



FluCov Bulletin – mid-January 2023

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

Commentary

Contents

It has been 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** from January 2019 onwards in 22 countries across most regions of the world (see page 3).

Results

Globally, **influenza** circulation appears to have slowed in recent weeks (Figure 1), after rising above peak detections observed during the winters of 2019/20, 2020/21 and 2021/22. The following patterns have been observed for **influenza** in January 2023 (until week 2):

- There were clear decreases in **influenza** activity reported by North American countries (**Canada, Mexico and the United States**) in the first weeks of the New Year, with **Canada** reporting levels below the national epidemic baseline.
- **Influenza** circulation continued in most European countries, but the peak seems to have been reached as of the end of 2022 in some countries. In particular, the decrease appears to have started in the first half of January in **France, Poland, the Netherlands and the United Kingdom**, while it continued in **Germany, Italy, and Spain**, where it started around the Christmas period.
- Increased **influenza** activity was reported in **Israel and South Korea**. In **Israel** **influenza** A(H1N1)pdm09 was dominant, while **influenza** A(H3) was dominant in **South Korea**.
- **Influenza** A is currently the dominant circulating virus: when subtyped, most countries reported **influenza** A(H3) was dominant (Figure 1).
- Very little **influenza** activity was reported by the Southern Hemisphere countries covered in the Bulletin: **Australia, Brazil and South Africa**.
- Relatively low **influenza** activity was also observed in **China, Thailand, Japan, India and the Philippines**.

In most countries covered by the Bulletin **SARS-CoV-2** detections have been generally decreasing since August 2022. The following patterns were observed for **SARS-CoV-2** in the first half of January 2023 (until week 2):

- Relatively low **SARS-CoV-2** activity (as observed in December 2022) was reported in most countries covered by the Bulletin: **Australia, Canada, India, Israel, Netherlands, Philippines, Poland, Spain, South Africa, United States, Vietnam**.
- An apparent increase in **SARS-CoV-2** activity was reported in **Thailand and the United Kingdom**.
- Increased **SARS-CoV-2** activity was reported in **France, Germany, Italy, Japan, and South Korea** at the end of 2022. However, in these countries the number of detections started decreasing as of beginning of January. In **China**, weekly **SARS-CoV-2** detections seem to be decreasing sharply, however, this may be influenced by non-reporting or a reporting delay.

Implications

The 2022/23 Northern Hemisphere **influenza** season started very early this winter, with increased activity in the **United States, Canada, Germany, Spain** and **Mexico** which now appears to have peaked around week 49/2022. Other Northern Hemisphere countries, mainly in Europe, reported a rapid increase in **influenza** cases that now appear to have reached their peak around weeks 51-52/2022 (**France, Netherlands, United Kingdom**). The peak of total detections in December 2022 has surpassed the peak of the previous three winters (2019/20, 2020/21 and 2021/22); this may be associated with many factors (e.g. increased **influenza** testing during the pandemic) and will need to be assessed further.

The low level of **influenza** detections in week 1 of 2023 (see Figure 1) may be partially due to incomplete reporting during the holiday season, but the decline in global detections started in weeks 51-52/2022, now includes countries in many European countries, and this means it will probably continue and become more evident in the coming weeks.

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

SARS-CoV-2 activity is still high in some Asian countries, especially in **Japan**. The observed decrease in **SARS-CoV-2** activity in **China** could be influenced by non-reporting, delayed reporting and possibly a reduction in testing; future reporting will have to confirm this.

Globally, **Influenza** and **SARS-CoV-2** are co-circulating, for the most part in the Northern Hemisphere; however, it seems that the activity of both viruses is decreasing (slowly, in the case of **SARS-CoV-2**).

Based on an assessment of the population immunity levels in western Europe (**France, Germany, Italy, Spain, United Kingdom**) before the 2022/23 winter and **Australia** during the Southern Hemisphere 2022 winter, a modelling exercise estimated that countries in western Europe will experience early and moderately large **influenza** epidemics [2]. This is currently being observed, with an early **influenza** epidemic that might have peaked quite early (around week 50 globally) after surpassing the peak of the last three winters.

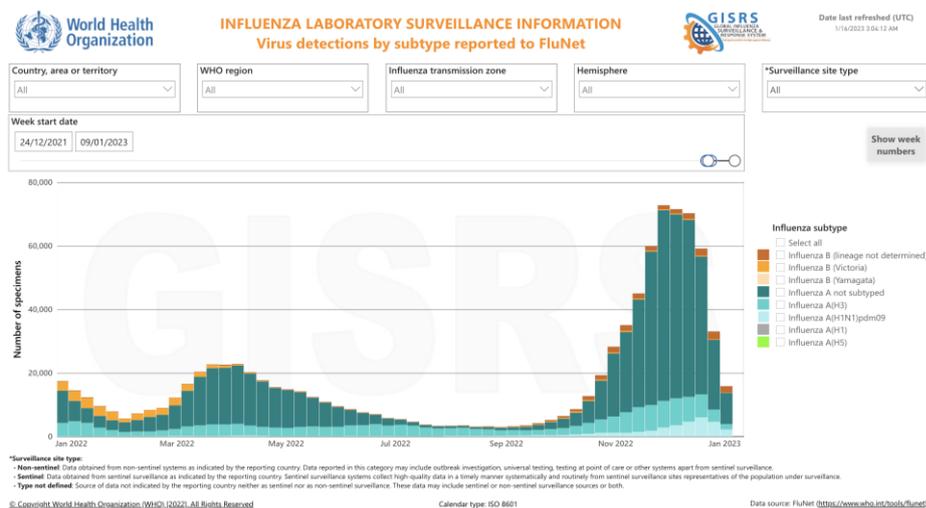


Figure 1: Influenza detections by subtype and lineage reported to FluNet

Disclaimer: Comparisons between countries 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)

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 January 15, 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 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 below (pages 26-27). 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

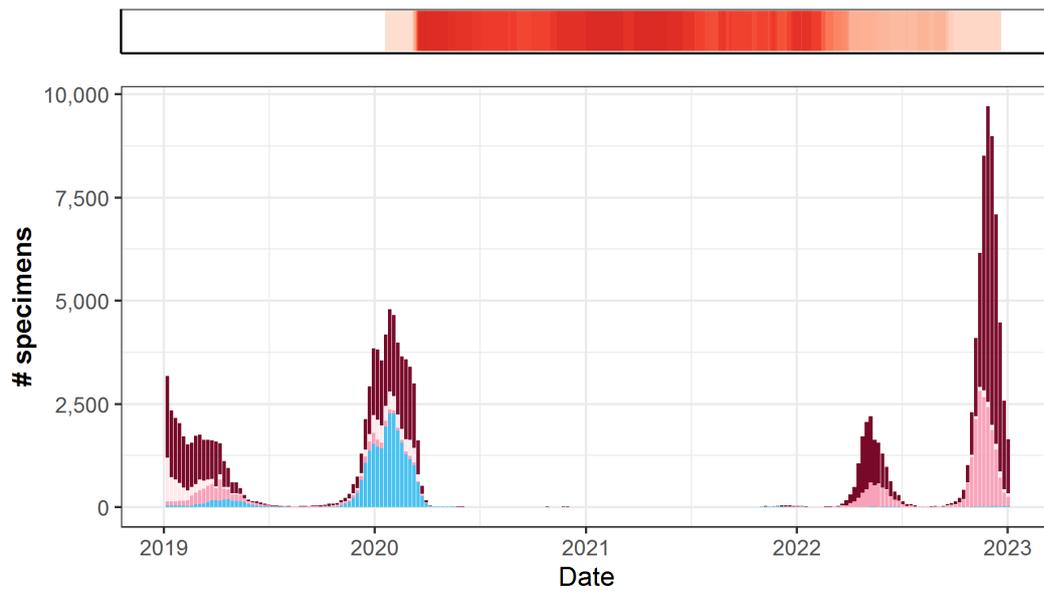
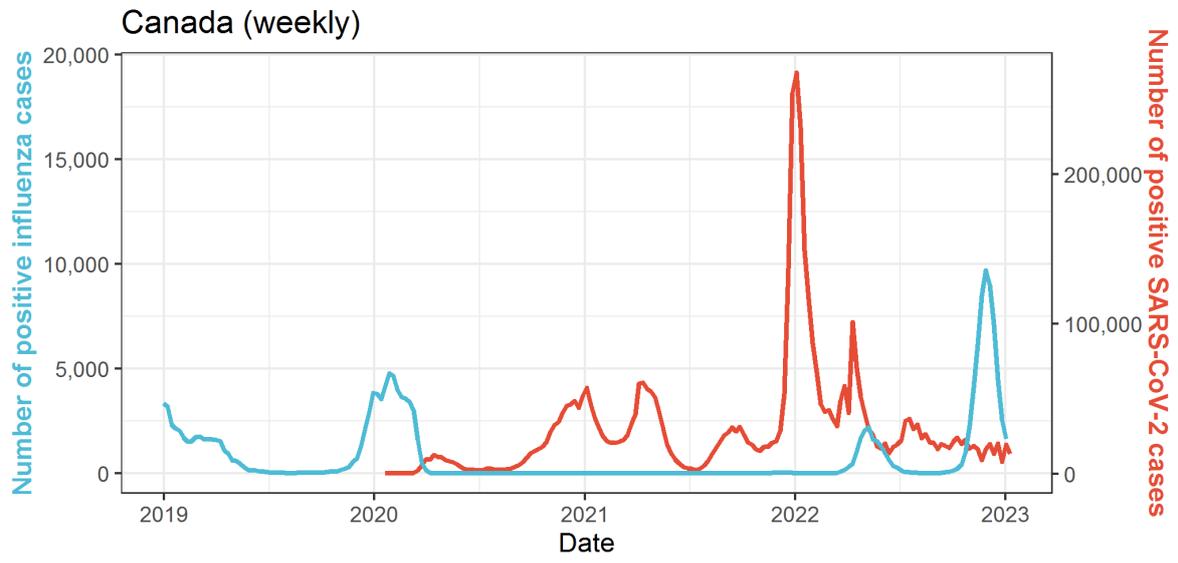
Israel

Oceania

Australia

North America

Canada

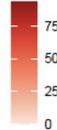


Legends

Virus

- Influenza
- SARS-CoV-2

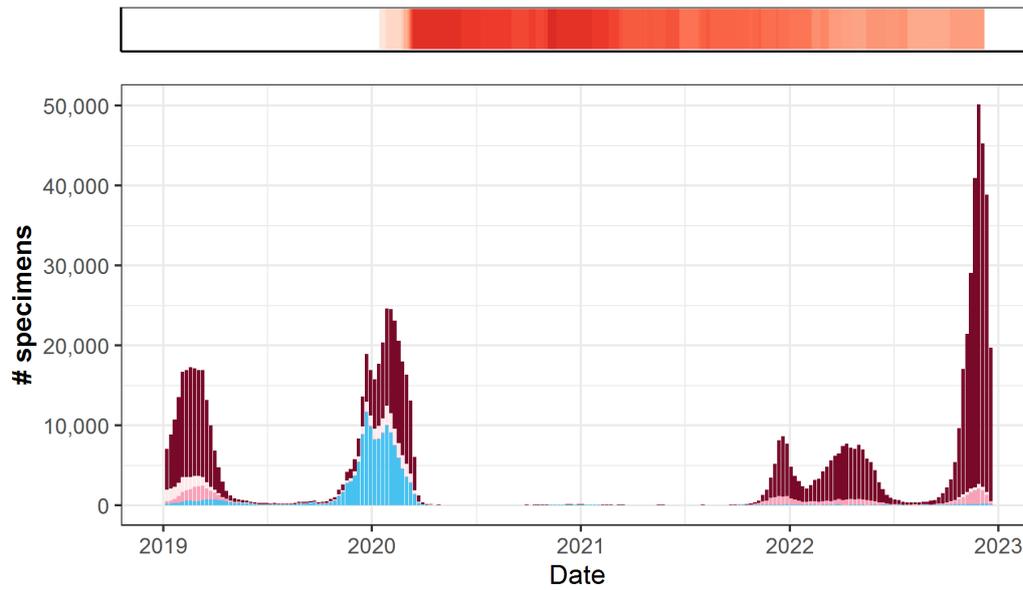
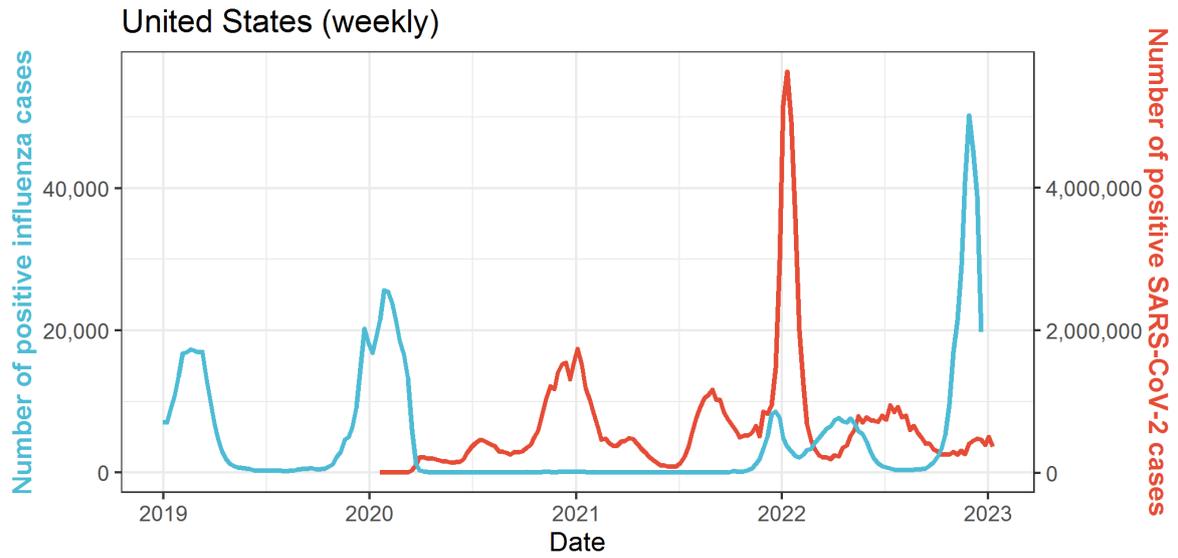
Stringency Index



