FluCov Epi-Bulletin –January 2022
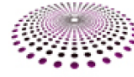
*'Combining data from around the world to understand
the impact of COVID-19 on influenza activity'*

Commentary

Contents

It has been two years since the World Health Organization (WHO) requested information on a cluster of atypical pneumonia cases in Wuhan from Chinese authorities (January 1, 2020) that were later linked to the new SARS-CoV-2 virus. The FluCov Epi-Bulletin provides an overview of the number of positive cases of influenza and SARS-CoV-2 and the percentage of specimens tested positive from January 2019 onwards in 22 countries (see).

Results

At the end of 2021, we saw increased influenza activity in many countries included in this bulletin [1]. However, none of the included countries appear to currently experience a rise in the number of influenza cases, with several countries (Canada, China, Israel, Mexico, Spain, United Kingdom and United States) showing a decreasing number of cases since the start of 2022. Since the end of December 2021, no new influenza cases were reported in Egypt, Japan, South Korea and Vietnam. In Australia, India, the Philippines, Poland and South Africa, the weekly number of new cases was lower than 10.
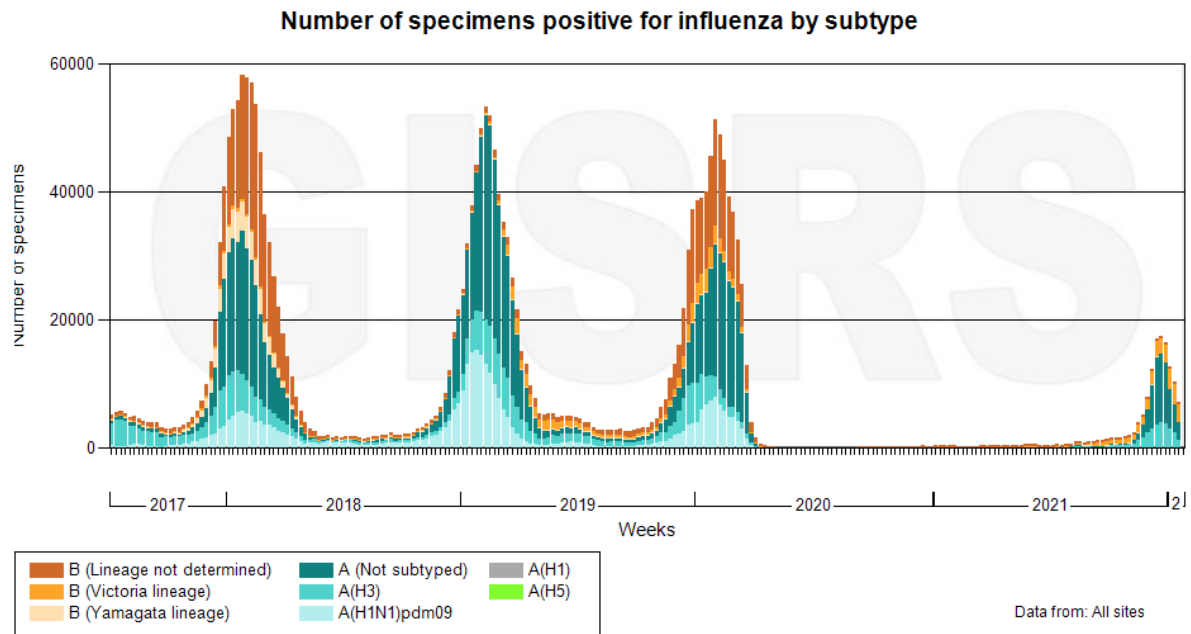
The number of reported SARS-CoV-2 cases have surged to record levels in almost all countries included in the Epi-Bulletin since the end of 2021, probably due to the recent emergence of the Omicron variant [2]. In Canada, Australia, India, Italy, Mexico, the Philippines, Spain, United Kingdom and United States this wave appears to have ended and the number of new cases is declining. This is not (yet) true for Brazil, Egypt, Germany, Israel, Japan, the Netherlands, Poland and South Korea where we see SARS-CoV-2 cases continue to rise.

Implications

The increased circulation of SARS-CoV-2 and influenza that started in November 2021 continued throughout the month of December. In January 2022, whereas some countries continued to experience a rise in SARS-CoV-2 cases, the influenza epidemics seem to have peaked in December 2021, with possible explanations being the reinforcement of non-pharmaceutical interventions (NPIs) in response to the Omicron variant or viral interference with the increased circulation of SARS-CoV-2. Reasons for the increase in SARS-CoV-2 cases could be linked to the increased transmissibility of the new Omicron variant, a relaxation of NPIs in the pre-Omicron period (October and November 2021), reduced effectiveness and protection of the COVID-19 vaccines [3] and seasonality (winter months).

Importantly, and in contrast to the 2020/21 winter, there appears to be **co-circulation** of influenza and SARS-CoV-2 in many countries during the 2021/22 winter. Also, whilst we witnessed influenza activity, the levels have been low compared to previous years in many countries. Despite this general pattern, a couple of countries have had (India) or are having (e.g. China, Brazil and Israel) notable influenza activity. Overall, it looks like influenza circulation is slowly decreasing (see also the WHO FluNet Figure below). Considering influenza B typically circulates later than influenza A (currently dominant), there may be some increased influenza B activity in February and March 2022 [4,5].

Global circulation of influenza viruses

Number of specimens positive for influenza by subtype

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

Data from: All sites

Data source: FluNet (www.who.int/flunet), GISRS

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National Influenza Centre (NIC) Survey

We would like to invite NIC contact persons of countries included in this Epi-Bulletin to participate in our **NIC survey**. Through this survey we aim to better understand the influenza (FluNet) and SARS-CoV-2 surveillance data reported to WHO in 2020 and 2021. Participation is possible until the end of February 2022 using the following link: https://s.surveyplanet.com/eHfBYgPI5

- **Responded:** Australia, Brazil, France, Italy, Philippines, Spain, Thailand, UK, USA
- **Pending:** Canada, China, Egypt, Germany, India, Israel, Japan, Mexico, Netherlands, Poland, South Africa, South Korea, Vietnam

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Monthly plots by country

The plots per country show weekly data for influenza and SARS-Cov-2 infections from January 1, 2019 up to January 23, 2022. This Epi-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. These plots will be updated monthly and distributed through future Epi-Bulletins.

