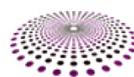


# FluCov Epi-Bulletin – June 2021

*'Combining data from around the world to understand the impact of COVID-19 on influenza activity'*



Global **Influenza** Initiative

## Commentary

### Background

WHO requested information on a reported cluster of atypical pneumonia cases in Wuhan from the Chinese authorities on 1 January 2020 [1]. On 1 March 2020, WHO made the assessment that SARS-CoV-2 could be characterized as a pandemic [1]. The emergence of this new virus has had a major impact on the global circulation of respiratory viruses, including influenza and RSV [2]. 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

This first Epi-Bulletin provides an overview of the number of positive influenza and SARS-CoV-2 cases and the percentage of specimen tested positive from January 2019 onwards for eleven countries distributed over North America, Northern and South West Europe, Eastern and Southern Asia, 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) [3].

### Results

For the majority of countries included in this Epi-Bulletin, seasonal influenza is detected year-round, with an increase in activity during fall and winter and a peak between December-February. All countries in the Northern hemisphere show influenza peaks in the first months of 2019 and 2020. Since the start of the SARS-CoV-2 pandemic (11 March 2020), the number of influenza cases has dropped to zero (or near zero) in almost all countries, and the expected influenza peak at the start of 2021 did not emerge. Instead, the number of SARS-CoV-2 cases rose, with two peaks in the second half of 2020 in most countries. Canada, Germany, Australia, Japan and India show two similar sized peaks separated by a slight decrease in cases, whereas the United States was hit by one long-lasting epidemic. In France and Italy, the first SARS-CoV-2 peak was much higher than the second one. Spain and the United Kingdom were hit by a larger second peak. China only shows one short peak at the start of 2020. Despite the emergence of SARS-CoV-2, influenza has not entirely disappeared in 2021, with India showing some activity across the season and China showing a slow rise in influenza cases over the past weeks.

### Implications

In line with a previous study [4] our figures show a global decline in influenza activity since the start of the SARS-CoV-2 pandemic. At first this decline was attributed to reduced health care seeking behavior and the implementation of mitigation measures. However, compared to previous years there was no decrease in the total number of influenza tests reported during the pandemic [5]. Mitigation measures may have direct effects on future influenza outbreaks. If mitigation measures remain in place throughout the next influenza season, the upcoming influenza peak may be blunted or delayed [4]. On the other hand, as susceptibility increases over the mitigation period, future influenza outbreaks may be larger and not bound to the standard flu season period [6]. Through the current and following Epi-Bulletins we will monitor influenza activity over time and evaluate the effects of loosening mitigation efforts.

## Monthly plots by country

The plots per country show weekly data for influenza and SARS-CoV-2 infections from 1 January 2019 up to 17 June 2021. This Epi-Bulletin includes the countries Canada, United States, France, Germany, Italy, Spain, United Kingdom, Australia, China, Japan, and India. 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 page 9 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