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)

United States



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

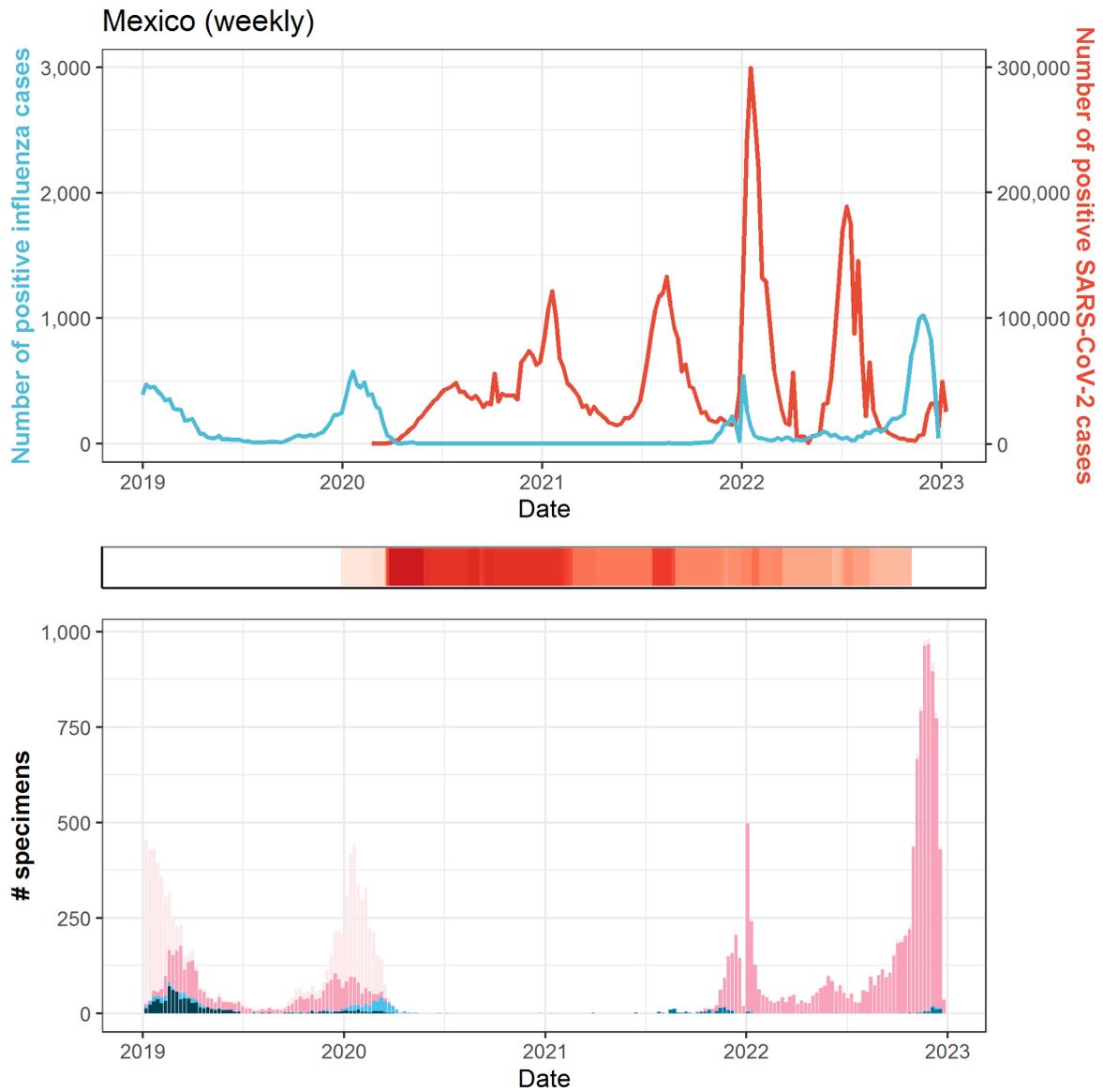


Virus type and subtype/lineage

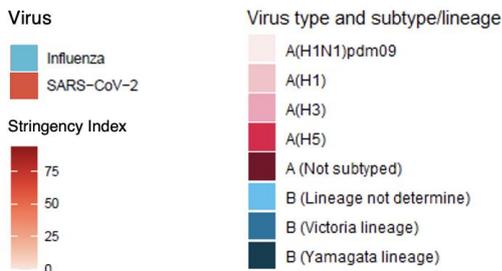
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- A (Not subtyped)
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Central America Caribbean

Mexico



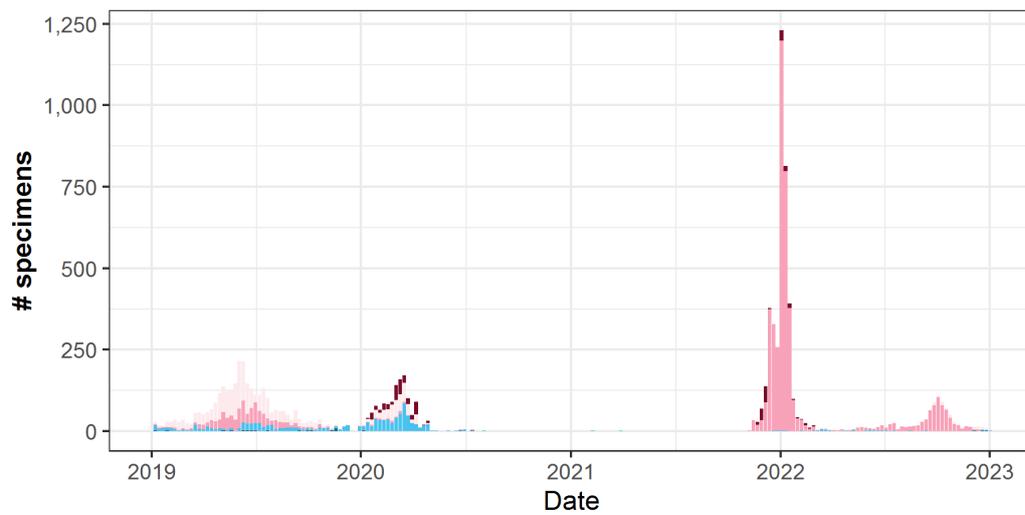
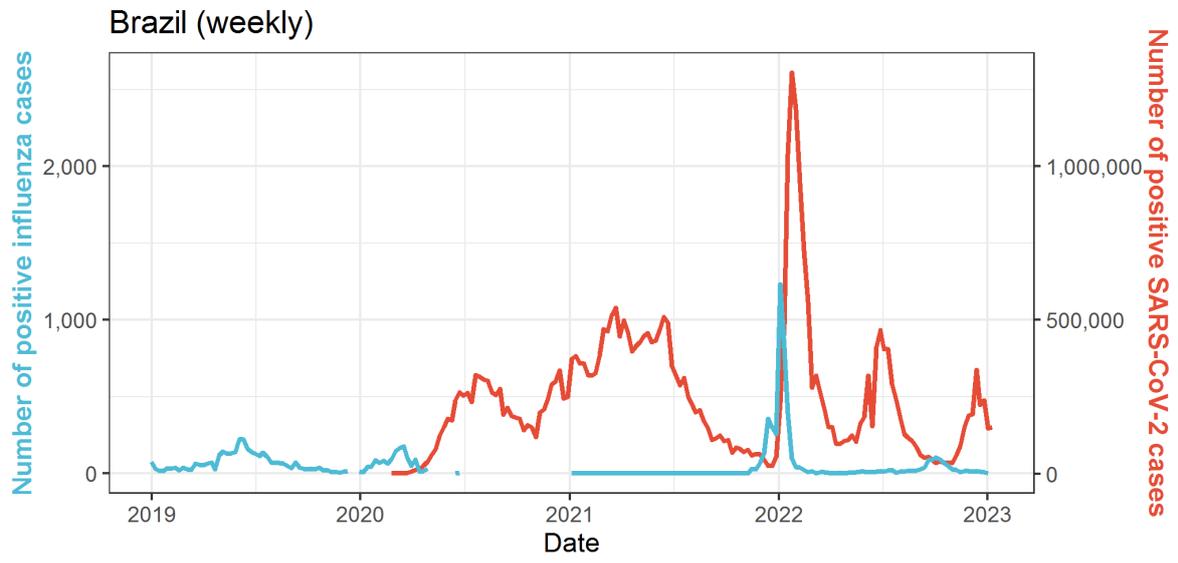
Legends



Note: The steep decrease in influenza detections in week 2/2023 is likely due to a delay in reporting.

Tropical South America

Brazil



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

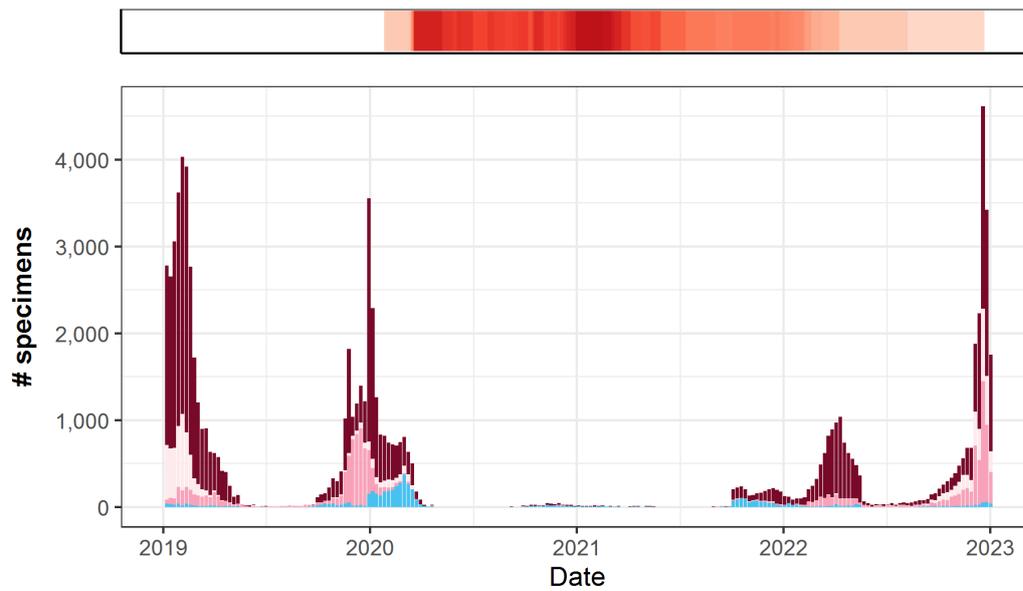
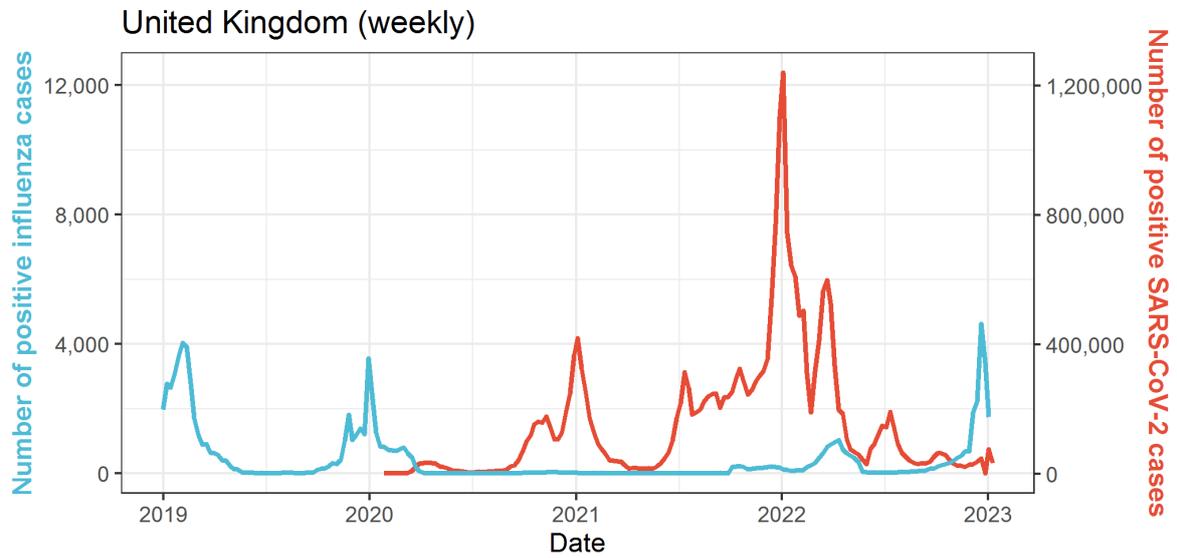
- 75
- 50
- 25
- 0