Per country, the top plot displays the number of positive influenza (in red) and SARS-CoV-2 (in blue) cases. An overview of the absolute number of influenza and SARS-CoV-2 cases per country can be found on pages 15-15 of this Epi-Bulletin. 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 red) and SARS-CoV-2 (in blue) specimen testing positive.

Countries (click to view plot)

North America
Canada
United States

Central America Caribbean
Mexico

Tropical South America
Brazil

Northern Europe
United Kingdom

South West Europe
France

Germany
Italy
Netherlands
Spain

Eastern Europe
Poland

Northern Africa
Egypt

Southern Africa
South Africa

Eastern Asia
China
Japan
South Korea

Southern Asia
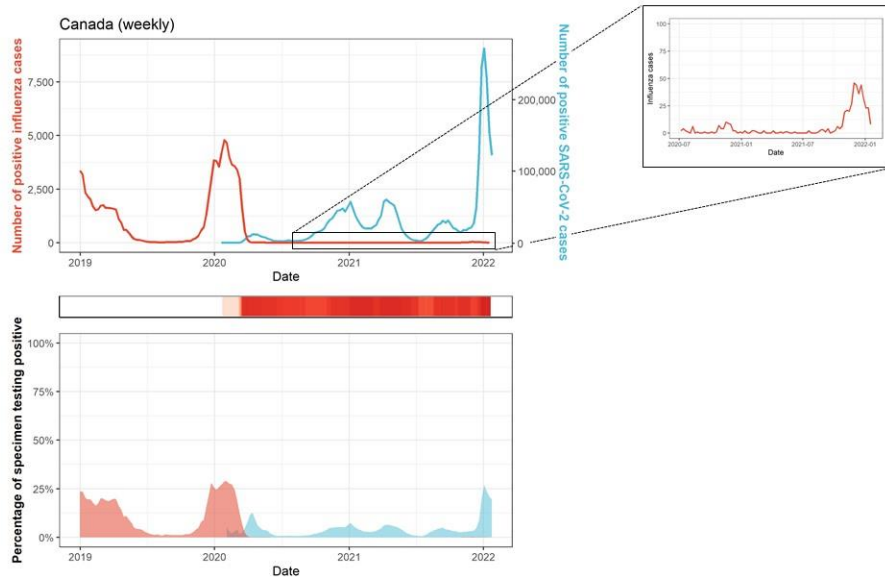India

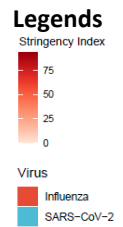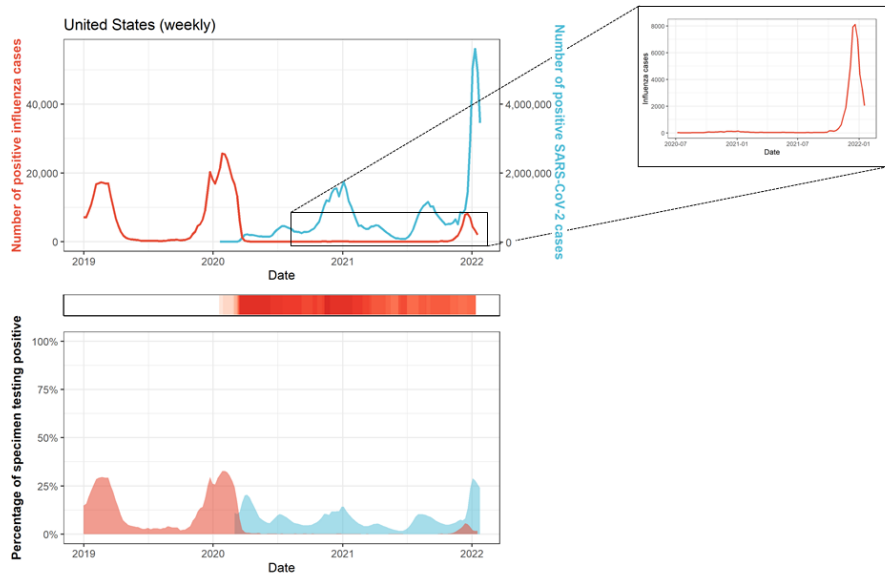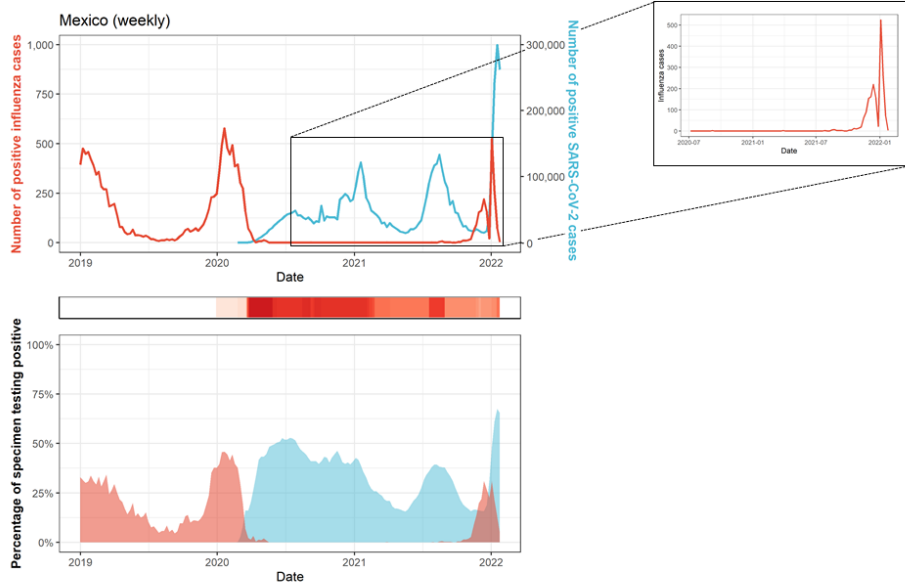**South East Asia**
Philippines
Thailand
Vietnam

