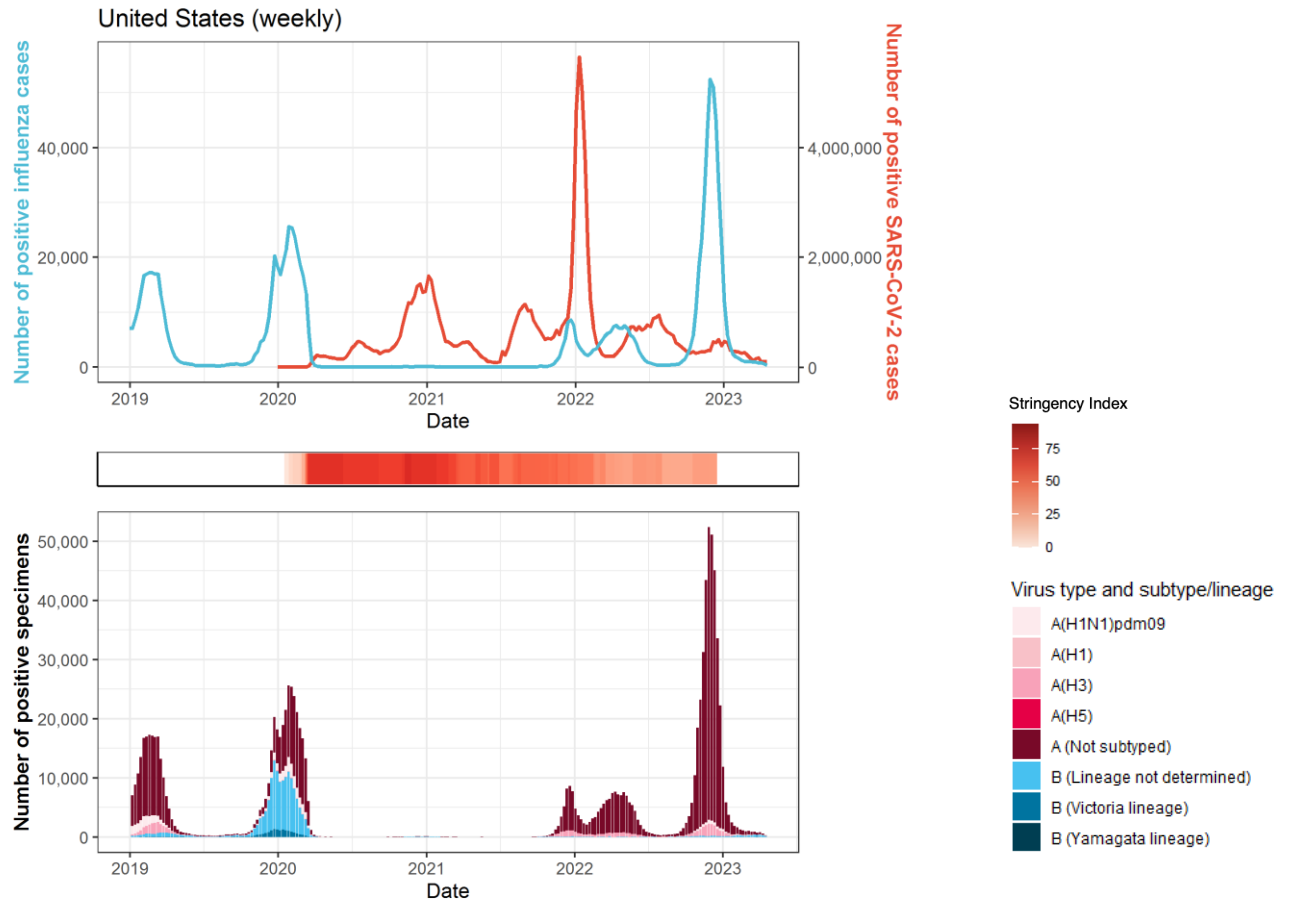
Canada



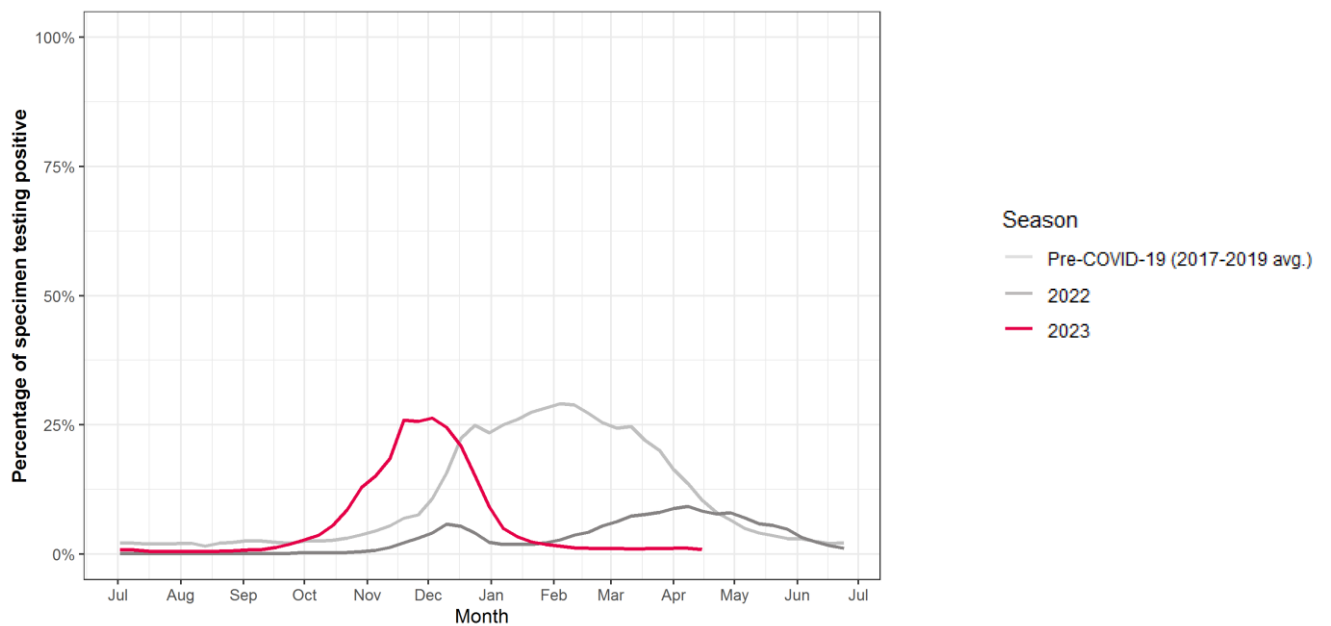
Percentage of specimens testing positive for influenza in different seasons