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- B (Yamagata lineage)

Northern Europe

United Kingdom



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

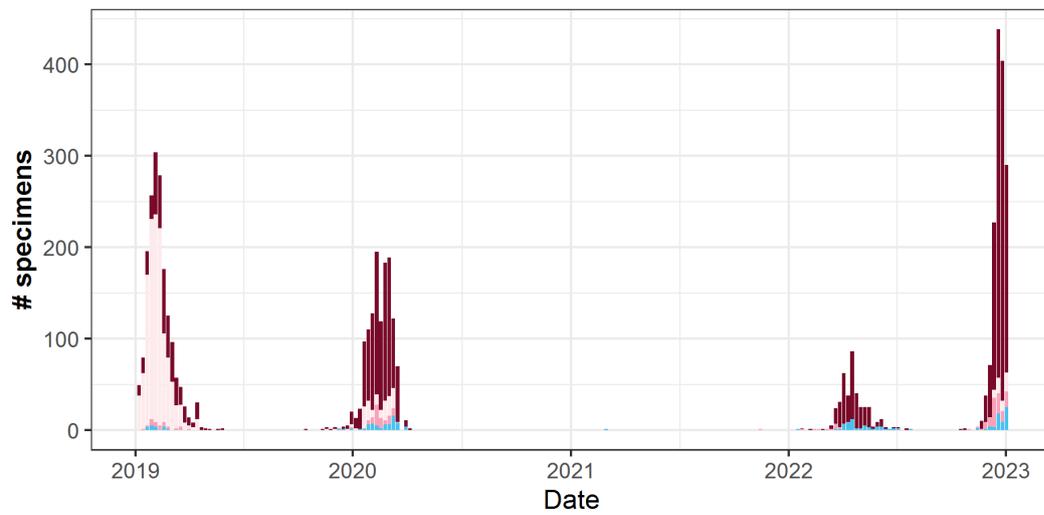
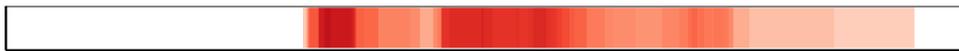
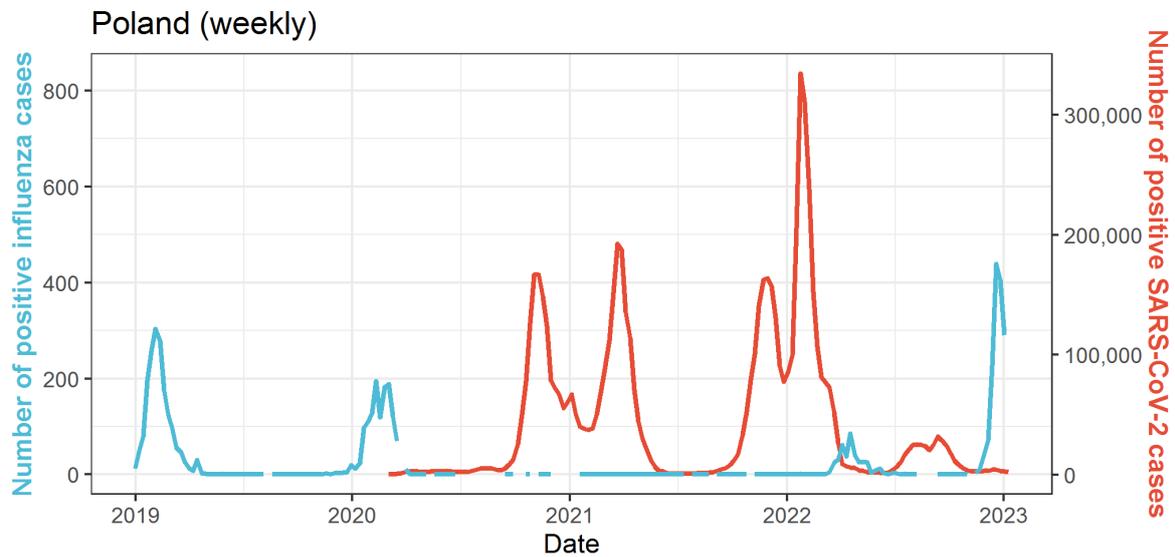
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Eastern Europe

Poland



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

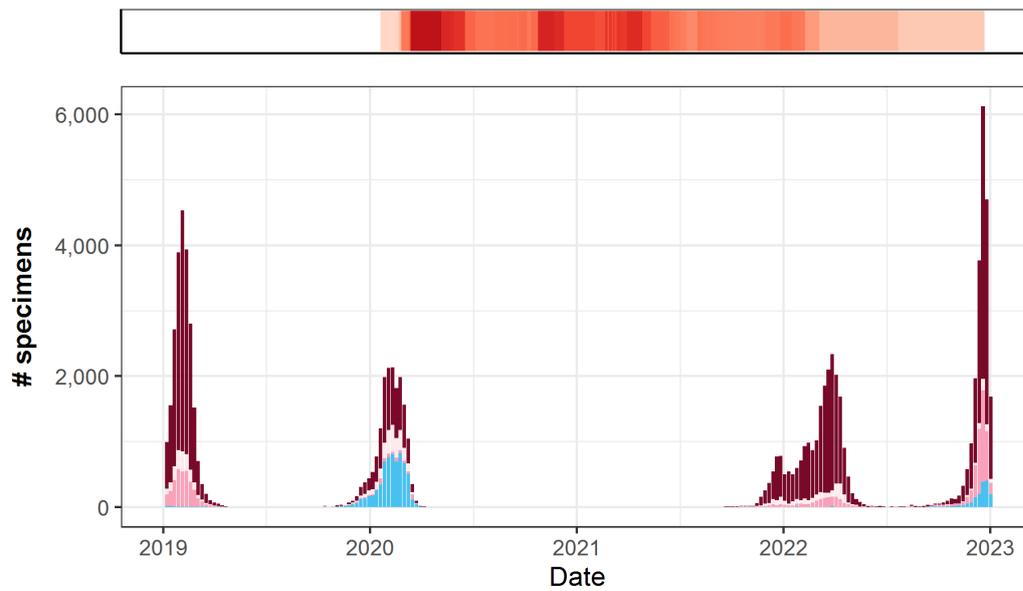
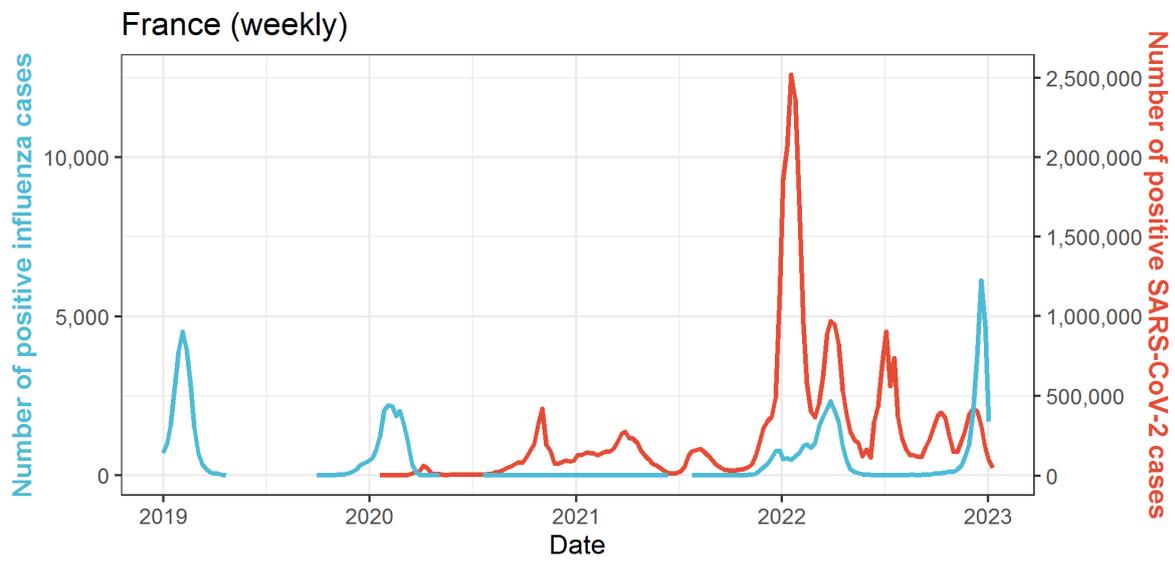