Western Asia
Israel

Oceania
Australia

North America

Canada

United States

Legends

Stringency Index

Virus
- Influenza
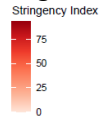- SARS-CoV-2

Central America Caribbean

Mexico

Tropical South America

Brazil

Note. Brazil has no positivity rate for SARS-CoV-2 because no denominator was available.
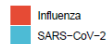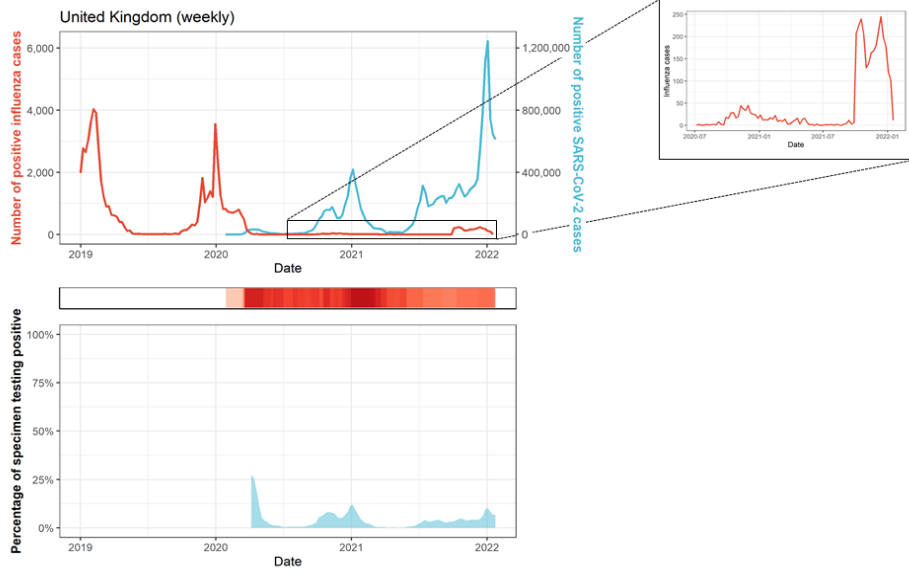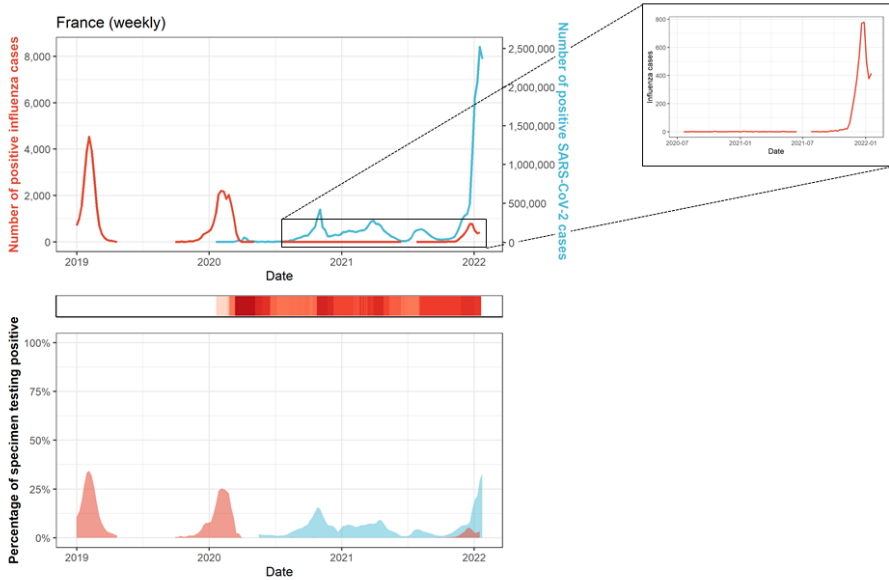

Legends

Stringency Index

Virus
- Influenza
- SARS−CoV−2

Northern Europe

United Kingdom

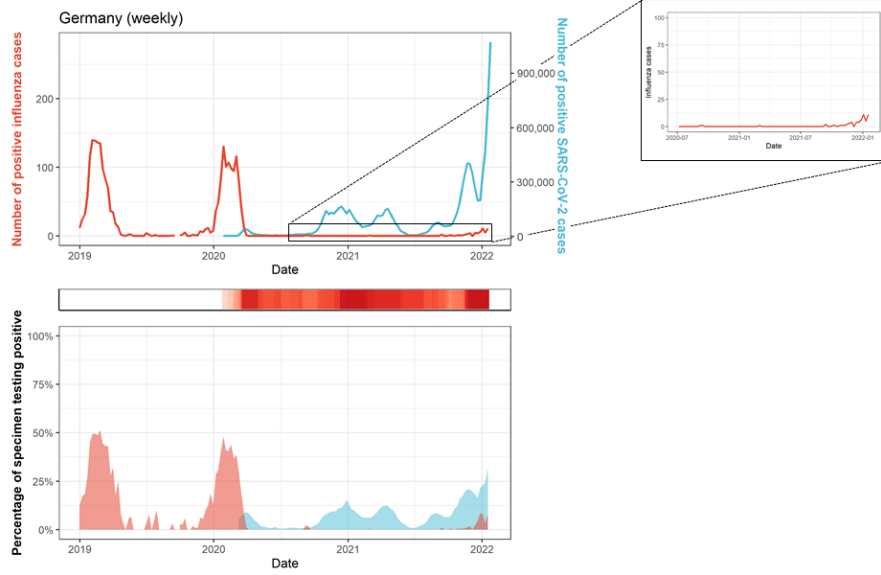United Kingdom (weekly)