United States

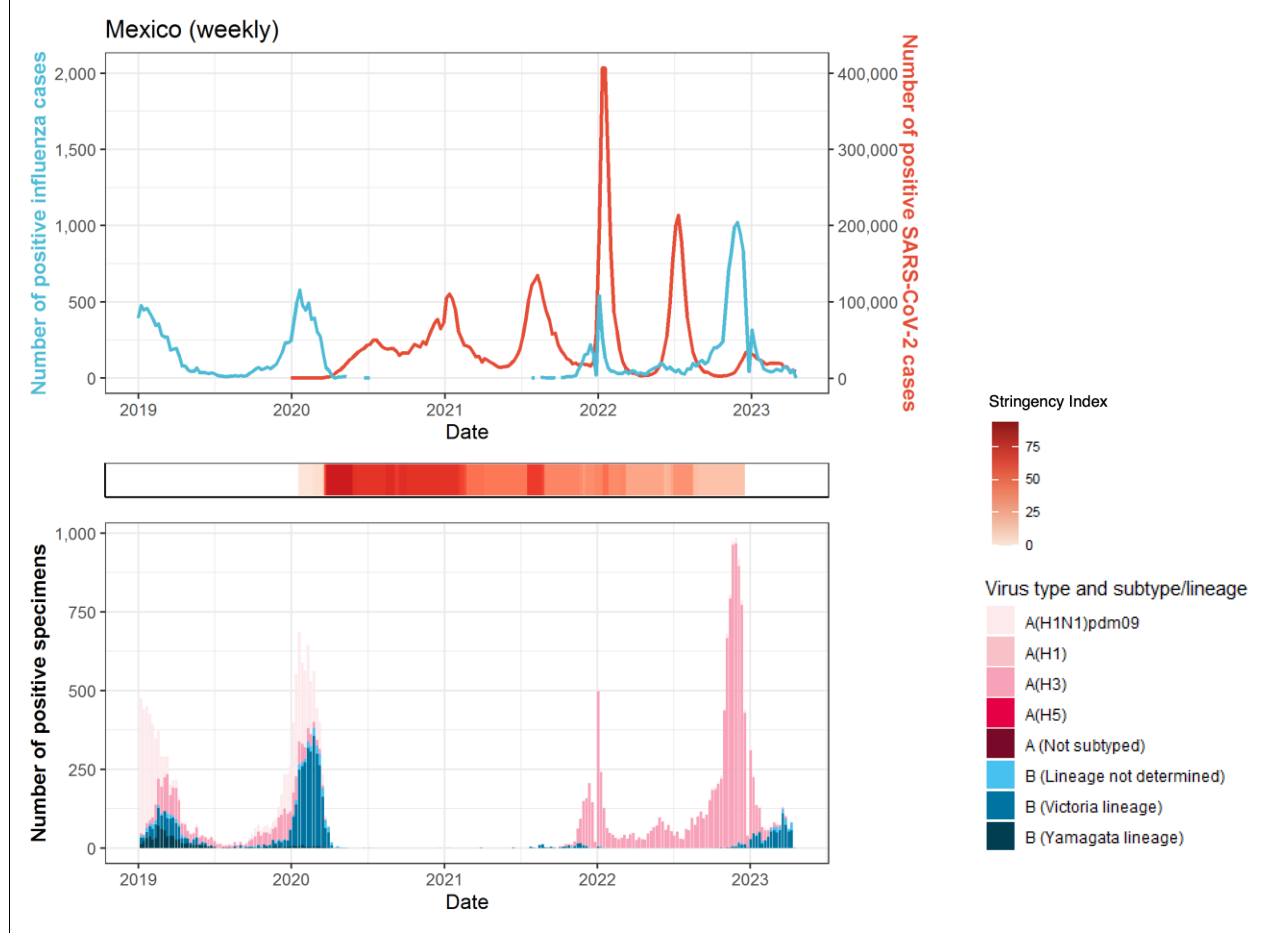


Percentage of specimens testing positive for influenza in different seasons

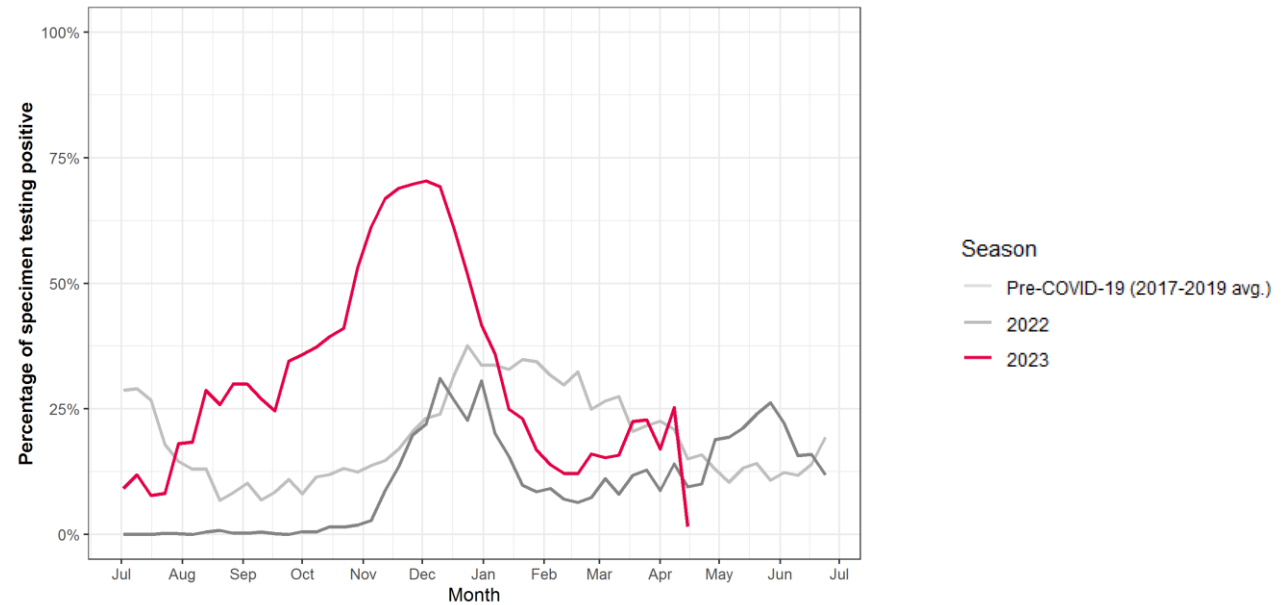


Central America Caribbean

Mexico

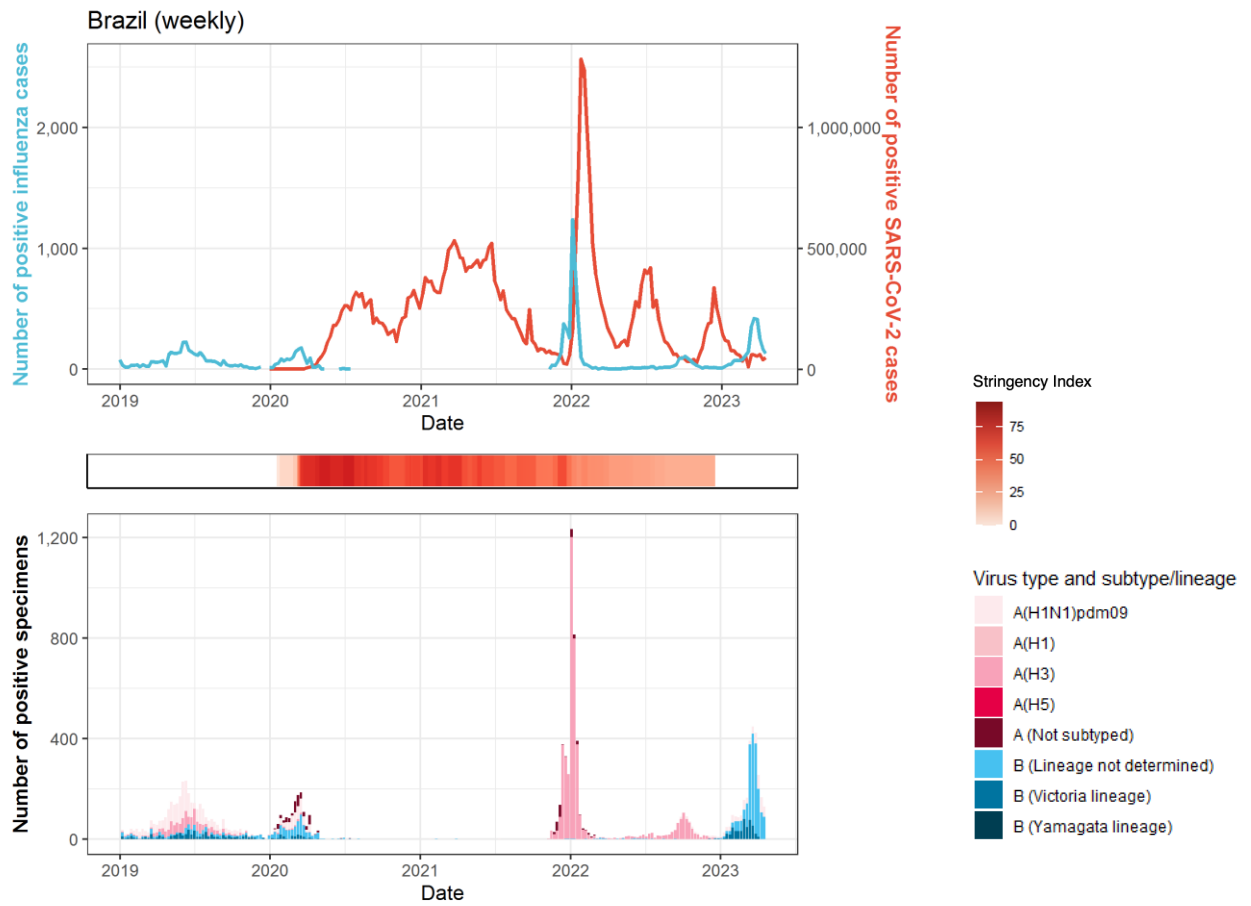


Percentage of specimens testing positive for influenza in different seasons

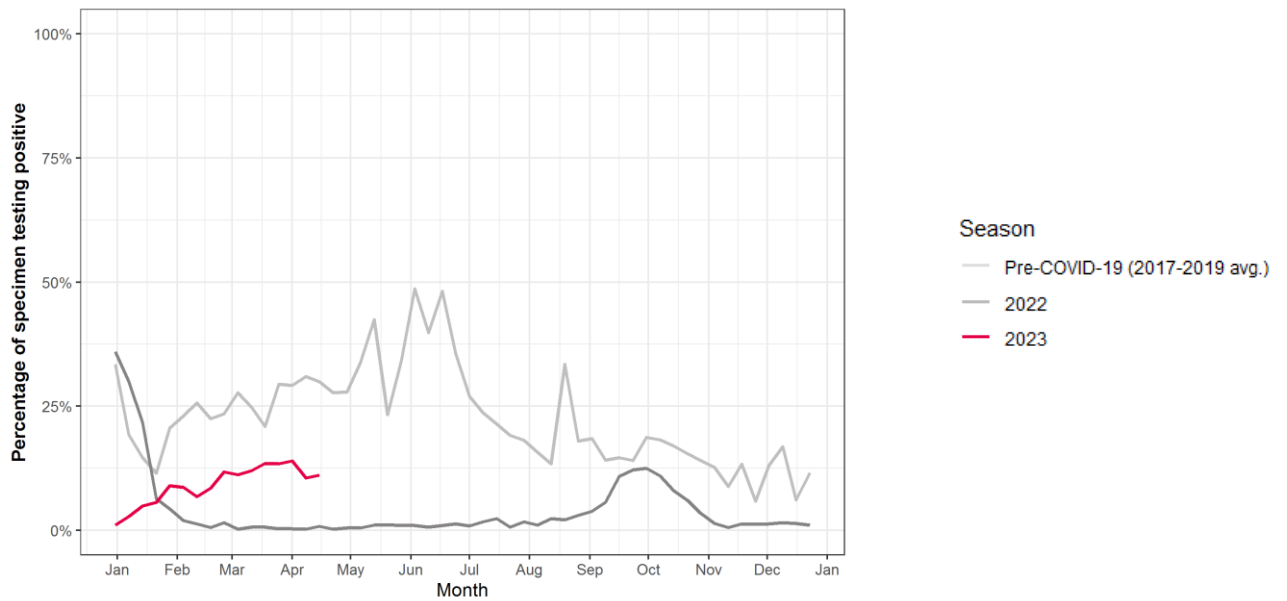


Tropical South America

Brazil

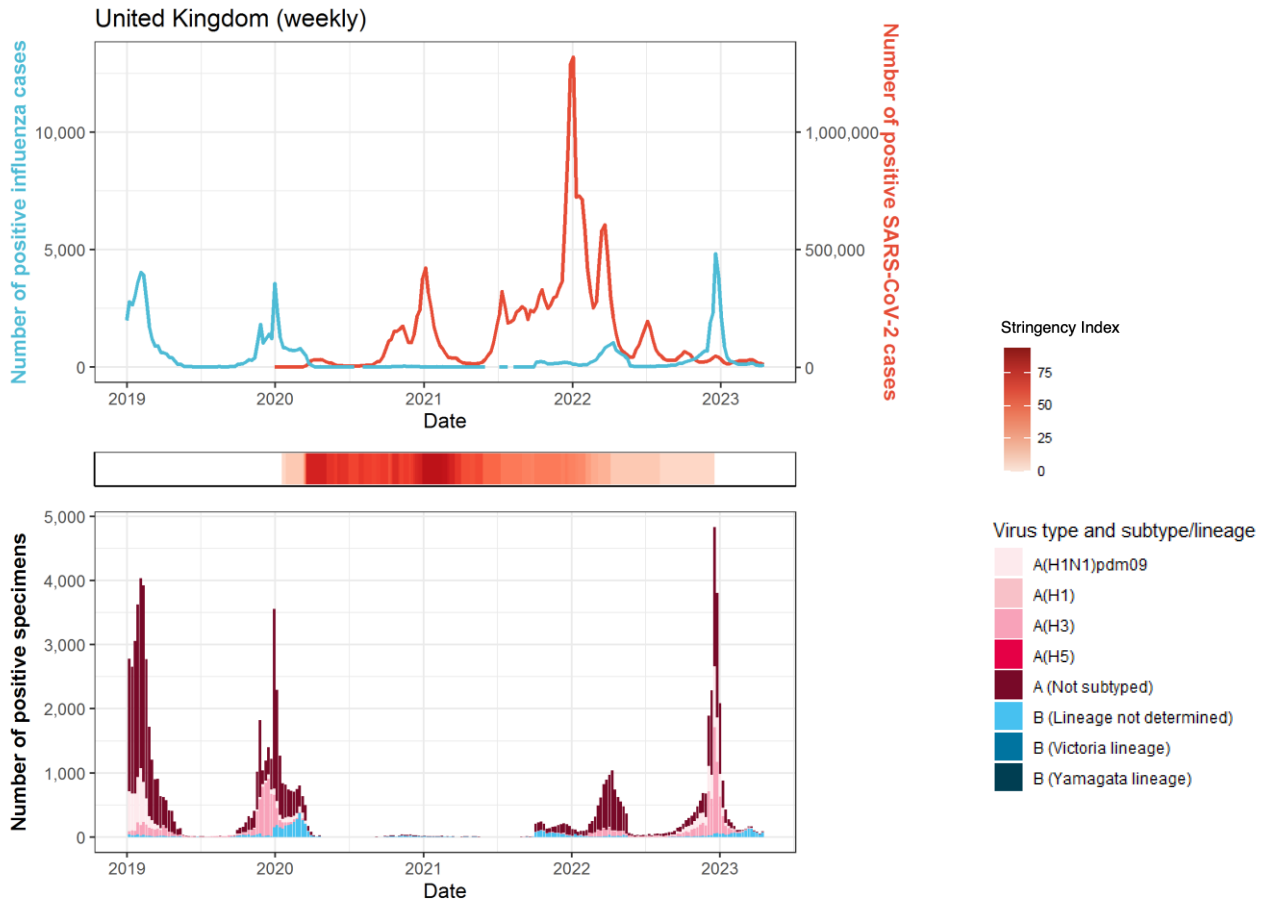


Percentage of specimens testing positive for influenza in different seasons



Northern Europe

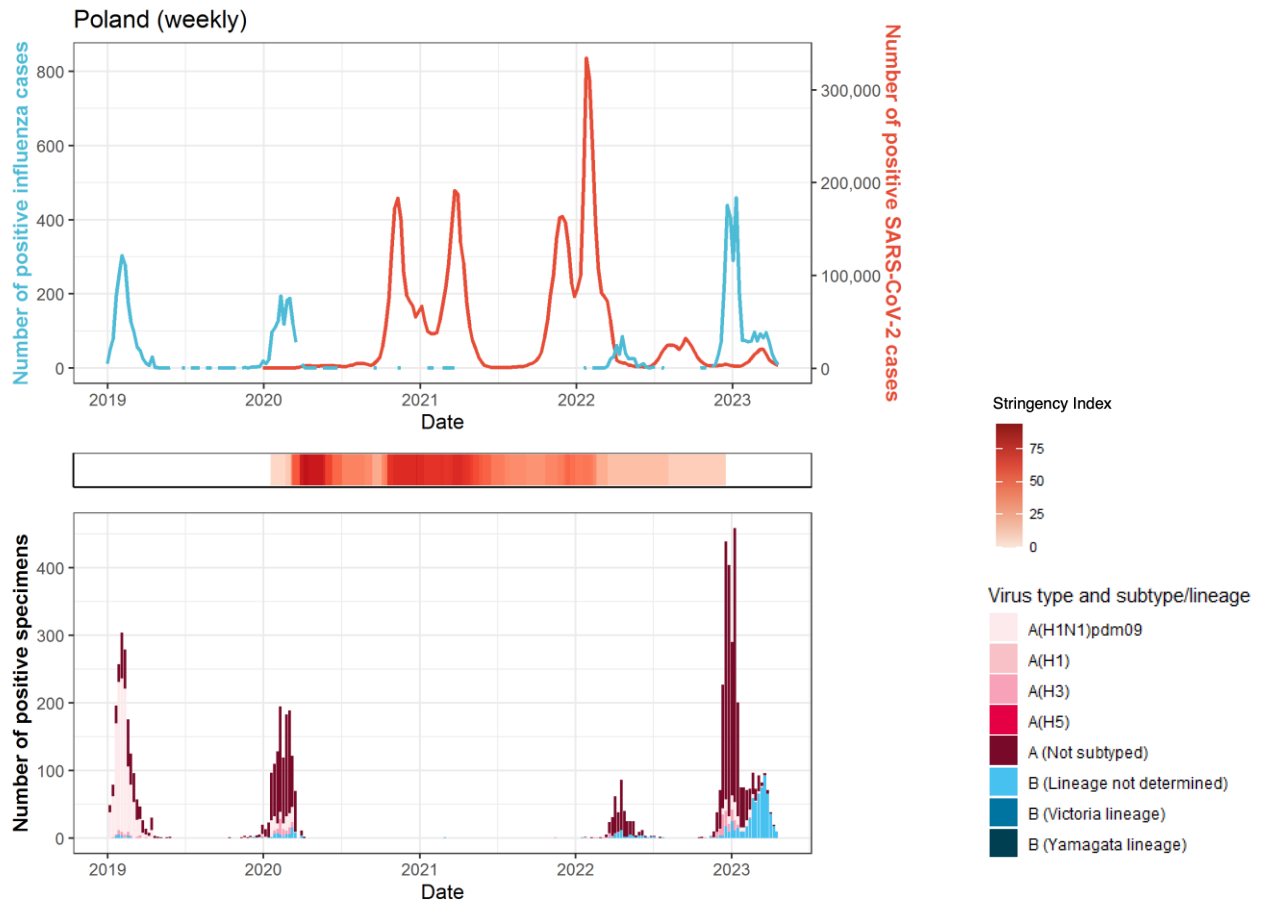
United Kingdom



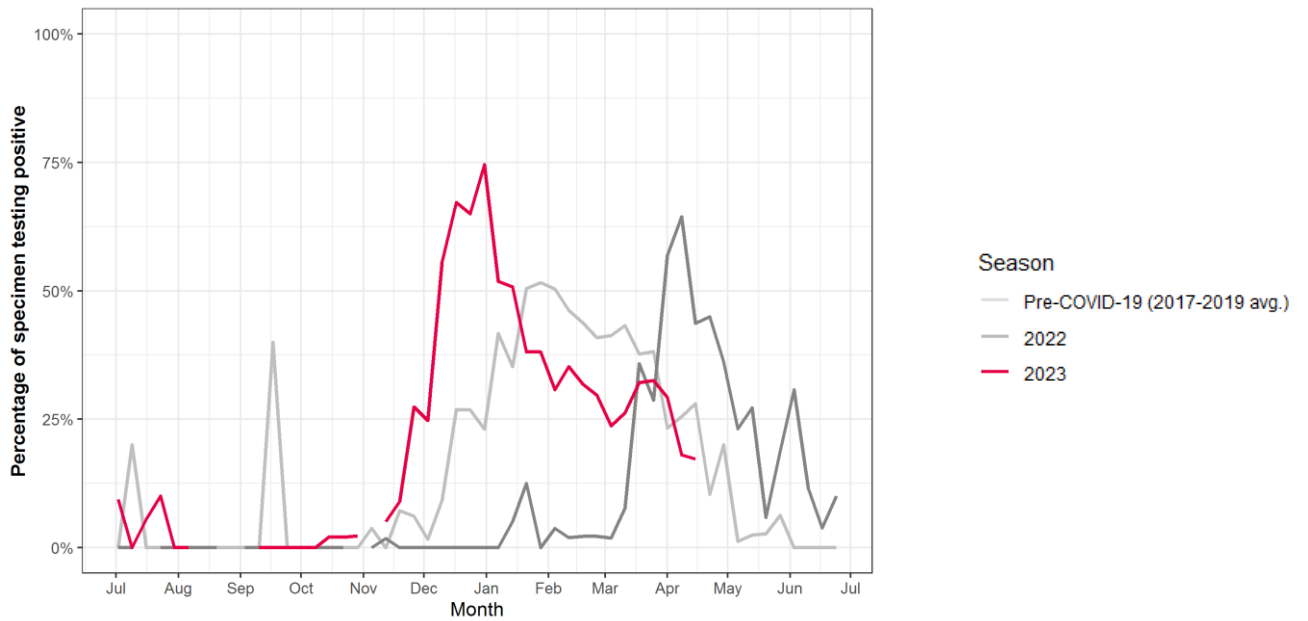
Percentage of specimens testing positive for influenza in different seasons: data not available