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South West Europe

France

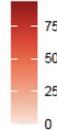


Legends

Virus

- Influenza
- SARS-CoV-2

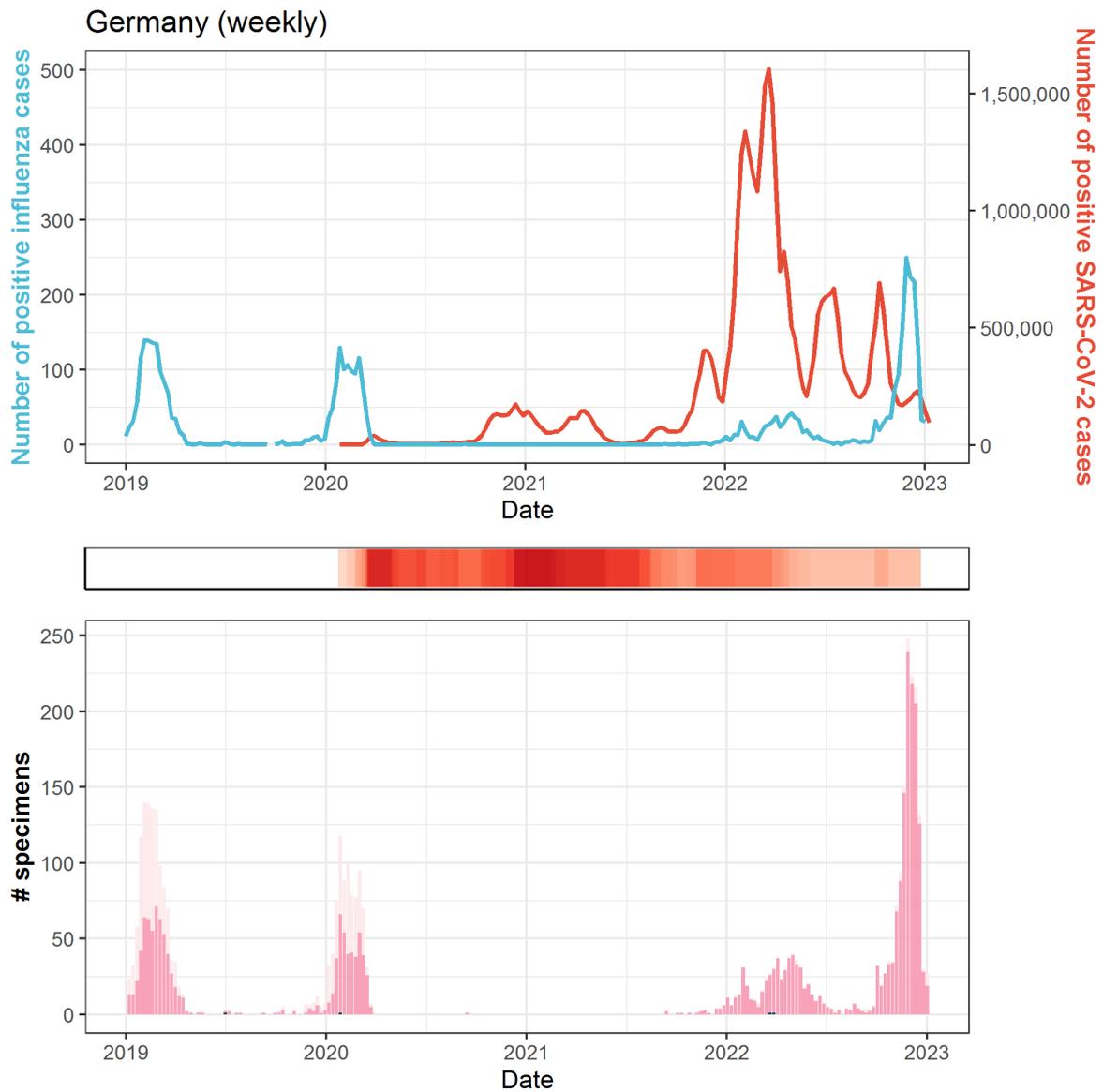
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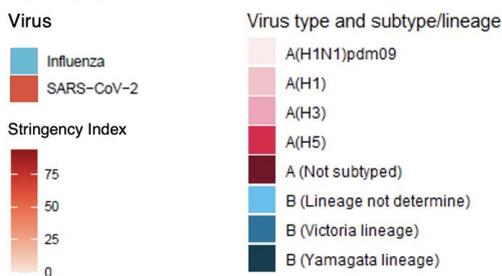
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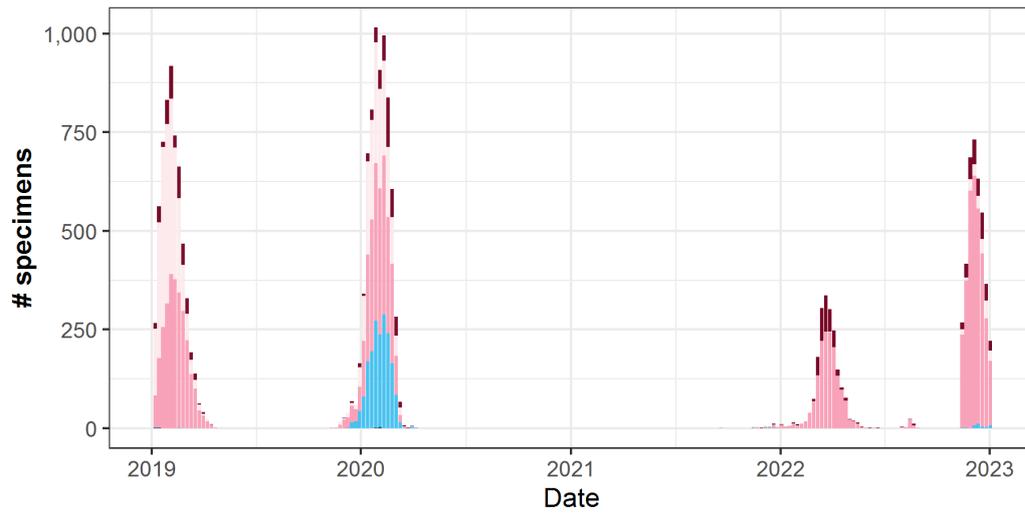
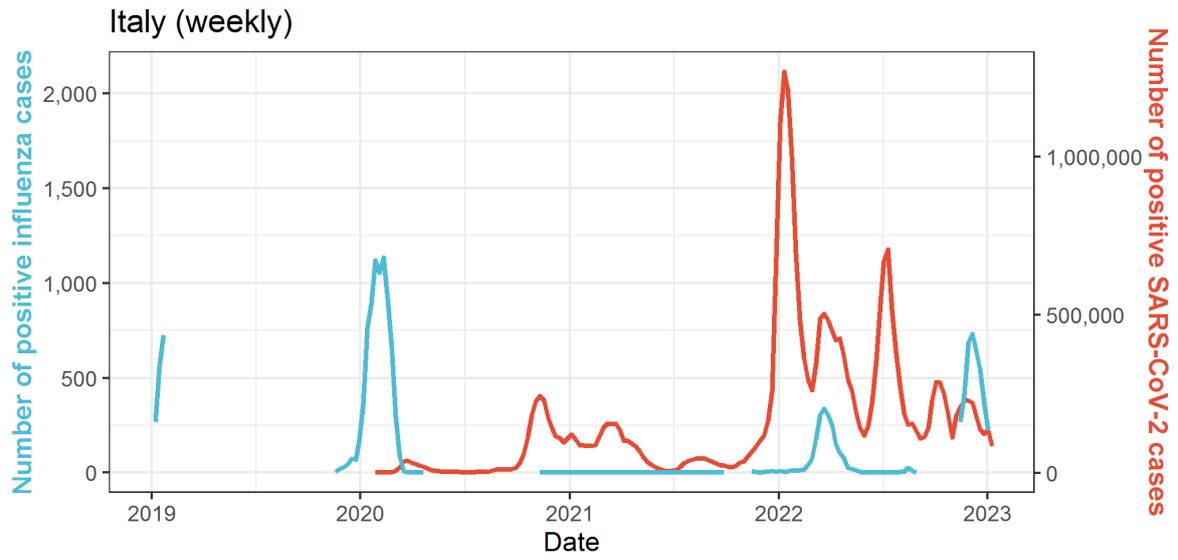
Germany



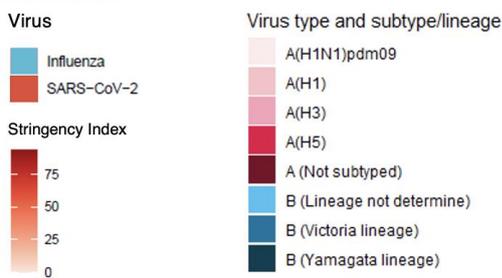
Legends



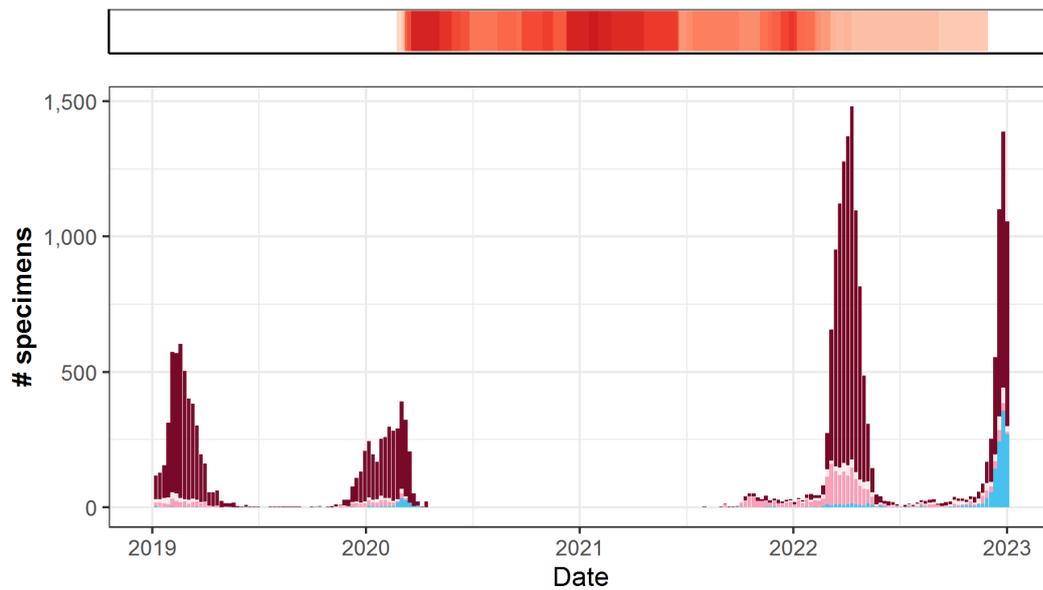
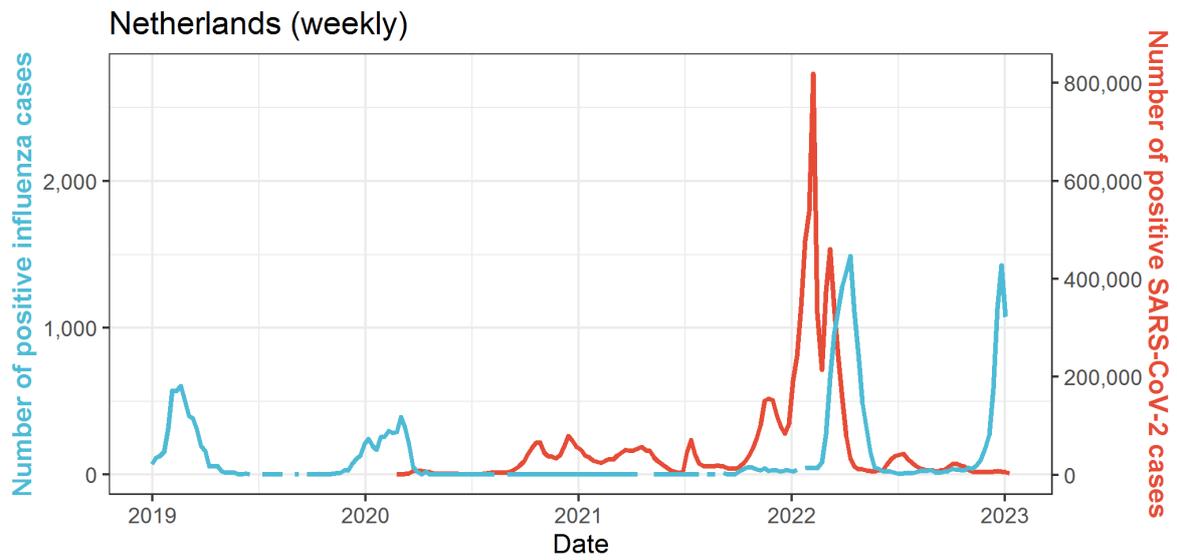
Italy



Legends



Netherlands



Legends

Virus

- Influenza
- SARS-CoV-2

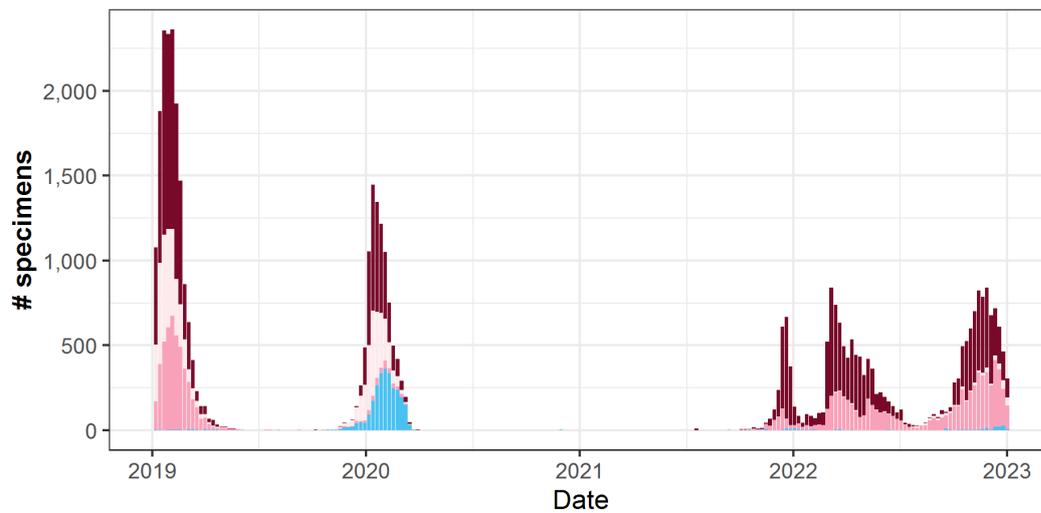
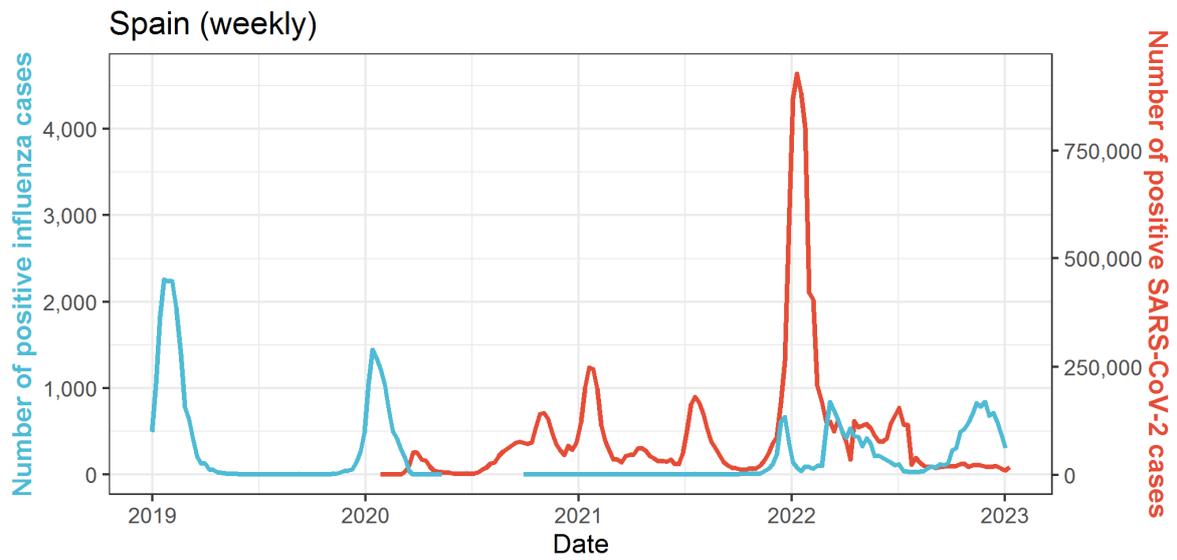
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Spain

