

# FluCov-Bulletin – end-November 2022

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

## Commentary

### Contents

It is close to 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 4).

### Results

Globally, **influenza** circulation has rapidly increased after a short period of relatively low circulation (see Figure 1). The following patterns have been observed for **influenza** in November (until week 47):

- Seasonal **influenza** activity is high and continues to increase across **Canada, Germany, Mexico and United States**. In these countries, the current number of weekly detections has exceeded the number of weekly detections observed in the 2019 peak.
- In the **United States**, the percentage testing positive for influenza in clinical laboratories has been constantly increasing for the last weeks (Figure 2).
- Increased influenza activity was also reported in **Egypt, Italy, Spain, South Korea and the United Kingdom**.
- On the basis of heterogeneous surveillance data, **Vietnam and Thailand** may be showing increased **influenza** activity.
- **Influenza A** is currently the dominant circulating virus: when subtyped, most countries reported **influenza A(H3)** was dominant, except for the **United Kingdom and India**, which had a mix of A(H3) and A(H1N1)pdm09.
- After two epidemics (driven by influenza A(H3) and then influenza B) **influenza** activity seems to be over in **South Africa**. No or low influenza activity has also been reported in the other Southern Hemisphere countries covered by the Bulletin (**Australia and Brazil**)
- No (or only a relatively small) increase in **influenza** activity was observed in **France, India, Israel, Japan, Netherlands, Philippines and Poland**.

In most countries covered by the Bulletin, the decline in **SARS-CoV-2** detections that has been seen since August 2022 is now leveling off. The following patterns were observed for **SARS-CoV-2** until mid-November (week 45):

- High **SARS-CoV-2** activity has been reported in a number of Asian countries (**China, Japan and South Korea**) during the month of November. In particular, **China** is reporting the highest number of weekly **SARS-CoV-2** detections since the onset of the COVID-19 pandemic.
- Weekly detections are increasing in **Australia, Brazil, France and Italy** after a slight decrease observed in the first half of November.
- Relatively low **SARS-CoV-2** activity has been reported in most of the other countries covered by the Bulletin (**United States, Canada, Brazil, Netherlands, Spain, South Africa, Thailand, Israel, Vietnam**), where the circulation has been steady since the end of the summer.

## Implications

The **influenza** season has clearly started in some Northern Hemisphere countries, and particularly in the **United States, Canada, Germany and Mexico**. These countries are experiencing an unusually early epidemic (November) and the activity is also intense compared to recent winters. The data for North America and Germany probably provide an indication of the influenza activity that can be expected in other countries in the Northern Hemisphere in December and January.

At the moment (week 47), when subtyping is performed, influenza detections are dominated by **influenza A(H3)**. No **influenza B(Yamagata)** activity has been observed in the last weeks and **influenza B(Yamagata)** has been nearly absent since the start of the **SARS-CoV-2** pandemic [1].

**SARS-CoV-2** activity is particularly high in some Asian countries (**China, Japan, South Korea**). Importantly, **China** is currently experiencing the worst **SARS-CoV-2** wave since the beginning of the pandemic.

Globally, **influenza** and **SARS-CoV-2** are co-circulating, and we expect this to continue during the 2022/23 winter.

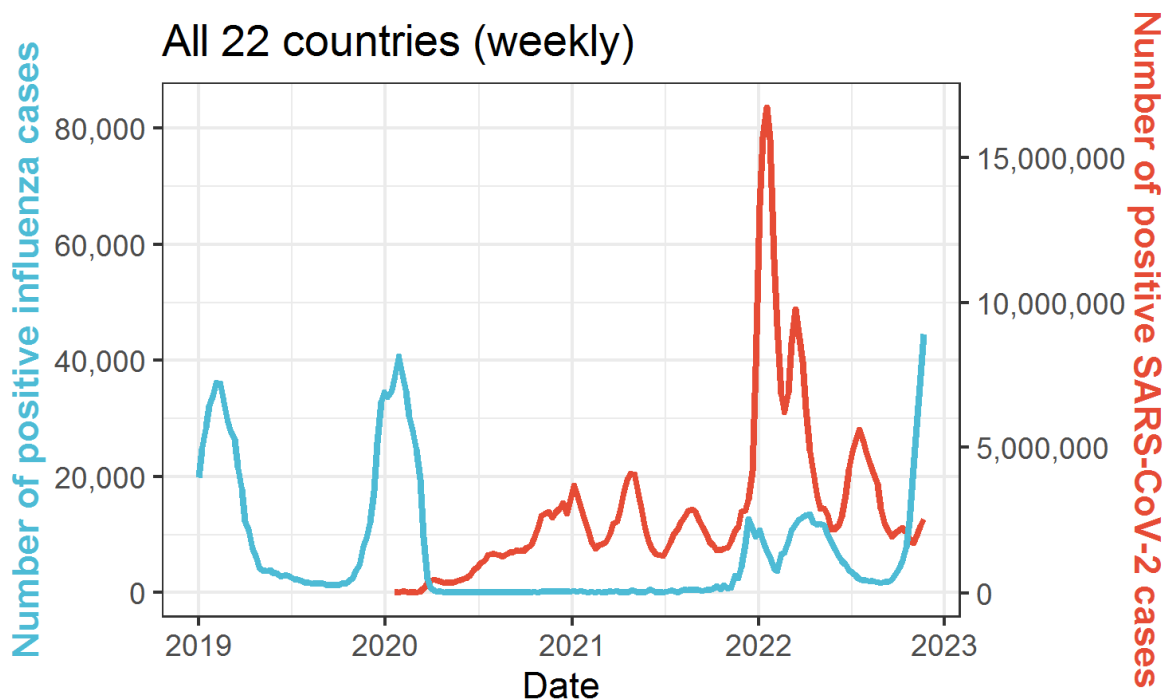


Figure 1: SARS-CoV-2 and influenza detections in the 22 countries covered by the Bulletin since 2019

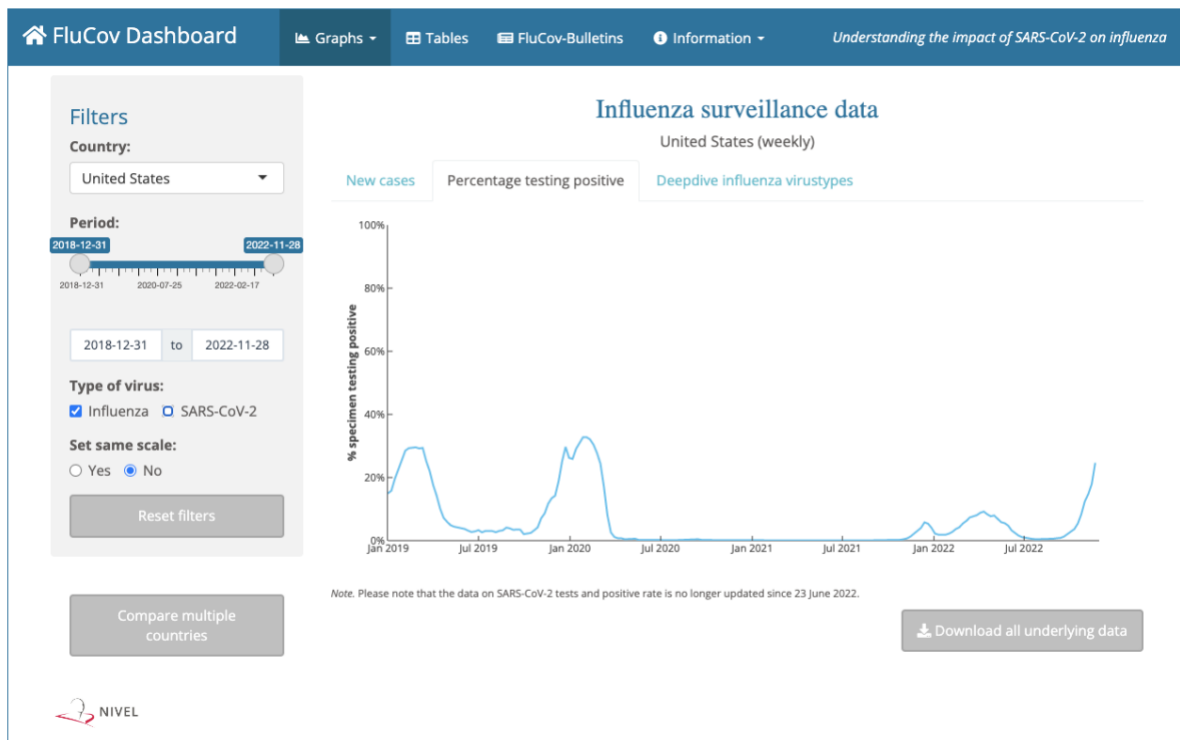


Figure 2: Percentage of samples testing positive for influenza reported for the United States. FluCov Dashboard: [www.nivel.nl/en/dossier-epidemiology-respiratory-viruses/flucoov-dashboard](http://www.nivel.nl/en/dossier-epidemiology-respiratory-viruses/flucoov-dashboard)

## 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 December 4, 2022. 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 top plot displays the number of positive **influenza** (in blue) and of **SARS-CoV-2** (in red) cases. An overview of the absolute number of **influenza** and of **SARS-CoV-2** cases per country can be found on [pages 27-28 of this FluCov-Bulletin \(click here\)](#). 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 blue) and of **SARS-CoV-2** (in red) specimen testing positive

### 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/flu-cov-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

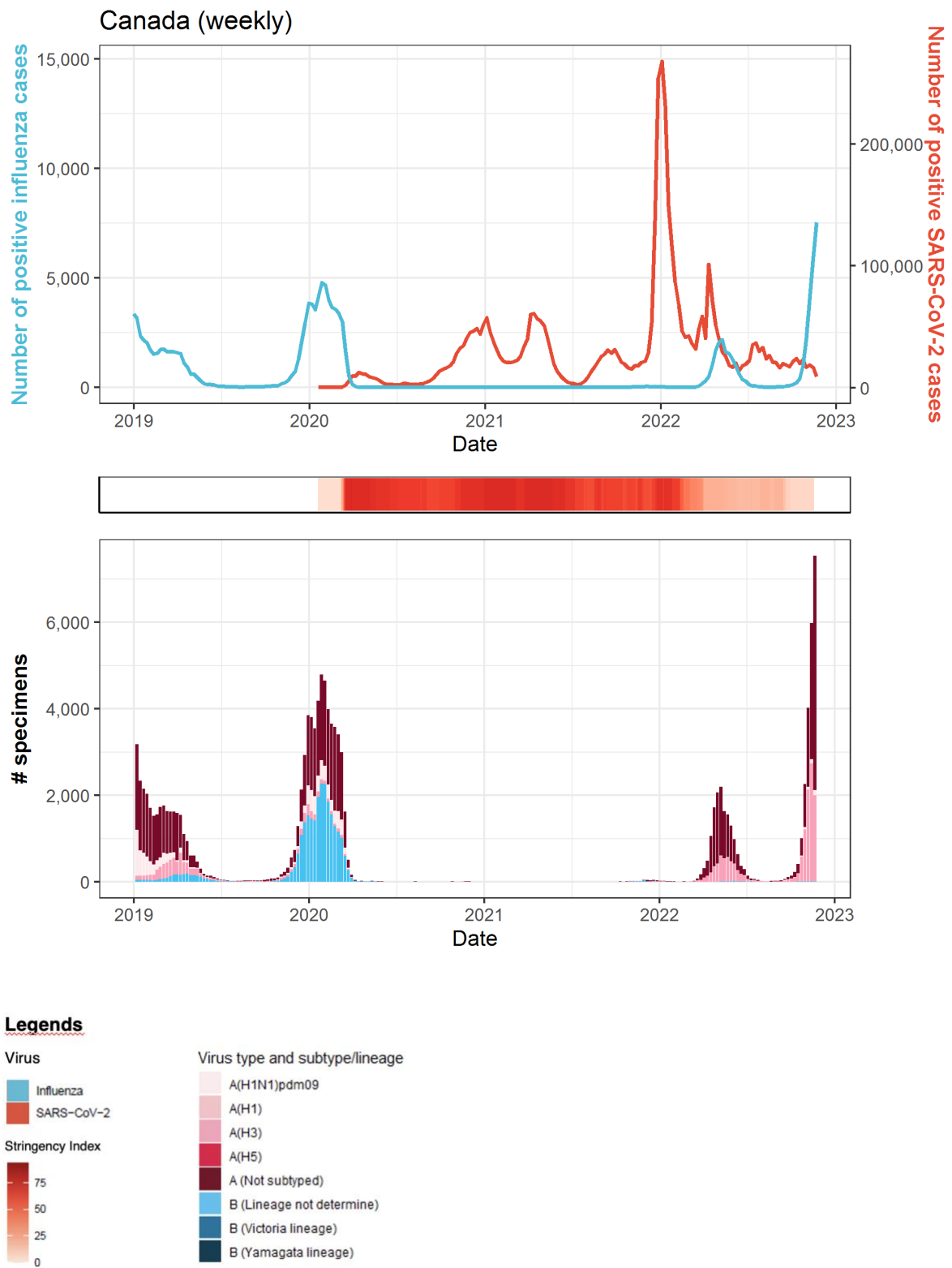
[Israel](#)