Eastern Europe

Poland

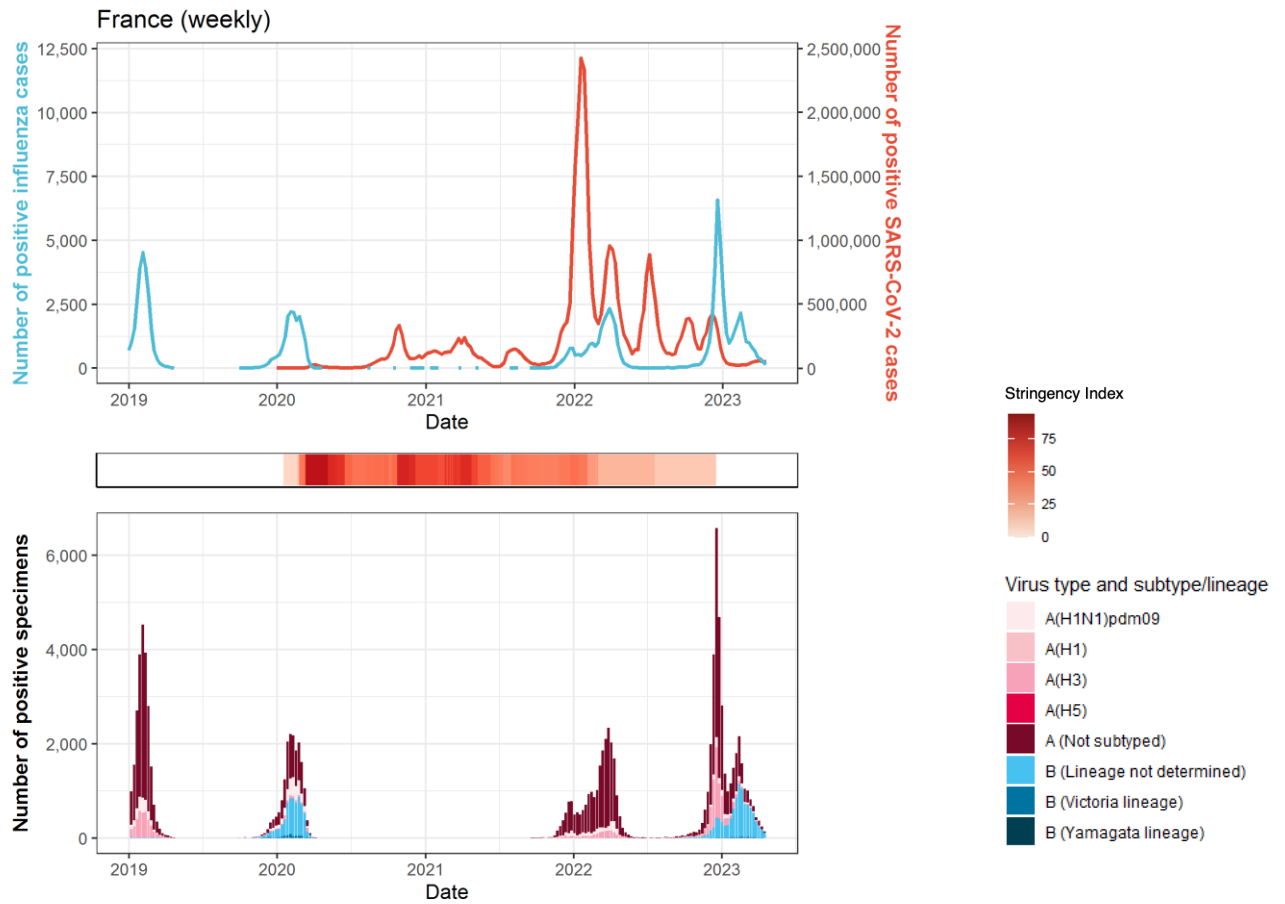


Percentage of specimens testing positive for influenza in different seasons

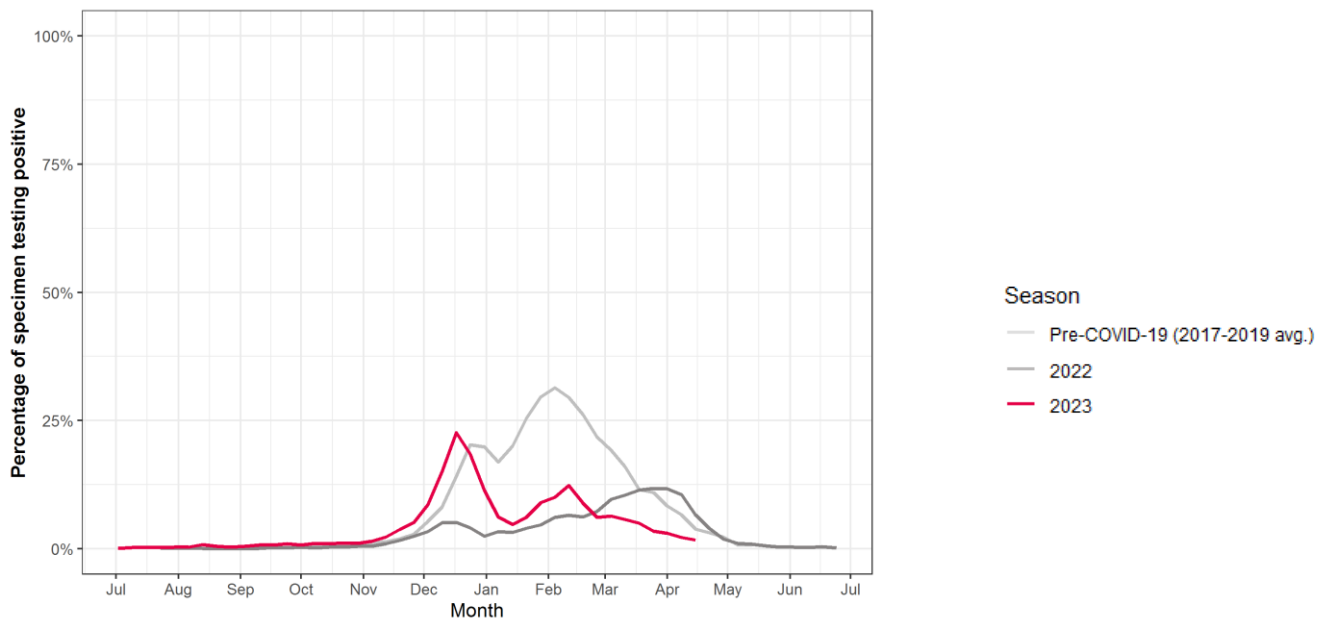


South West Europe

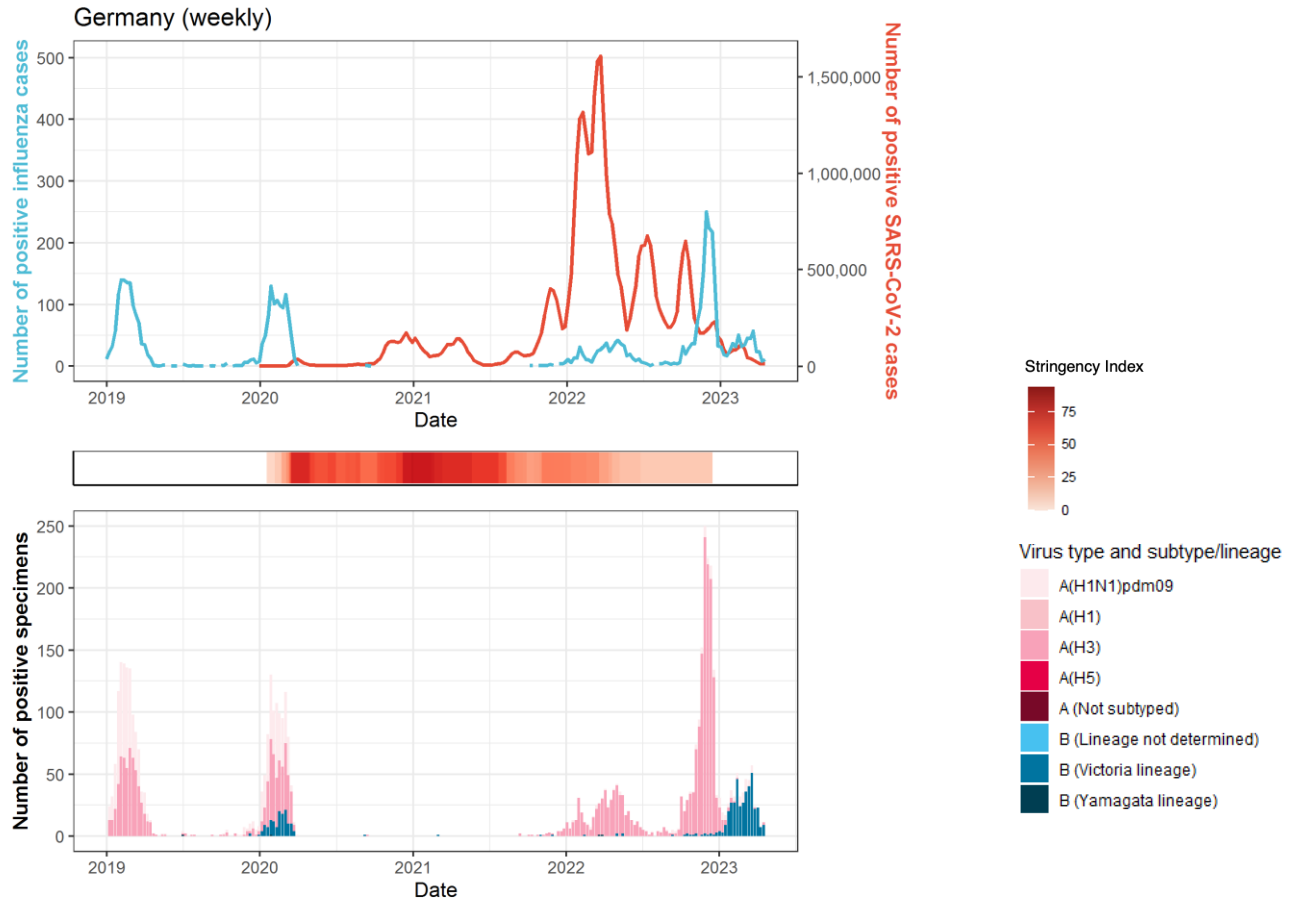
France



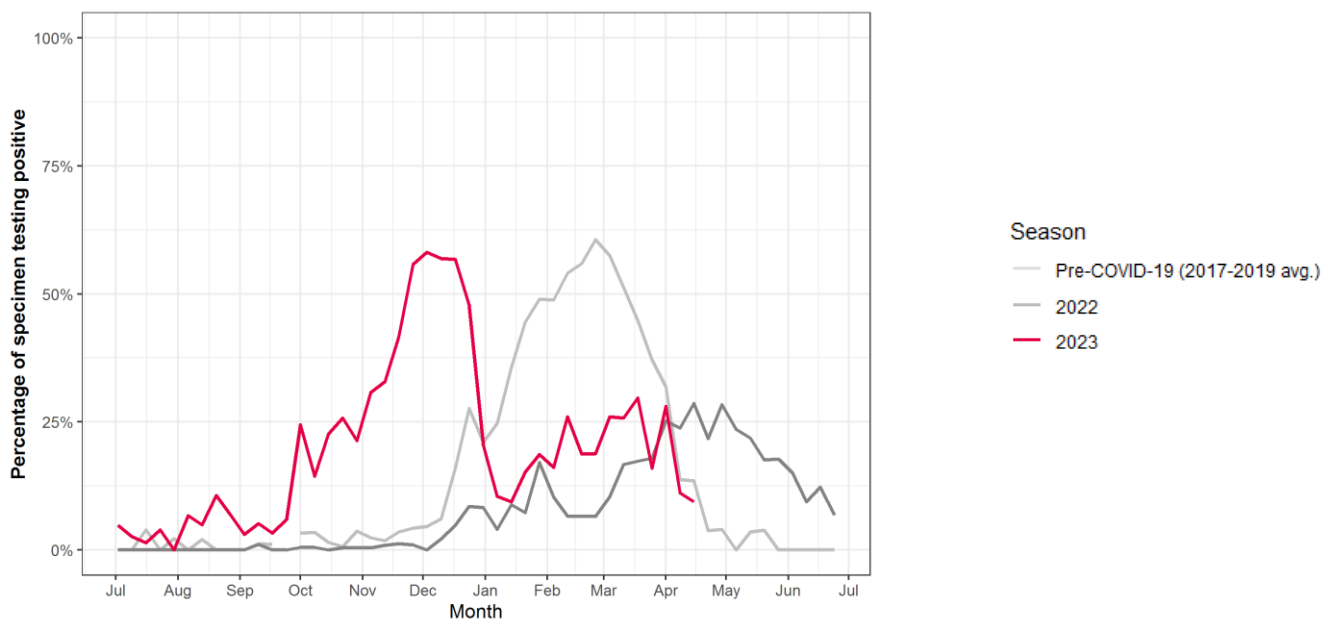
Percentage of specimens testing positive for influenza in different seasons



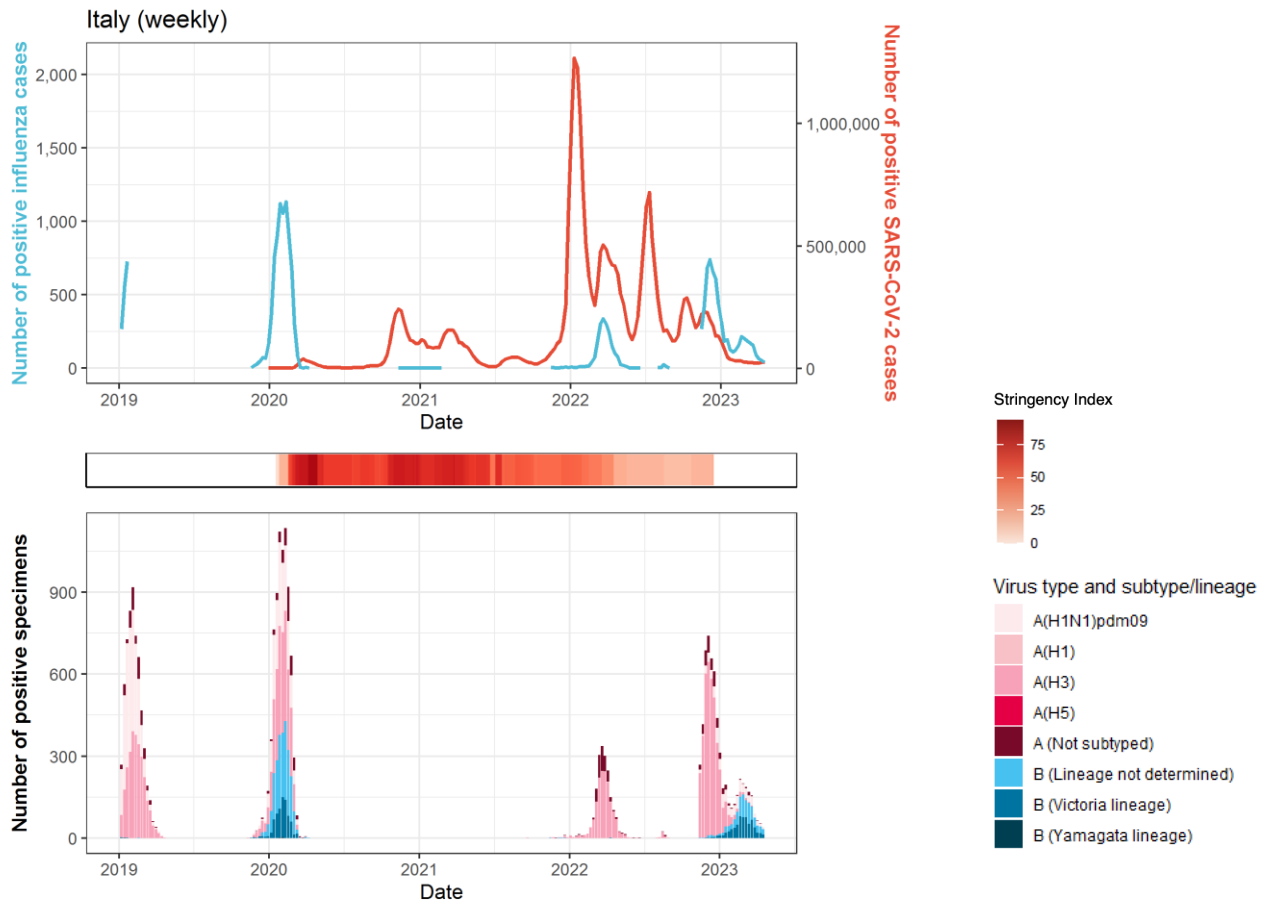
Germany



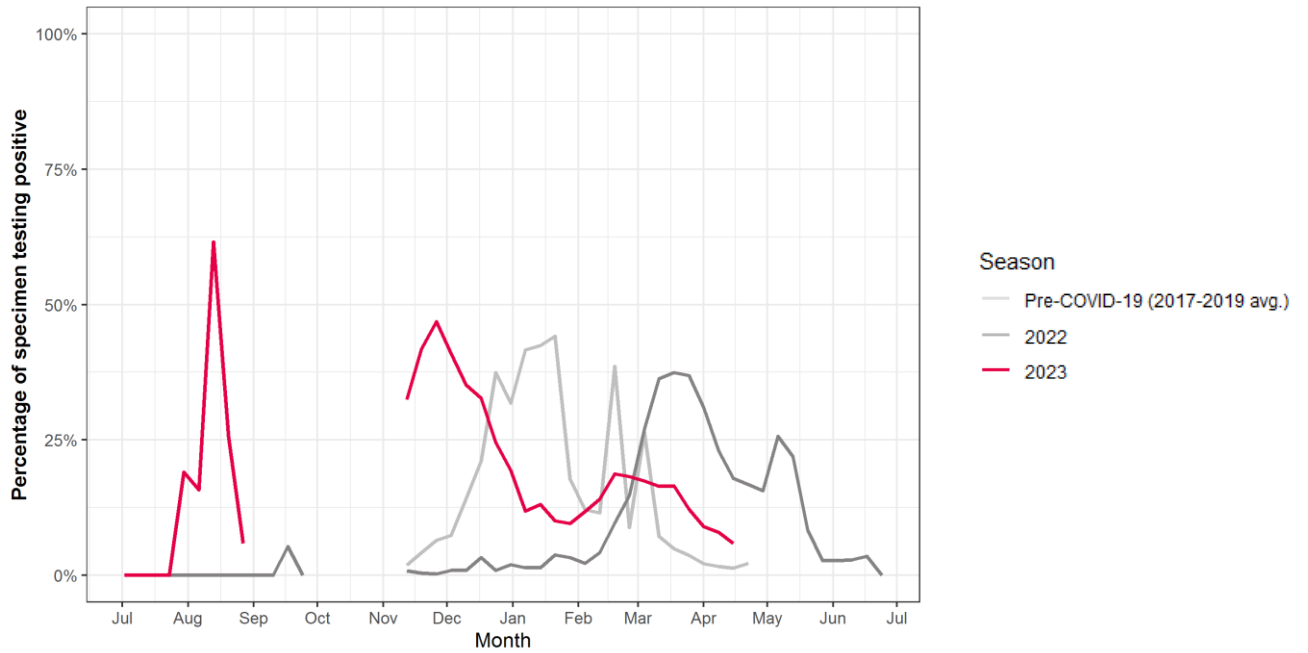
Percentage of specimens testing positive for influenza in different seasons