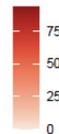


Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

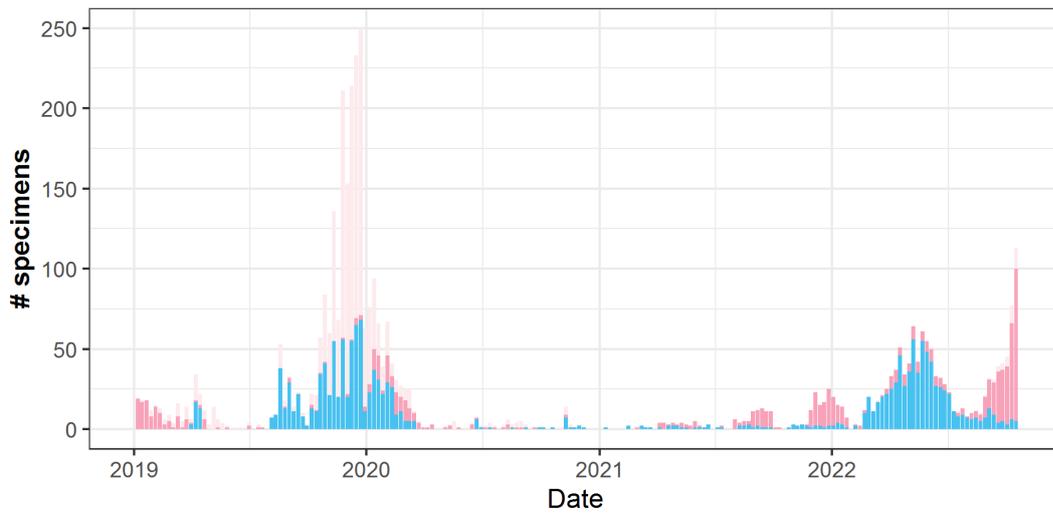
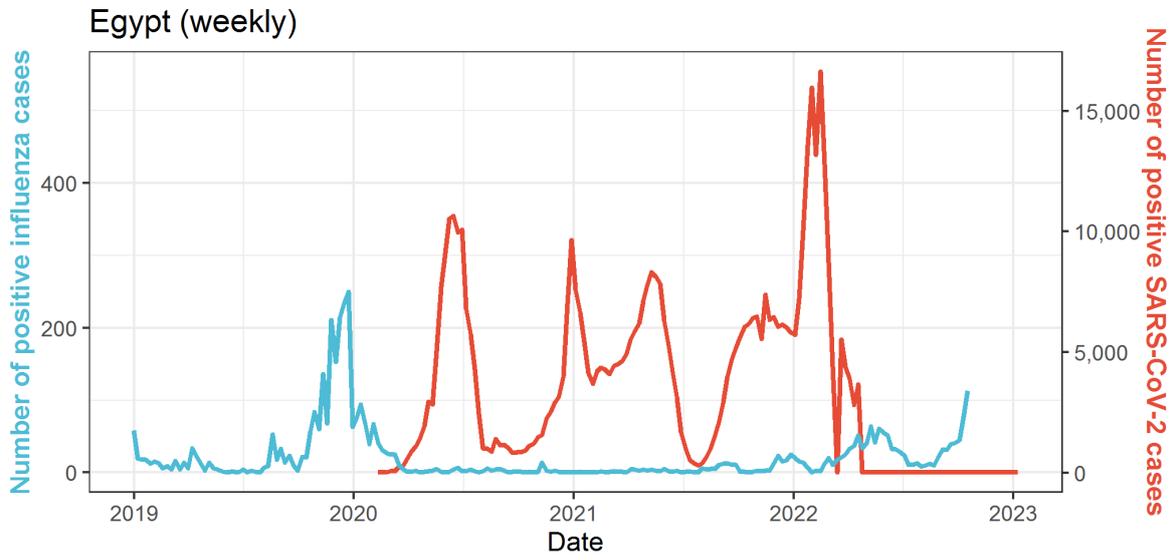


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Northern Africa

Egypt



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

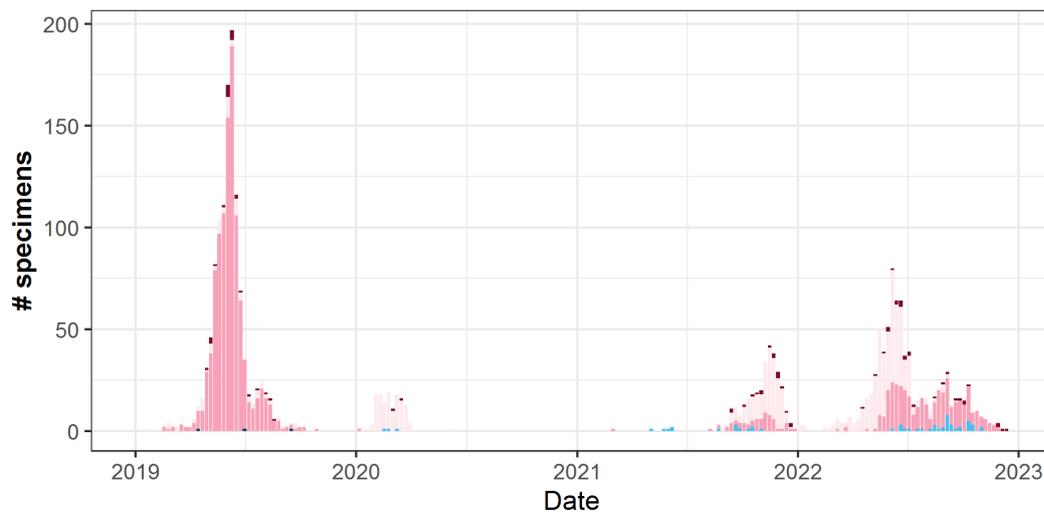
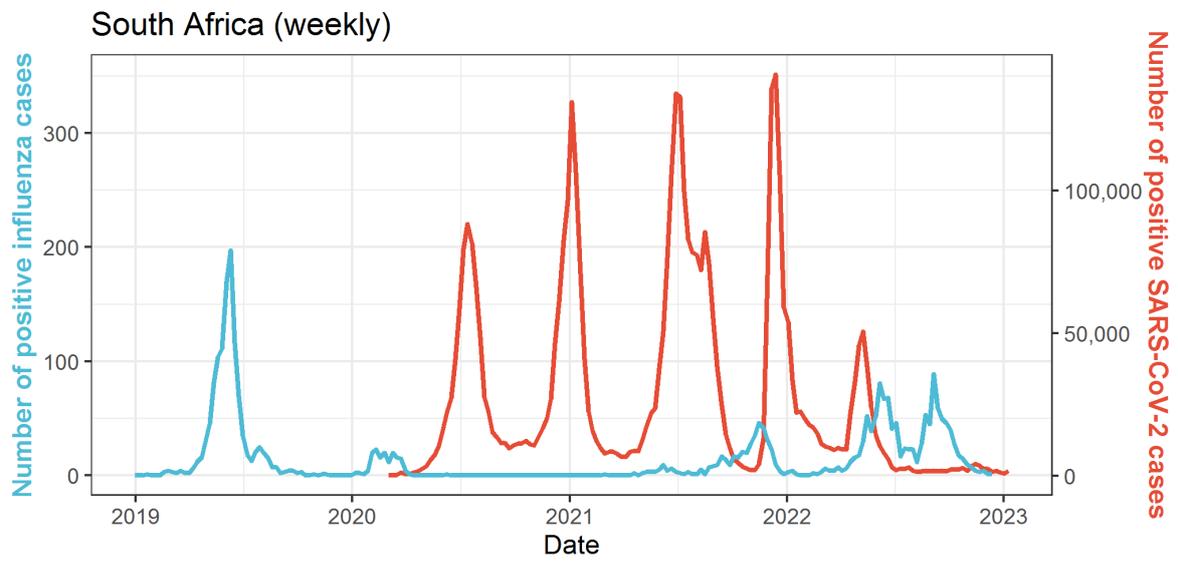


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Southern Africa

South Africa

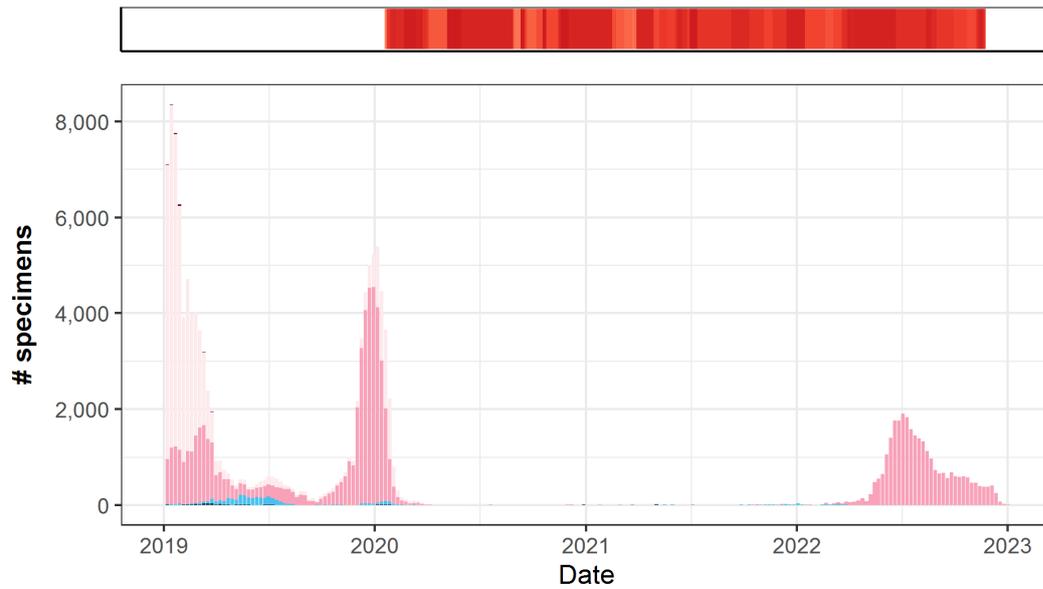
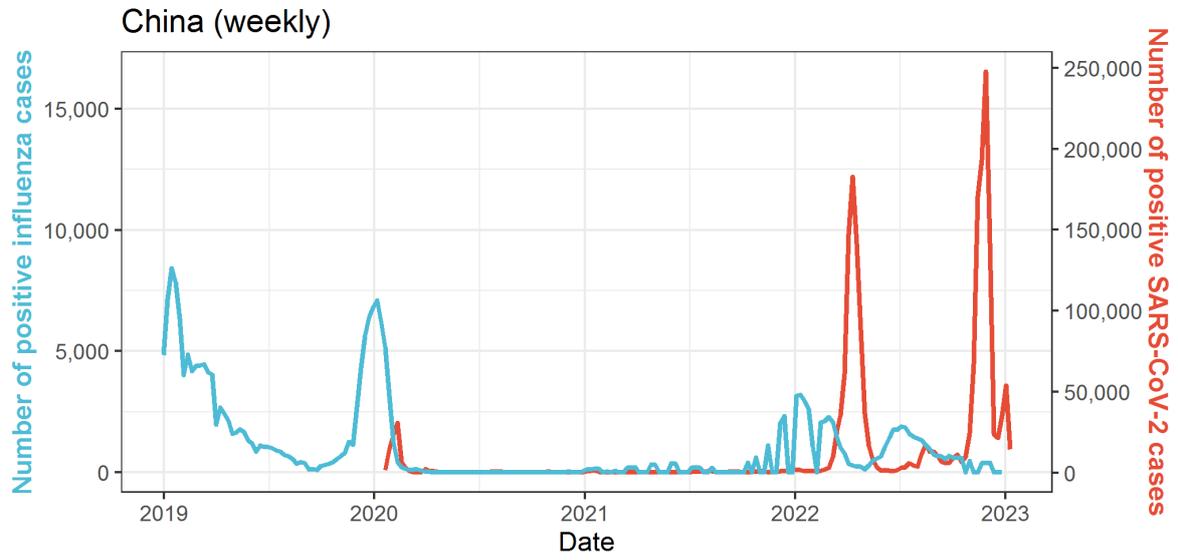