#### Northern Europe

United Kingdom

#### South West Europe

France

Germany

Italy

Spain

#### Eastern Asia

China

Japan

#### Southern Asia

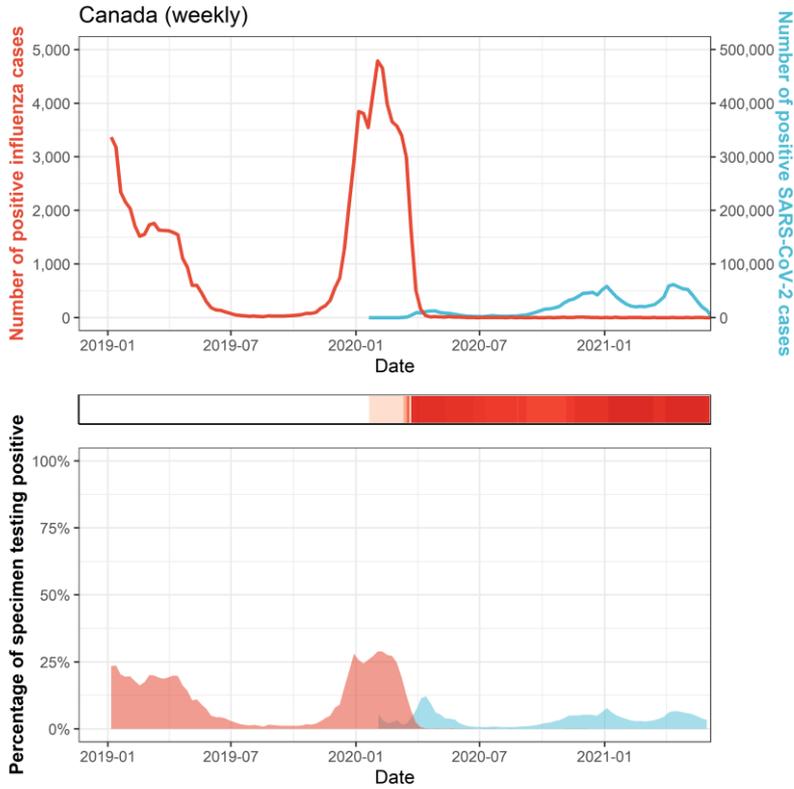
India

#### Oceania

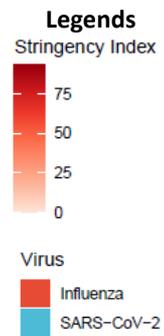
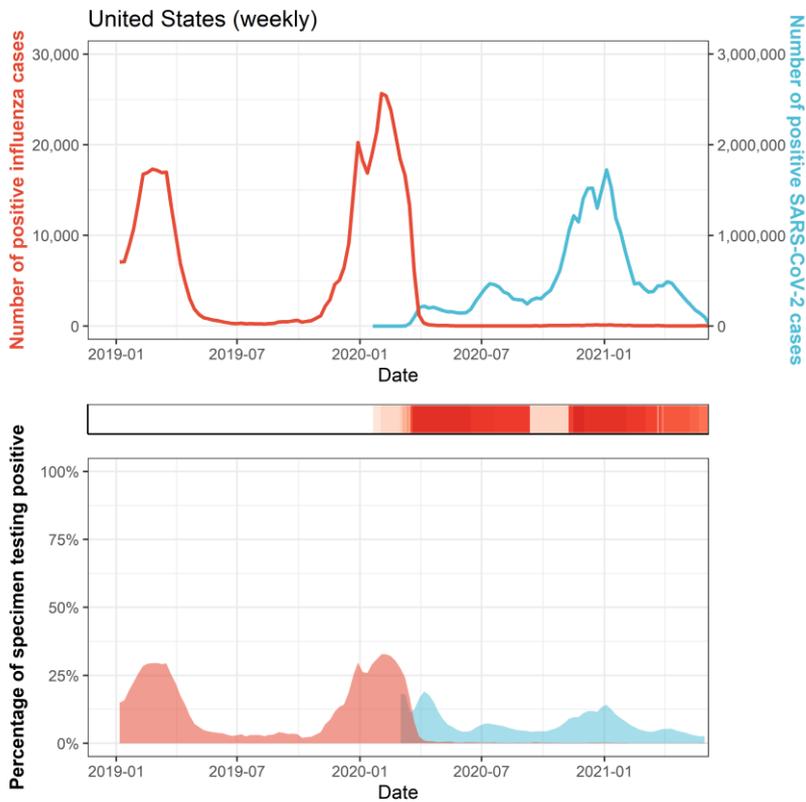
Australia