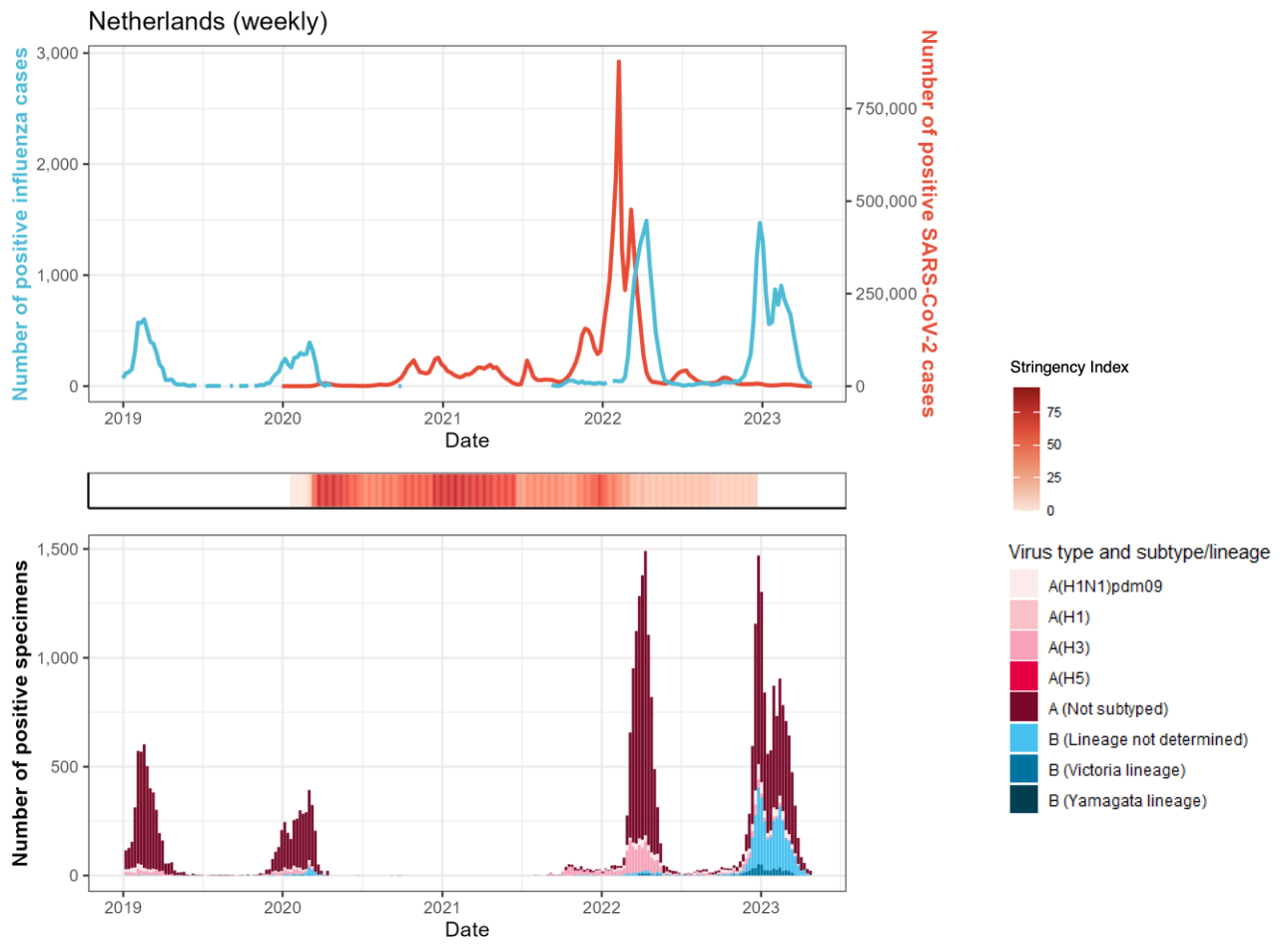
Italy



Percentage of specimens testing positive for influenza in different seasons

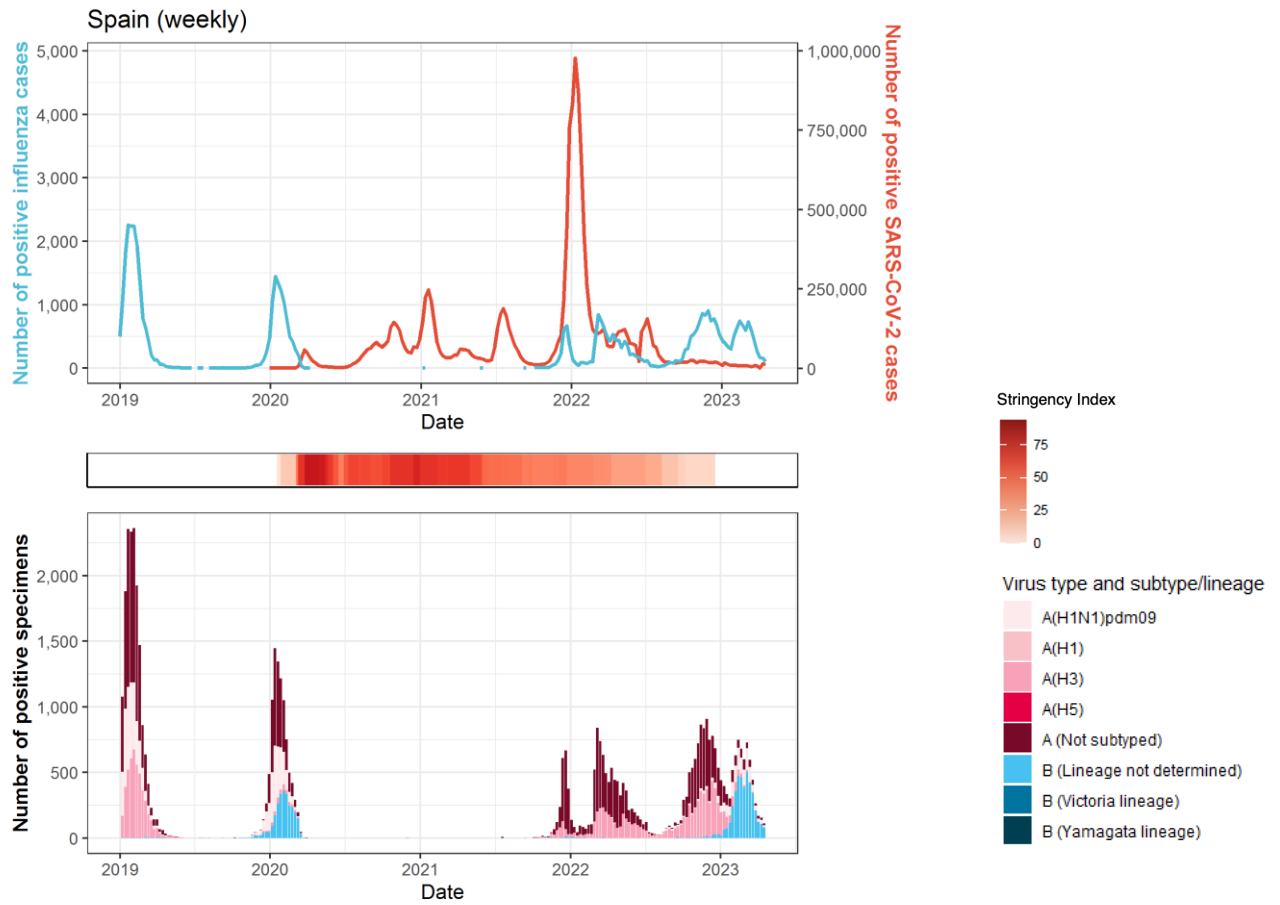


Netherlands

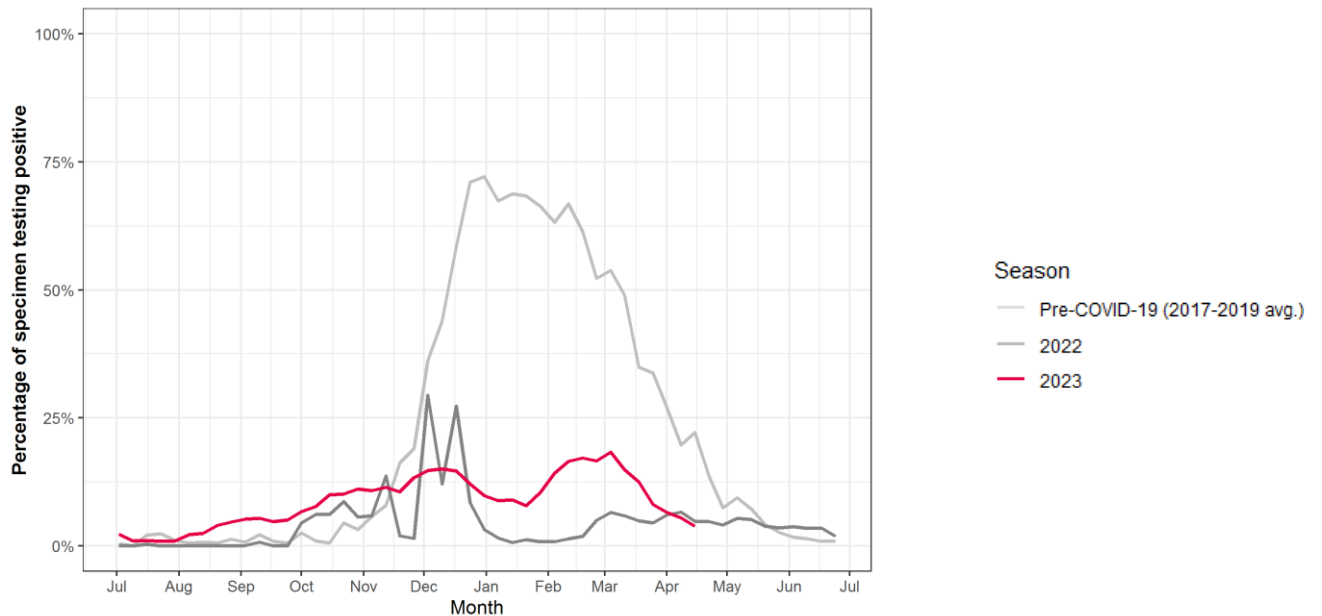


Percentage of specimens testing positive for influenza in different seasons: data not available

