

# „Epidemiologie von RSV und anderen respiratorischen Viren in Österreich?“

Aufzeichnung 28.06.2022

Wien

Monika Redlberger-Fritz

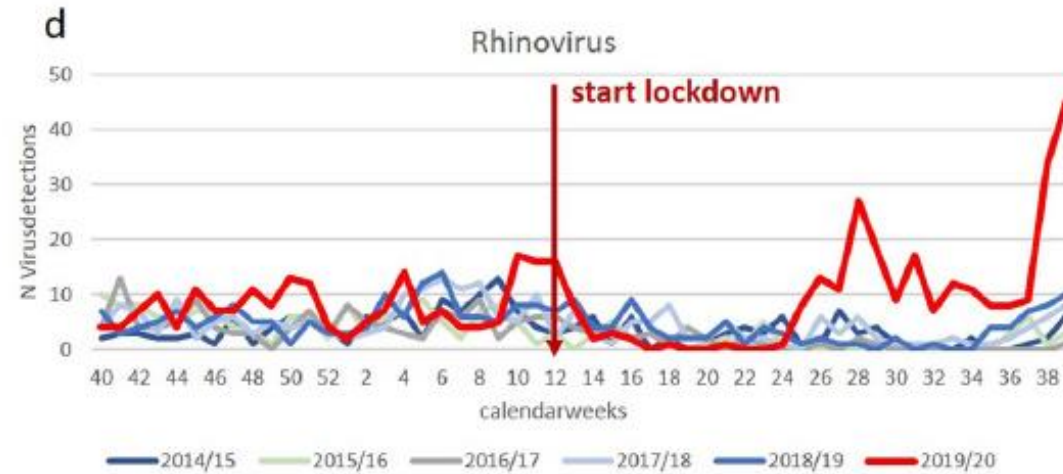
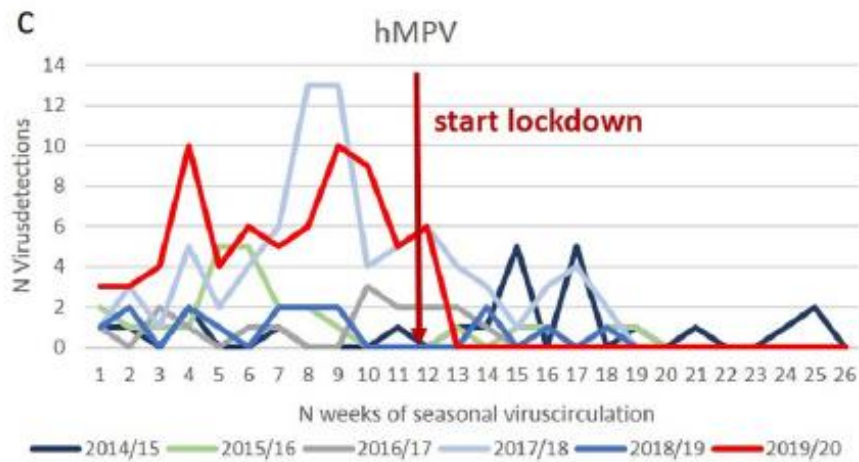
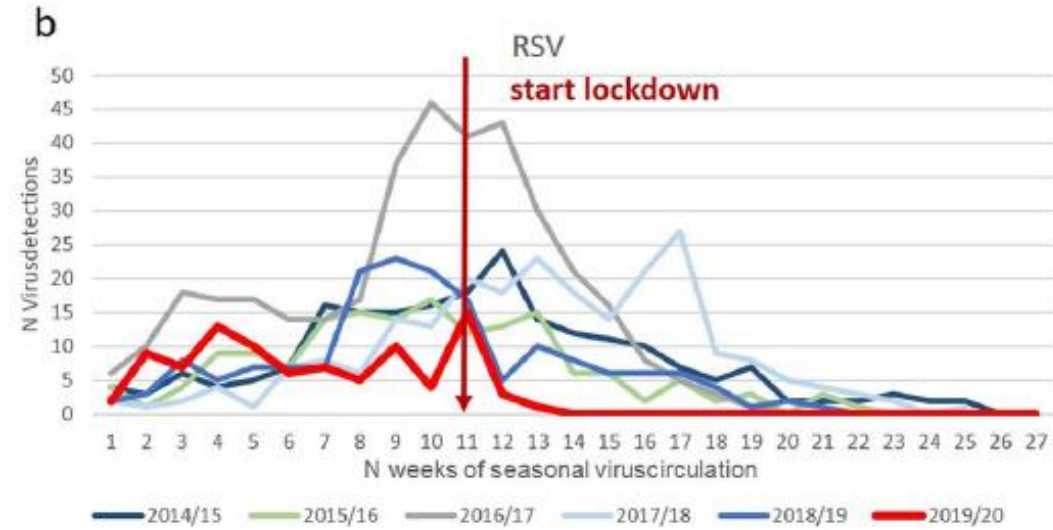
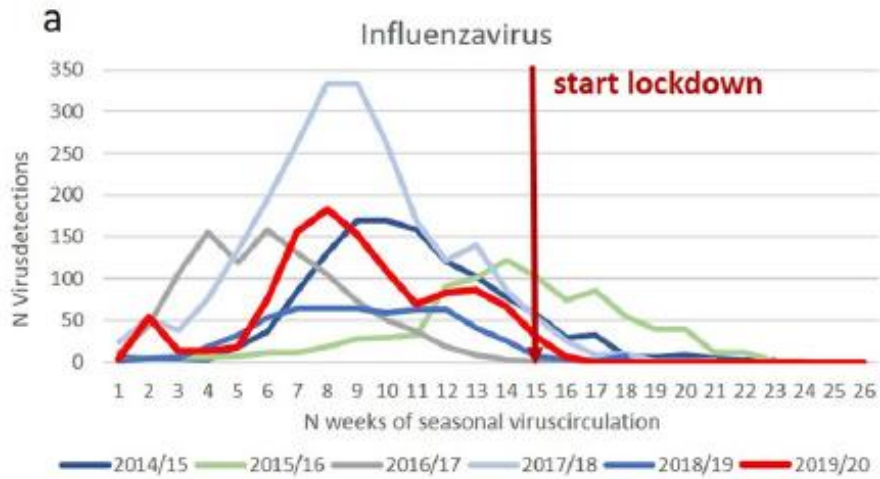
Zentrum für Virologie  
Medizinische Universität Wien