#### Oceania

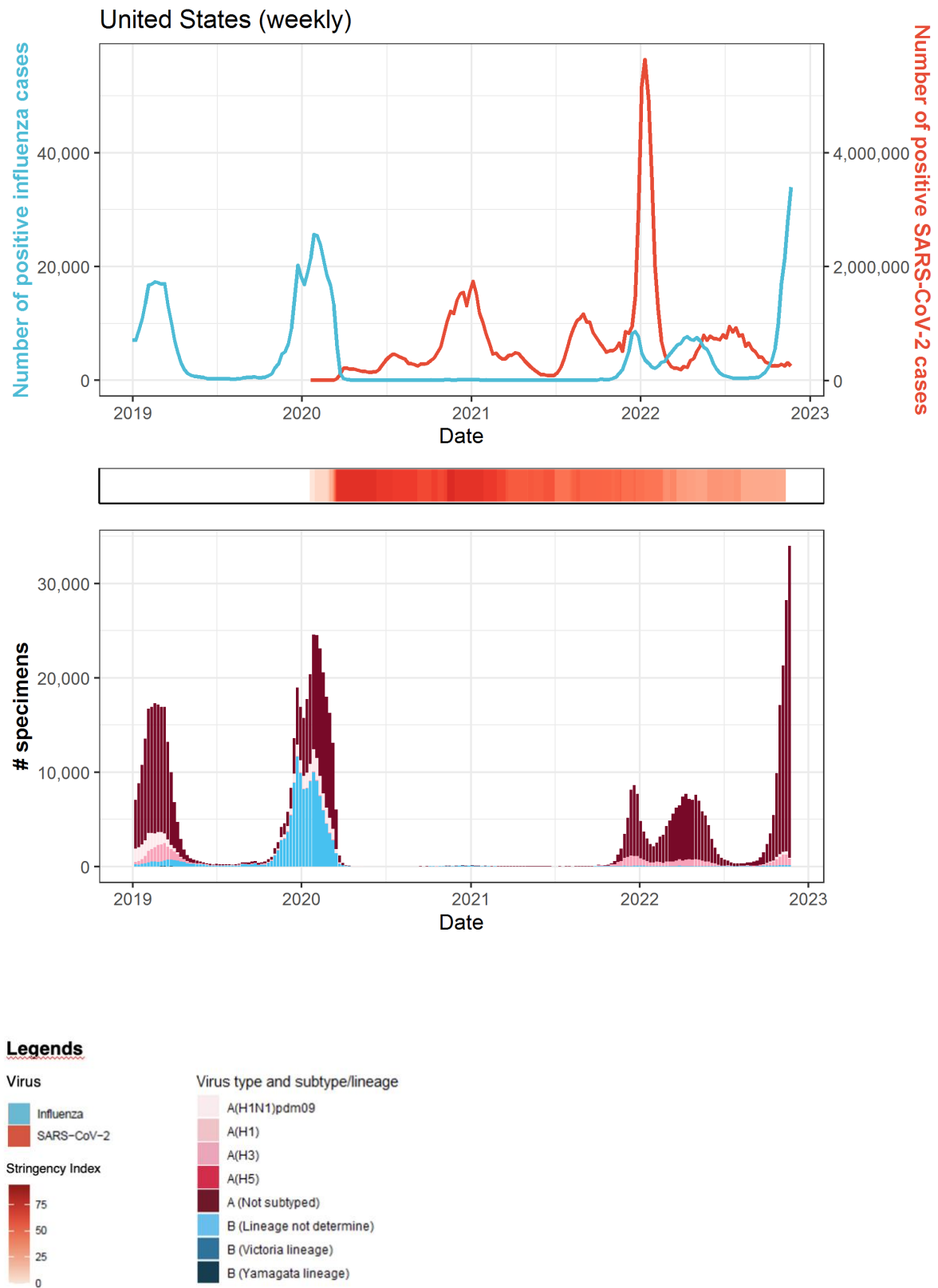
[Australia](#)