South West Europe

France

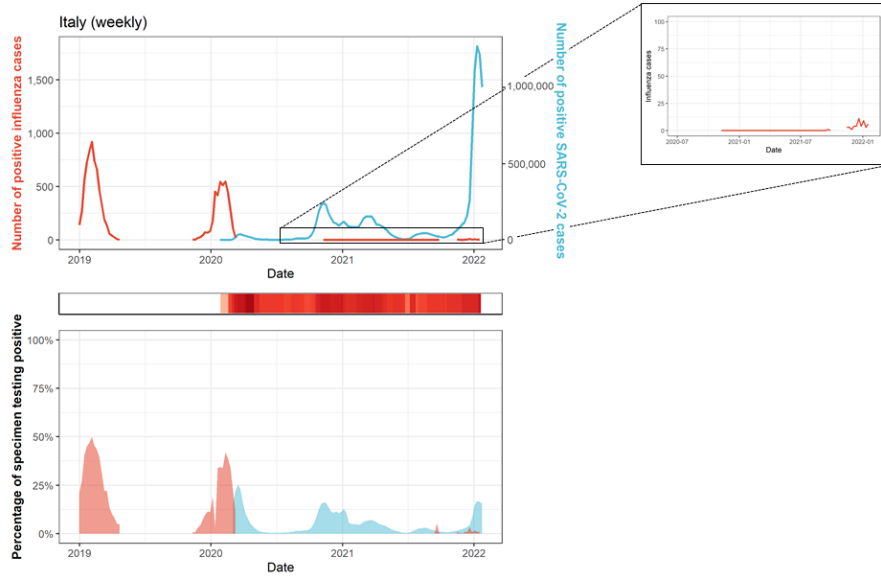France (weekly)

Legends
Stringency Index
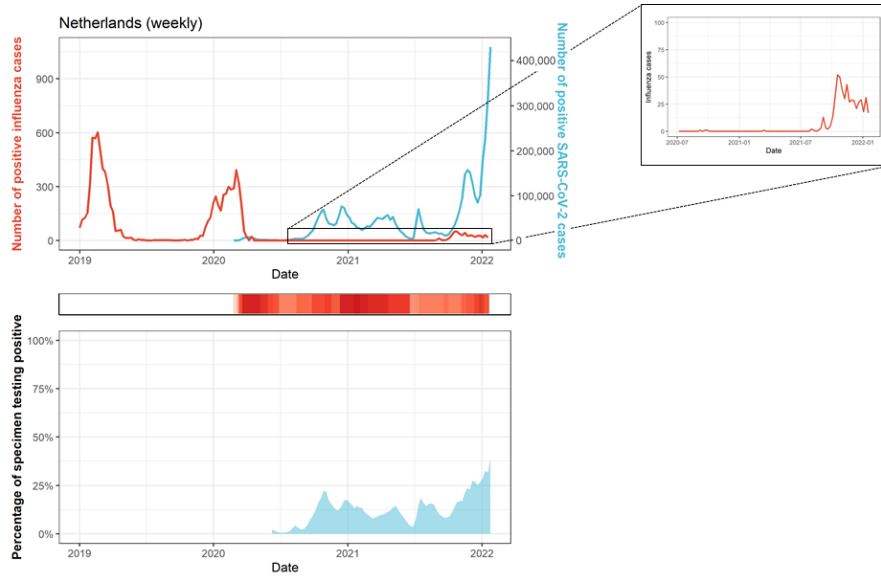75
50
25
0

Virus
Influenza
SARS−CoV−2

Germany

Italy
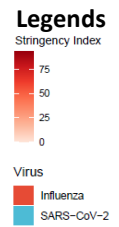
Netherlands

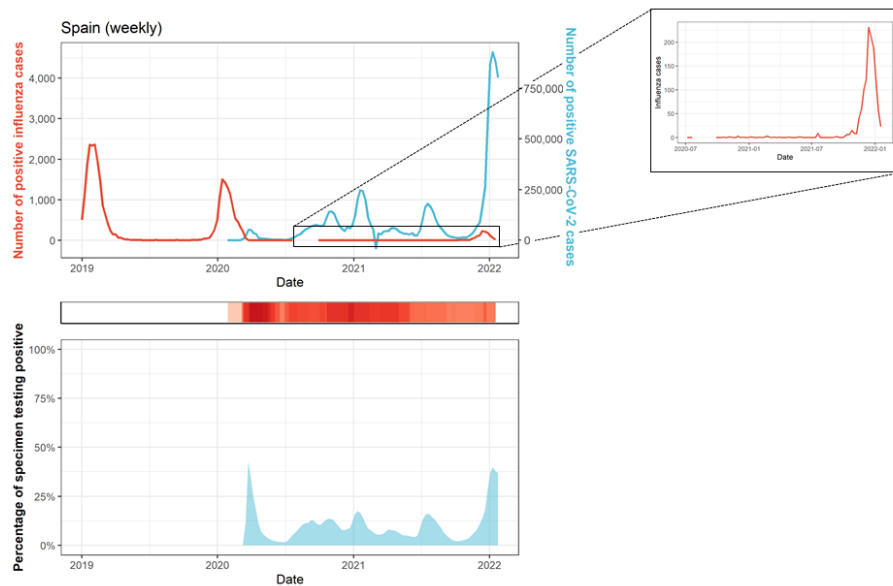*Note.* The Netherlands does not have a positivity rate for influenza because the denominator was deemed unreliable.

Spain

Note. Spain does not have a positivity rate for influenza because the denominator was deemed unreliable.

The number of SARS-CoV-2 cases dips below 0 as -74 347 new cases were reported on 2 March 2021.