# North America

## Canada

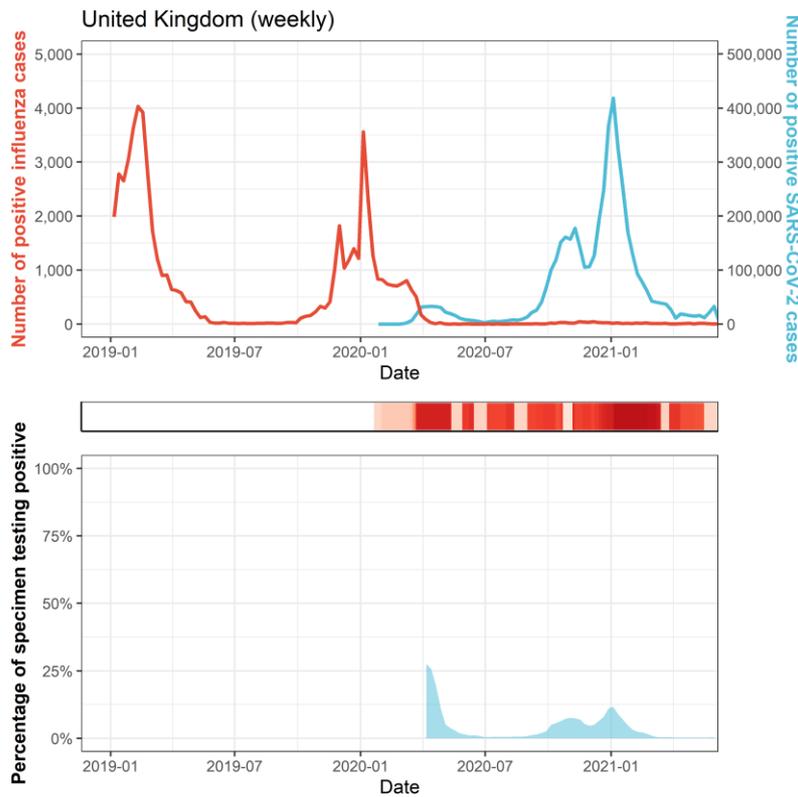


## United States



## Northern Europe

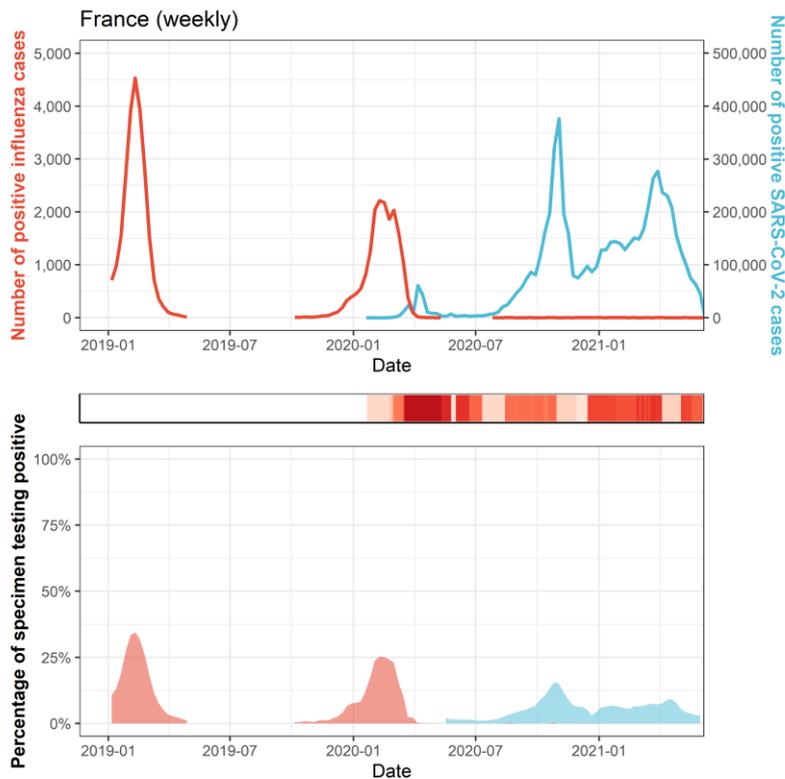