## North America

### Canada

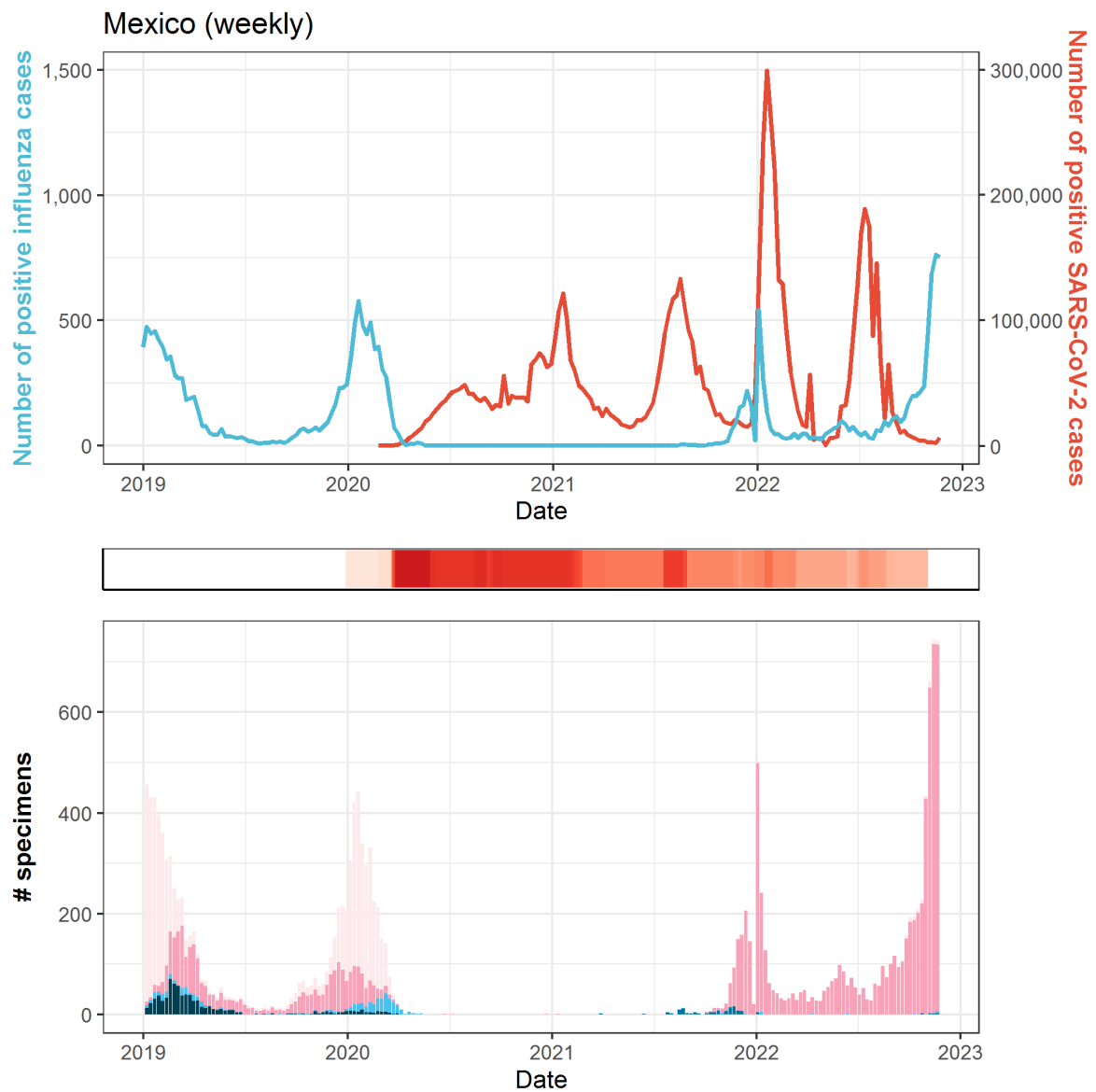


## United States



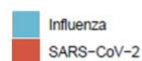
## Central America Caribbean

### Mexico

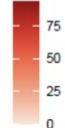


#### Legends

##### Virus



##### Stringency Index

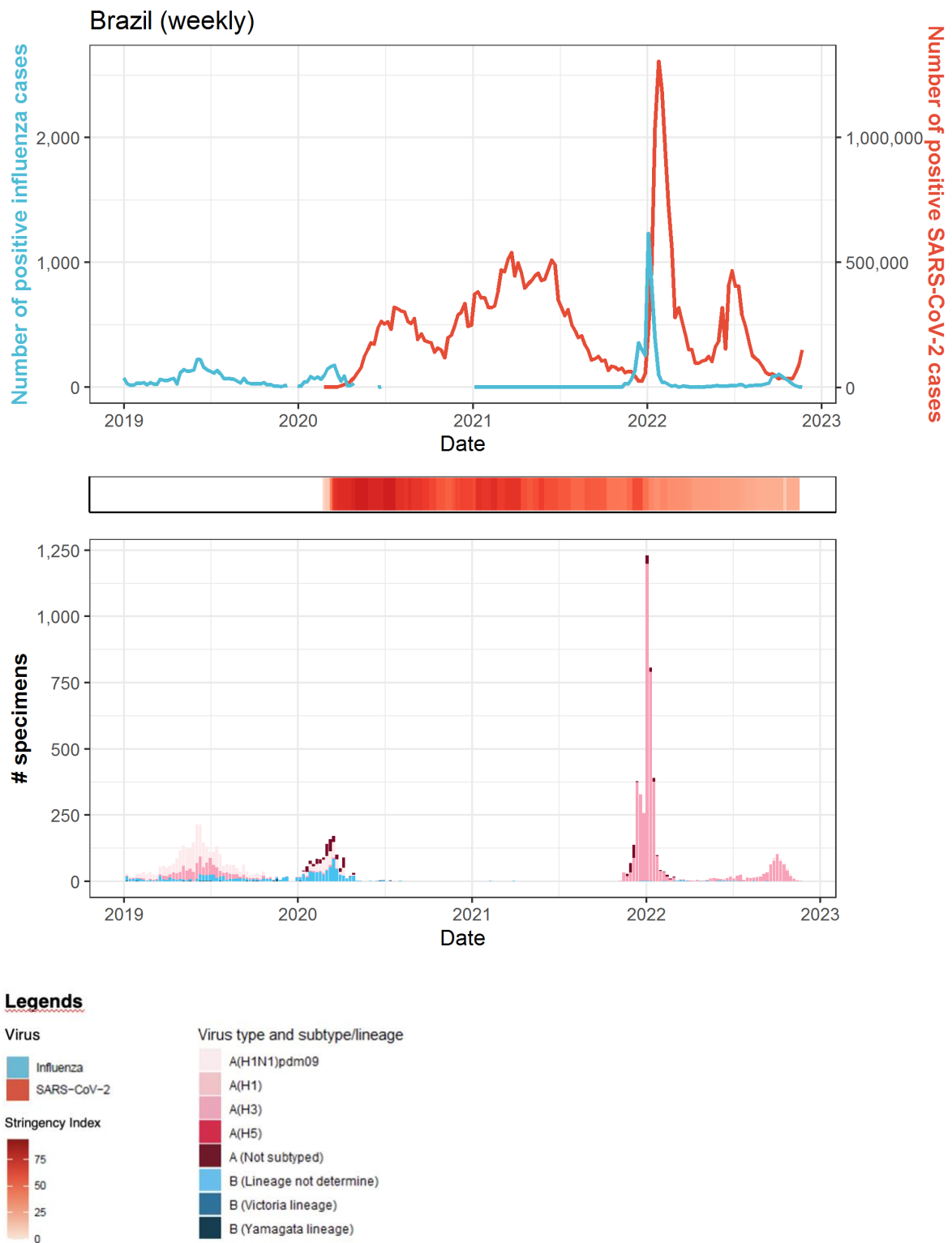


##### Virus type and subtype/lineage



## Tropical South America

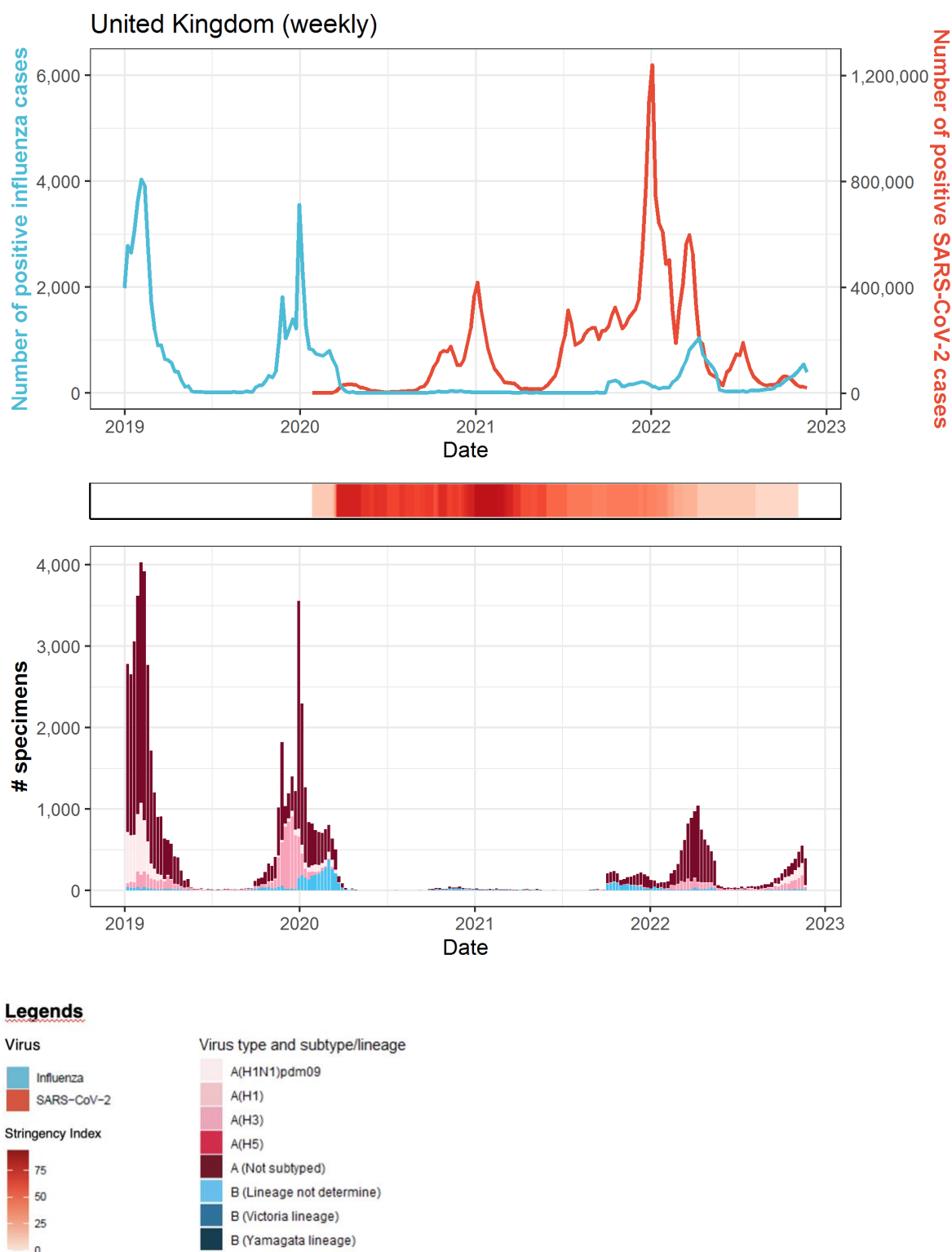
### Brazil





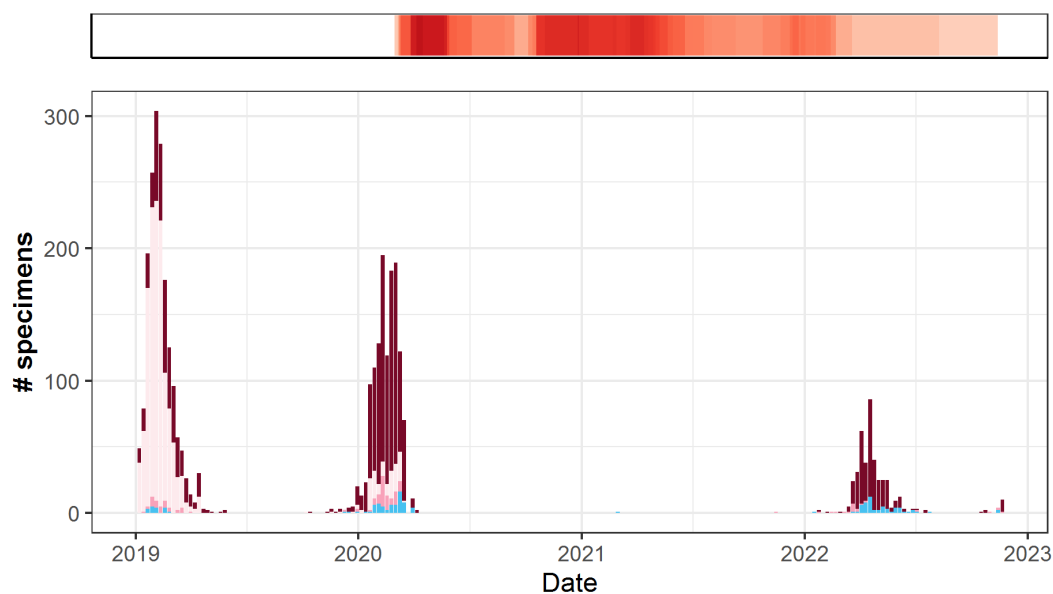
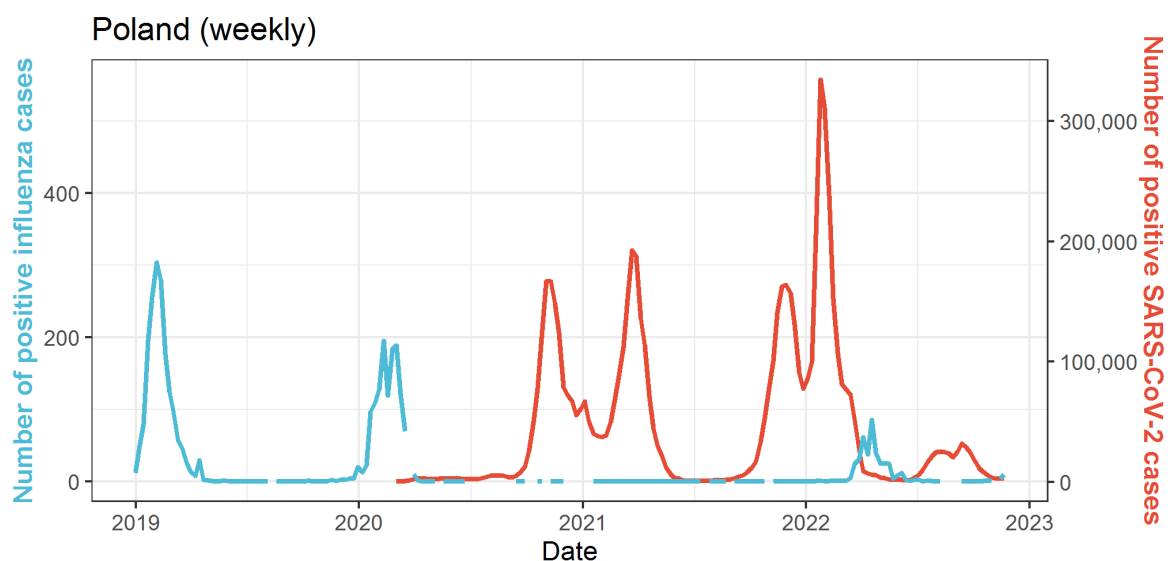
## Northern Europe