Legends

Stringency Index

75
50
25
0

Virus

Influenza
SARS–CoV–2
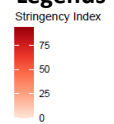
Eastern Europe

Poland
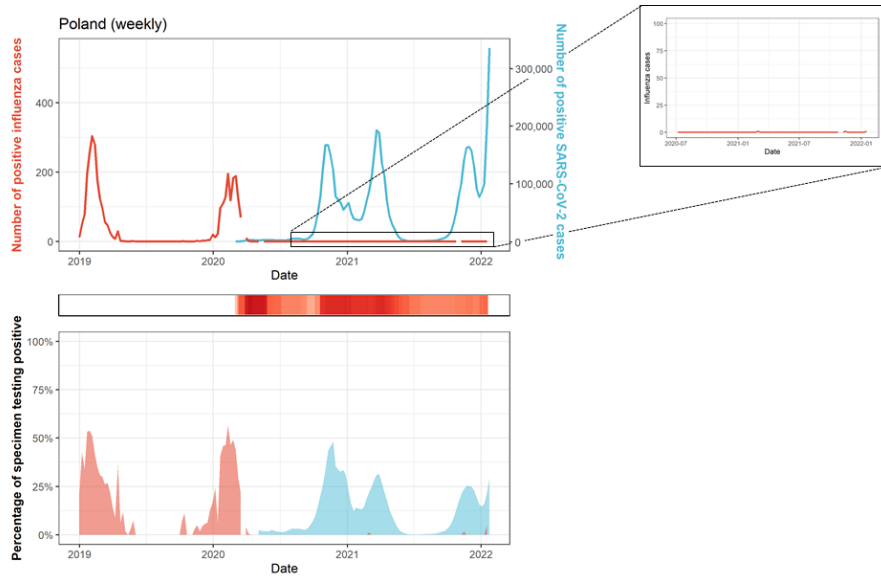
Northern Africa
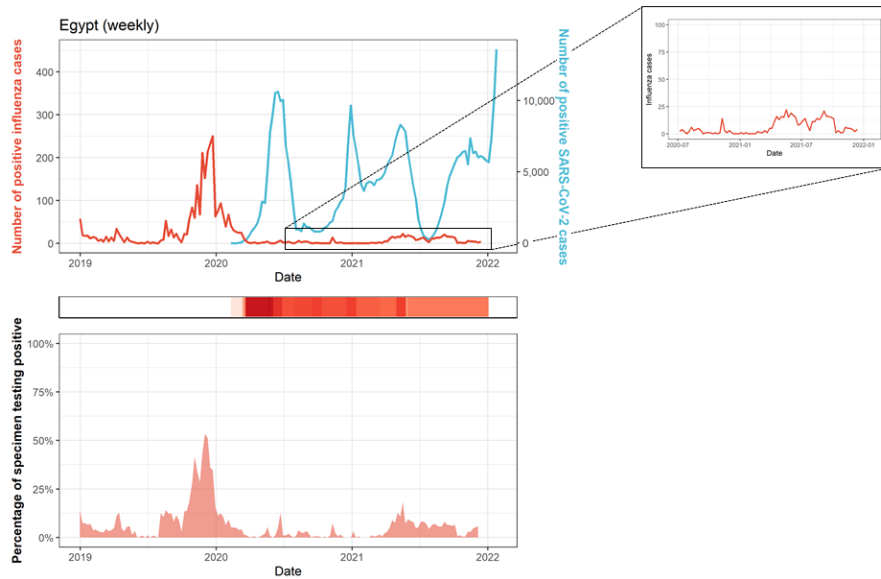
Egypt

Note. Egypt does not have a positivity rate for SARS-CoV-2 because no denominator was available.

Legends

Stringency Index

Virus
- Influenza
- SARS–CoV–2
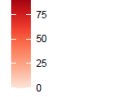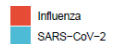
Southern Africa

South Africa
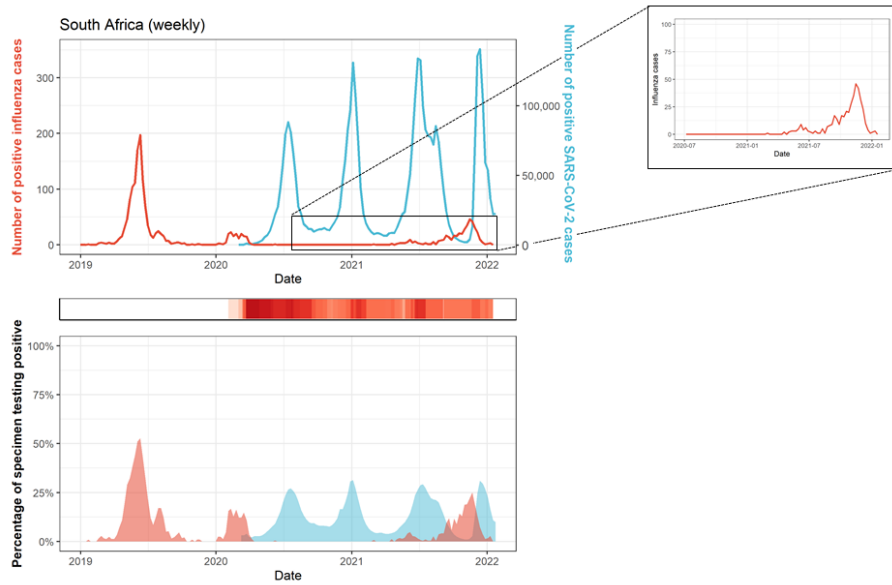
Eastern Asia
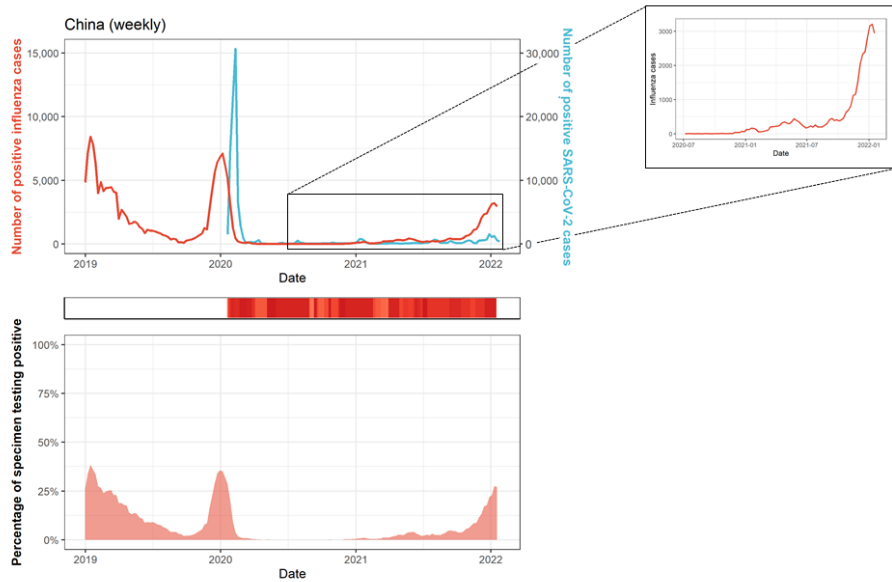
China

Note. China has no positivity rate for SARS-CoV-2 because no denominator was available.