Spain

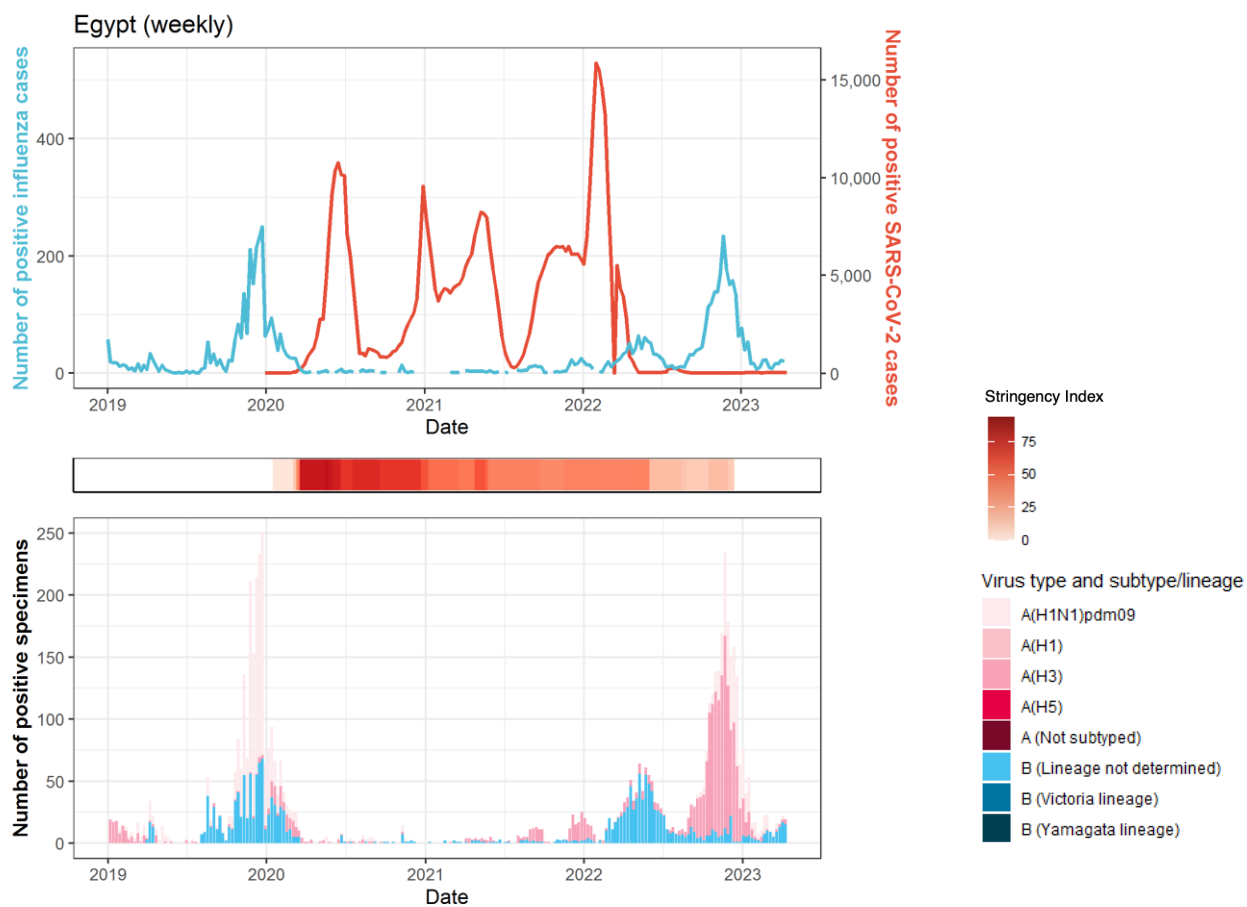


Percentage of specimens testing positive for influenza in different seasons

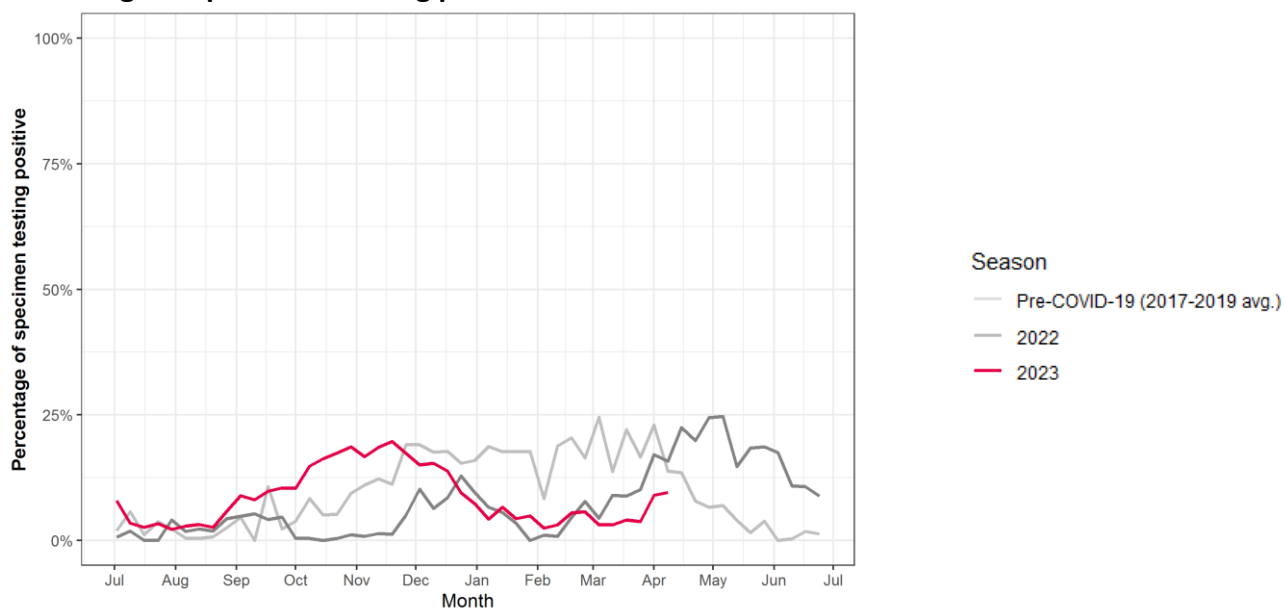


Northern Africa

Egypt

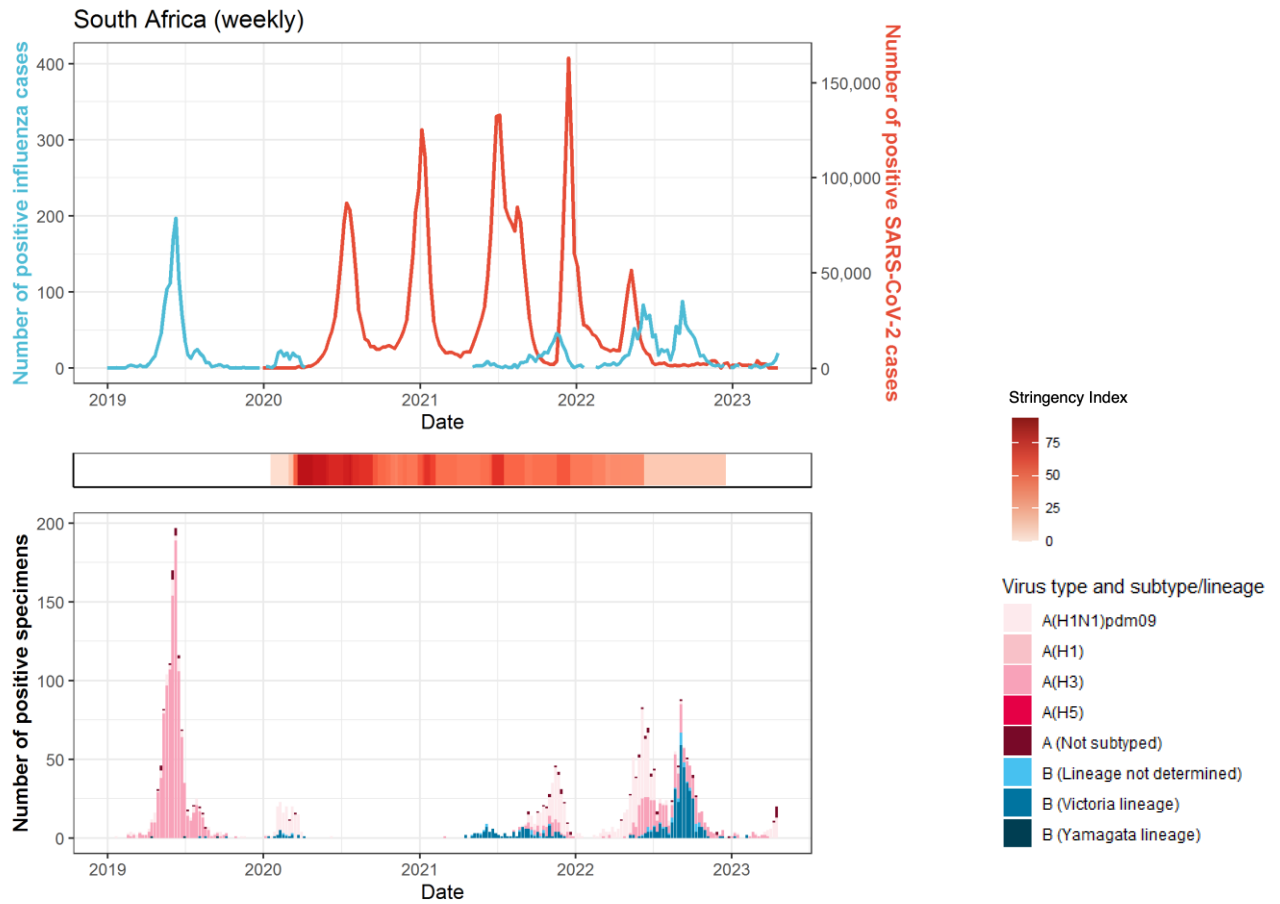


Percentage of specimens testing positive for influenza in different seasons

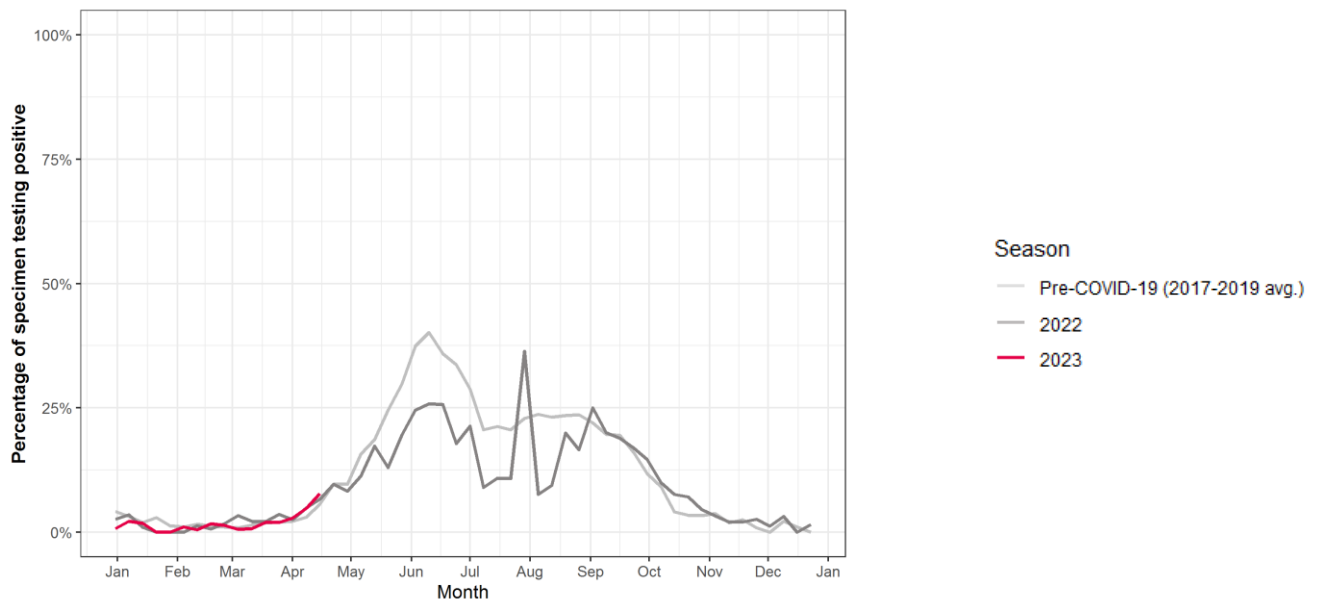


Southern Africa

South Africa

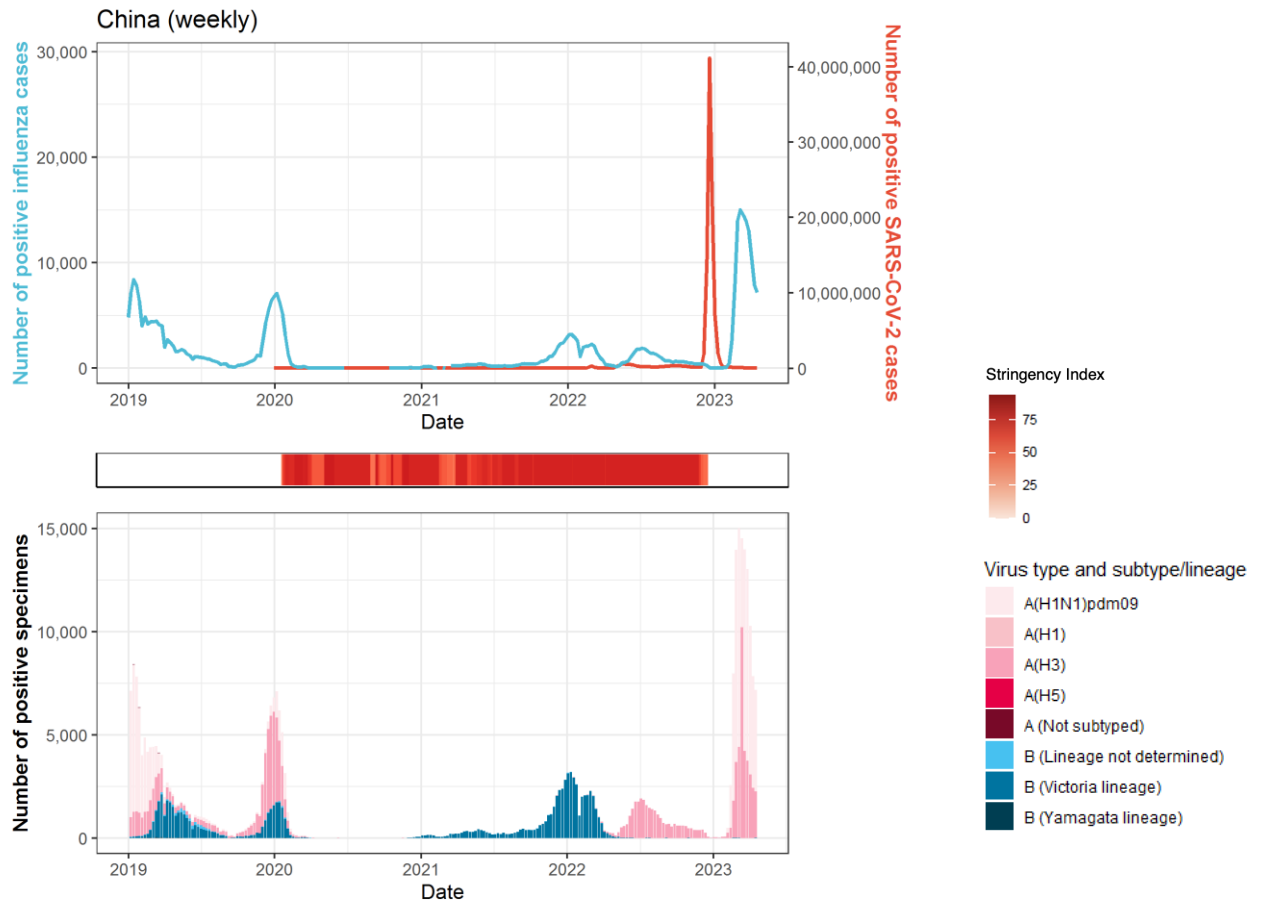


Percentage of specimens testing positive for influenza in different seasons



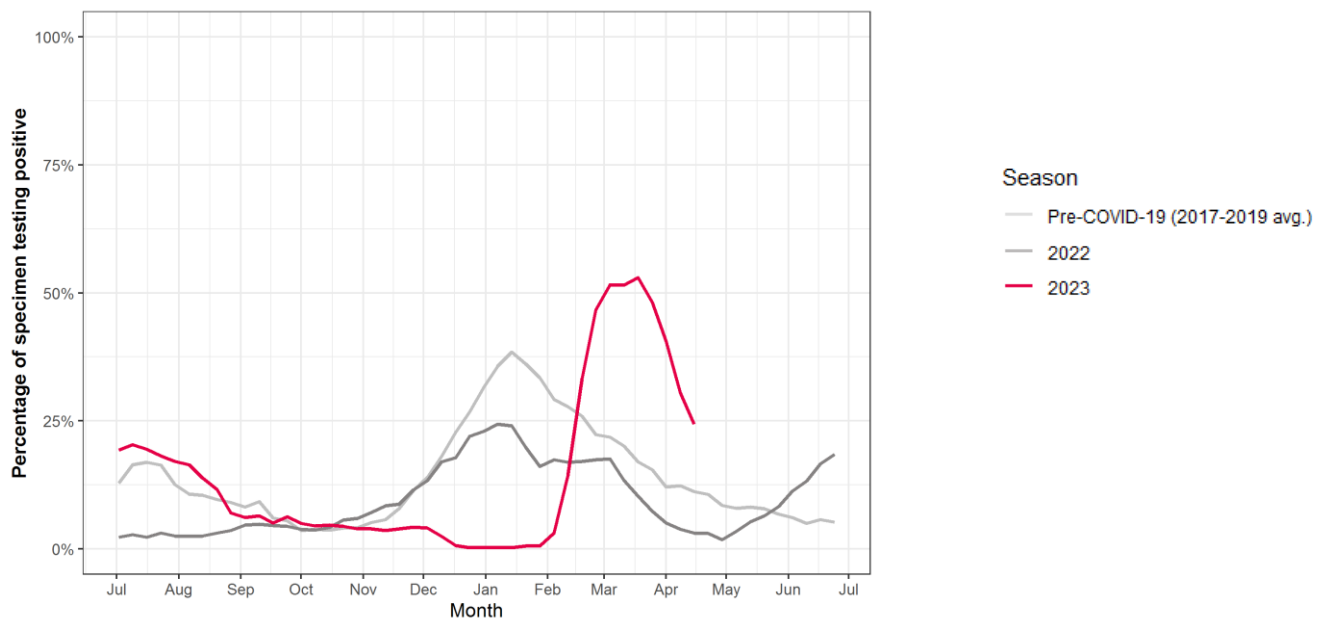
Eastern Asia

China

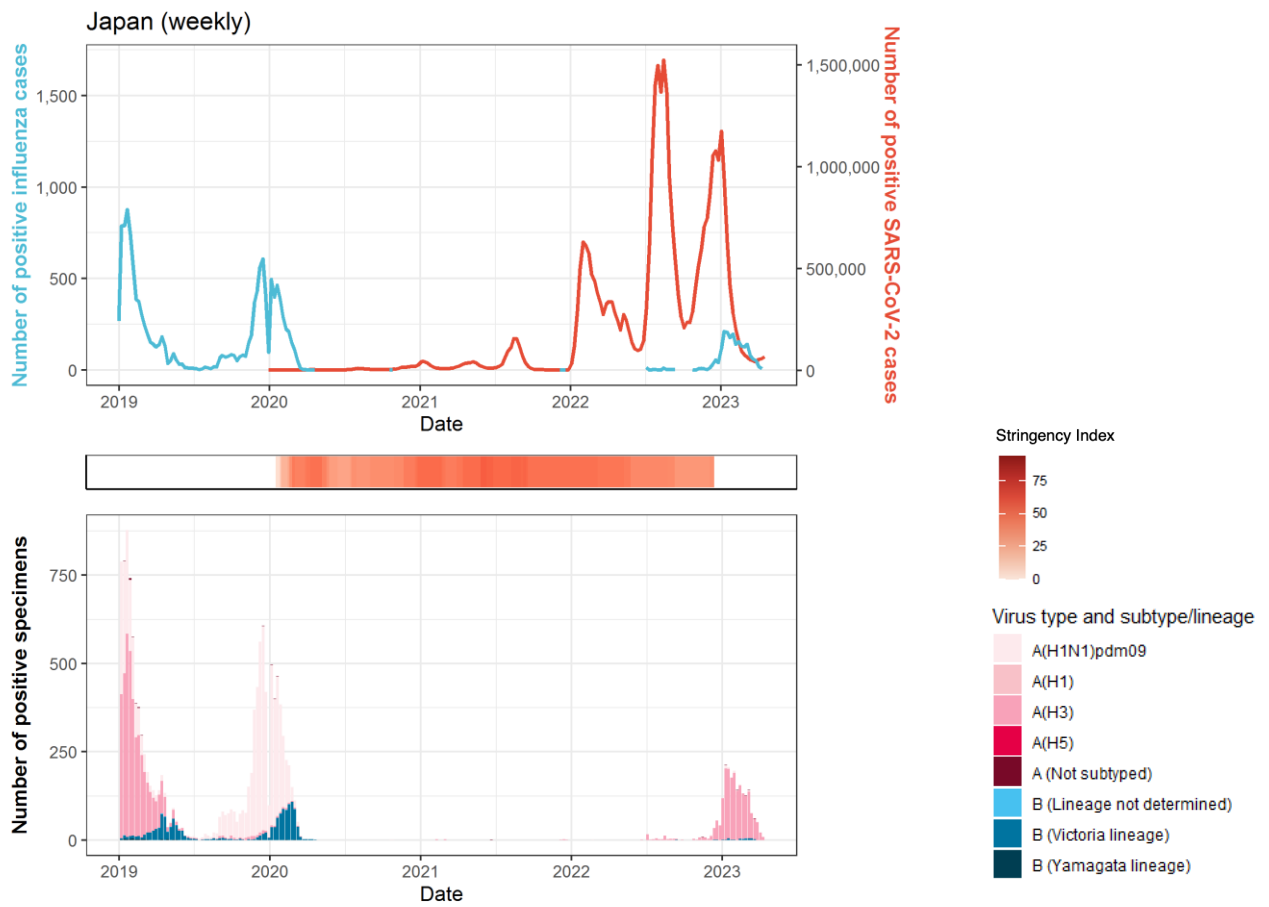


Note: Due to a high number of retrospectively added SARS-CoV-2 detections, the peak in China in late 2022 increased significantly, compared to previous Bulletins.