### United Kingdom



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

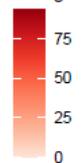
## South West Europe

### France

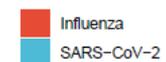


#### Legends

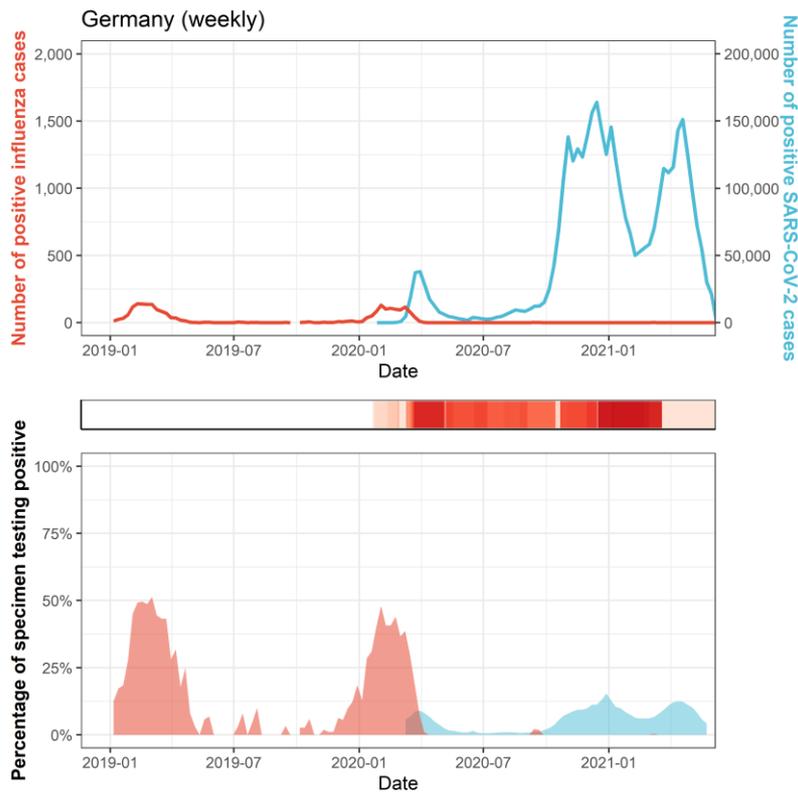
Stringency Index



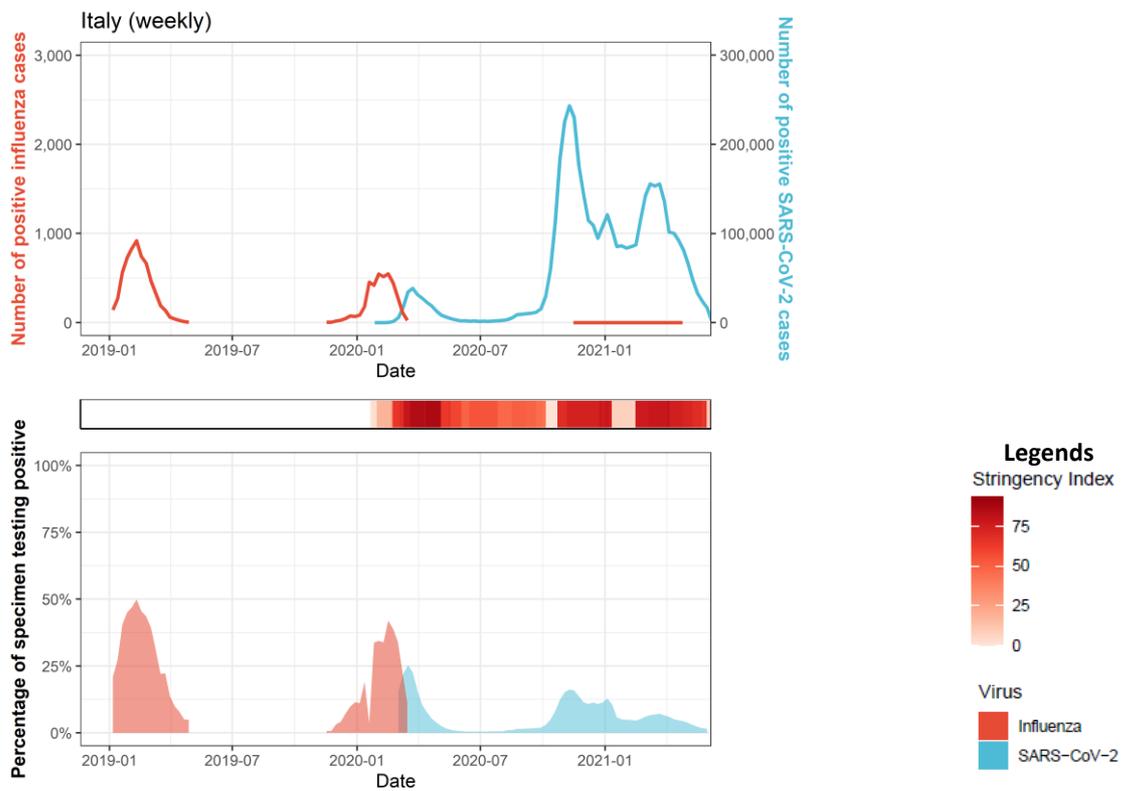
Virus



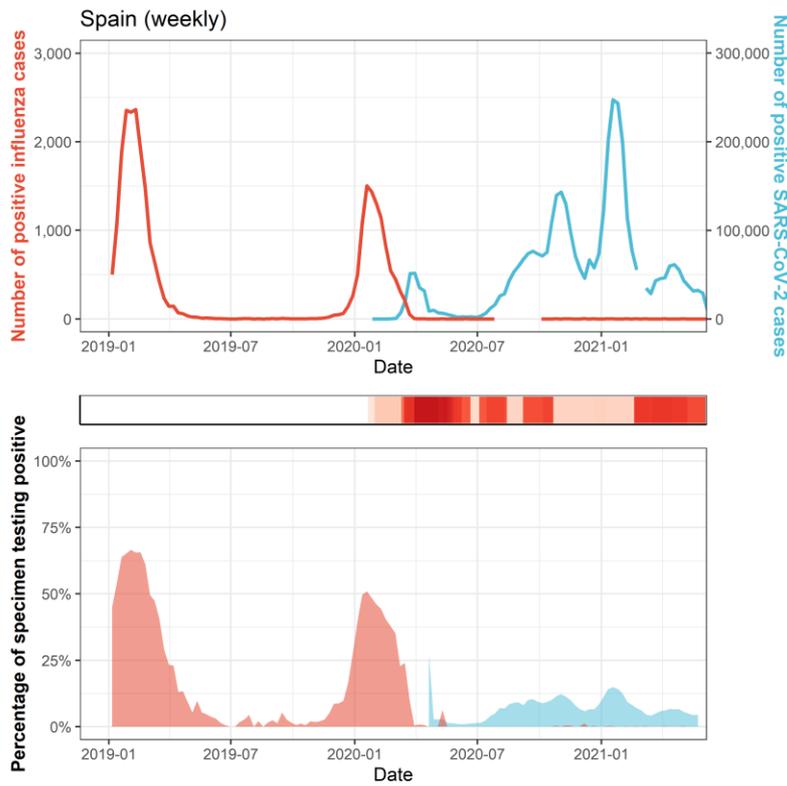