Legends

- | | |
|--|---|
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|--|---|

Eastern Asia

China

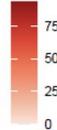


Legends

Virus

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- SARS-CoV-2

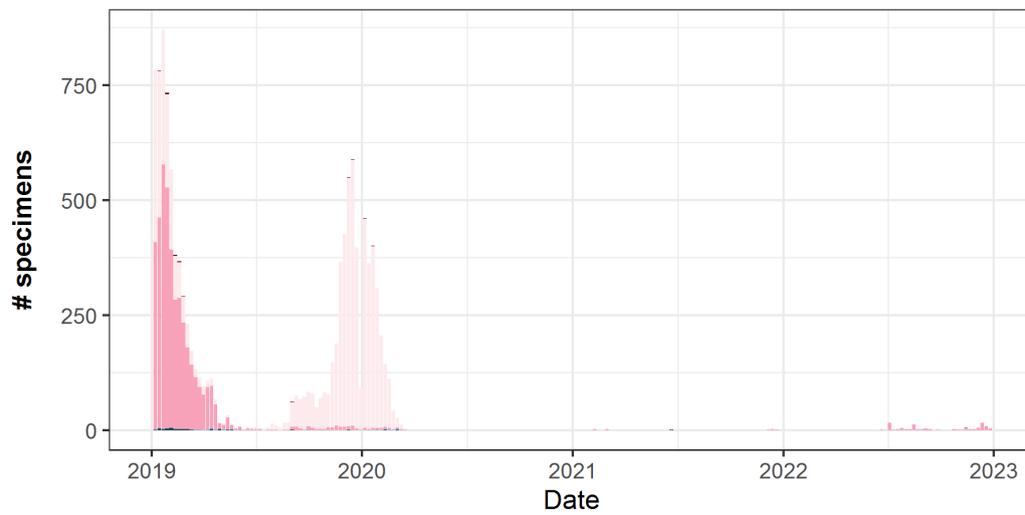
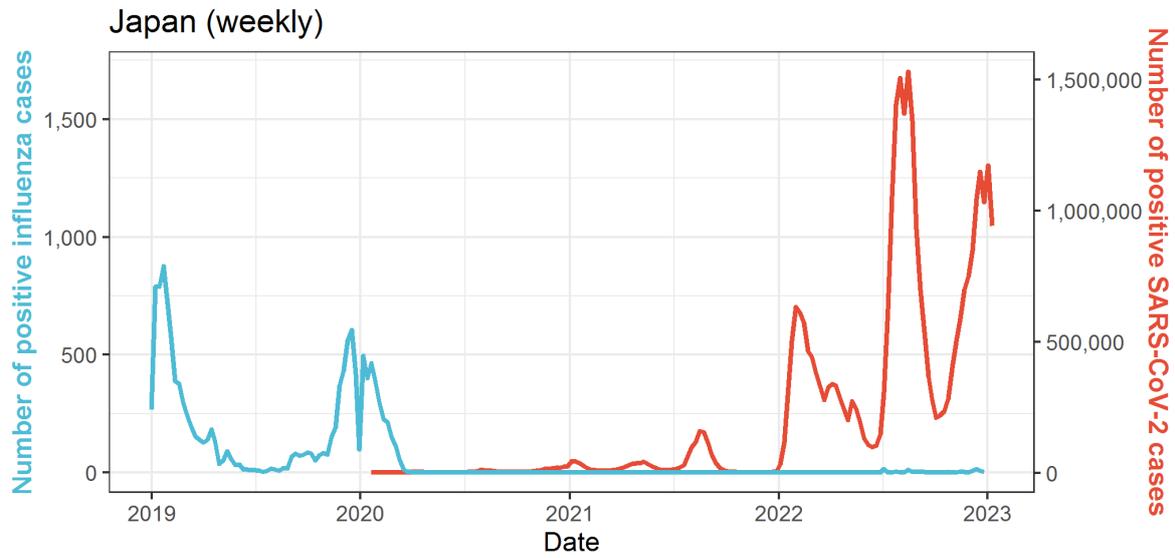
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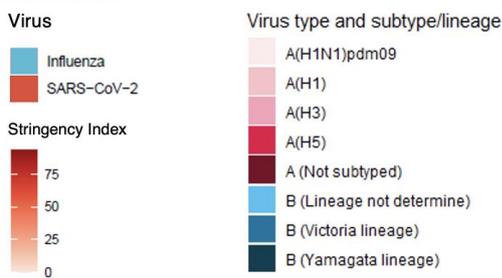
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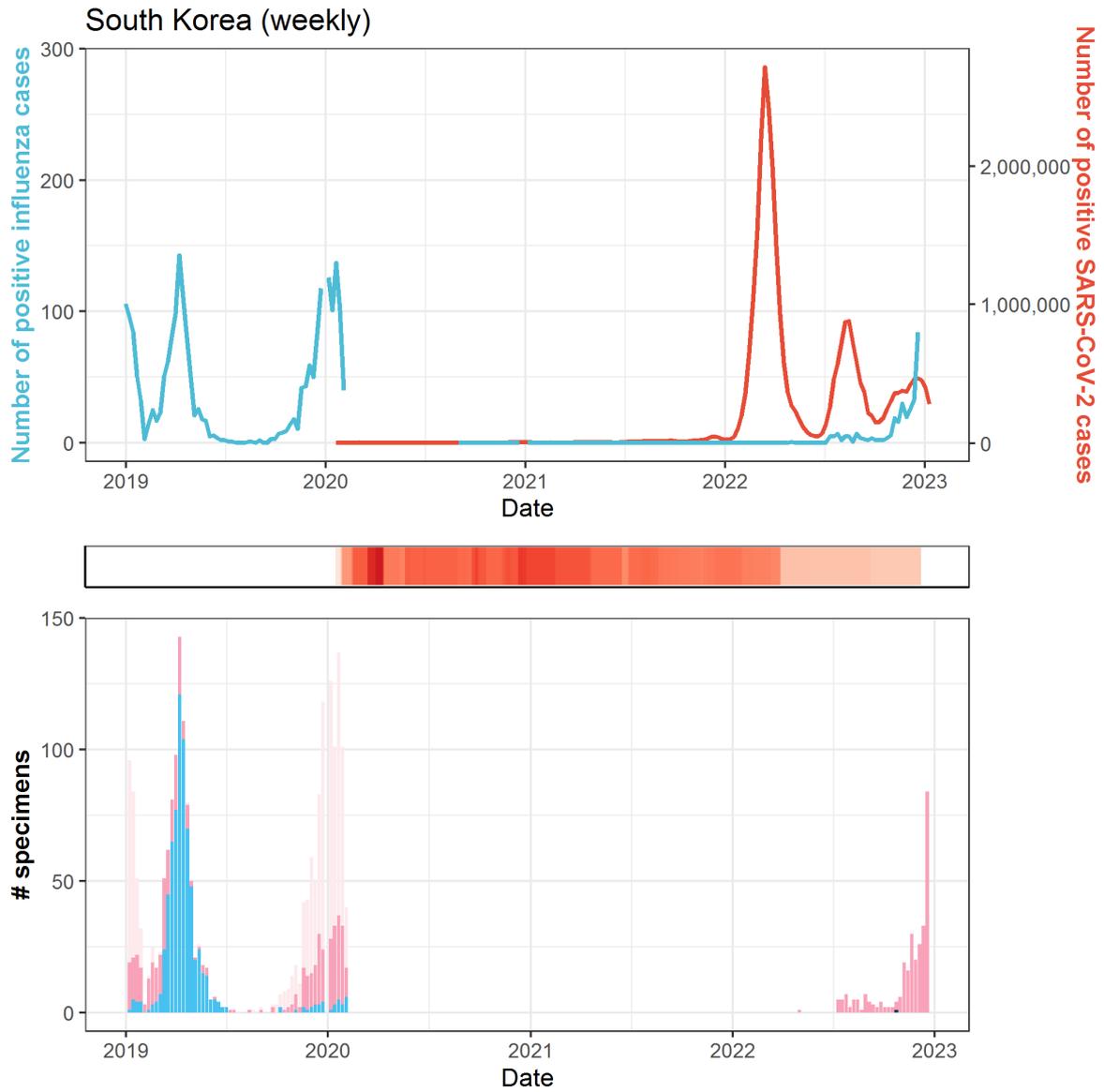
Japan



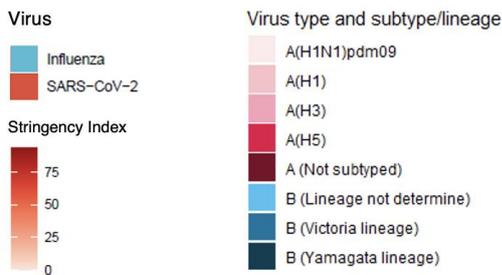
Legends



South Korea

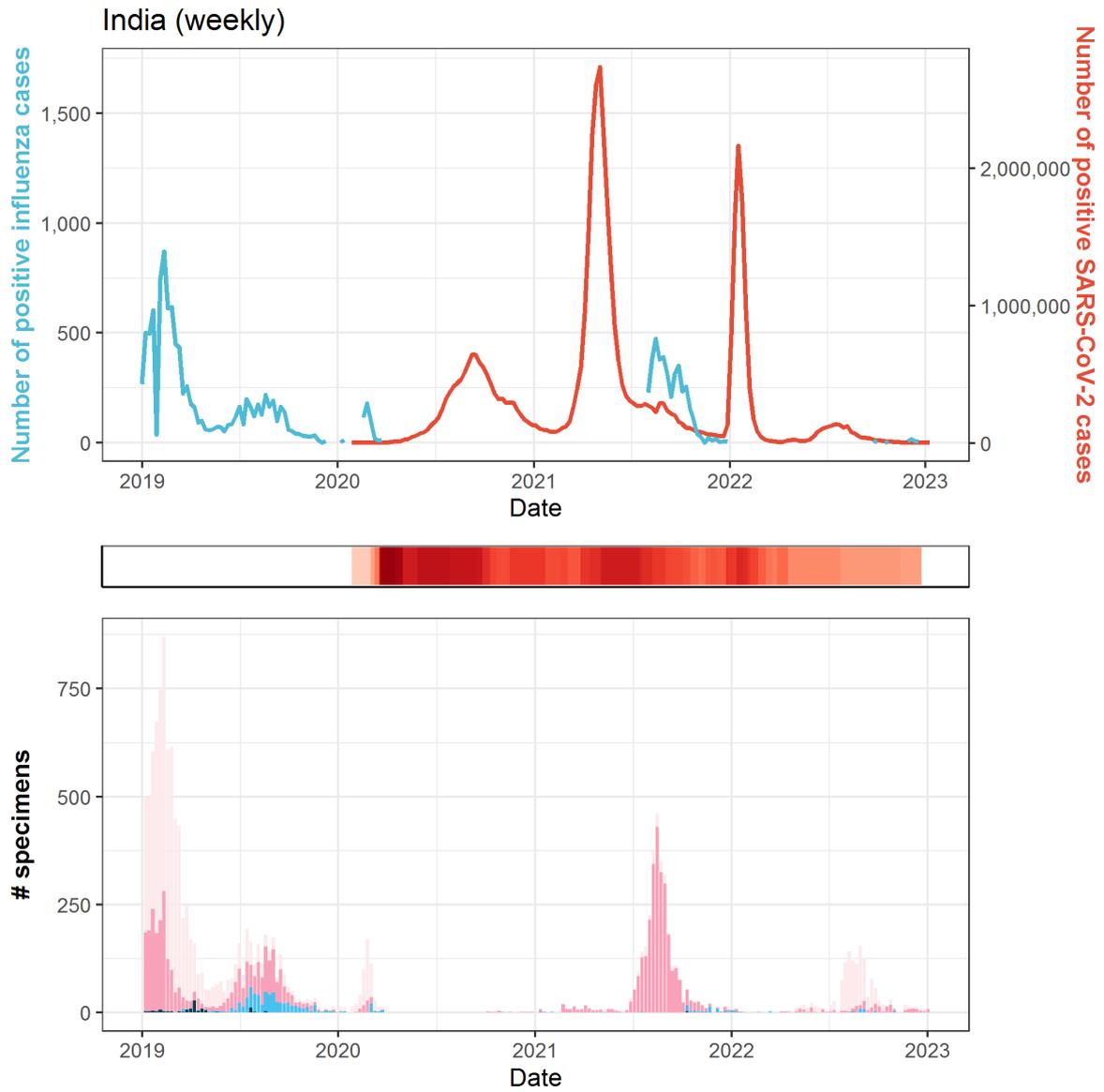


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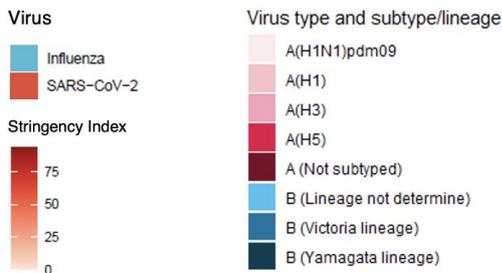