Percentage of specimens testing positive for influenza in different seasons

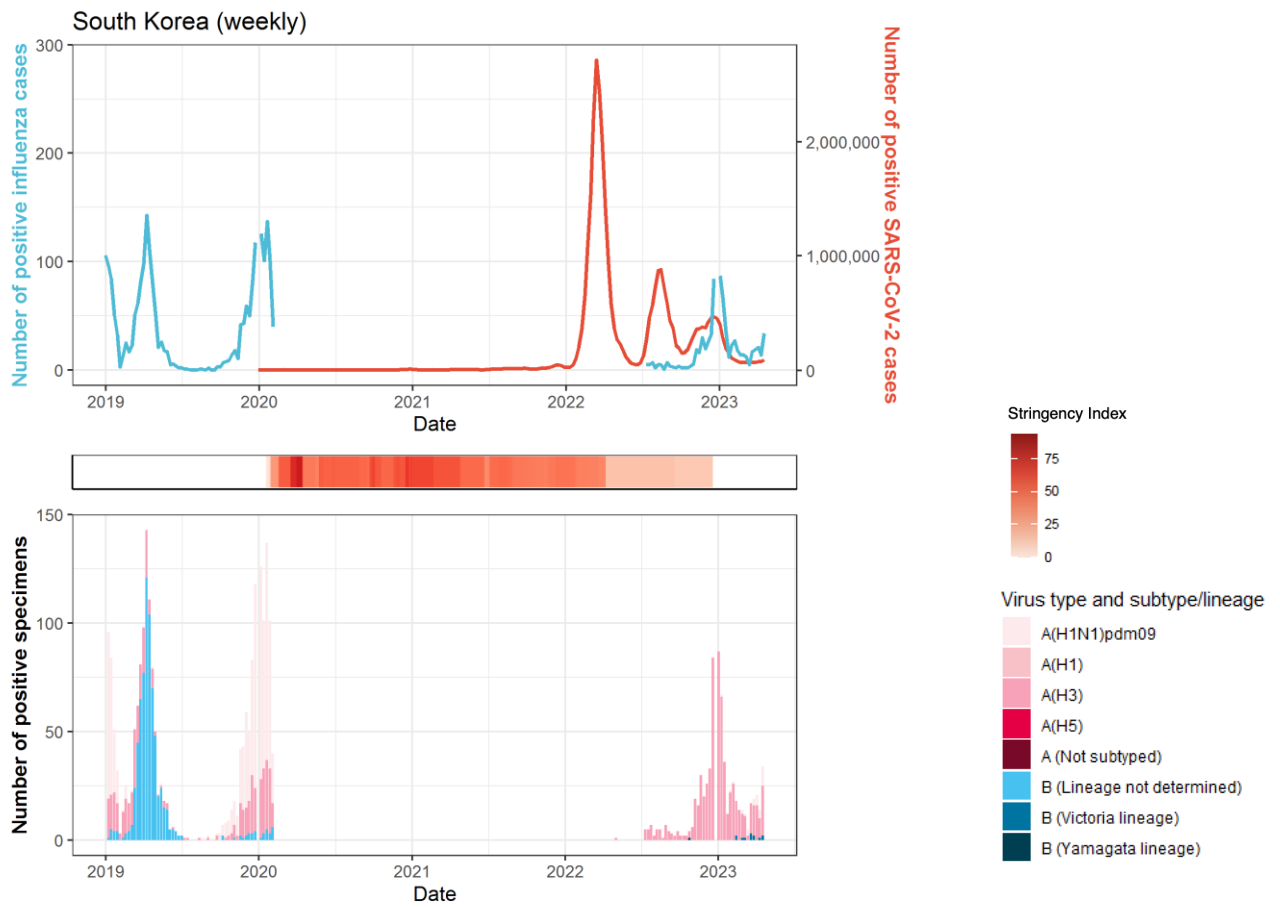


Japan

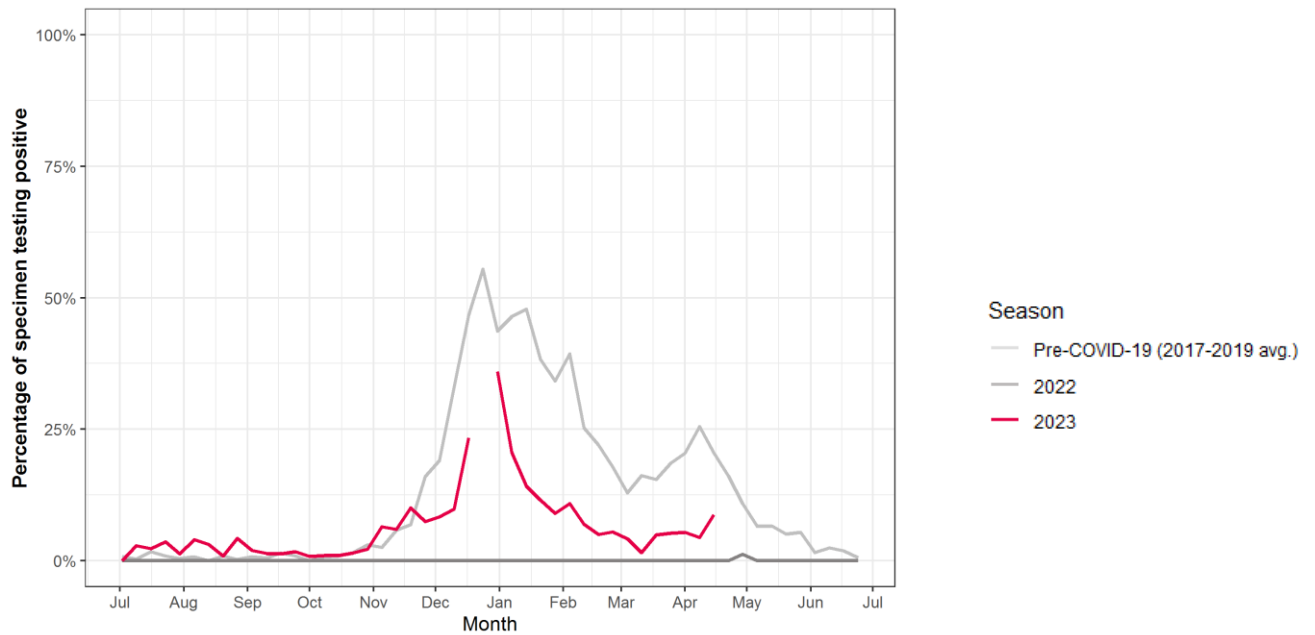


Percentage of specimens testing positive for influenza in different seasons: data not available