Legends

Stringency Index

Virus
- Influenza
- SARS–CoV–2
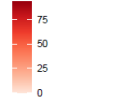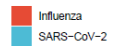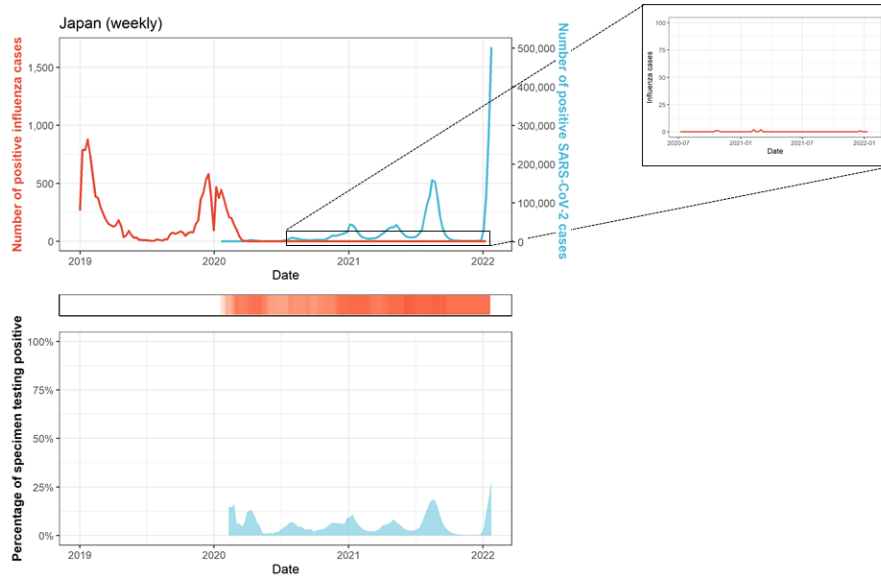
Japan

Note. Japan does not have a positivity rate for influenza because the denominator was deemed unreliable.

South Korea

Legends

Stringency Index
- 75
- 50
- 25
- 0
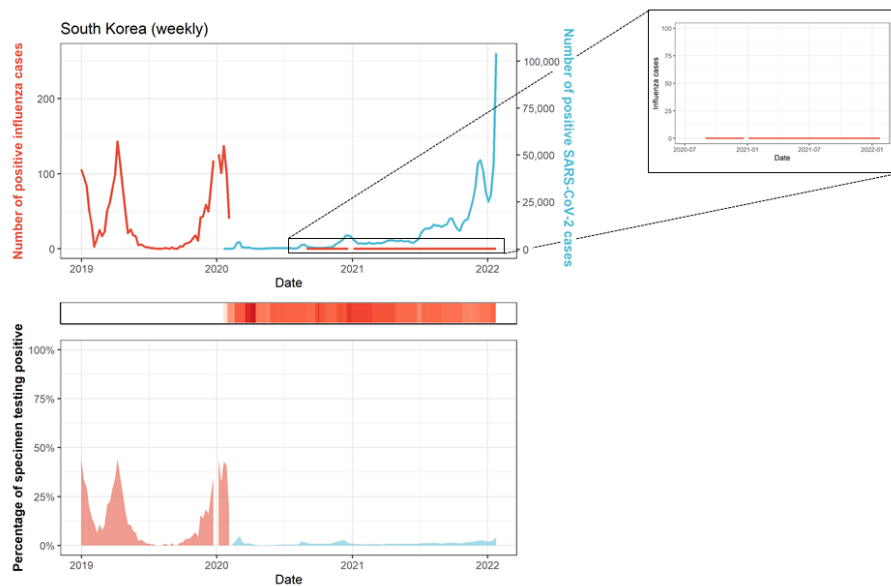
Virus
- Influenza
- SARS-CoV-2
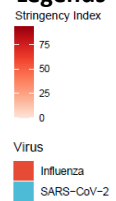
Southern Asia