Southern Asia

India

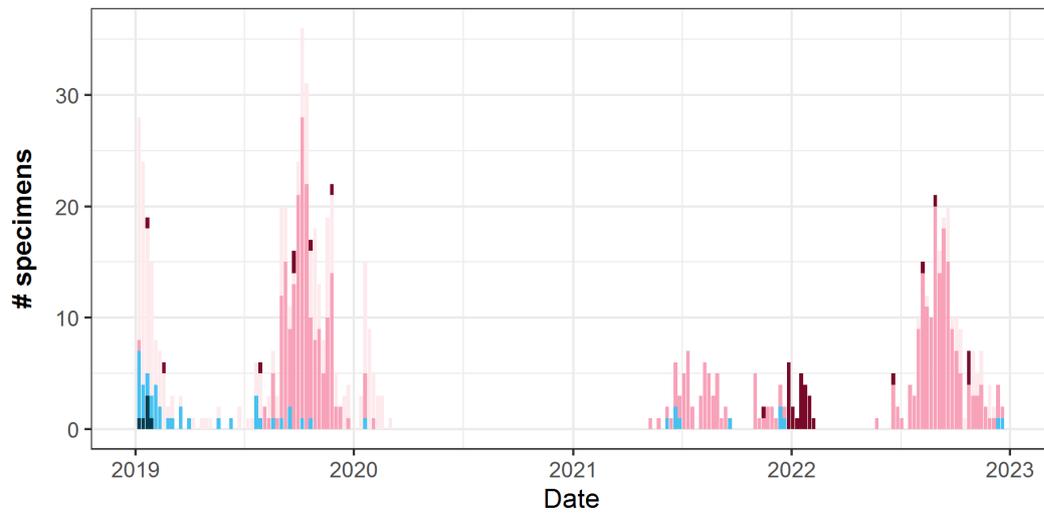
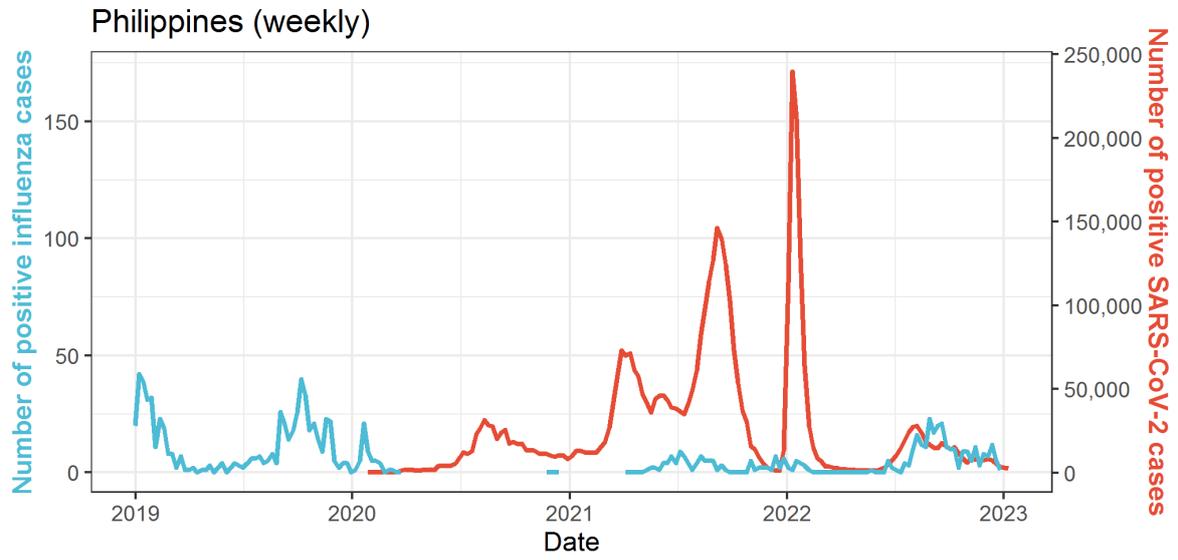


Legends



South-East Asia

Philippines



Legends

Virus

- Influenza
- SARS-CoV-2

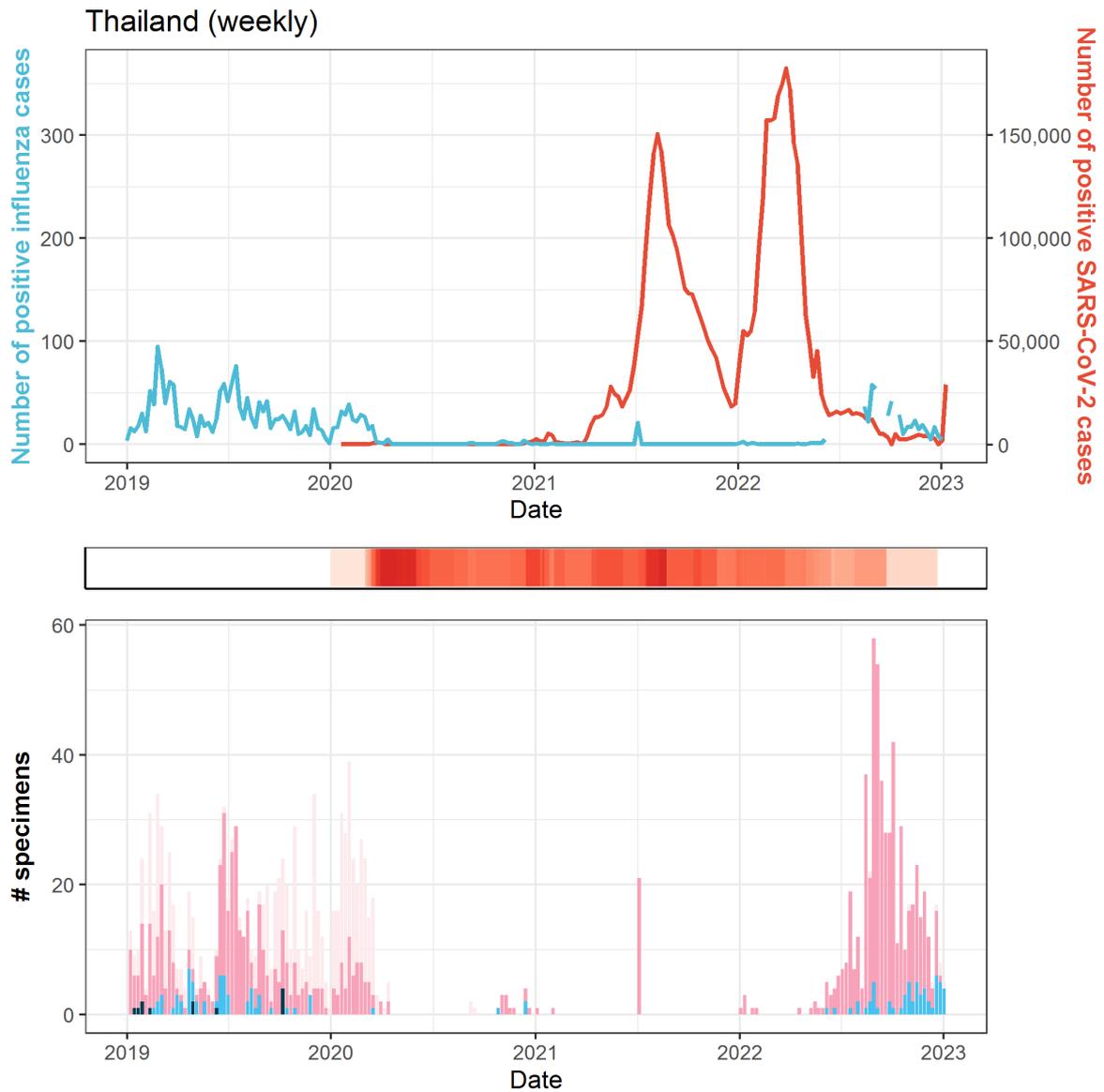
Stringency Index

- 75
- 50
- 25
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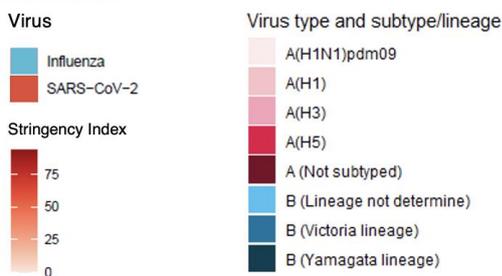
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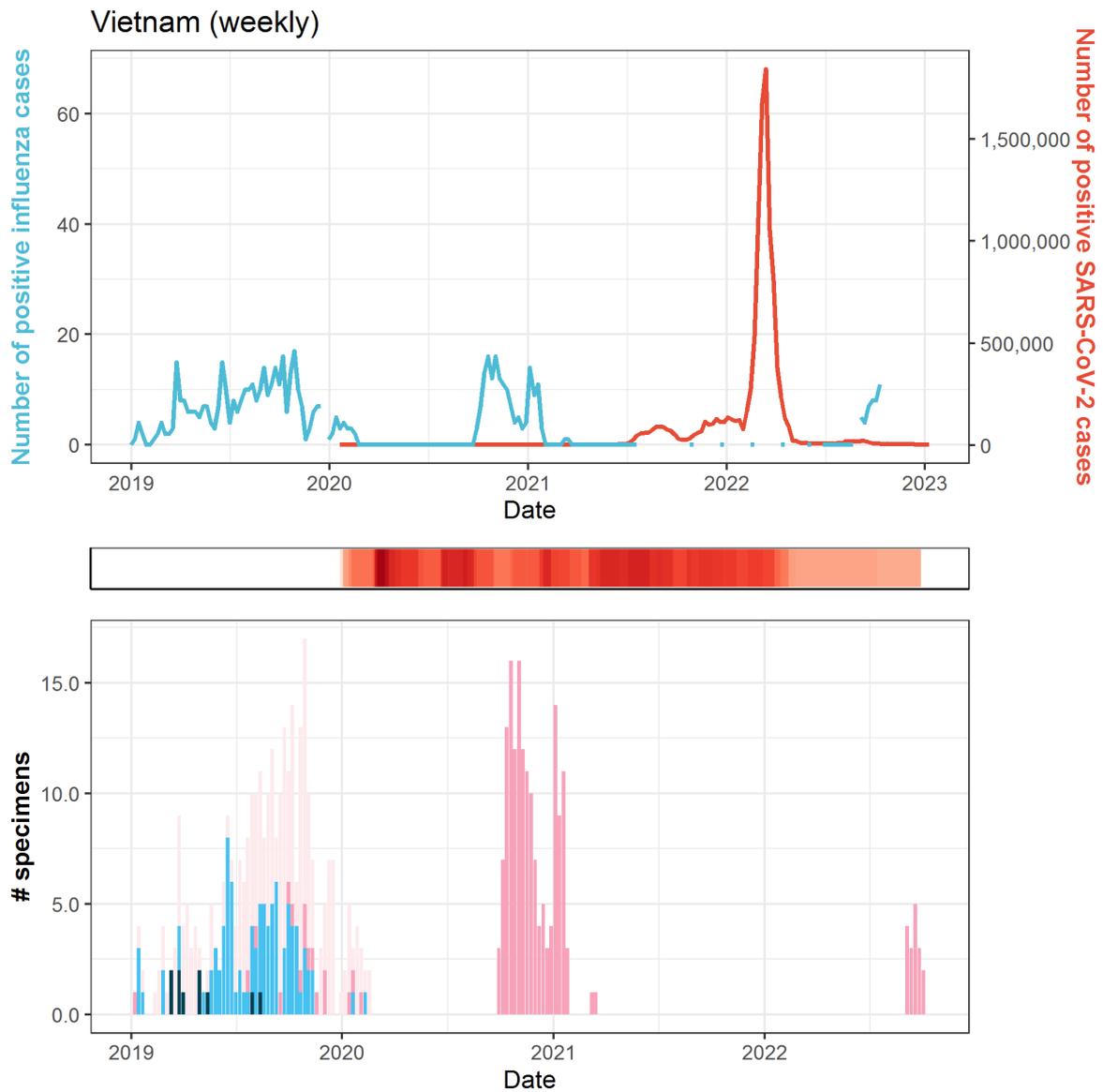
Thailand