ZENTRUM FÜR VIROLOGIE  
MEDIZINISCHE UNIVERSITÄT WIEN



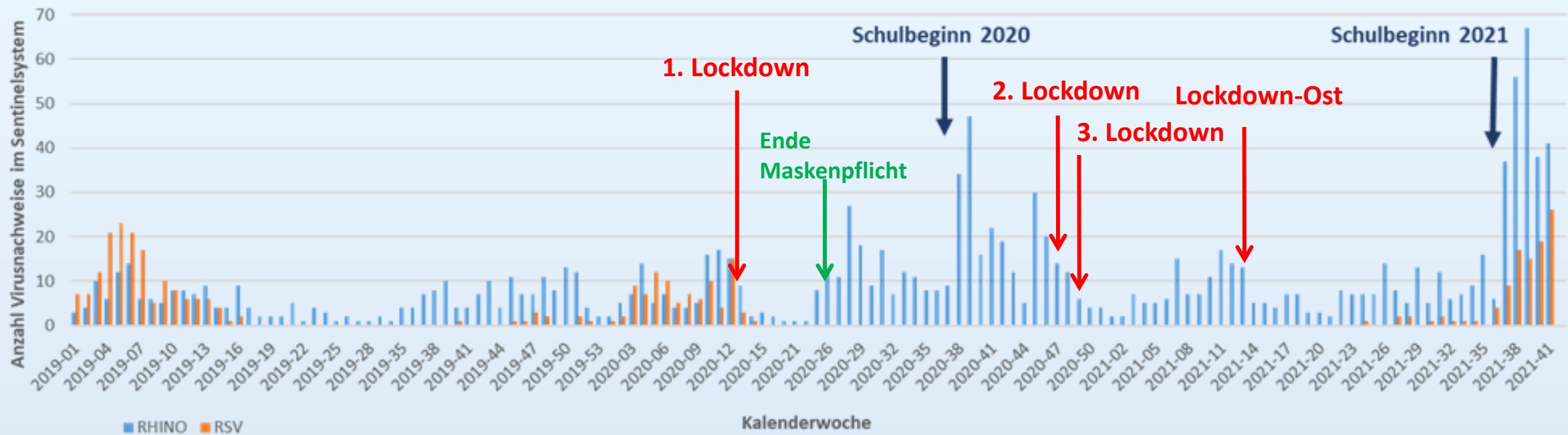
# SARS CoV2 und Epidemiologie anderer Viren



# Situation RSV und Rhinovirus – the story continues



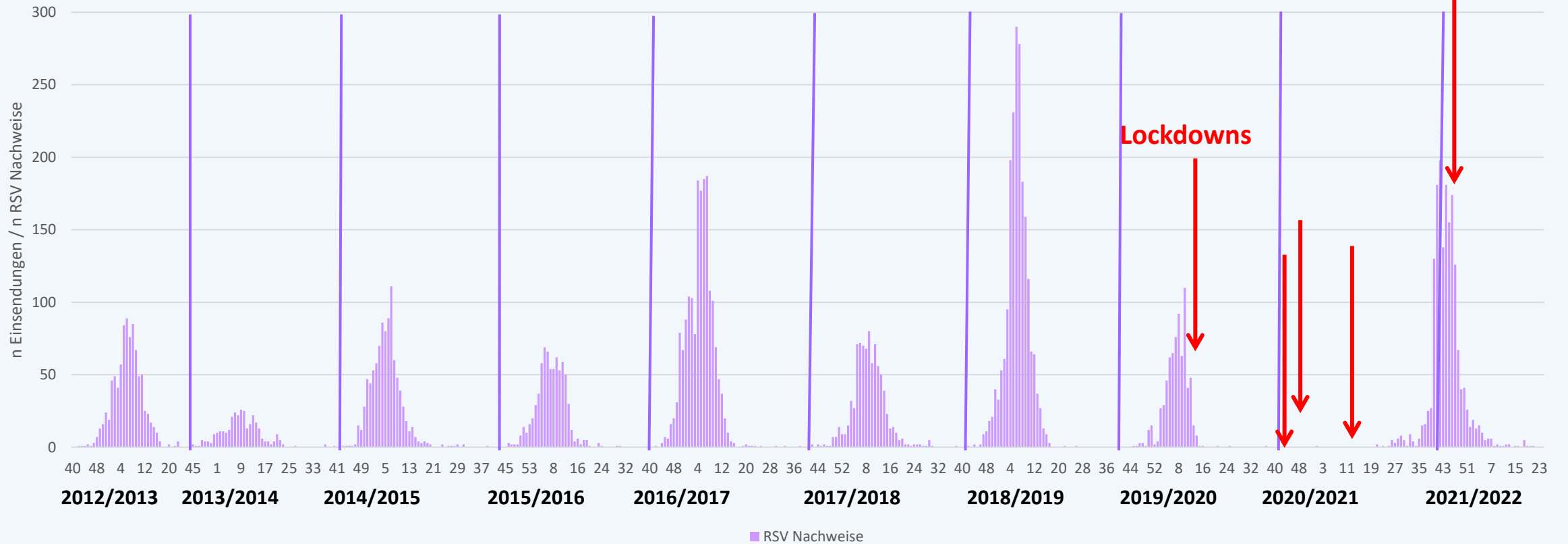
Rhinovirus und RSV Nachweise Jan 2019 bis Okt 2021