### United Kingdom



## Eastern Europe

### Poland



### Legends

#### Virus

- Influenza
- SARS-CoV-2

#### Stringency Index

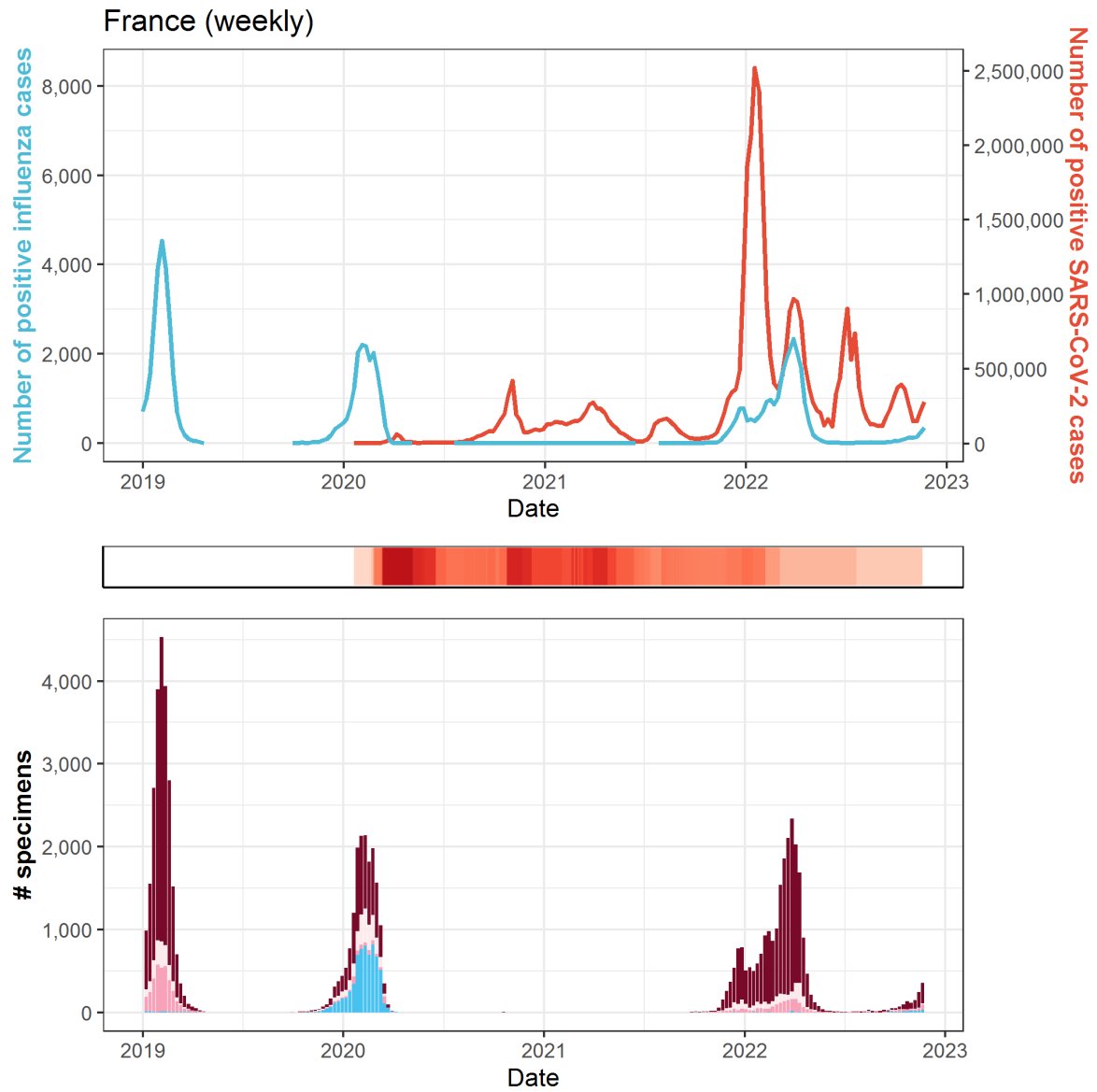


#### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

## South West Europe

### France

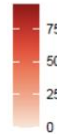


#### Legends

##### Virus

- Influenza
- SARS-CoV-2

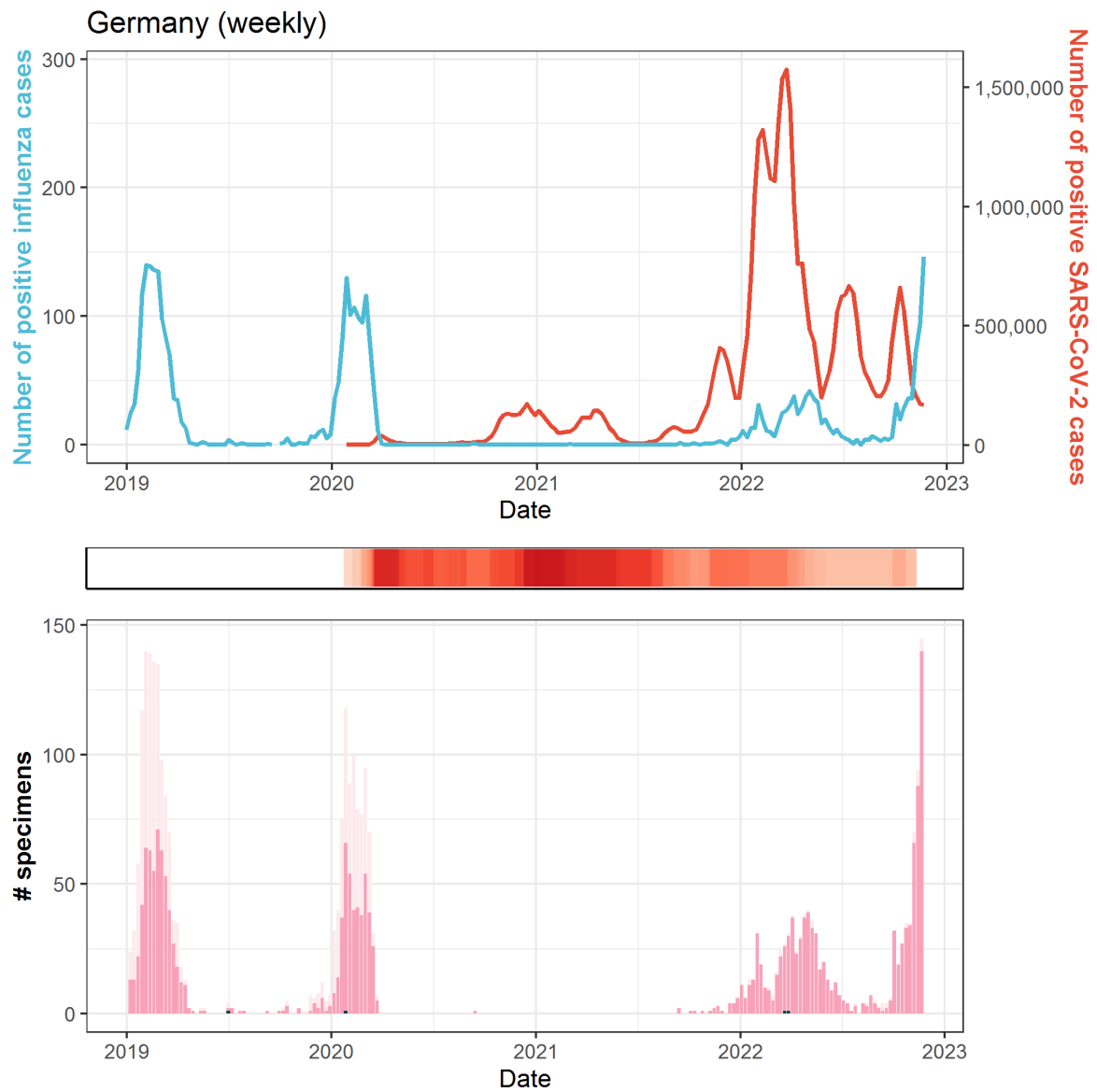
##### Stringency Index



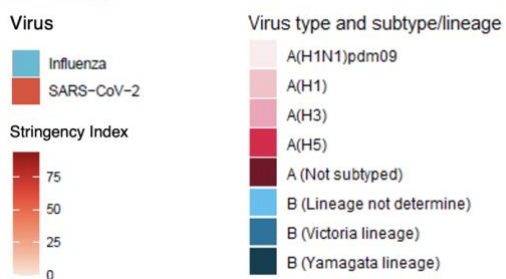
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- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