## Germany



## Italy

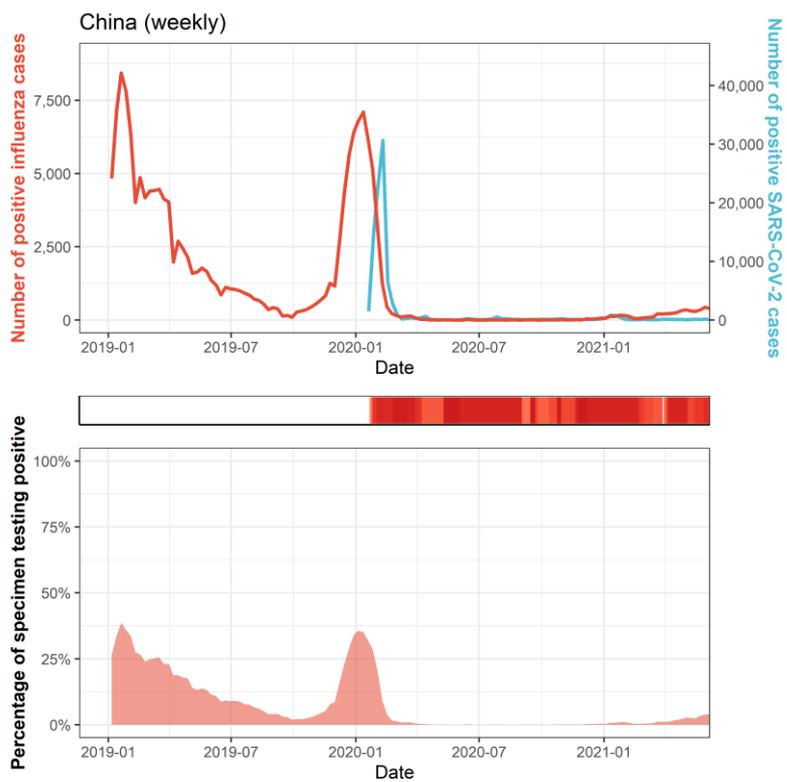


## Spain

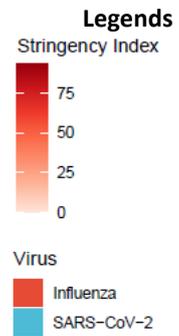


## Eastern Asia

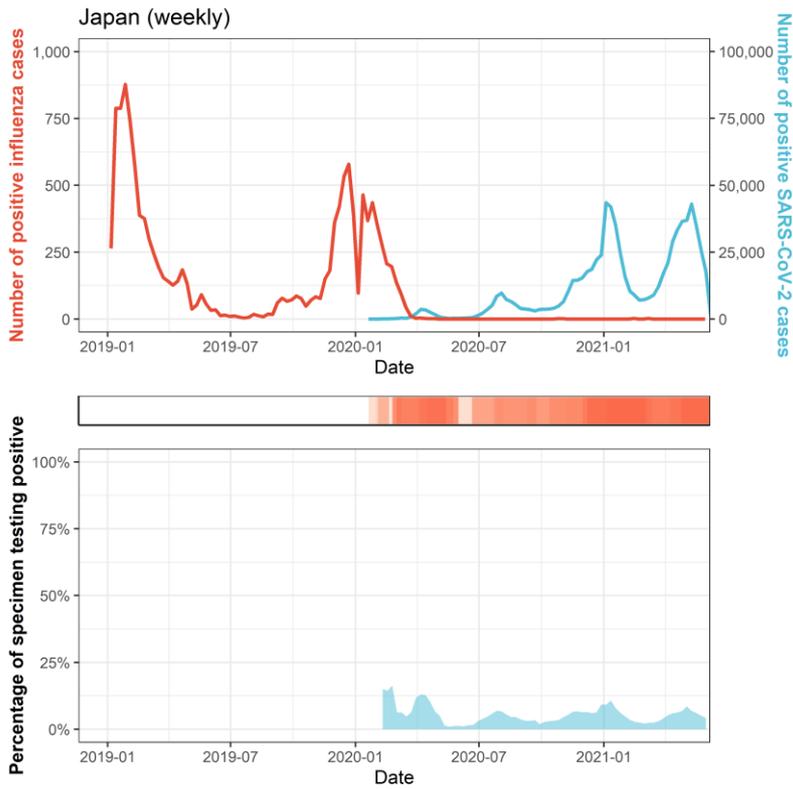