# Epidemiologie von RSV



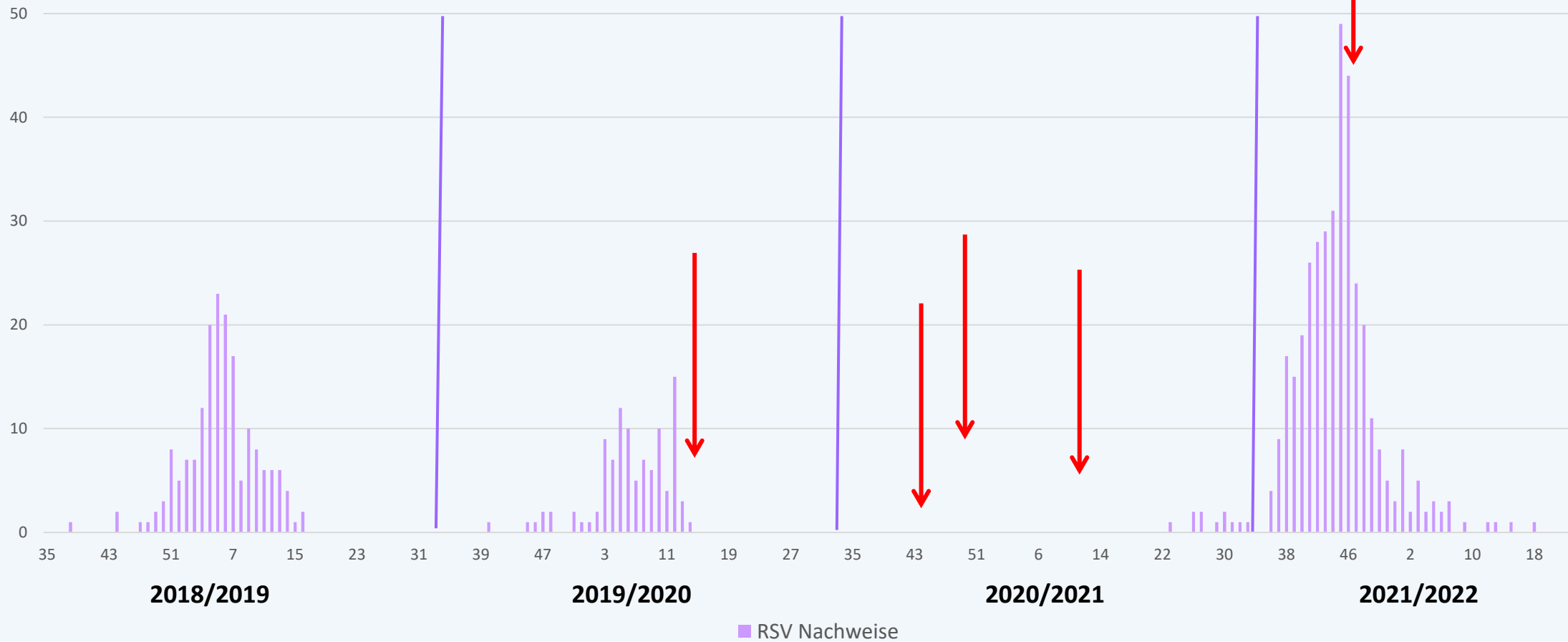
RSV Aktivität in Österreich 2012/13 bis 2021/22