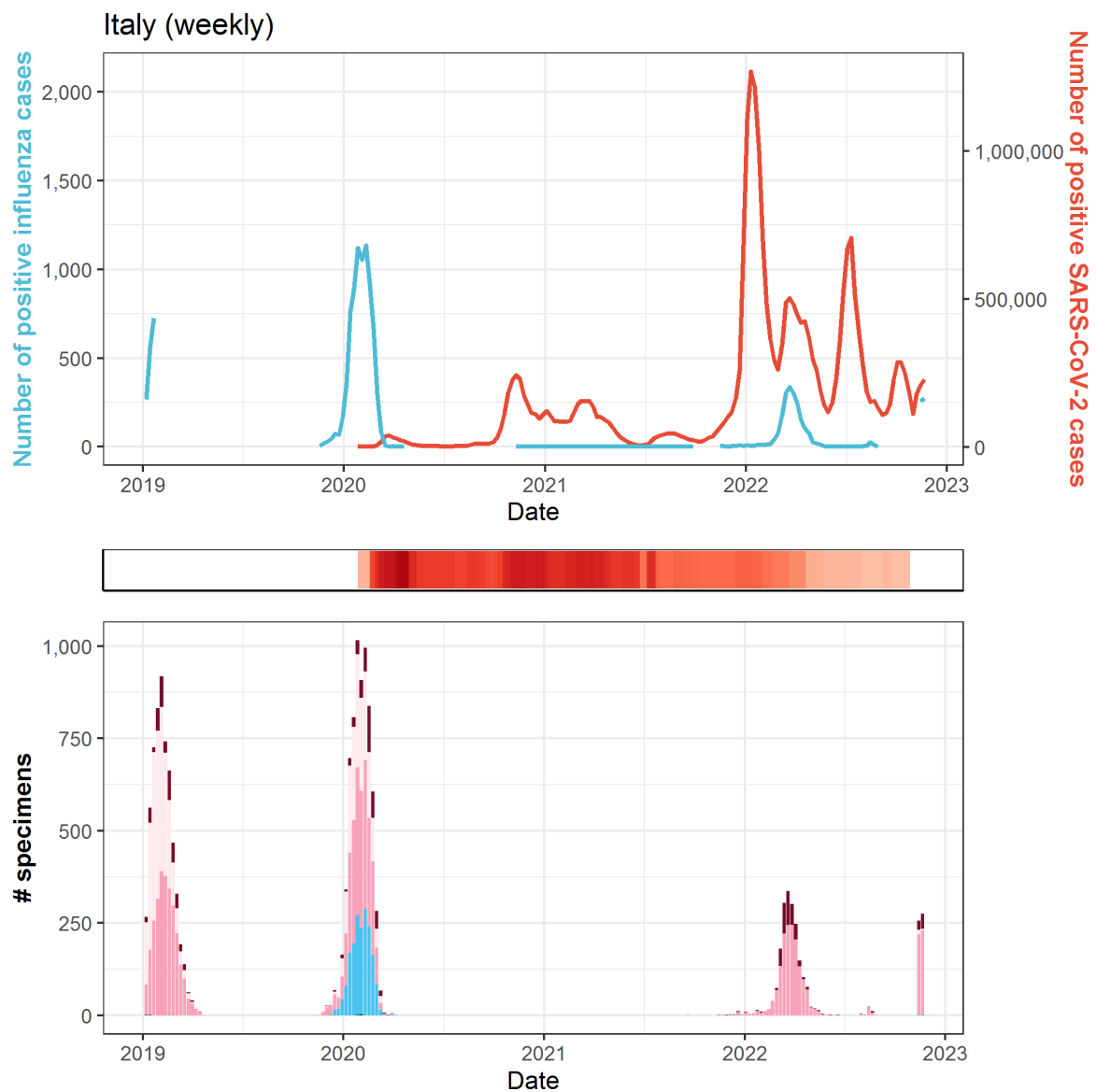
## Germany



### Legends



## Italy



### Legends

#### Virus

- Influenza
- SARS-CoV-2

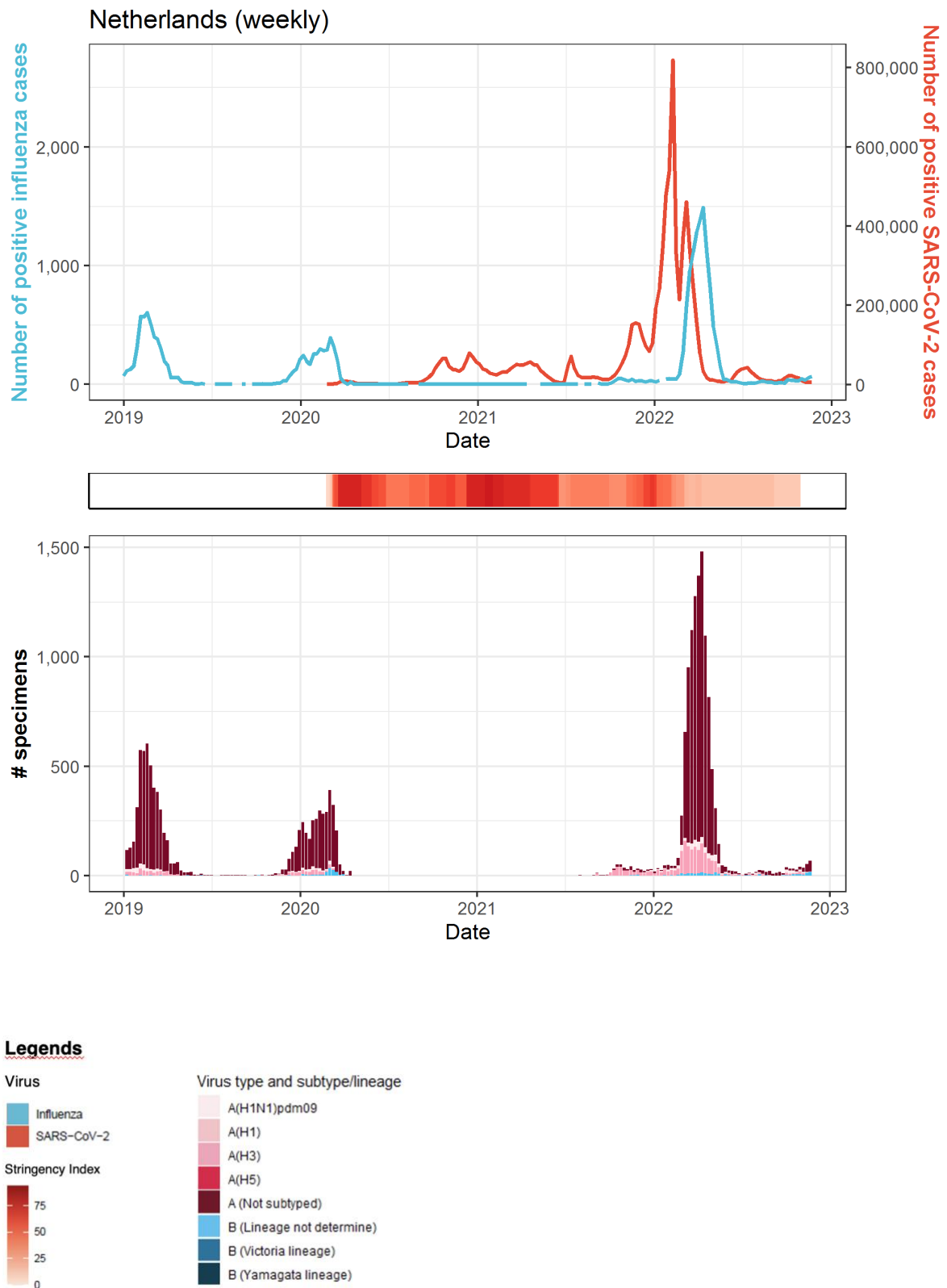
#### Stringency Index



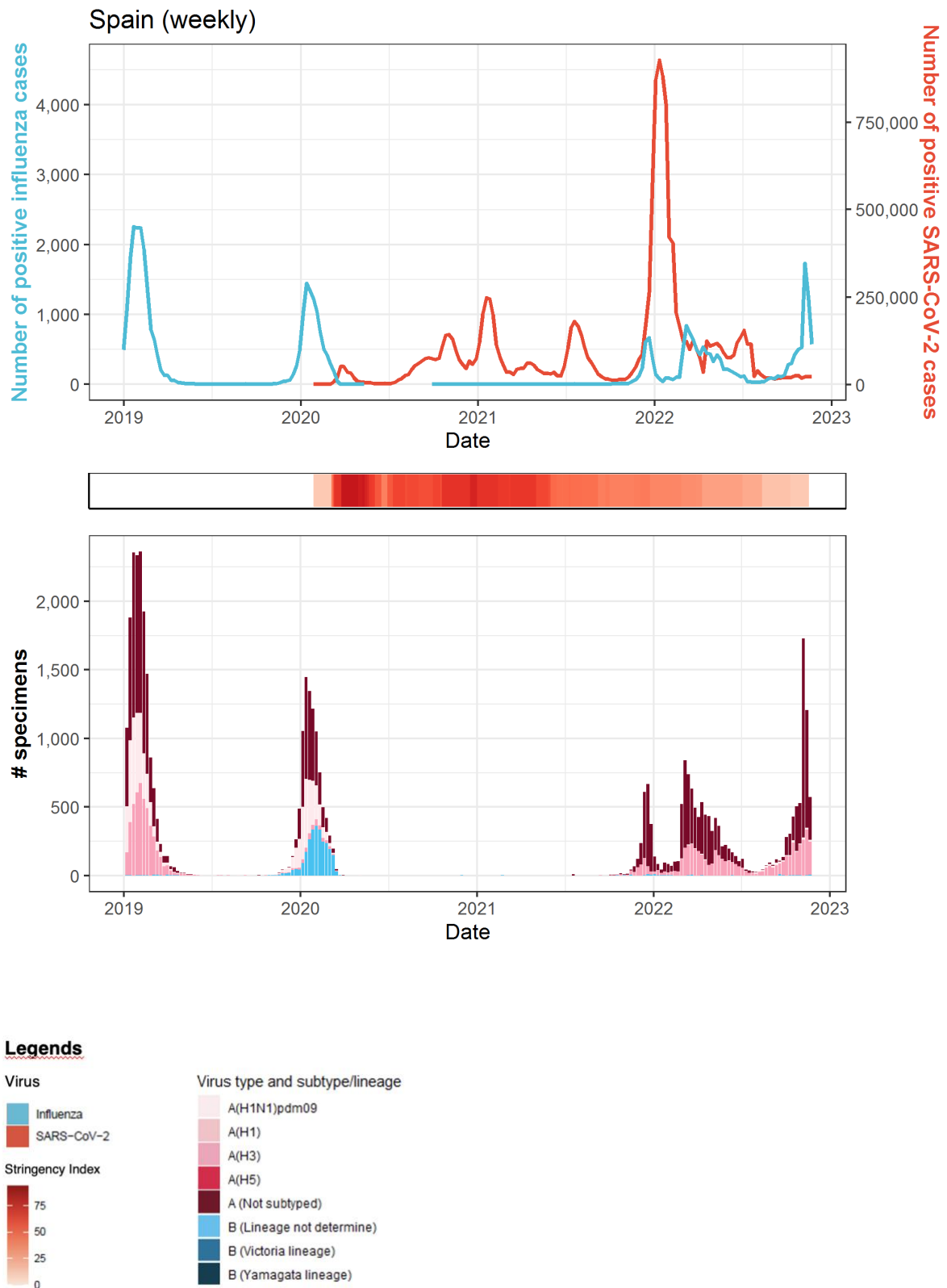
#### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