### China



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



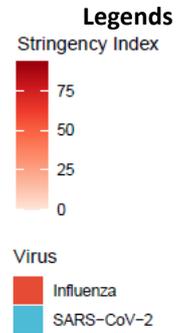
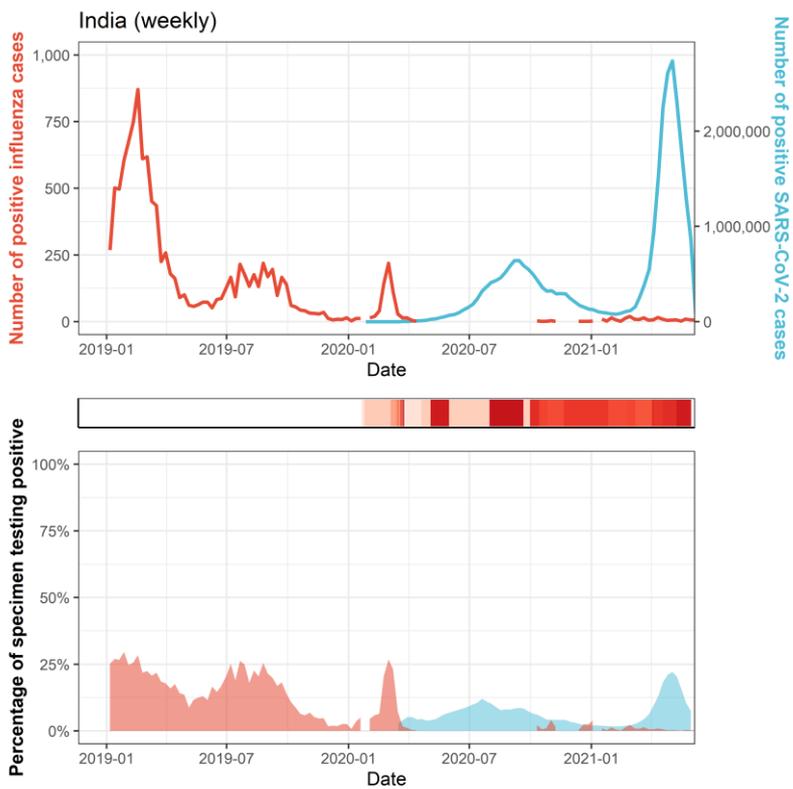
## Japan