South Korea

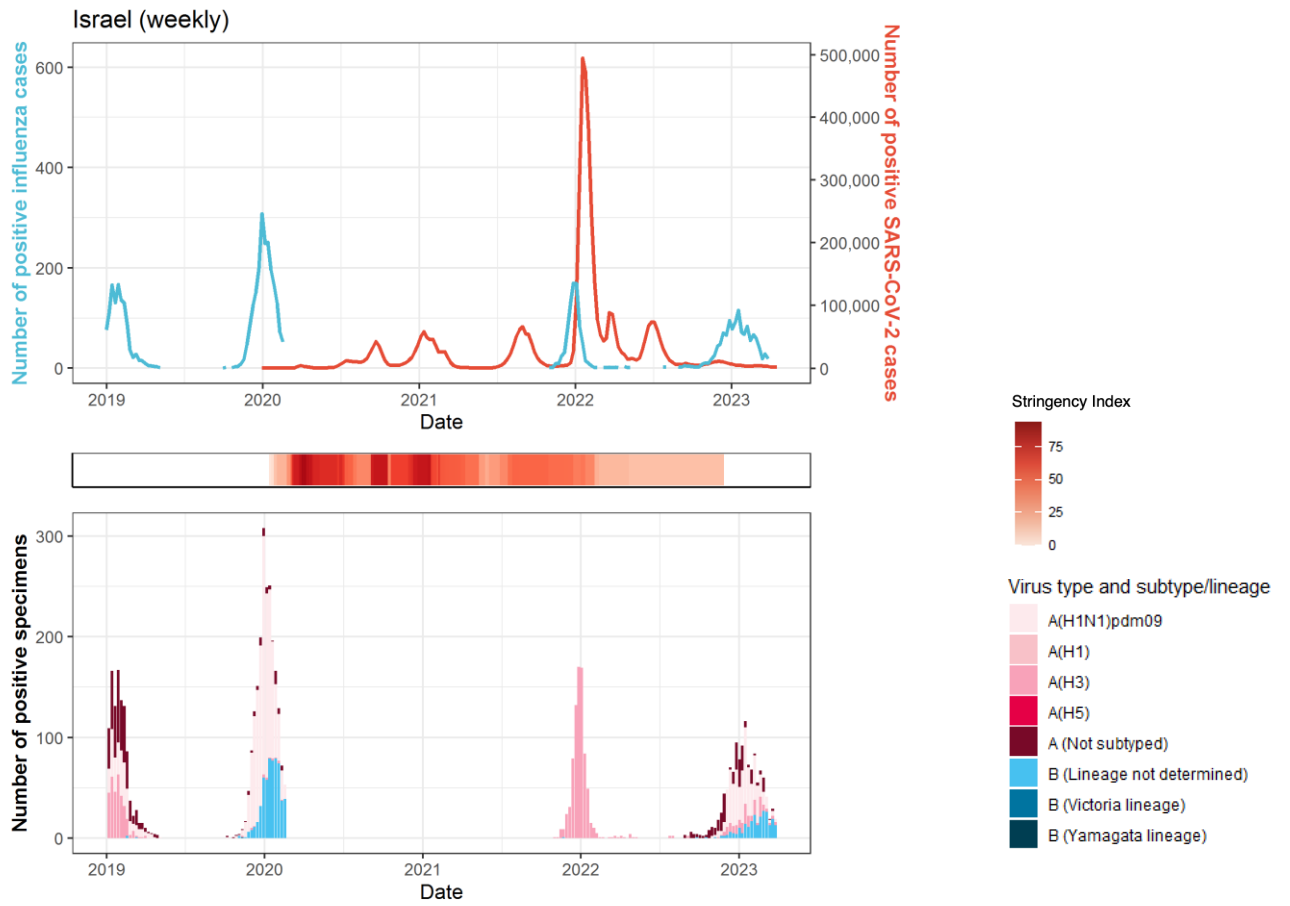


Percentage of specimens testing positive for influenza in different seasons

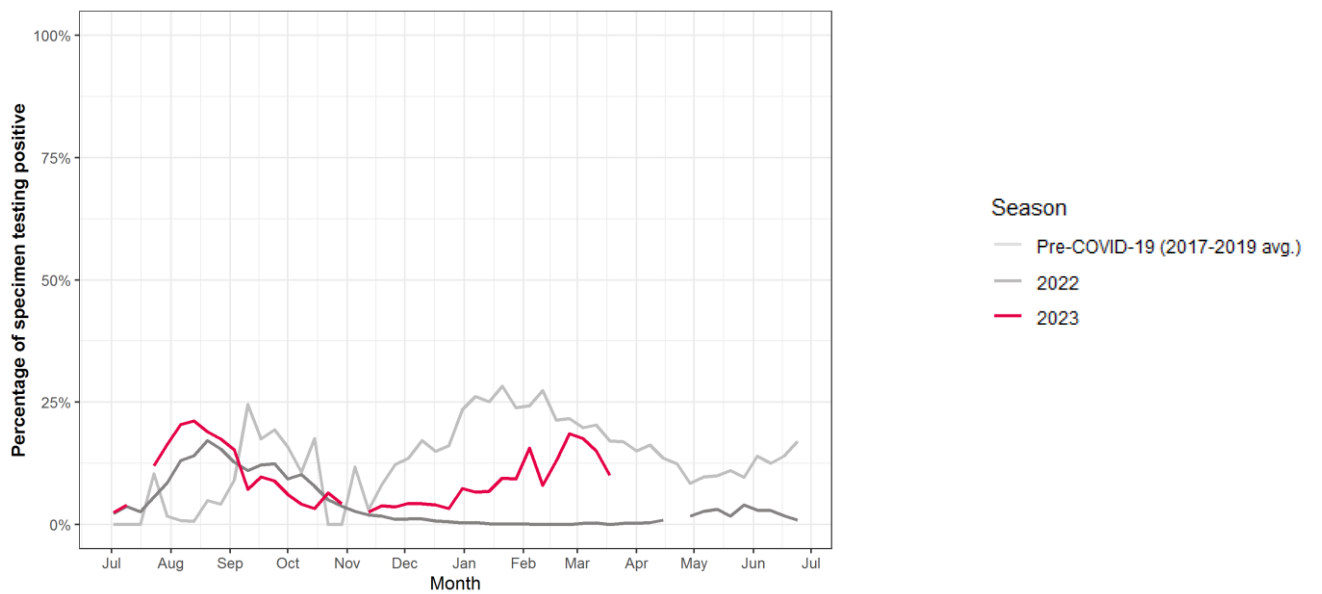


Southern Asia

India

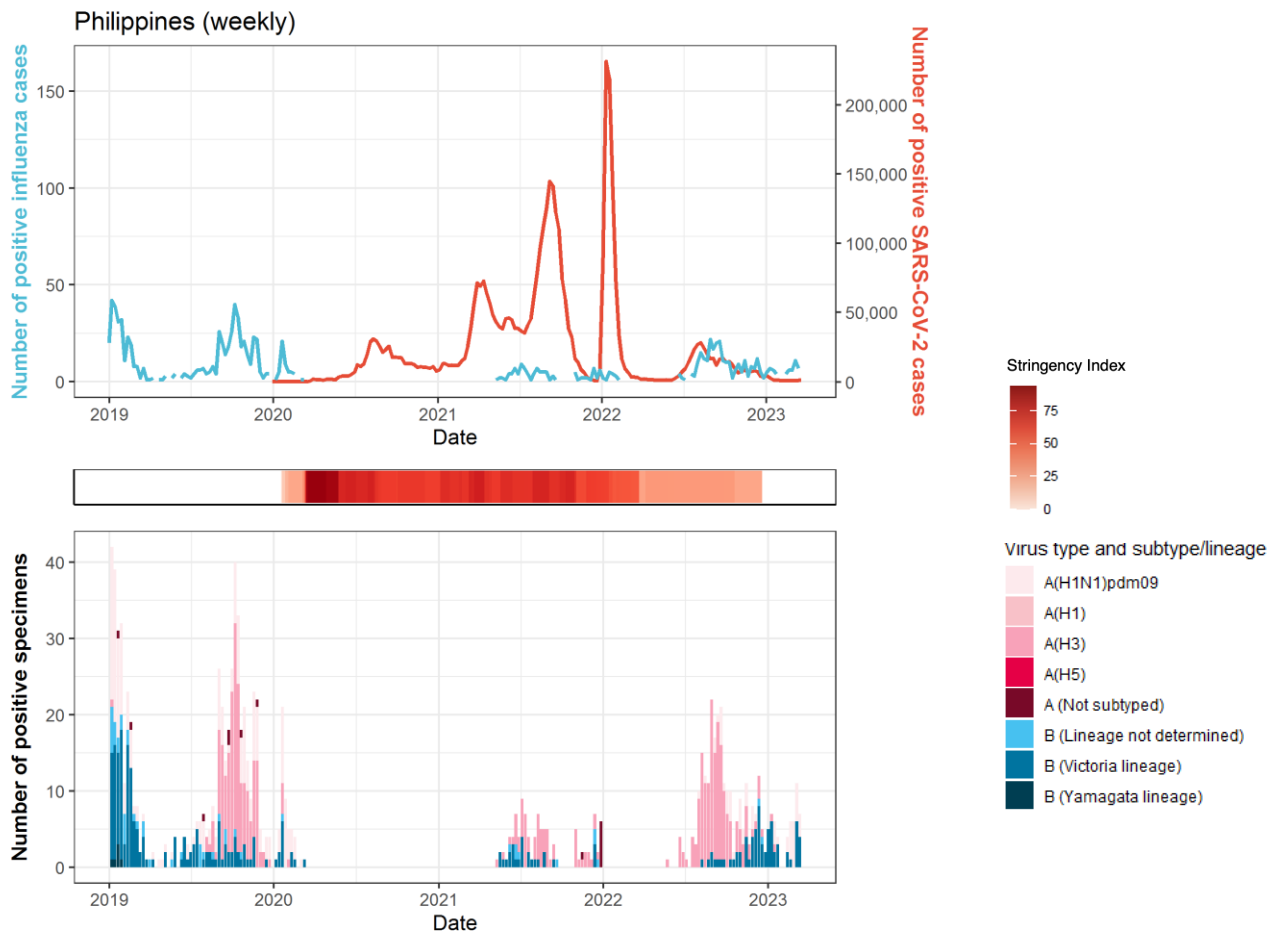


Percentage of specimens testing positive for influenza in different seasons



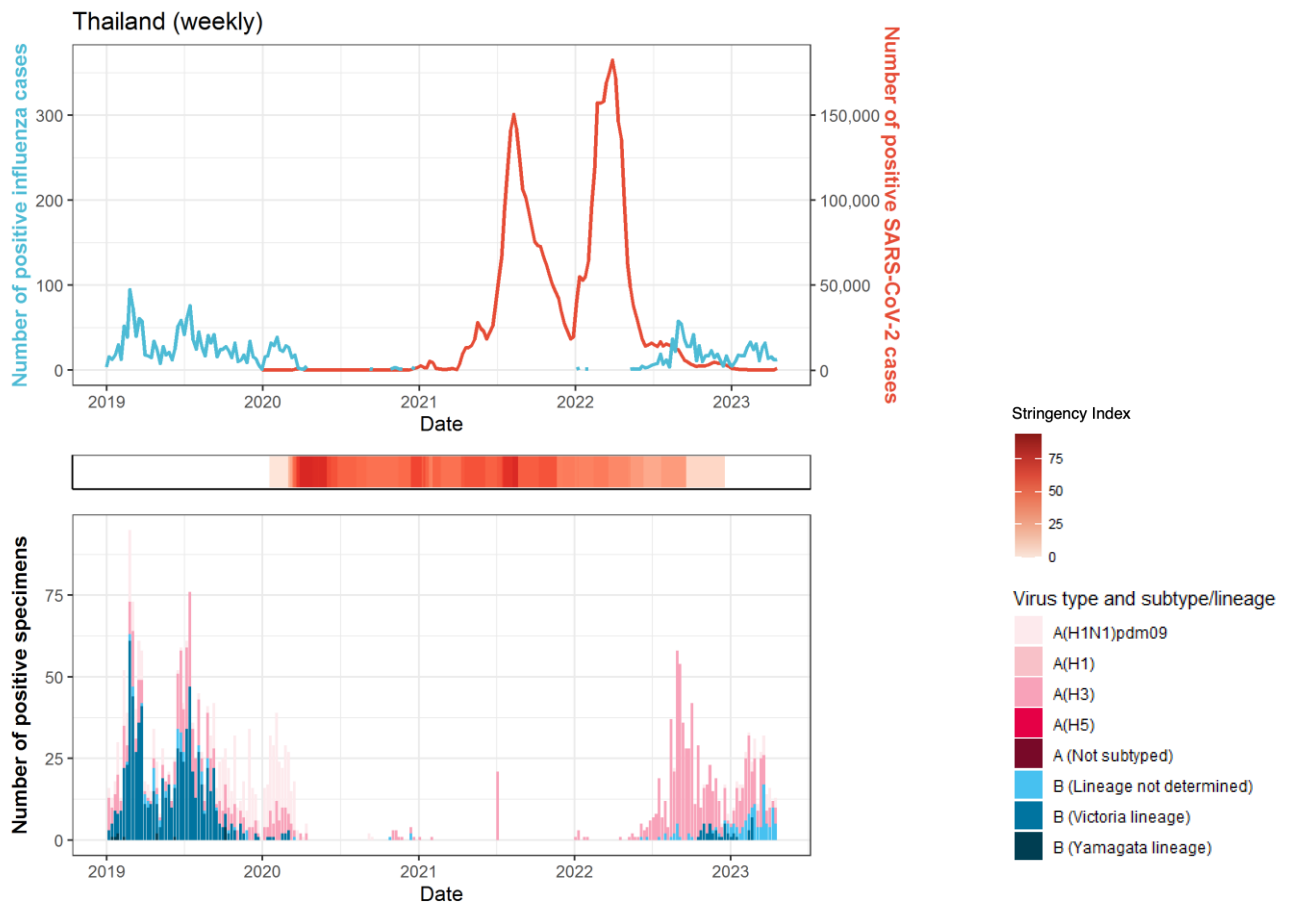
South-East Asia

Philippines

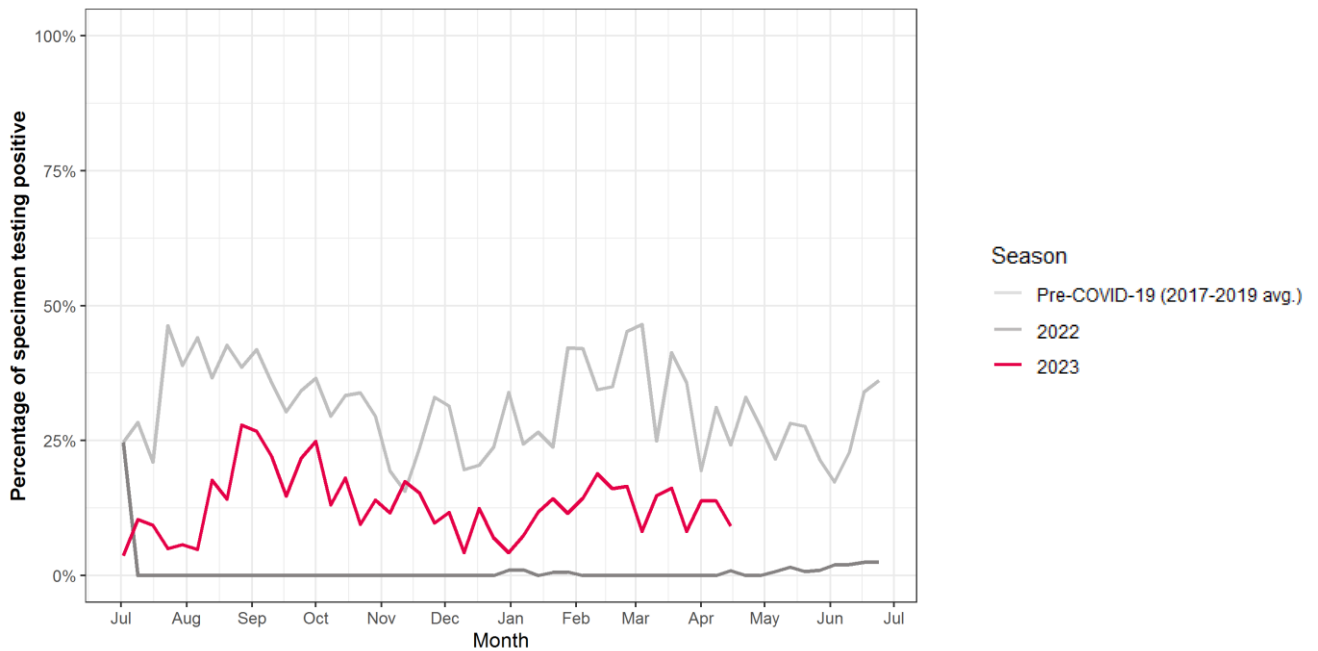


Percentage of specimens testing positive for influenza in different seasons: data not available

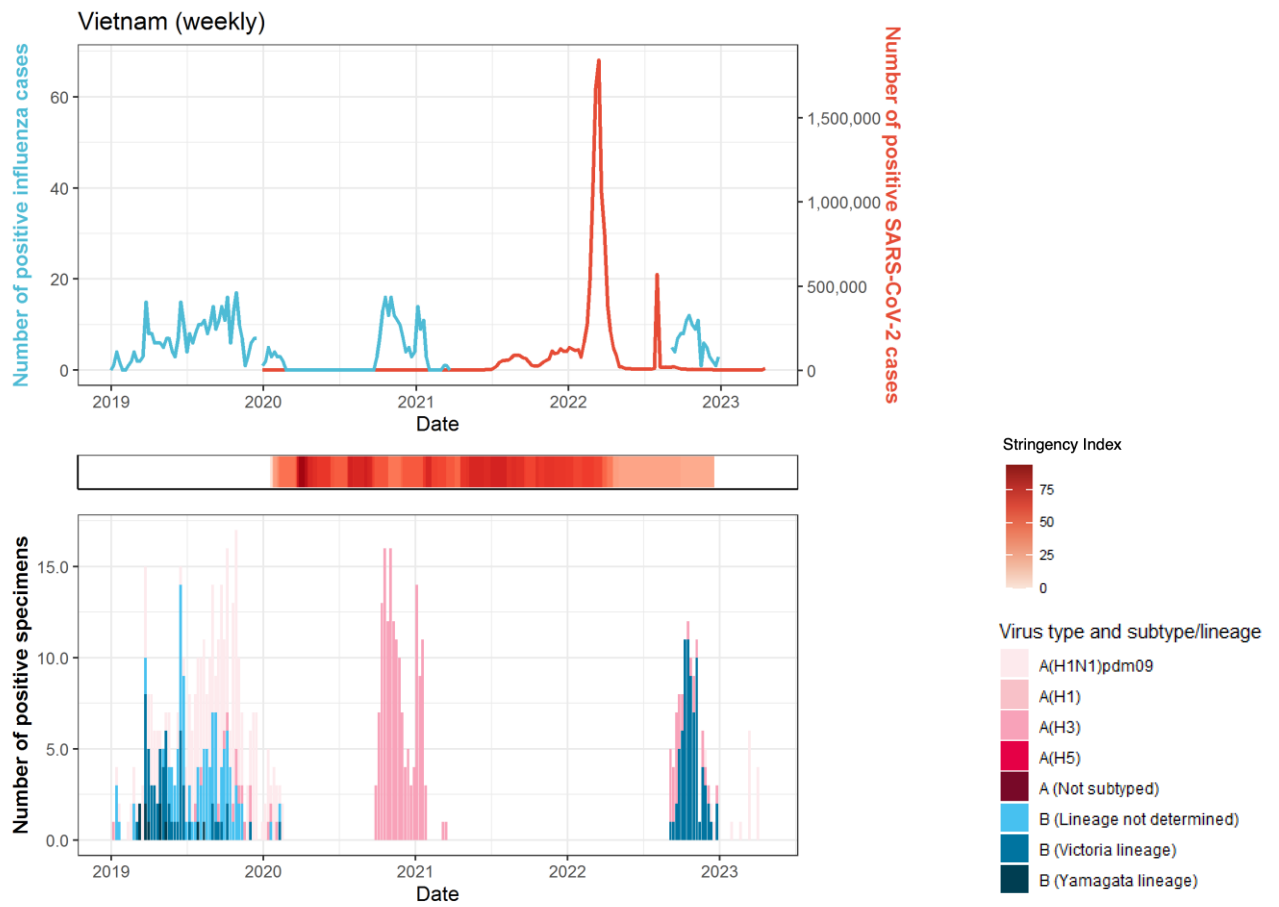
Thailand



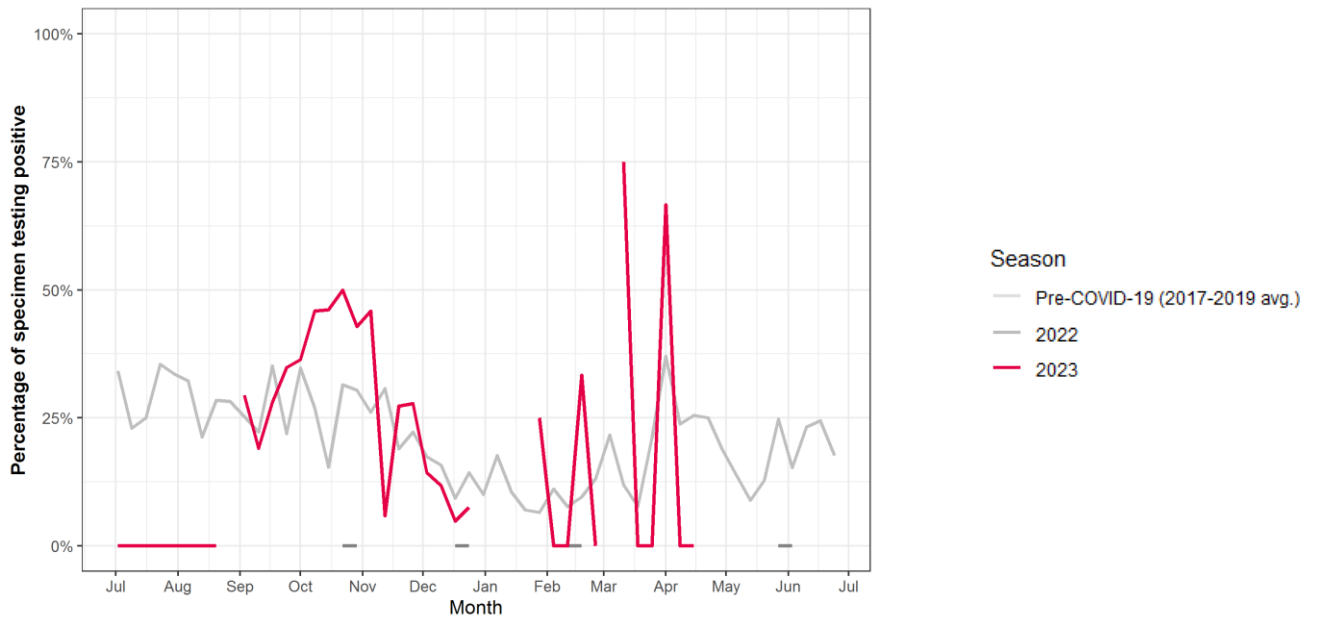
Percentage of specimens testing positive for influenza in different seasons