## Netherlands

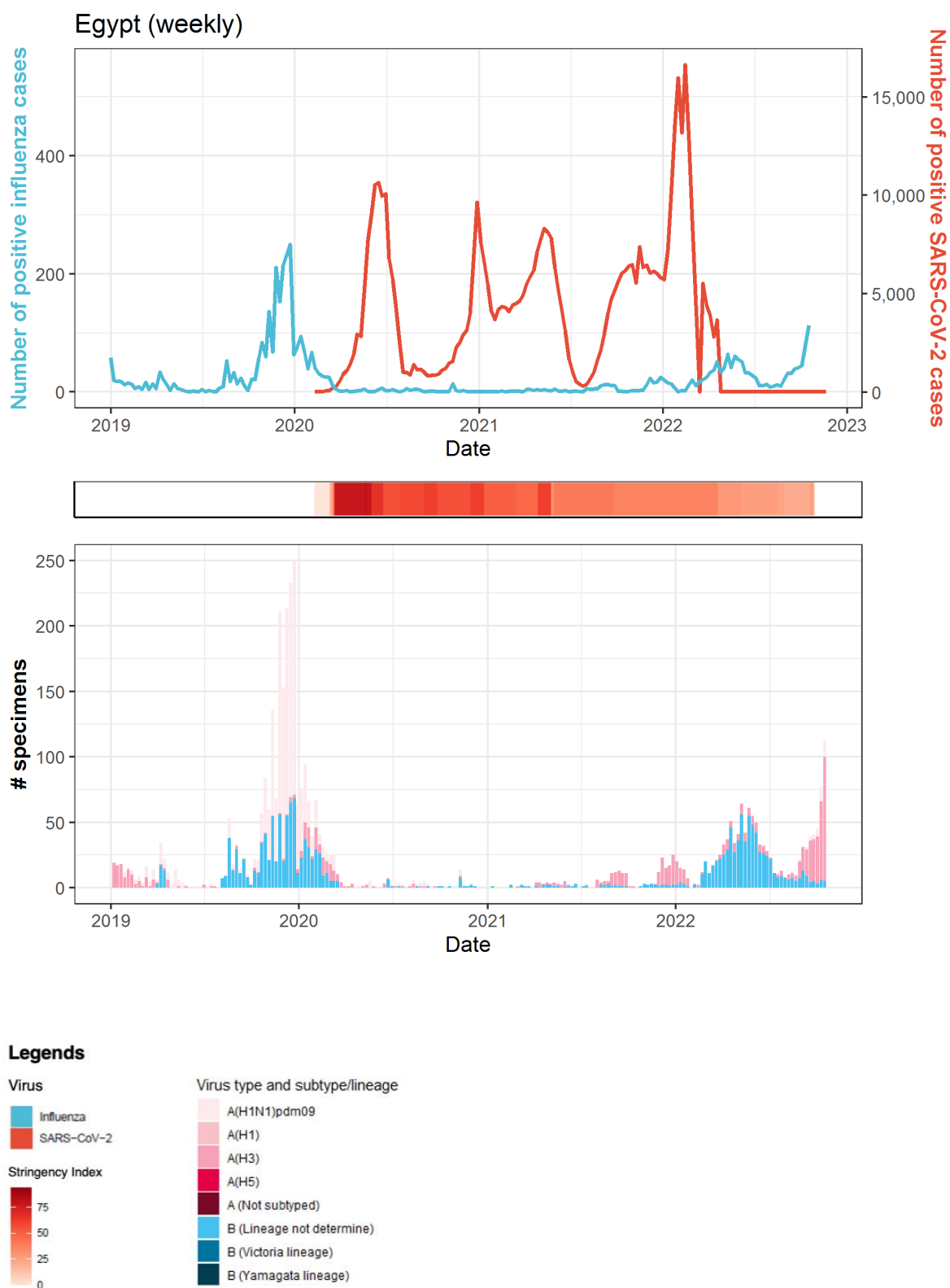


## Spain



## Northern Africa

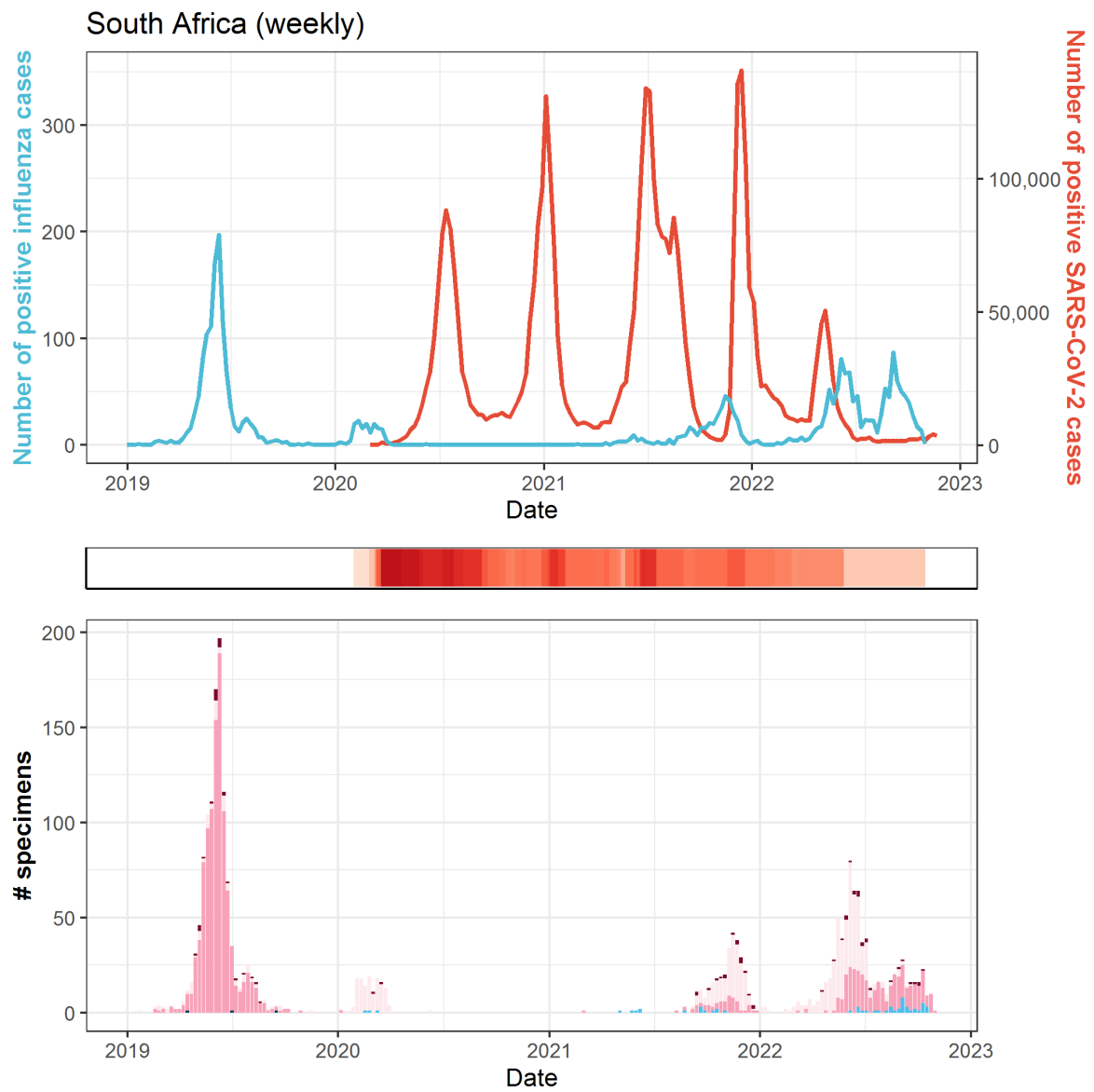
### Egypt





## Southern Africa

### South Africa



#### Legends

##### Virus

- Influenza
- SARS-CoV-2

##### Stringency Index

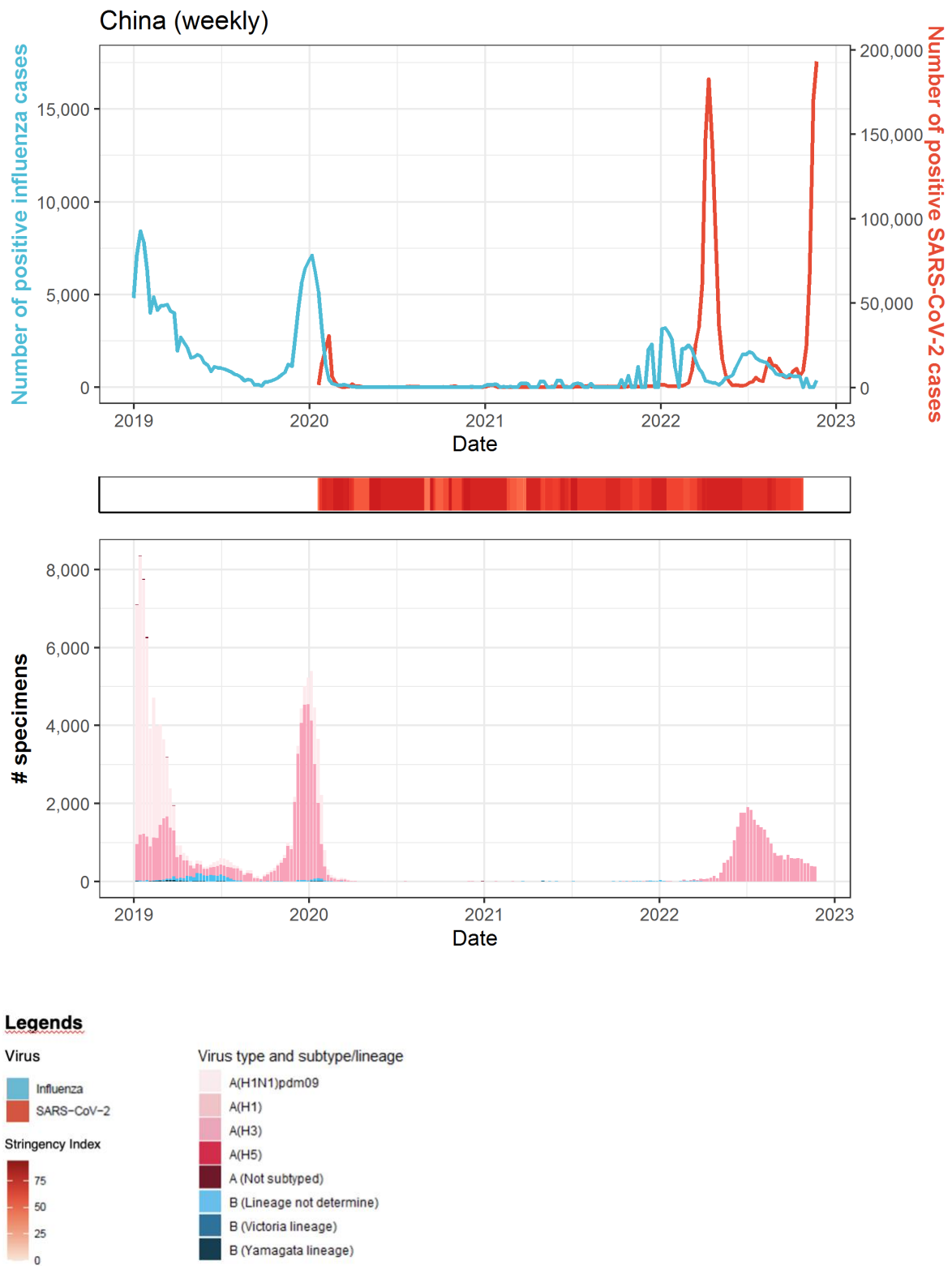


##### Virus type and subtype/lineage

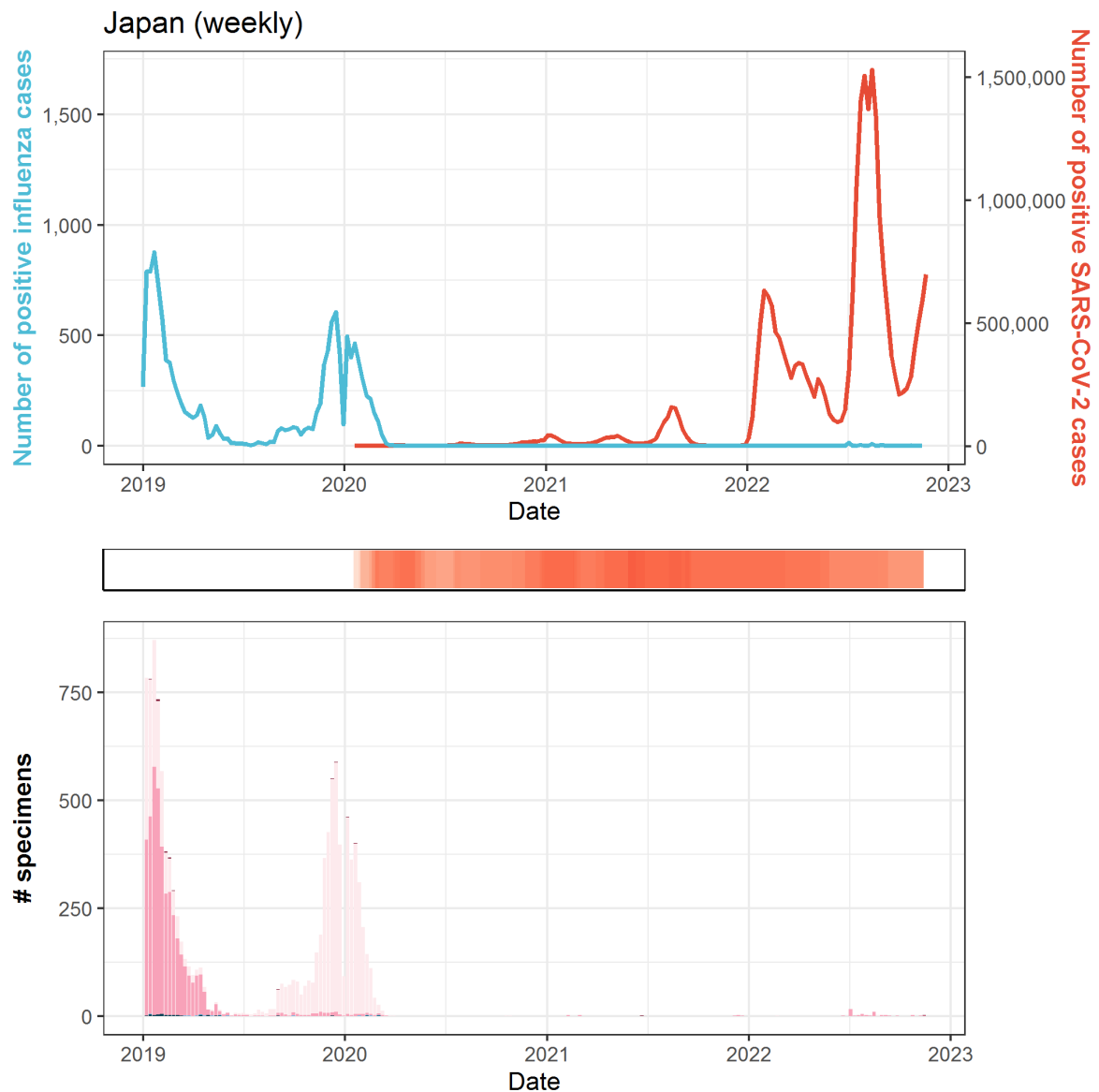
- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

## Eastern Asia

### China



## Japan



### Legends

#### Virus

- Influenza
- SARS-CoV-2

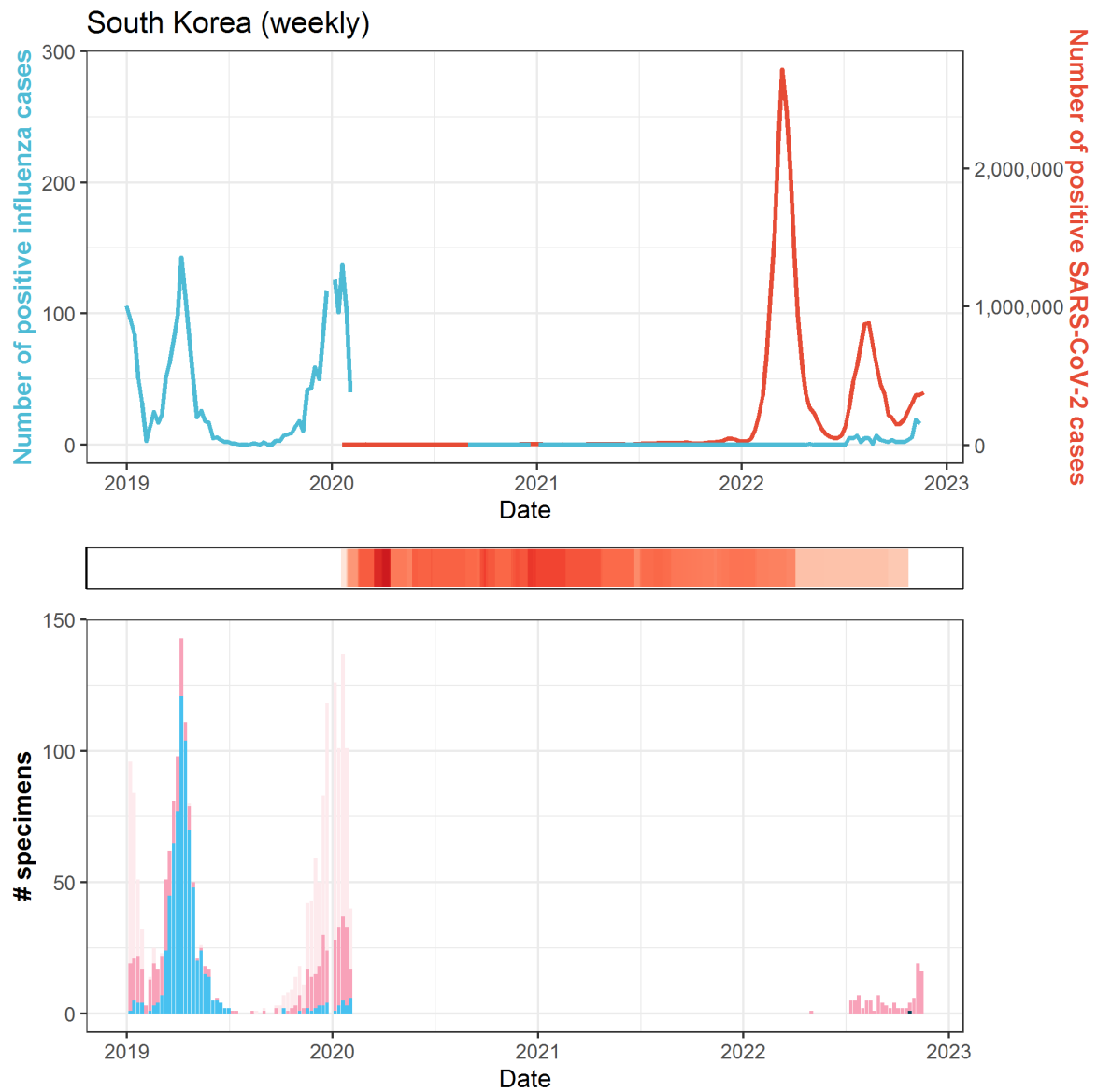
#### Stringency Index



#### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

## South Korea



### Legends

#### Virus

- Influenza
- SARS-CoV-2

#### Stringency Index

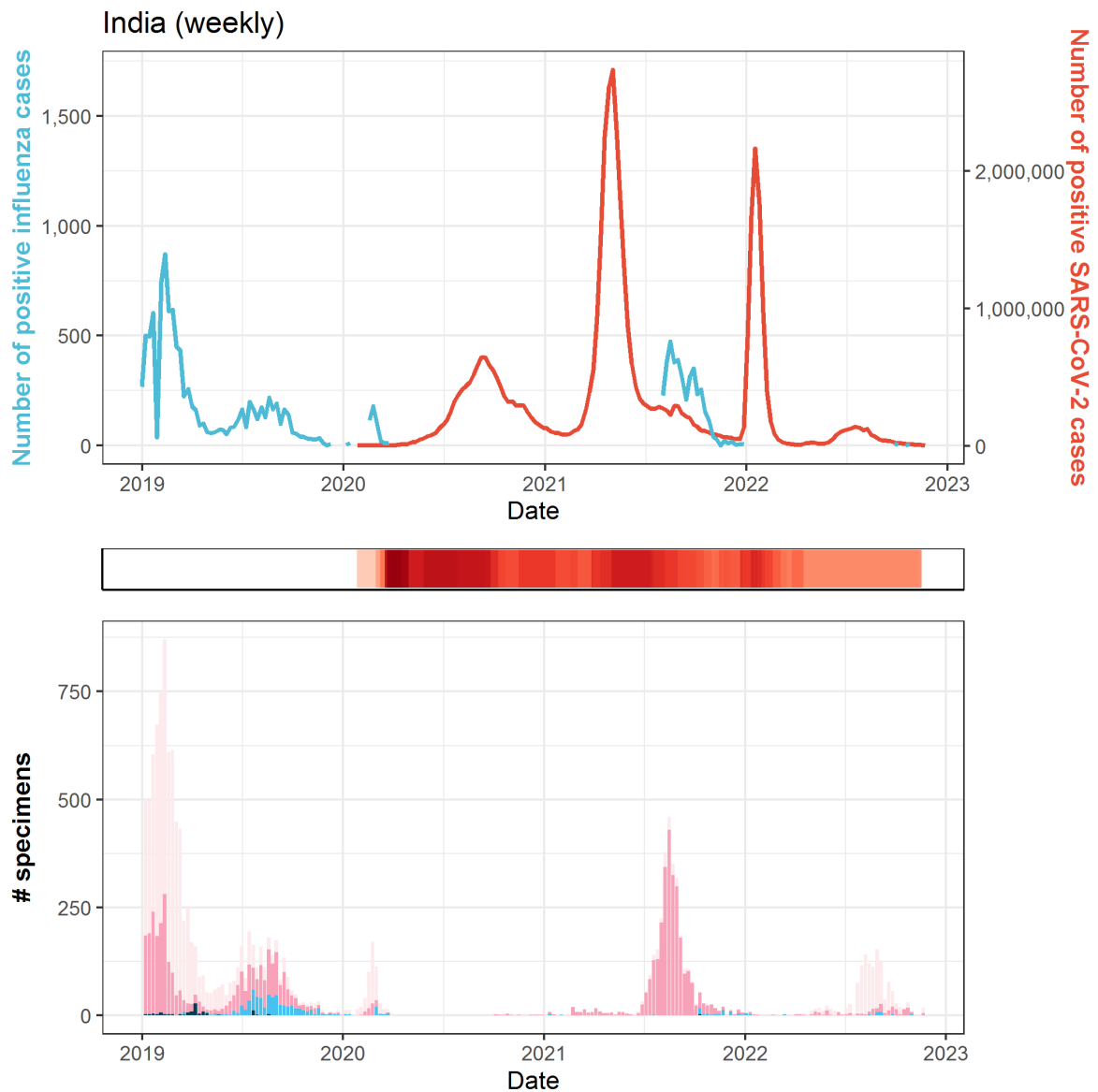


#### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
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- B (Victoria lineage)
- B (Yamagata lineage)