# Epidemiologie von RSV



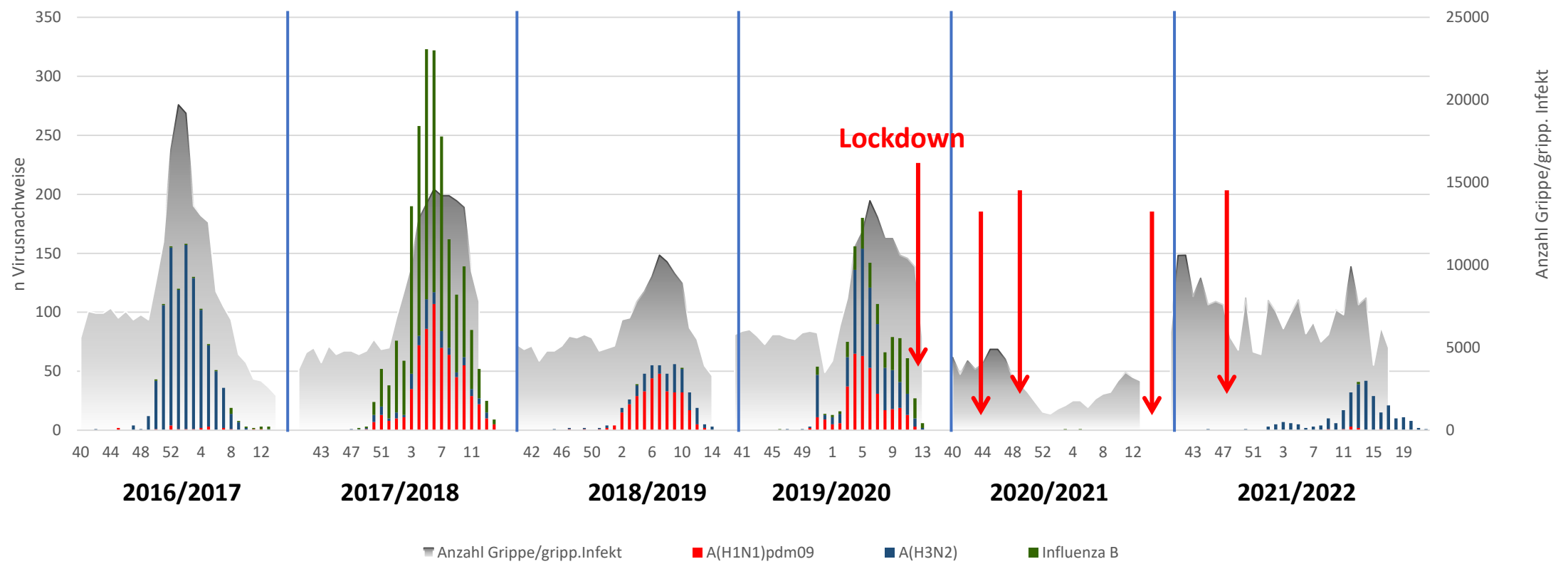
## RSV Aktivität in Österreich



# Epidemiologie von Influenza



Influenza 2016/17 bis 2021/22



# Veränderte Epidemiologische Situation durch die Pandemie

Reiserestriktionen



Hygienemaßnahmen



Durch ausgebliebene Saison → steigt Anzahl der vulnerablen (zusätzlicher Geburtenjahrgang)