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

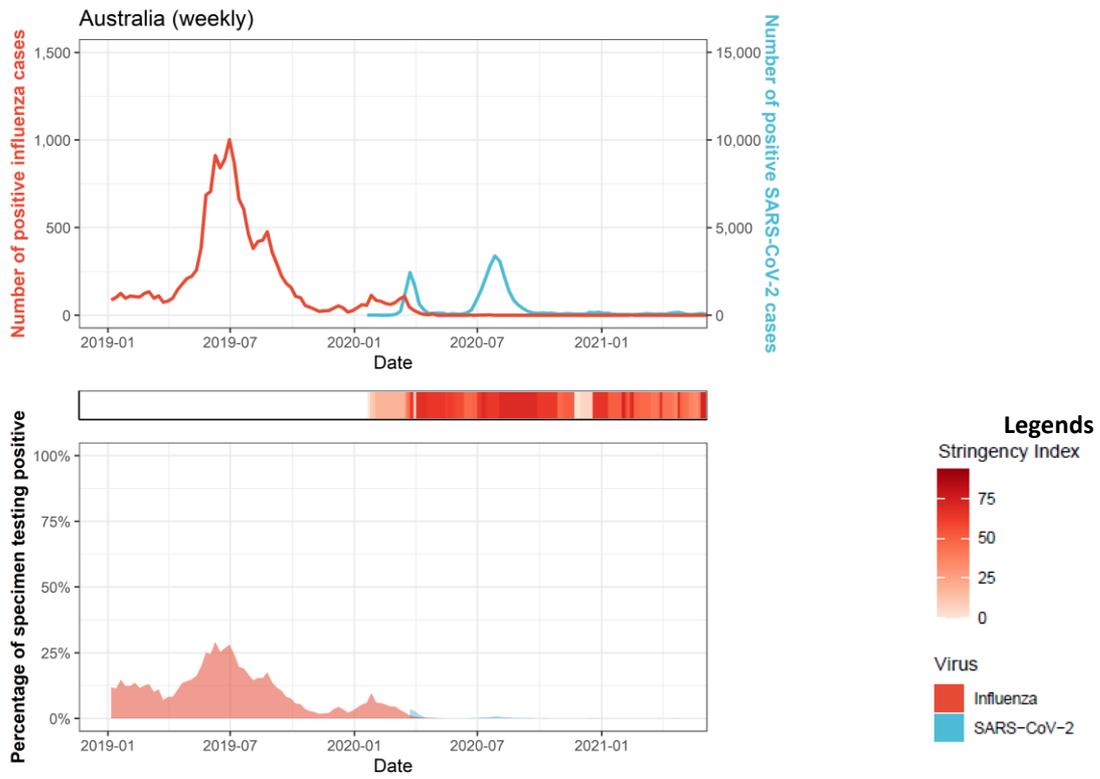
## Southern Asia

### India



# Oceania

## Australia



## Absolute numbers per country

Country	Year	Cases of SARS-CoV-2	Cases of influenza
Australia	2019	-	14.002
Australia	2020	28.425	949
Australia	2021	1.780	1
Australia	2019-2021	30.205	14.952
Canada	2019	-	43.196
Canada	2020	584.409	44.958
Canada	2021	817.503	20
Canada	2019-2021	1.401.912	88.174
China	2019	-	122.757
China	2020	86.569	31.295
China	2021	4.234	4.633
China	2019-2021	90.803	158.685
France	2019	-	25.405
France	2020	2.677.666	16.589
France	2021	3.446.536	18
France	2019-2021	6.124.202	42.012
Germany	2019	-	1.215
Germany	2020	1.760.520	958
Germany	2021	1.949.822	1
Germany	2019-2021	3.710.342	2.174
India	2019	-	10.428
India	2020	10.266.674	655
India	2021	18.729.799	187
India	2019-2021	28.996.473	11.270
Italy	2019	-	6.361
Italy	2020	2.107.166	3.599
Italy	2021	2.126.532	-
Italy	2019-2021	4.233.698	9.960
Japan	2019	-	10.187
Japan	2020	235.809	2.696
Japan	2021	528.374	4
Japan	2019-2021	764.183	12.887
Spain	2019	-	17.228
Spain	2020	1.928.265	9.373
Spain	2021	1.779.258	7
Spain	2019-2021	3.707.523	26.608
United Kingdom	2019	-	42.447
United Kingdom	2020	2.496.235	14.370
United Kingdom	2021	2.042.164	236
United Kingdom	2019-2021	4.538.399	57.053
United States	2019	-	268.524
United States	2020	20.100.243	229.745
United States	2021	13.277.852	1.013
United States	2019-2021	33.378.095	499.282

## Data sources

### Influenza

FluNet [7] 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 [8]. 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 [9] cases as well as various national public health institutions.

### Government response tracker

The Oxford COVID-19 Government Response Tracker (OxCGRT) [3] 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.

## References

- [1] WHO. Listings of WHO's response to COVID-19. <https://www.who.int/news/item/29-06-2020-covidtimeline> [accessed 8 February 2021]
- [2] 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]
- [3] 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]
- [4] Olsen SJ, Azziz-Baumgartner E, Budd AP, Brammer L, Sullivan S, Pineda RF, Cohen C, Fry AM. Decreased influenza activity during the COVID-19 pandemic-United States, Australia, Chile, and South Africa. *Am J Transplant*. 2020; 20(12):3681-3685. doi: 10.1111/ajt.16381
- [5] WHO. Review of global influenza circulation, late 2019 to 2020, and the impact of the COVID-19 pandemic on influenza circulation. *Weekly Epidemiological Record*. 2021; 96(25):241-264.
- [6] Baker RE, Park SW, Yang W, Vecchi GA, Metcalf CJE, Grenfell BT. The impact of COVID-19 nonpharmaceutical interventions on the future dynamics of endemic infections. *Proc Natl Acad Sci USA*. 2020; 117(48):30547-53. doi: 10.1073/pnas.2013182117
- [7] WHO. FluNet. <https://www.who.int/tools/flunet> [accessed 15 June 2021]
- [8] 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]
- [9] 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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## Project website

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