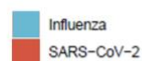
## Southern Asia

### India

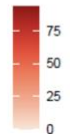


#### Legends

##### Virus



##### Stringency Index

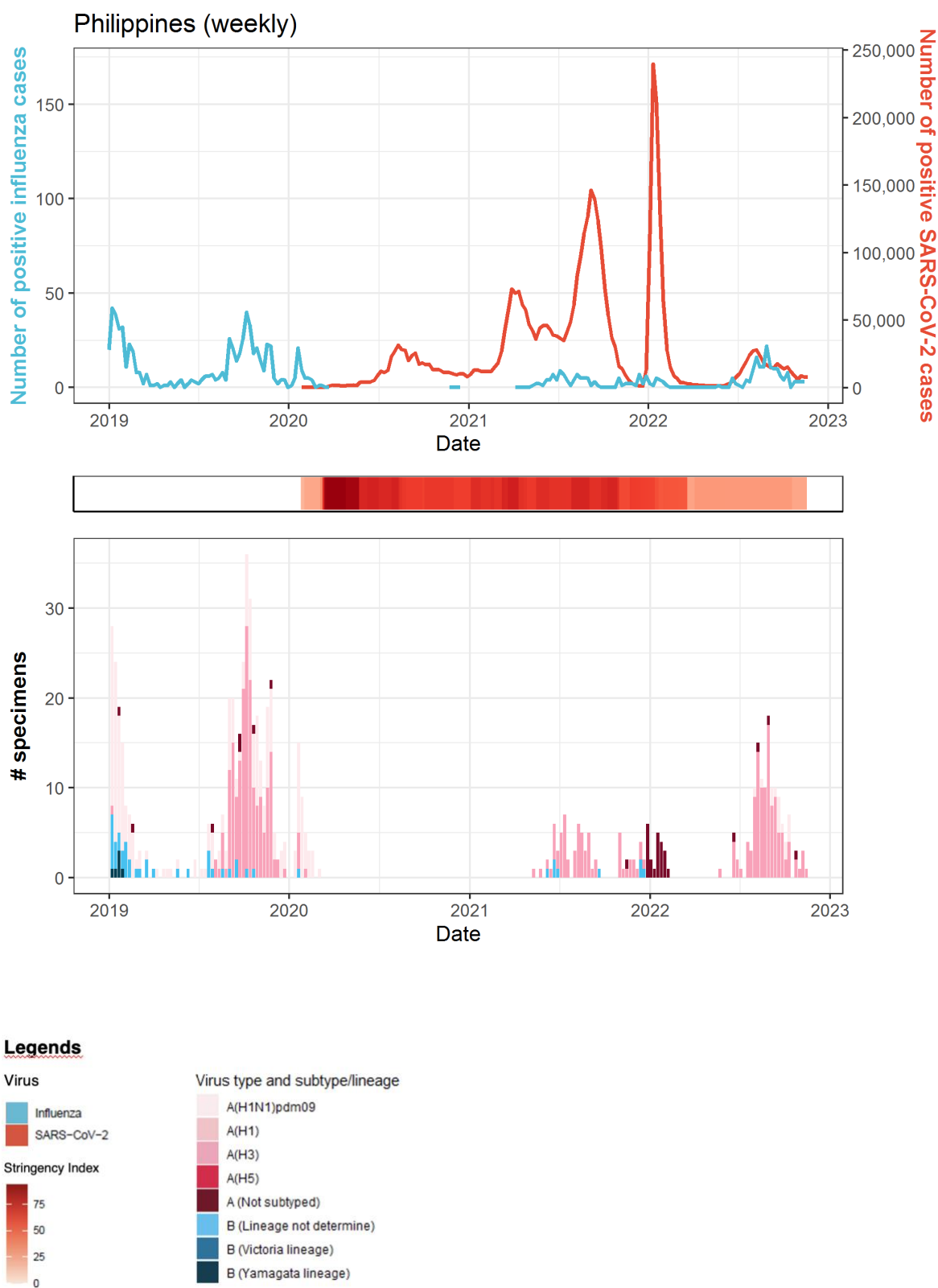


##### Virus type and subtype/lineage

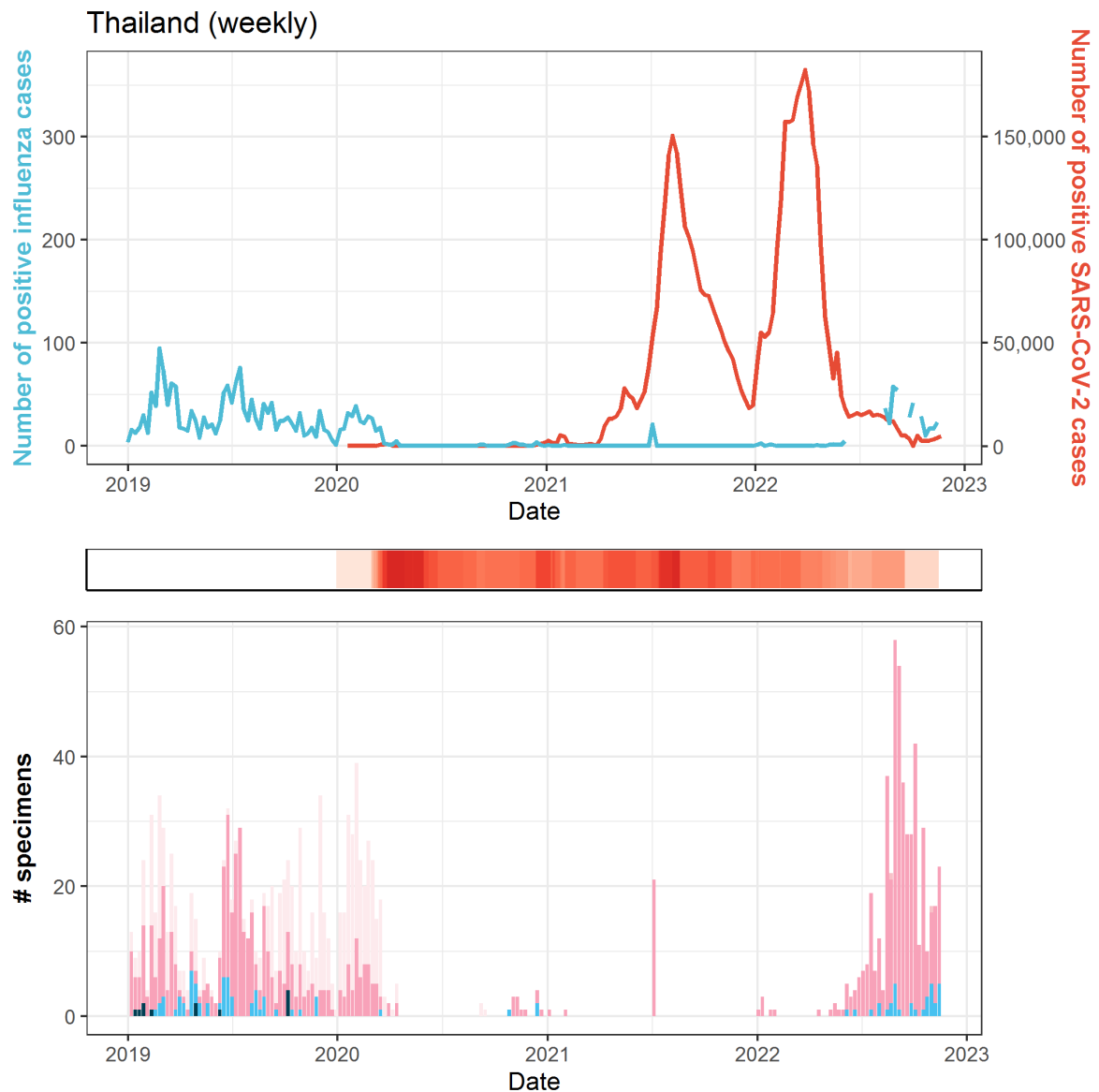


## South-East Asia

### Philippines



## Thailand

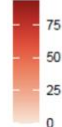


### Legends

#### Virus

- Influenza
- SARS-CoV-2

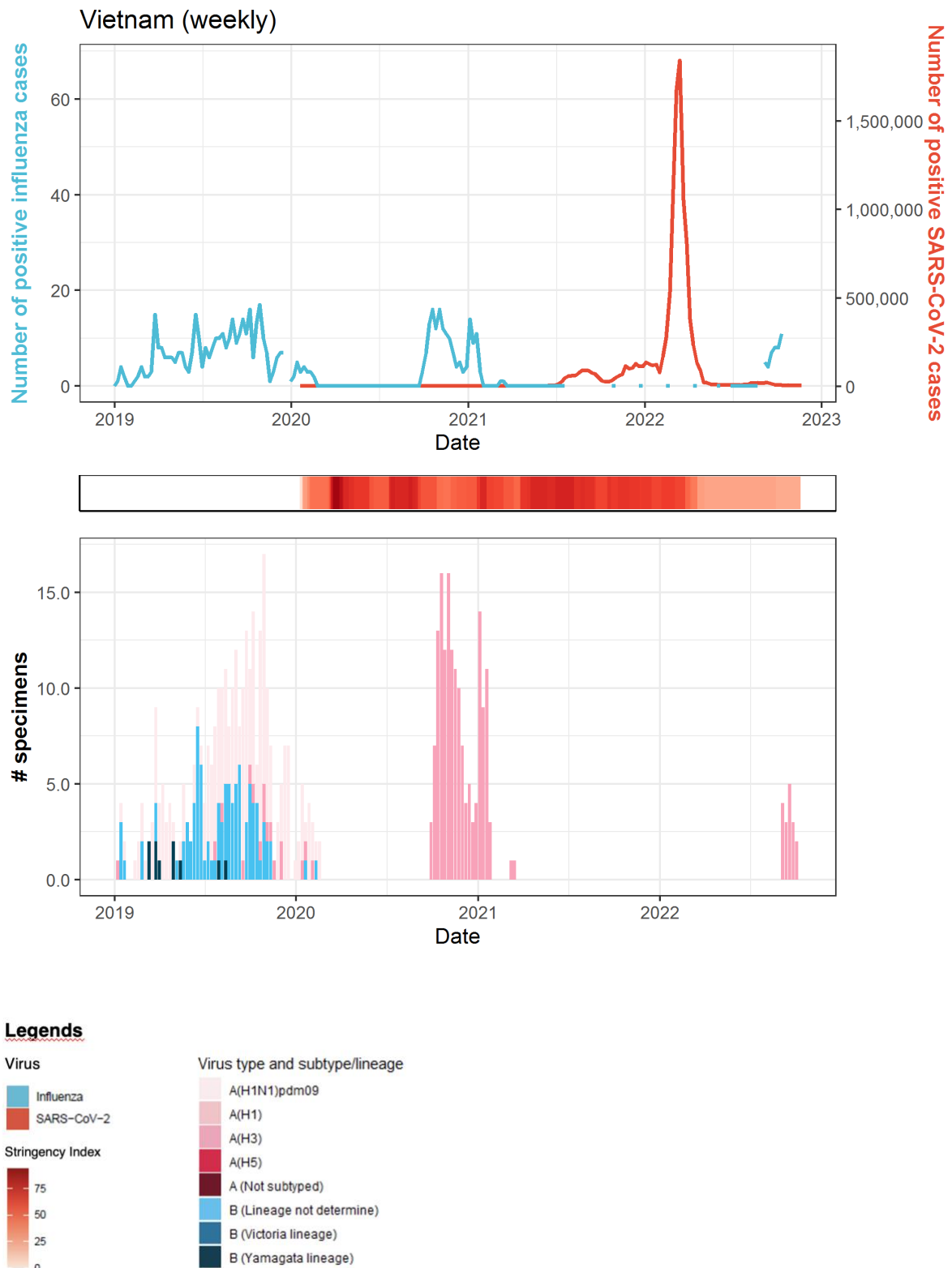
#### Stringency Index



#### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

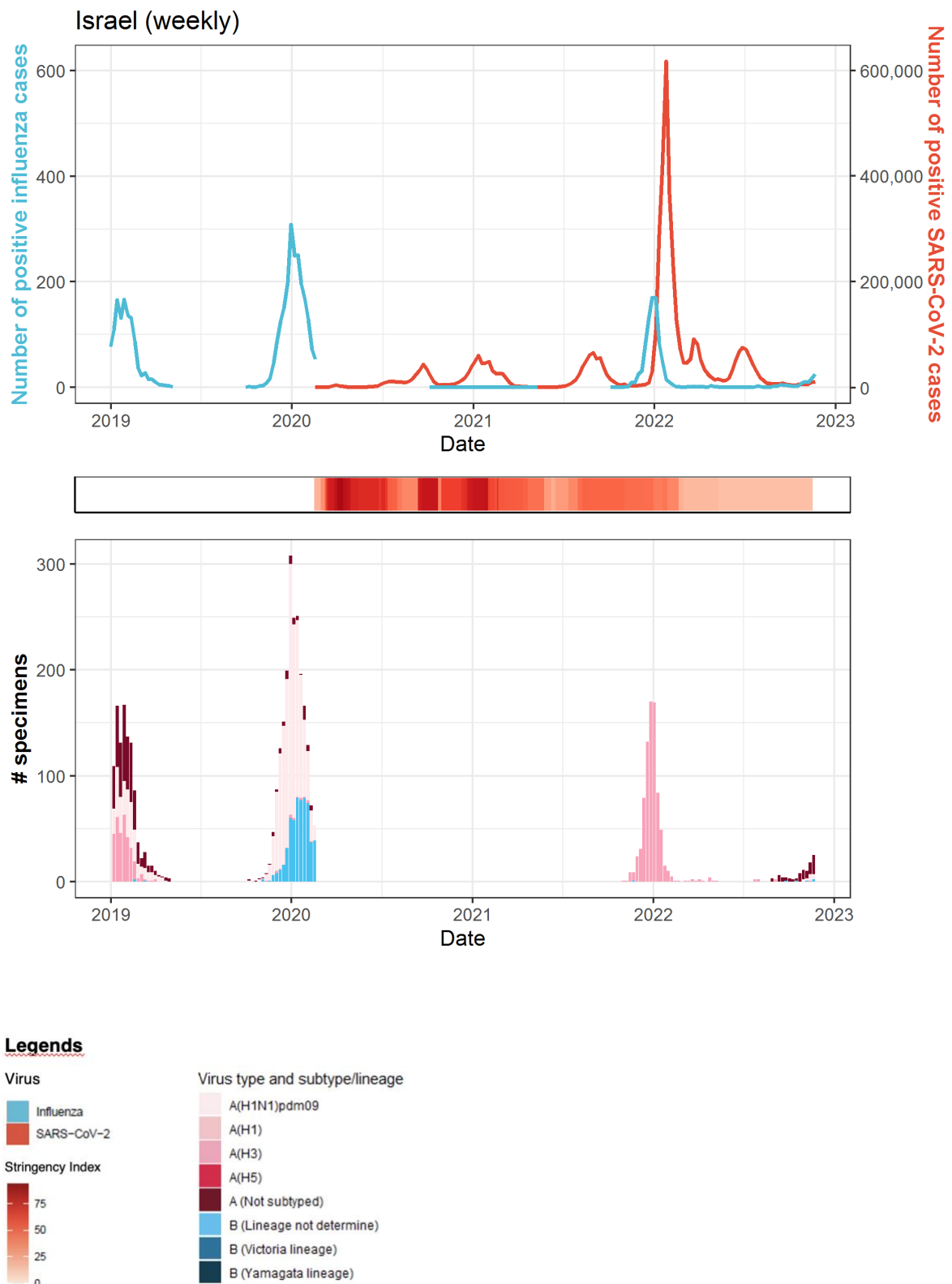
## Vietnam





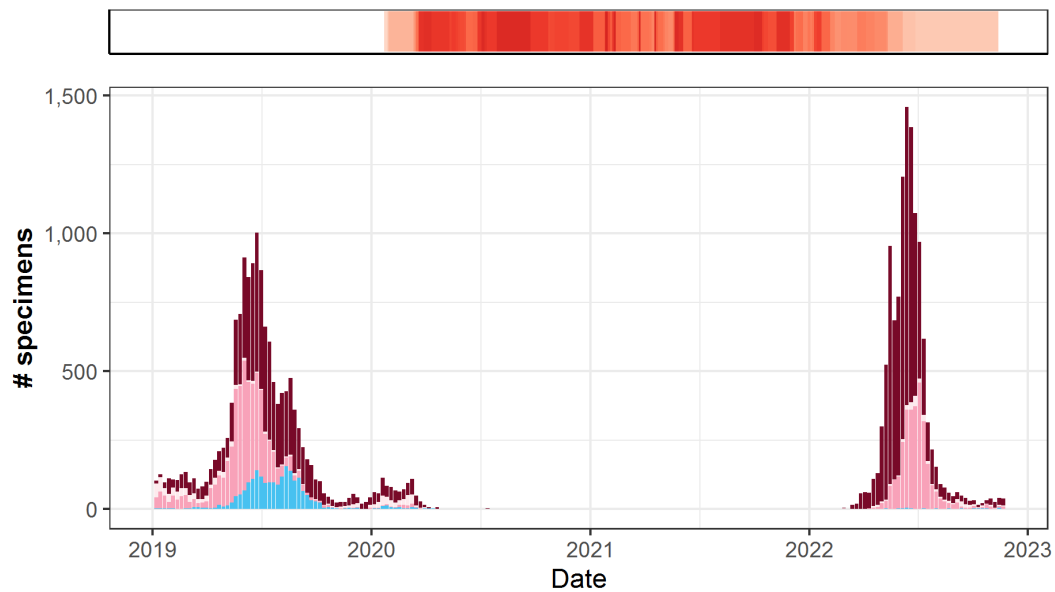
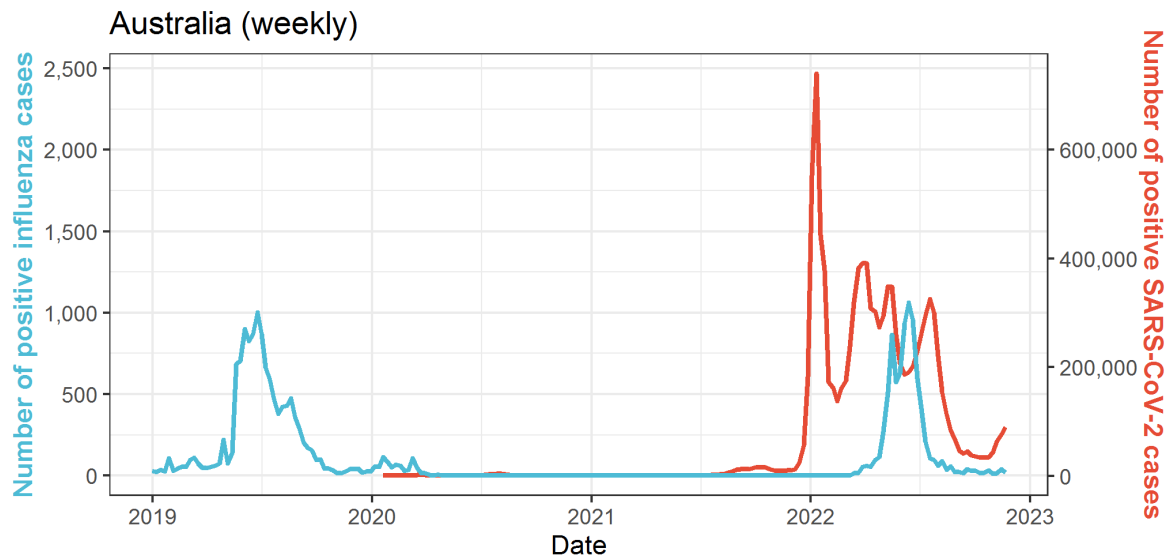
## Western Asia

### Israel



## Oceania

### Australia



#### Legends

##### Virus

- Influenza
- SARS-CoV-2

##### Stringency Index

- 75
- 50
- 25
- 0

##### Virus type and subtype/lineage

- A(H1N1)pdm09
- A(H1)
- A(H3)
- A(H5)
- A (Not subtyped)
- B (Lineage not determine)
- B (Victoria lineage)
- B (Yamagata lineage)

## Absolute numbers per country

Country	Year	Cases <sup>a</sup> of SARS-CoV-2	+/- since last month <sup>b</sup>	Cases <sup>a</sup> of influenza	+/- since last month <sup>b</sup>	Week of last influenza update
Australia	2019			12,404		
Australia	2020	28,425		784		
Australia	2021	397,071		7		
Australia	2022	10,263,832	280,456	8,208	87	2022-47
Brazil	2019			3,320		
Brazil	2020	7,700,828		1,314		
Brazil	2021	14,485,929		1,183		
Brazil	2022	12,935,896	398,850	3,530	49	2022-47
Canada	2019			43,196		
Canada	2020	590,249		44,956		
Canada	2021	1,633,486		337		
Canada	2022	2,224,652	63,581	37,217	19,805	2022-47
China	2019			122,757		
China	2020	93,153		31,164		
China	2021	21,489		10,145		
China	2022	1,485,033	567,411	51,876	880	2022-47
Egypt	2019			1,998		
Egypt	2020	138,062		659		
Egypt	2021	247,513		233		
Egypt	2022	130,070	0	1,227	0	2022-42
France	2019			25,405		
France	2020	2,735,590		16,589		
France	2021	7,706,191		3,071		
France	2022	27,898,337	1,010,902	21,601	874	2022-47
Germany	2019			1,215		
Germany	2020	1,719,737		958		
Germany	2021	5,430,685		29		
Germany	2022	29,349,237	879,913	1,056	348	2022-47
India	2019			9,698		
India	2020	10,286,709		457		
India	2021	24,574,870		4,085		
India	2022	9,814,222	19,225	39	5	2022-47
Israel	2019			1,796		
Israel	2020	423,290		1,424		
Israel	2021	961,872		456		
Israel	2022	3,338,478	37,959	451	64	2022-47
Italy	2019			2,787		
Italy	2020	2,107,314		7,484		
Italy	2021	4,018,517		31		
Italy	2022	18,134,977	729,637	2,528	531	2022-47
Japan	2019			10,343		
Japan	2020	235,747		2,915		
Japan	2021	1,497,558		9		
Japan	2022	23,082,001	2,490,716	54	3	2022-46

Country	Year	Cases <sup>a</sup> of SARS-CoV-2	+/- since last month <sup>b</sup>	Cases <sup>a</sup> of influenza	+/- since last month <sup>b</sup>	Week of last influenza update