# Aktuelle Situation weltweit - Grippe

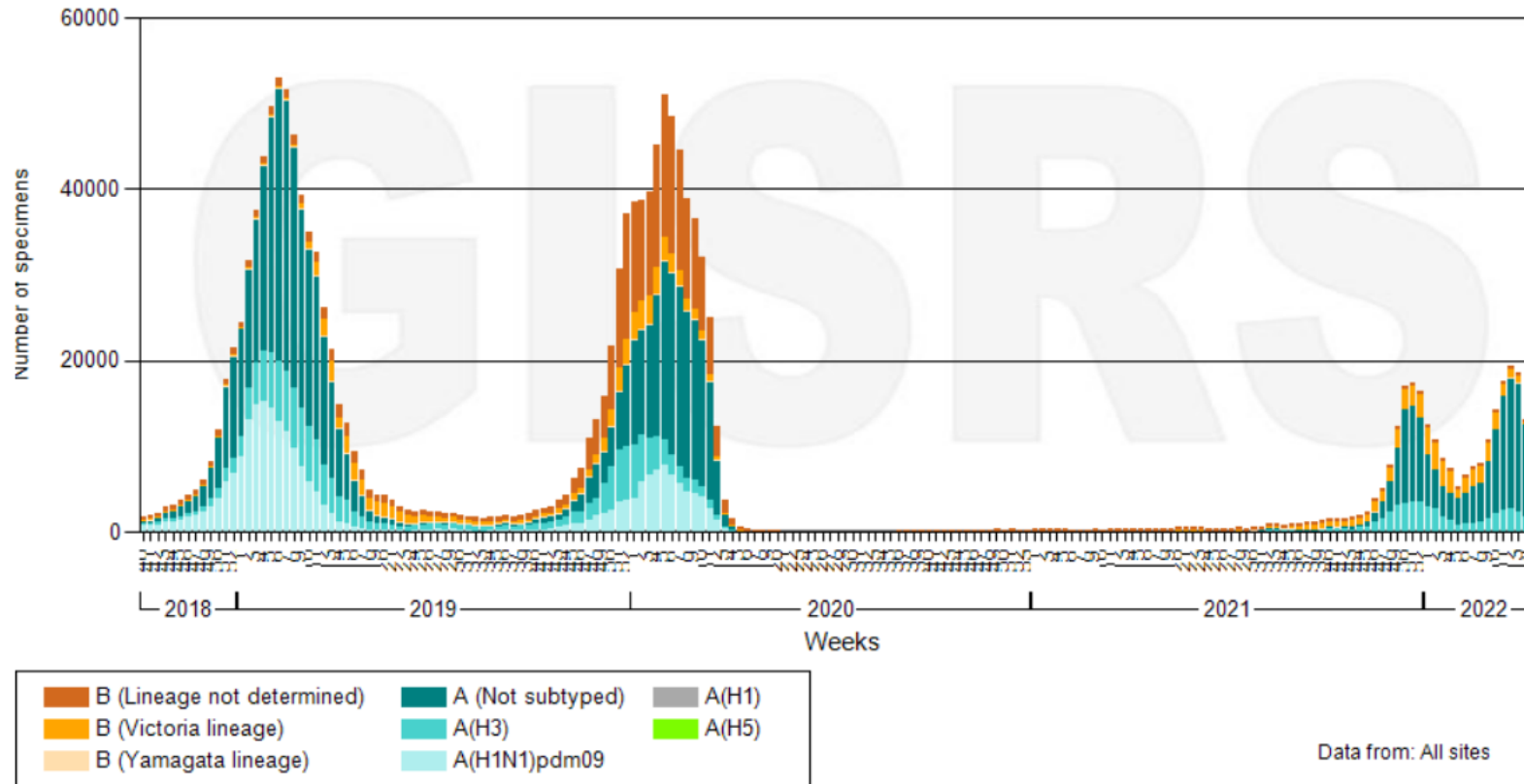


Influenza Laboratory Surveillance Information  
by the Global Influenza Surveillance and Response System (GISRS)

generated on 21/04/2022 19:27:46 UTC

## Northern hemisphere

### Number of specimens positive for influenza by subtype



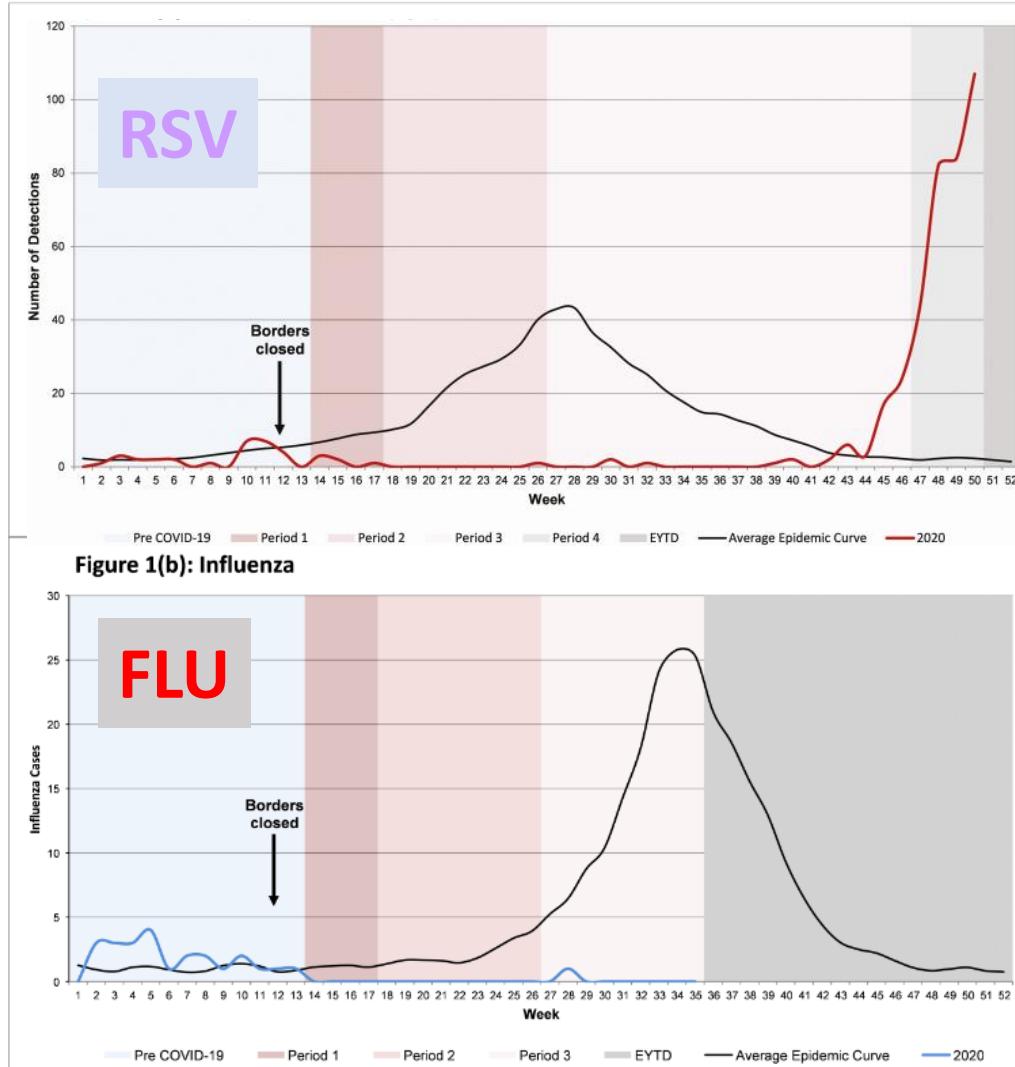
Data source: FluNet ([www.who.int/flunet](http://www.who.int/flunet)), GISRS