Vietnam

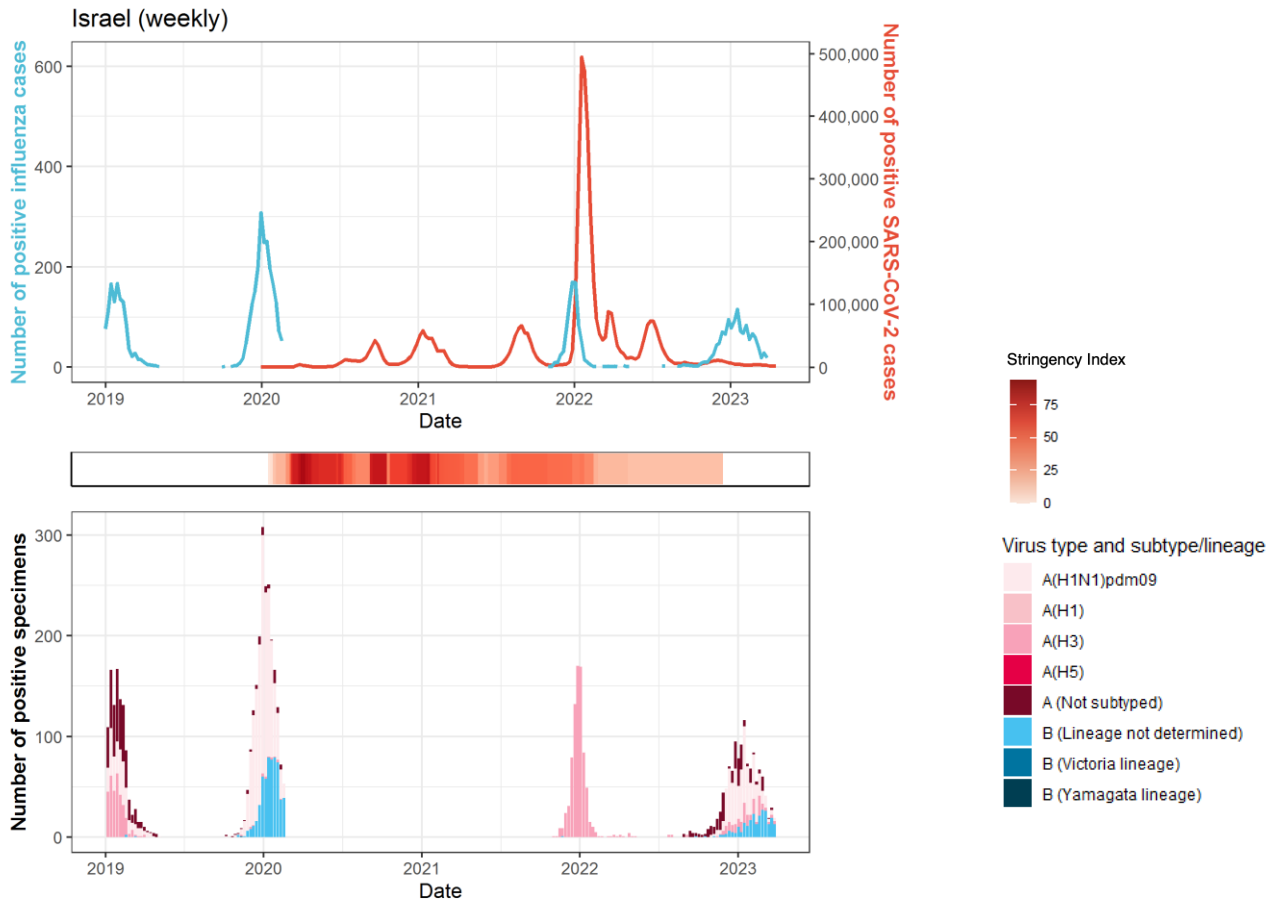


Percentage of specimens testing positive for influenza in different seasons

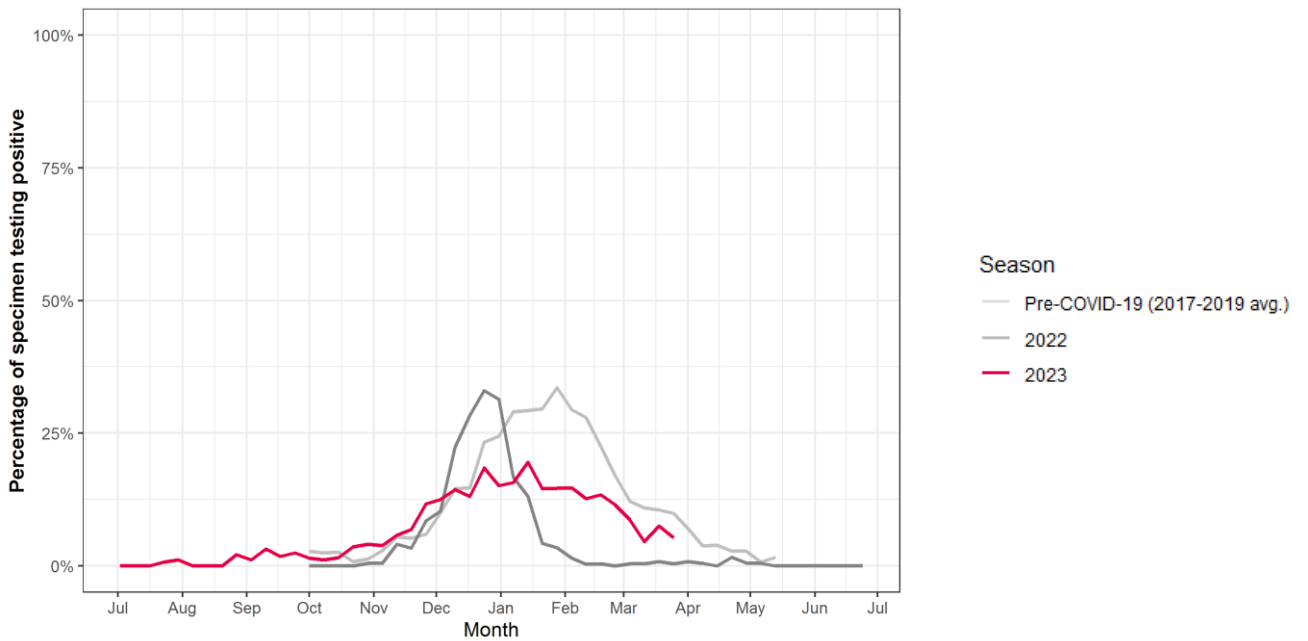


Western Asia

Israel

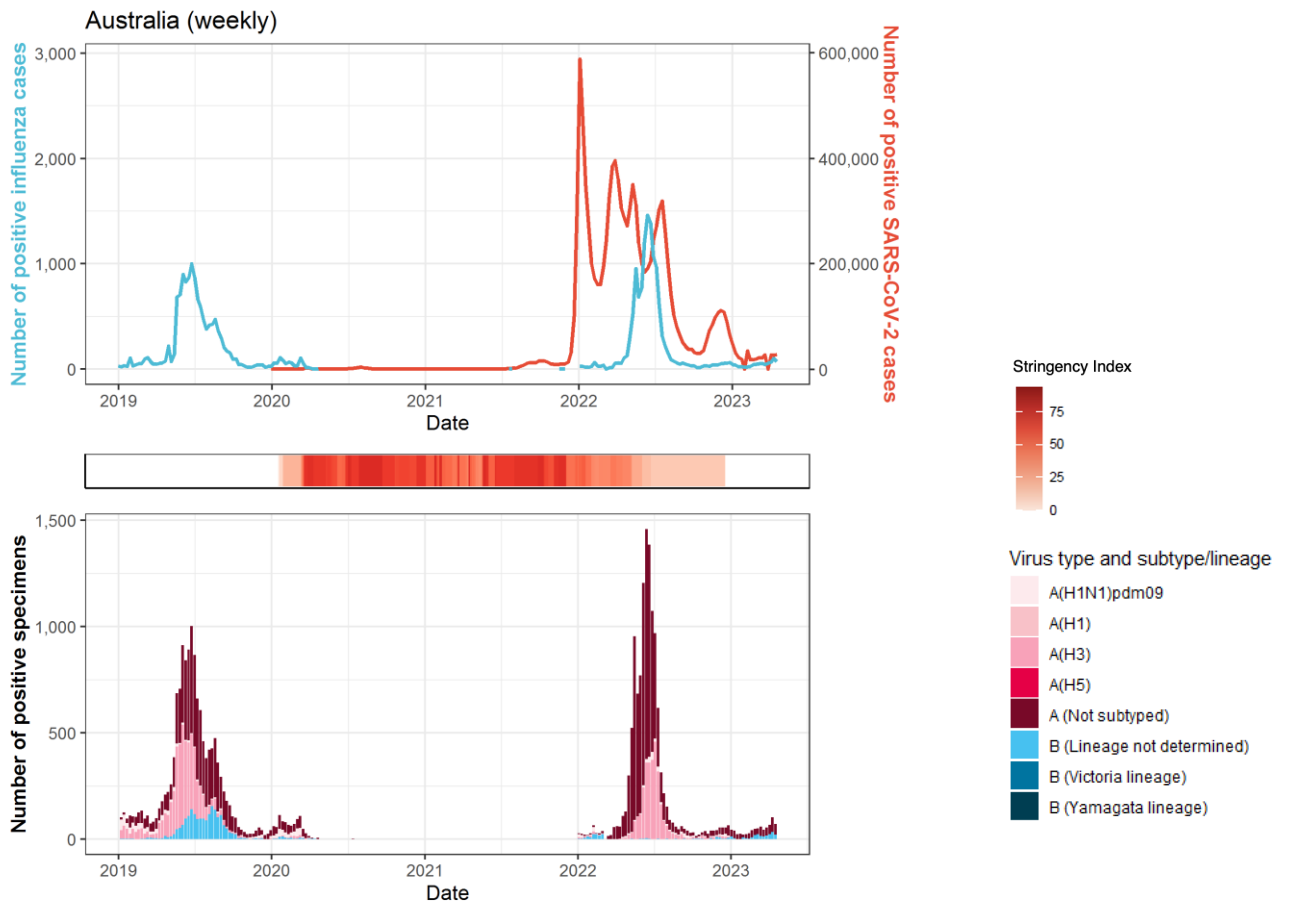


Percentage of specimens testing positive for influenza in different seasons

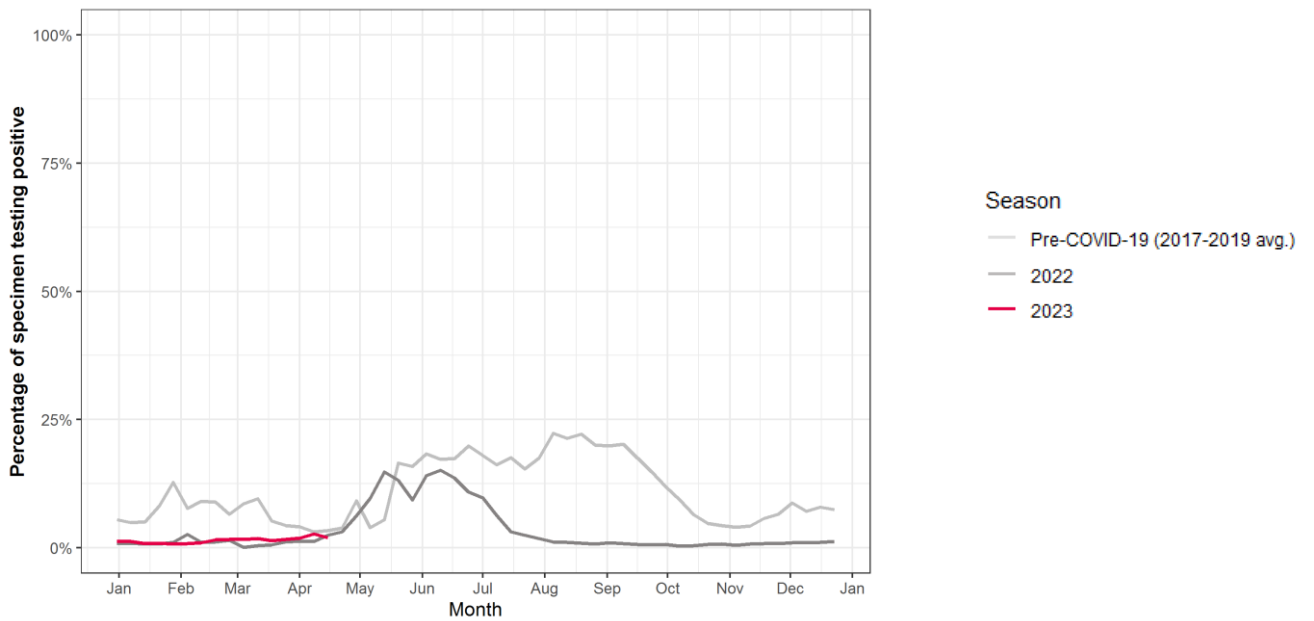


Oceania

Australia



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	425,092	82,394	846	345	2023-16
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	1,147,003	190,755	2,411	550	2023-16
Canada	2019			43,196		
Canada	2020	565,508		44,956		
Canada	2021	1,536,966		337		
Canada	2022	2,390,159		71,314		
Canada	2023	167,342	33,000	8,441	2,066	2023-16
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	12,156,715	8,263	110,241	28,411	2023-16
Egypt	2019			1,998		
Egypt	2020	136,644		659		
Egypt	2021	248,084		233		
Egypt	2022	130,786		2,709		
Egypt	2023	456	88	357	42	2023-15
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	725,548	214,856	18,169	808	2023-16
Germany	2019			1,215		
Germany	2020	1,734,450		958		
Germany	2021	5,430,620		29		
Germany	2022	30,220,403		1,923		
Germany	2023	1,018,194	51,257	507	55	2023-16
India	2019			10,426		
India	2020	10,266,679		652		
India	2021	24,572,130		4,789		
India	2022	9,840,329		1,421		
India	2023	267,005	229,603	1,143	178	2023-16
Israel	2019			1,796		
Israel	2020	419,661		1,424		
Israel	2021	962,277		456		
Israel	2022	3,381,636		774		
Israel	2023	58,206	7,723	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	619,949	93,076	2,415	183	2023-16
Japan	2019			10,343		
Japan	2020	230,304		2,915		
Japan	2021	1,503,484		9		
Japan	2022	27,478,747		239		
Japan	2023	4,501,482	272,573	1,836	30	2023-15
Mexico	2019			6,963		
Mexico	2020	1,496,068		4,799		
Mexico	2021	2,538,755		960		
Mexico	2022	3,236,612		10,314		
Mexico	2023	316,013	39,076	1,374	93	2023-16
Netherlands	2019			5,166		
Netherlands	2020	785,874		3,235		
Netherlands	2021	2,329,020		471		
Netherlands	2022	5,454,287		11,082		
Netherlands	2023	41,191	914	9,088	195	2023-17
Philippines	2019			612		
Philippines	2020	472,523		52		
Philippines	2021	2,371,346		105		
Philippines	2022	1,218,790		260		
Philippines	2023	29,195	10,897	80	8	2023-16
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	145,493	17,705	1,833	77	2023-16
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	79	49	2023-16
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	2,054,086	350,756	450	99	2023-16
Spain	2019			16,580		
Spain	2020	1,955,216		8,827		
Spain	2021	4,550,685		2,206		
Spain	2022	7,178,357		17,236		
Spain	2023	140,794	34,472	7,168	485	2023-16
Thailand	2019			1,568		
Thailand	2020	6,919		297		
Thailand	2021	2,216,551		23		
Thailand	2022	2,500,484		575		
Thailand	2023	8,382	3,669	307	41	2023-16

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		14,369		
United Kingdom	2021	10,878,109		2,755		
United Kingdom	2022	10,752,285		26,904		
United Kingdom	2023	387,747	57,611	5,271	282	2023-16
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		470,066		
United States	2023	3,854,708	568,838	36,299	1,734	2023-16
Vietnam	2019			355		
Vietnam	2020	1,456		146		
Vietnam	2021	1,729,801		39		
Vietnam	2022	9,793,974		106		
Vietnam	2023	34,631	32,577	12	4	2023-16

^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 7 May 2023 and cover the period 1 January 2019 to 6 May 2023 (4 May for 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 flu cov@nivel.nl.

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Websites

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

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

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