Mexico	2019			6,963		
Mexico	2020	1,426,094		4,799		
Mexico	2021	2,553,629		960		
Mexico	2022	3,146,601	14,183	6,658	2,645	2022-47
Netherlands	2019			5,166		
Netherlands	2020	806,620		3,235		
Netherlands	2021	2,346,892		454		
Netherlands	2022	5,399,307	30,196	11,085	210	2022-47
Philippines	2019			612		
Philippines	2020	474,064		52		
Philippines	2021	2,369,926		105		
Philippines	2022	1,192,932	31,812	163	9	2022-46
Poland	2019			1,786		
Poland	2020	1,294,878		1,282		
Poland	2021	2,813,337		2		
Poland	2022	2,244,540	12,320	425	15	2022-47
South Africa	2019			1,164		
South Africa	2020	1,057,161		157		
South Africa	2021	2,382,539		413		
South Africa	2022	583,604	13,582	1,135	1	2022-44
South Korea	2019			1,702		
South Korea	2020	61,768		505		
South Korea	2021	573,484		0		
South Korea	2022	26,520,560	1,540,146	102	41	2022-46
Spain	2019			16,580		
Spain	2020	1,938,671		8,829		
Spain	2021	4,440,910		2,210		
Spain	2022	7,302,394	83,736	14,467	4,037	2022-47
Thailand	2019			1,568		
Thailand	2020	6,882		297		
Thailand	2021	2,216,551		23		
Thailand	2022	2,493,151	14,796	389	57	2022-46
United Kingdom	2019			42,447		
United Kingdom	2020	2,488,780		14,377		
United Kingdom	2021	10,456,330		2,755		
United Kingdom	2022	10,216,850	99,683	13,081	1,804	2022-47
United States	2019			268,524		
United States	2020	20,217,289		229,766		
United States	2021	34,687,346		39,508		
United States	2022	43,903,146	1,301,865	248,883	100,665	2022-47
Vietnam	2019			355		
Vietnam	2020	1,465		146		
Vietnam	2021	1,729,792		39		
Vietnam	2022	9,225,711	13,023	43	0	2022-41

<sup>a</sup> Laboratory-confirmed cases.

<sup>b</sup> 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 [2]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [3]. 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) [4].

## Data sources

- **Influenza:** FluNet [5] 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 [6]. 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 [7] cases as well as various national public health institutions.
- **Government response tracker:** The Oxford COVID-19 Government Response Tracker (OxCGRT) [4] 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 13 November 2022 and cover the period 1 January 2019 to 4 December 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 [flucov@nivel.nl](mailto:flucov@nivel.nl).

## References

- [1] Paget John, Caini Saverio, Del Riccio Marco, van Waarden Willemijn, Meijer Adam. Has influenza B/Yamagata become extinct and what implications might this have for quadrivalent influenza vaccines?. Euro Surveill. 2022;27(39):pii=2200753. <https://doi.org/10.2807/1560-7917.ES.2022.27.39.2200753>
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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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