India
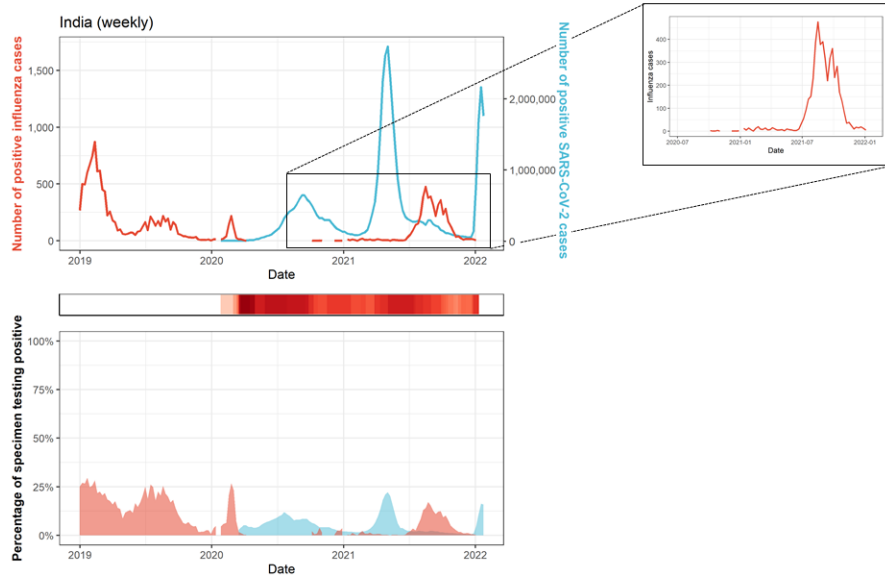
South East Asia

Philippines
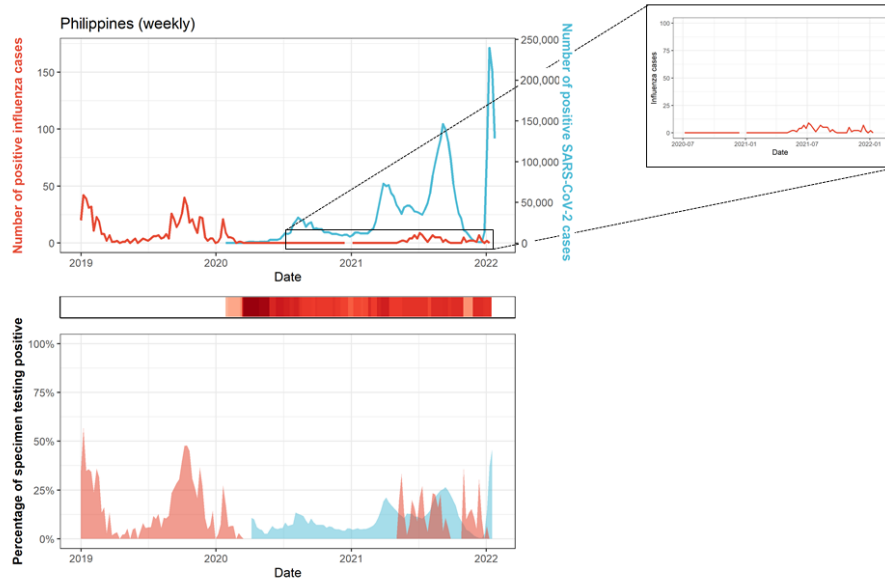
Legends
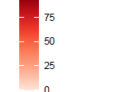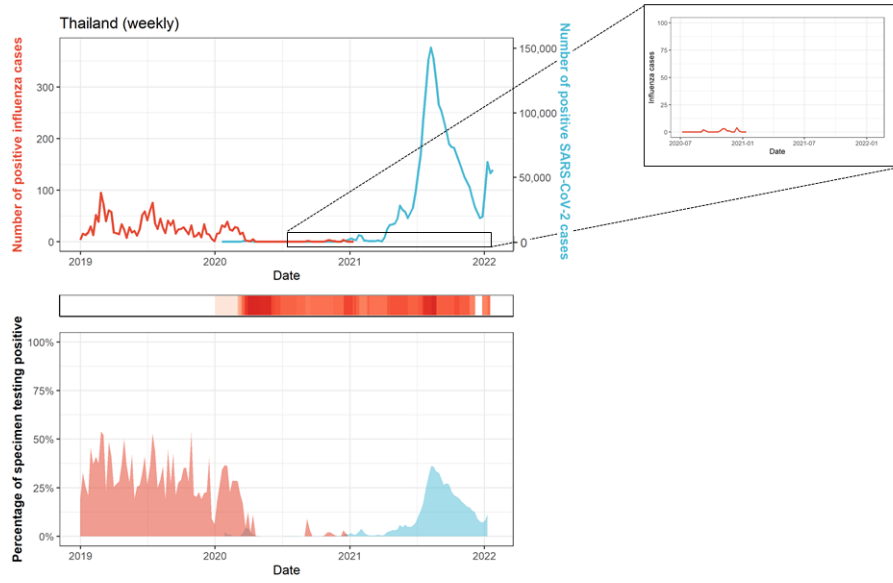
Thailand

Note. No influenza data for Thailand has been uploaded onto FluNet since week 4, 2021

Vietnam

Legends

Stringency Index

- 75
- 50
- 25
- 0
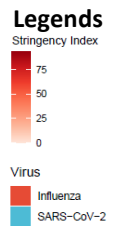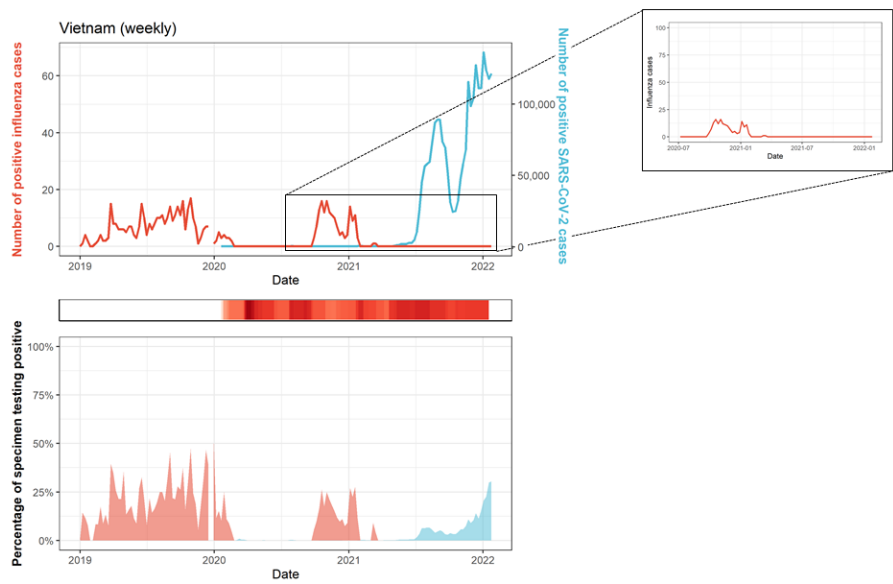
Virus
- Influenza
- SARS−CoV−2