© World Health Organization 2022

# Lockdown und Epidemiologie anderer Viren

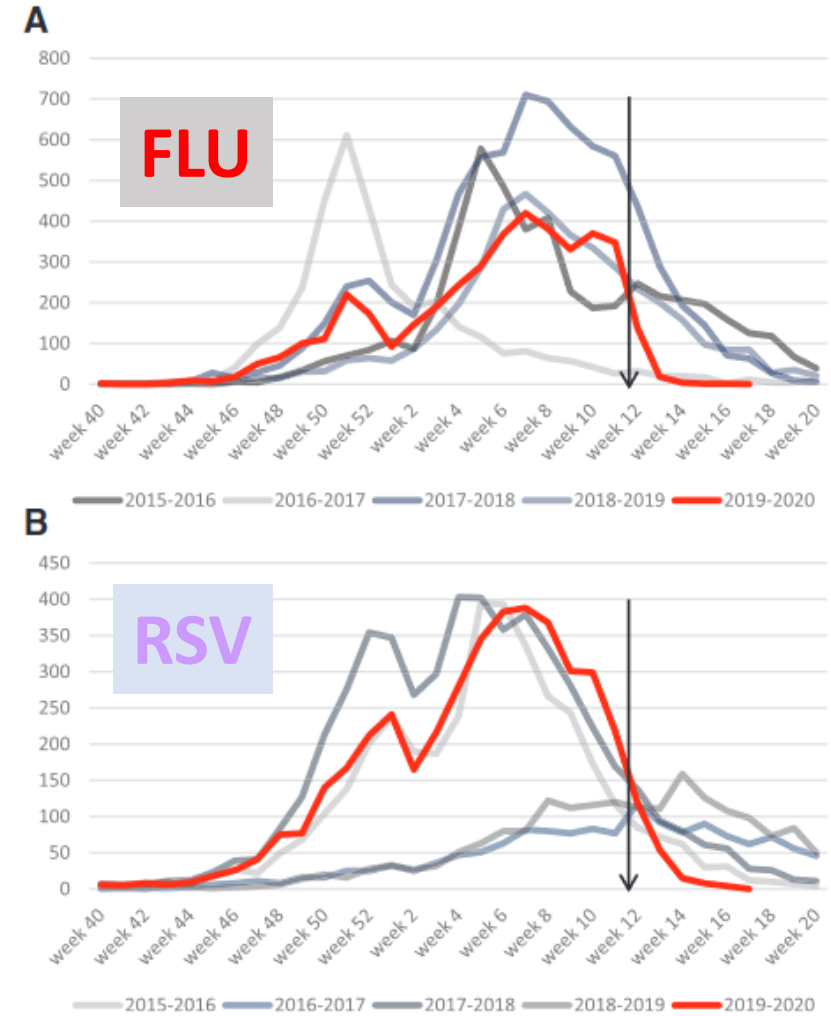
## Australien

Yeoh, et al, Clin Inf Dis 2020 Sep 28

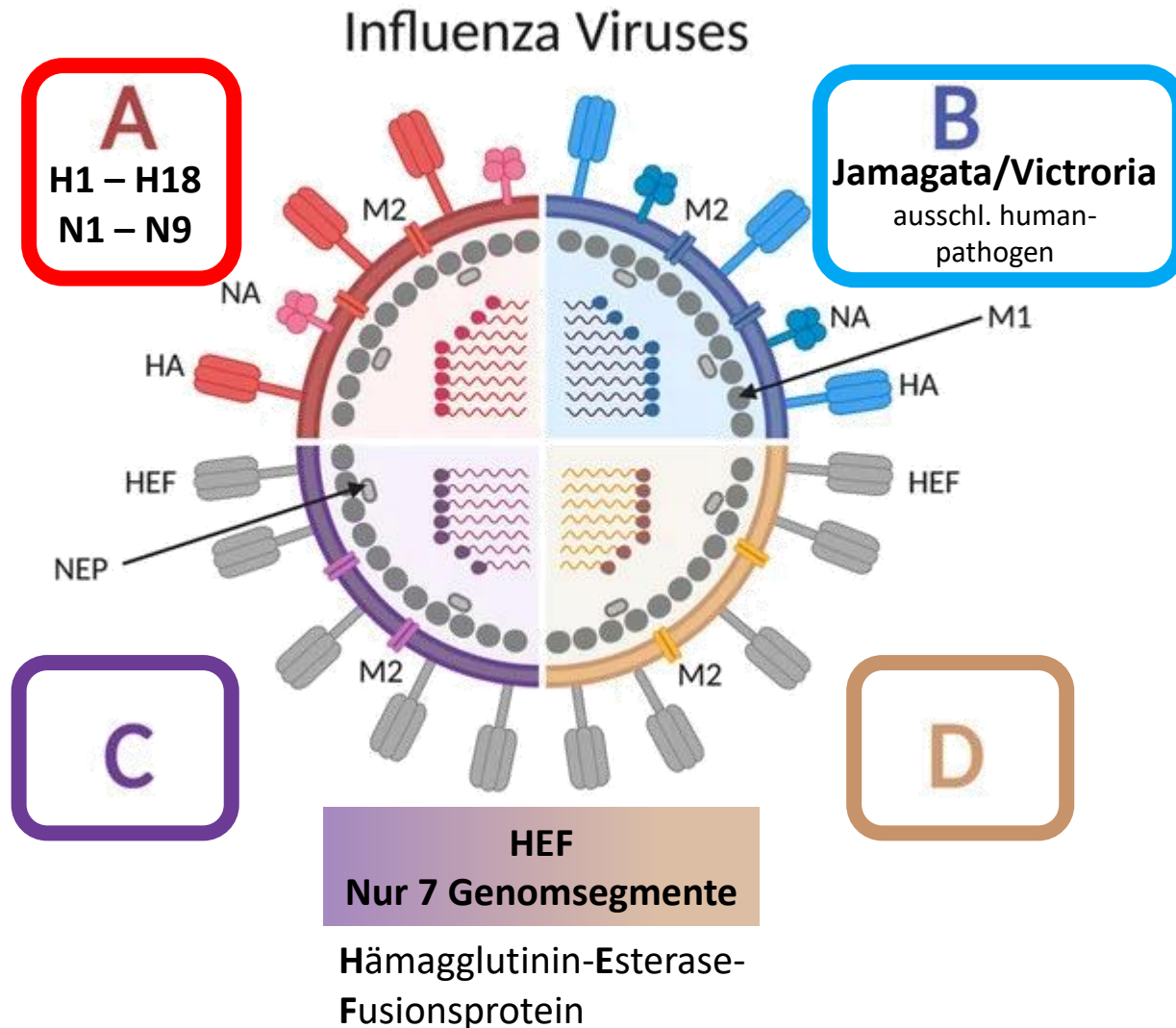


## Finnland

Kuitunen et al, Paed Inf Dis, Dec 2020, Vol 39/2



# Weitere Influenzavirustypen C und D



## Influenza A:

- jährliche Epidemien
- t.w. schwere Erkrankungen
- Verschiedene Subtypen
- Unterschiedliche Wirte
- Pandemien möglich



## Influenza B:

- 2 genetische Linien
- Epidemien in längeren Abständen
- Krankheitsverläufe ähnlich Influenza A

## Influenza C:

- Milde Erkrankungen
- wenig bekannt
- epidemische Ausbrüche in langen Abständen

## Influenza D:

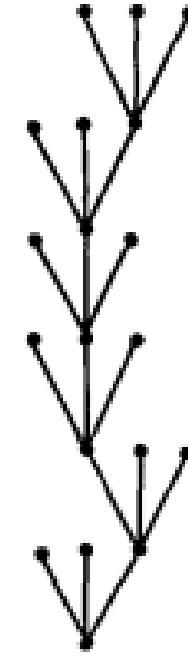