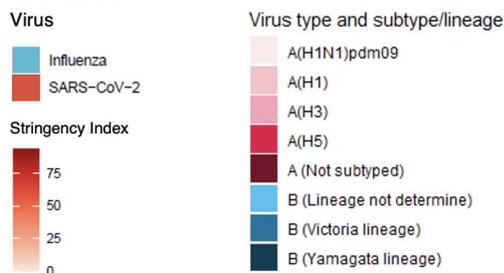
Legends



Vietnam

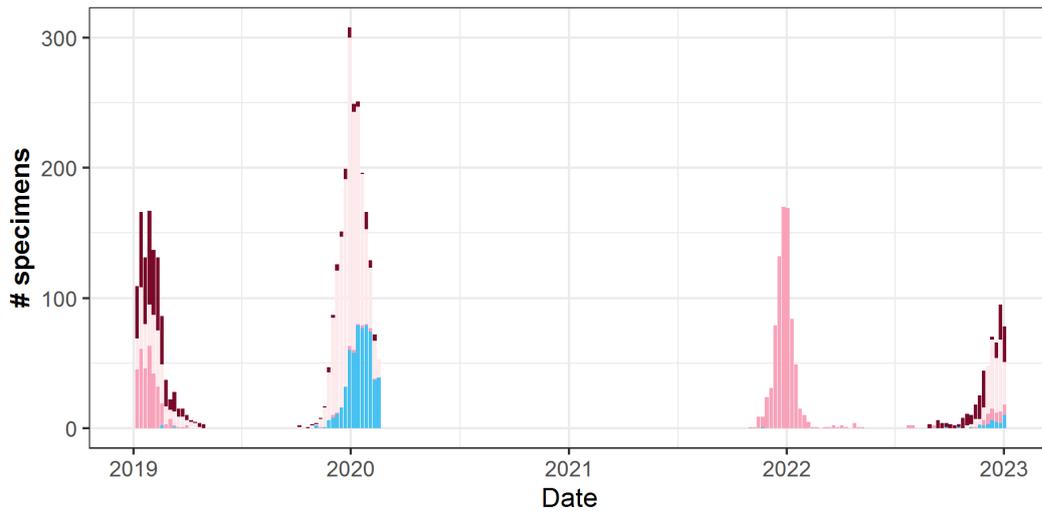
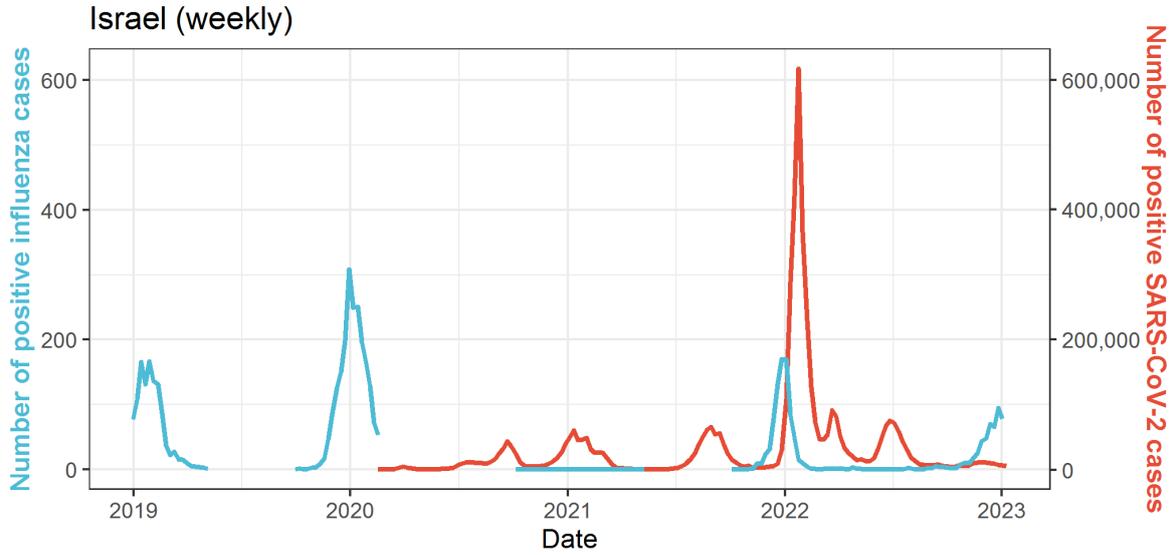


Legends



Western Asia

Israel



Legends

Virus

- Influenza
- SARS-CoV-2

Stringency Index

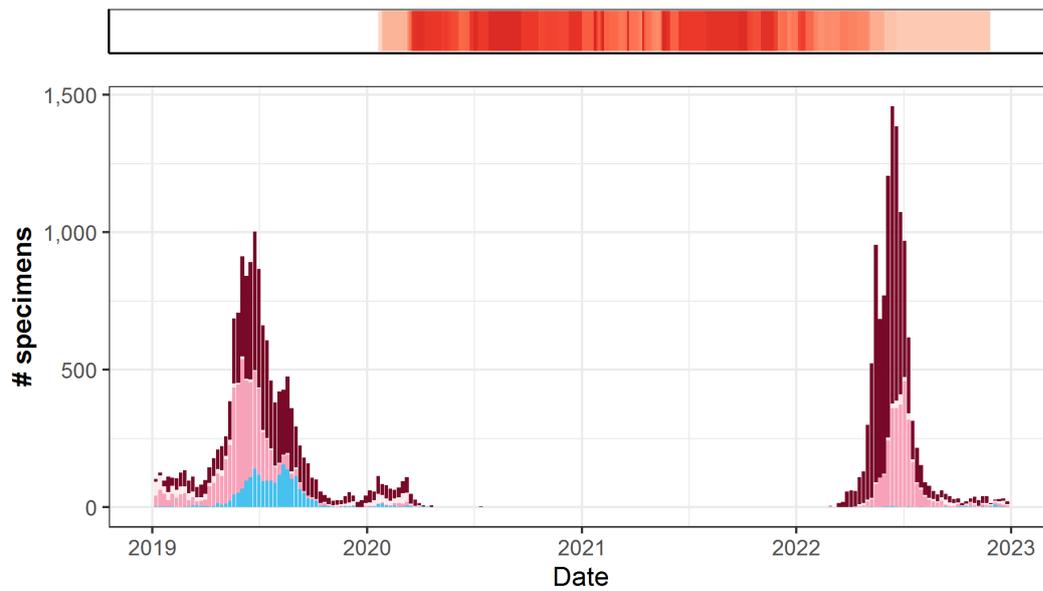
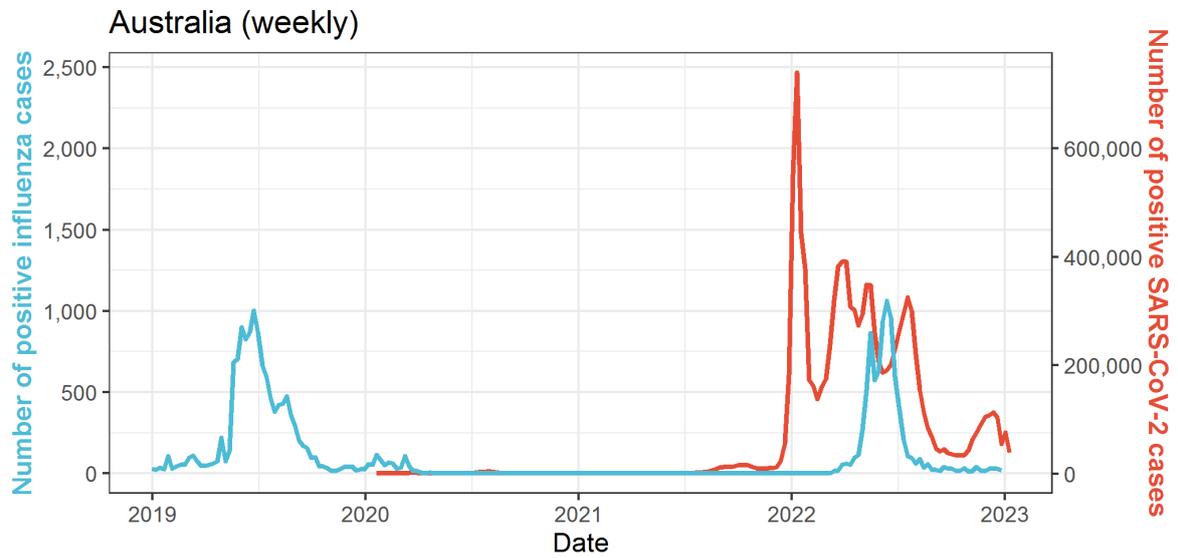


Virus type and subtype/lineage

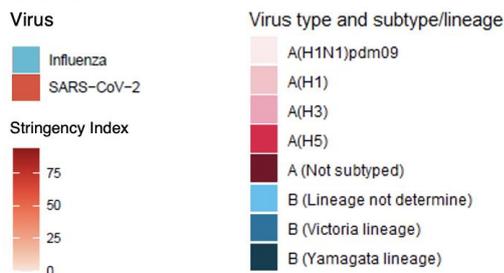
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Oceania

Australia



Legends



Absolute numbers per country

Country	Year ^a	Cases ^b of SARS-CoV-2	Cases ^b of influenza	Week of last influenza update
Australia	2019		12,404	
Australia	2020	28,425	784	
Australia	2021	397,071	7	
Australia	2022	10,735,641	8,330	2022-52
Brazil	2019		3,320	
Brazil	2020	7,700,828	1,314	
Brazil	2021	14,485,929	1,183	
Brazil	2022	14,039,578	3,642	2023-02
Canada	2019		43,196	
Canada	2020	590,249	44,956	
Canada	2021	1,633,486	337	
Canada	2022	2,297,368	71,314	2023-01
China	2019		122,757	
China	2020	93,153	31,164	
China	2021	21,489	10,145	
China	2022	1,835,765	52,705	2023-01
Egypt	2019		1,998	
Egypt	2020	138,062	659	
Egypt	2021	247,513	233	
Egypt	2022	130,070	1,227	2022-42
France	2019		25,405	
France	2020	2,735,590	16,589	
France	2021	7,706,191	3,071	
France	2022	29,345,799	39,493	2023-01
Germany	2019		1,215	
Germany	2020	1,719,737	958	
Germany	2021	5,389,445	29	
Germany	2022	30,260,684	1,922	2023-01
India	2019		9,698	
India	2020	10,286,709	457	
India	2021	24,574,870	4,085	
India	2022	9,820,232	76	2023-01
Israel	2019		1,796	
Israel	2020	423,290	1,424	
Israel	2021	961,872	456	
Israel	2022	3,379,744	774	2023-01
Italy	2019		2,787	
Italy	2020	2,107,314	7,484	
Italy	2021	4,018,517	31	
Italy	2022	19,018,022	5,653	2023-01
Japan	2019		10,343	
Japan	2020	235,747	2,915	
Japan	2021	1,497,558	9	
Japan	2022	27,501,370	109	2022-52

Country	Year ^a	Cases ^b of SARS-CoV-2	Cases ^b of influenza	Week of last influenza update
Mexico	2019		6,963	
Mexico	2020	1,426,094	4,799	
Mexico	2021	2,553,629	960	
Mexico	2022	3,255,892	10,314	2023-02
Netherlands	2019		5,166	
Netherlands	2020	806,620	3,235	
Netherlands	2021	2,346,892	471	
Netherlands	2022	5,426,571	14,762	2023-01
Philippines	2019		612	
Philippines	2020	474,064	52	
Philippines	2021	2,369,926	105	
Philippines	2022	1,221,098	265	2022-52
Poland	2019		1,786	
Poland	2020	1,294,878	1,282	
Poland	2021	2,813,337	2	
Poland	2022	2,260,264	1,604	2023-01
South Africa	2019		1,164	
South Africa	2020	1,057,161	157	
South Africa	2021	2,382,539	413	
South Africa	2022	590,916	1,166	2022-50
South Korea	2019		1,702	
South Korea	2020	61,768	505	
South Korea	2021	573,484	0	
South Korea	2022	28,481,547	295	2022-51
Spain	2019		16,580	
Spain	2020	1,938,671	8,828	
Spain	2021	4,440,910	2,207	
Spain	2022	7,391,148	16,740	2023-01
Thailand	2019		1,568	
Thailand	2020	6,882	297	
Thailand	2021	2,216,551	23	
Thailand	2022	2,507,715	465	2023-01
United Kingdom	2019		42,447	
United Kingdom	2020	2,488,780	14,369	
United Kingdom	2021	10,456,330	2,755	
United Kingdom	2022	10,353,762	26,232	2023-01
United States	2019		268,524	
United States	2020	20,217,040	229,766	
United States	2021	34,687,354	39,507	
United States	2022	45,871,896	410,223	2022-51
Vietnam	2019		355	
Vietnam	2020	1,465	146	
Vietnam	2021	1,729,792	39	
Vietnam	2022	9,235,034	43	2022-41

^a Figures for the year 2023 will be reported starting from the end-January bulletin, when data for more countries will be available

^b Laboratory-confirmed cases.

^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.

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 [3]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [4]. 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) [5].

Data sources

- **Influenza:** FluNet [6] 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 [7]. 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 [8] cases as well as various national public health institutions.
- **Government response tracker:** The Oxford COVID-19 Government Response Tracker (OxCGRT) [5] 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 16 January 2023 and cover the period 1 January 2019 to 15 January 2023. 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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