Western Asia

Israel

Oceania

Australia

Absolute numbers per country

Country	Year	Casesª of SARS-CoV-2	+/- since last monthᵇ	Casesª of influenza	+/- since last monthᵇ
Australia	2019			14002	
Australia	2020	28425		949	
Australia	2021	397071		8	
Australia	2022	2181746	2154890	2	2
Brazil	2019			3459	
Brazil	2020	7681032		1391	
Brazil	2021	14485929		1240	
Brazil	2022	3171691	3171691	887	887
Canada	2019			43196	
Canada	2020	583233		44956	
Canada	2021	1599527		337	
Canada	2022	872821	872821	54	54
China	2019			122757	
China	2020	86524		31295	
China	2021	15243		26184	
China	2022	3825	3825	9313	9313
Egypt	2019			1999	
Egypt	2020	138062		659	
Egypt	2021	247513		412	
Egypt	2022	40336	40336	0	0
France	2019			25405	
France	2020	2706289		16589	
France	2021	7706191		3064	
France	2022	9178378	9178378	1286	1286
Germany	2019			1215	
Germany	2020	1746929		958	
Germany	2021	5446257		31	
Germany	2022	2832277	2832277	27	27
India	2019			10428	
India	2020	10286709		655	
India	2021	24574870		4822	
India	2022	6607920	6607920	5	5
Israel	2019			1796	
Israel	2020	423262		1424	
Israel	2021	960670		446	
Israel	2022	1516637	1516637	302	302
Italy	2019			6361	
Italy	2020	2107166		3599	
Italy	2021	4018517		31	
Italy	2022	4857433	4857433	18	18
Japan	2019			10200	
Japan	2020	235747		2743	
Japan	2021	1496547		5	
Japan	2022	945306	945306	0	0

Country	Year	Cases[a] of SARS-CoV-2	+/- since last month[b]	Cases[a] of influenza	+/- since last month[b]
Mexico	2019			6963	
Mexico	2020	1426094		4799	
Mexico	2021	2553629		960	
Mexico	2022	950346	950346	861	861
Netherlands	2019			5166	
Netherlands	2020	798437		3235	
Netherlands	2021	2339505		451	
Netherlands	2022	1303850	1303850	66	66
Philippines	2019			612	
Philippines	2020	474064		52	
Philippines	2021	2369915		99	
Philippines	2022	716223	716223	2	2
Poland	2019			1786	
Poland	2020	1294878		1282	
Poland	2021	2813337		2	
Poland	2022	777939	777939	1	1
South Africa	2019			1164	
South Africa	2020	1057161		157	
South Africa	2021	2382539		413	
South Africa	2022	146936	146936	5	5
South Korea	2019			1702	
South Korea	2020	61768		505	
South Korea	2021	573484		0	
South Korea	2022	228789	228789	0	0
Spain	2019			17228	
Spain	2020	1928265		9373	
Spain	2021	4366480		1025	
Spain	2022	3666508	3666508	200	200
Thailand	2019			1568	
Thailand	2020	6880		297	
Thailand	2021	2216551		0	
Thailand	2022	224529	224529	0	0
United Kingdom	2019			42447	
United Kingdom	2020	2491838		14369	
United Kingdom	2021	10473555		2763	
United Kingdom	2022	4392552	4392552	233	233
United States	2019			268524	
United States	2020	20193450		229766	
United States	2021	34599137		37757	
United States	2022	20148614	20148614	9730	9730
Vietnam	2019			355	
Vietnam	2020	1465		146	
Vietnam	2021	1729792		39	
Vietnam	2022	544470	544470	0	0

Note. [a] Laboratory-confirmed cases. [b] 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 [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 Epi-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. This data is extracted both from the John Hopkins repository on daily confirmed COVID-19 [11] cases as well as various national public health institutions.
- **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 1 February 2022 and cover the period 1 January 2019 to 23 January 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.

References

[1]   FluCov Epi_bulletin – December 2021. https://www.nivel.nl/sites/default/files/algemene-content/FluCov%20EpiBulletin_Dec2021_11012022.pdf [accessed 7 February 2022]

[2]   WHO. Classification of Omicron (B.1.1.529): SARS-CoV-2 variant of concern. https://www.who.int/news/item/26-11-2021-classification-of-omicron-(b.1.1.529)-sars-cov-2-variant-of-concern [accessed 30 November 2021]

[3]   Araf, Y., Akter, F., Tang, Y. et al. Omicron variant of SARS-CoV-2: Genomics, transmissibility, and responses to current COVID-19 vaccines. Journal of Medical Virology. 2022;1-8. DOI: 10.1002/jmv.27588

[4]   Adegbesan, A. Early Flu Peak Puzzles Scientists After Last Year's Reprieve. Bloomberg. https://www.bloomberg.com/news/articles/2022-02-05/early-flu-peak-puzzles-scientists-after-last-year-s-reprieve [accessed 7 February 2022]

[5]   Caini, S., Andrade, W., Badur, S., et al. Temporal Patterns of Influenza A and B in Tropical and Temperate Countries: What Are the Lessons for Influenza Vaccination? Plos One. 2016; 11(5). DOI: https://doi.org/10.1371/journal.pone.0155089

[6]   WHO. Listings of WHO's response to COVID-19. https://www.who.int/news/item/29-06-2020-covidtimeline [accessed 8 February 2021]

[7]   Paget J. RESCEU Newsletter #14 (December 2020). Impact of COVID-19 on RSV seasonality and non-pharmaceutical interventions. https://mailchi.mp/48b04fd9fba3/newsletter11-1591564 [accessed 8 February 2021]

[8]   Oxford COVID-19 Government Response Tracker, Blavatnik School of Government, University of Oxford. https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker [accessed 16 June 2021]

[9]   WHO. FluNet. https://www.who.int/tools/flunet [accessed 15 June 2021]

[10]   Ritchie, H., Ortiz-Ospina, E., Beltekian, D., Mathieu, E., Hasell J., Macdonald B. et al. Coronavirus Pandemic (COVID-19). https://ourworldindata.org/coronavirus [accessed 15 June 2021]

[11]   COVID-19 Dashboard, Center for Systems Science and Engineering, Johns Hopkins University. https://coronavirus.jhu.edu/map.html [accessed 15 June 2021]

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

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