- nicht humanpathogen
- Vorkommen ausschließlich in Rindern

# Influenza C aktuelle Situation

- Klinisch eher milde Verläufe, aber relativ unerforscht
- Genetisch eher langsamere Evolution,
- aber hohe Reassortierungsrate und
- Co-Zirkulation unterschiedlicher Varianten

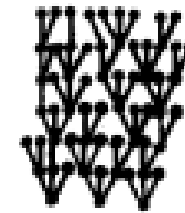


große Antigene  
Distanzen



**TYPE A  
VIRUSES**

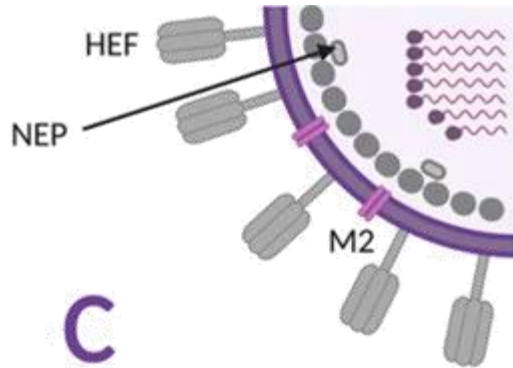
kleine Antigene  
Distanzen



**TYPE C  
VIRUSES**

BUONAGURIO ET AL., *Virology* 146, 221-232 (1985)

# Influenza C



## Influenza C:

- Milde Erkrankungen
- wenig bekannt
- epidemische Ausbrüche in langen Abständen

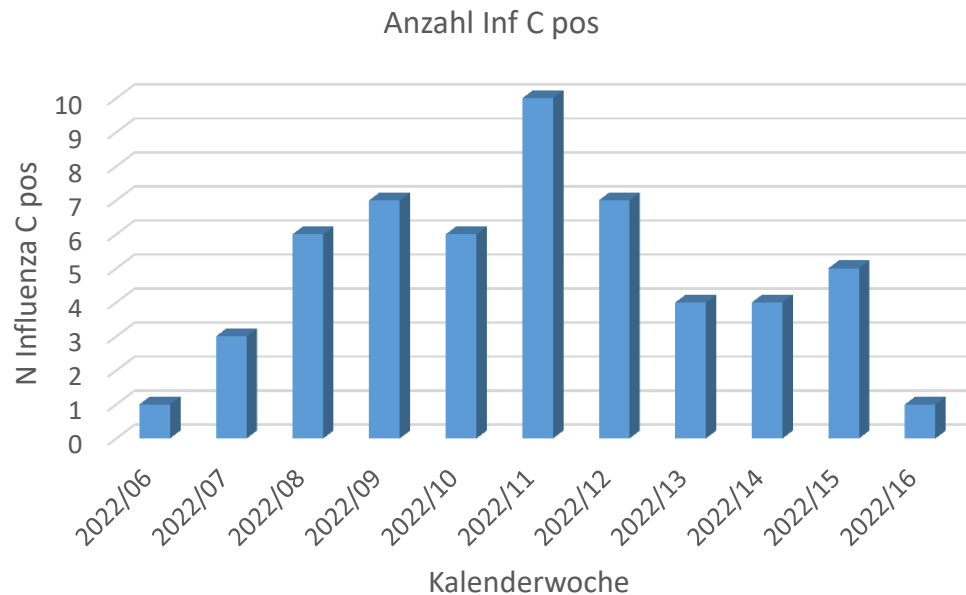
## Influenza C Nachweise der Saison 2021/22

Bisher 63 Virusnachweise Influenza C

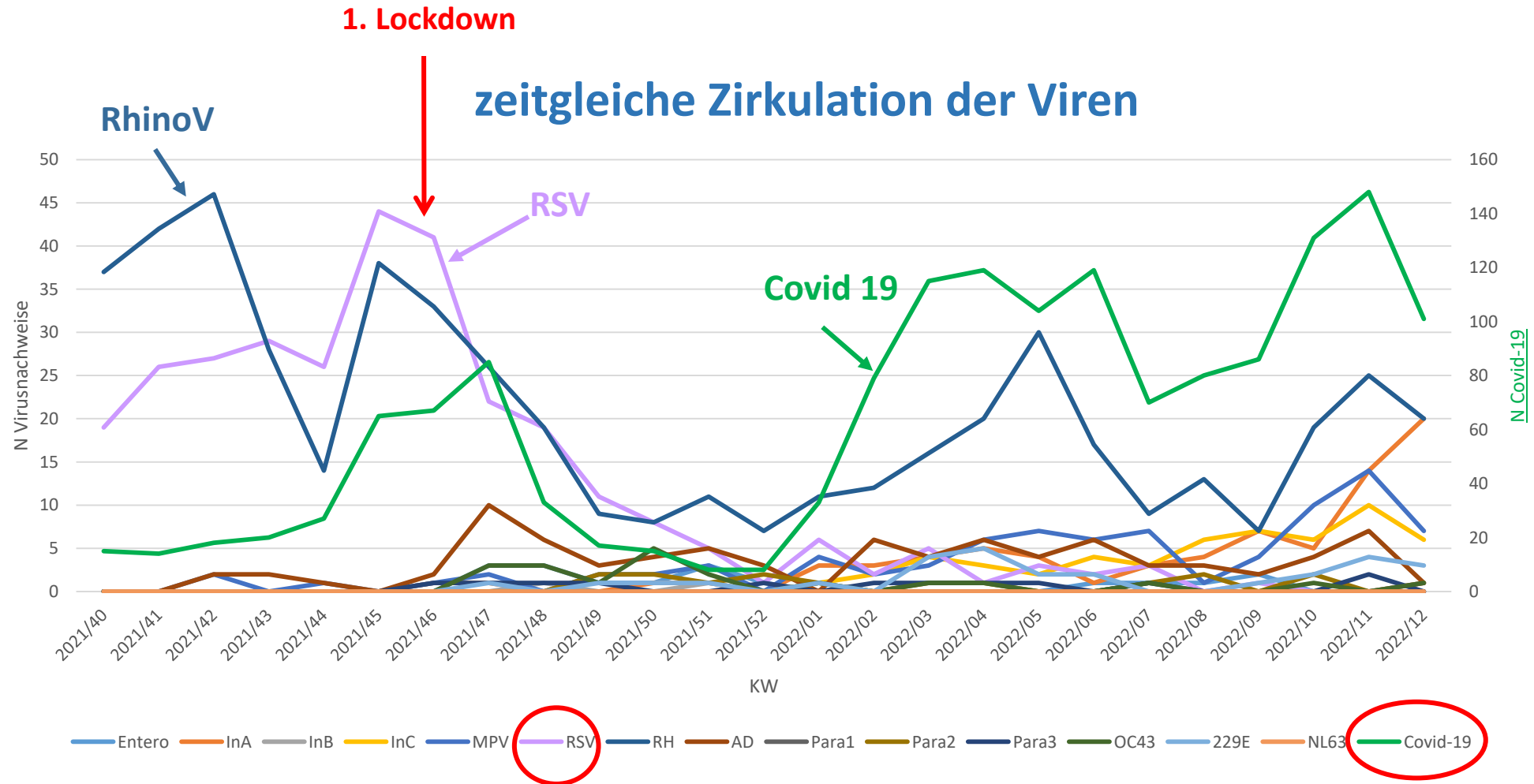
Davon:

### 23 Co-Infektionen:

- 6x Inf C + Rhinovirus
- 2x Inf C + Adenovirus
- 1x Inf C + Metapneumovirus
- 10x Inf C + SARS CoV2
- 3x Inf C + SARS CoV2 + Rhinovirus
- 1x Inf C + SARS CoV2 + Adenovirus

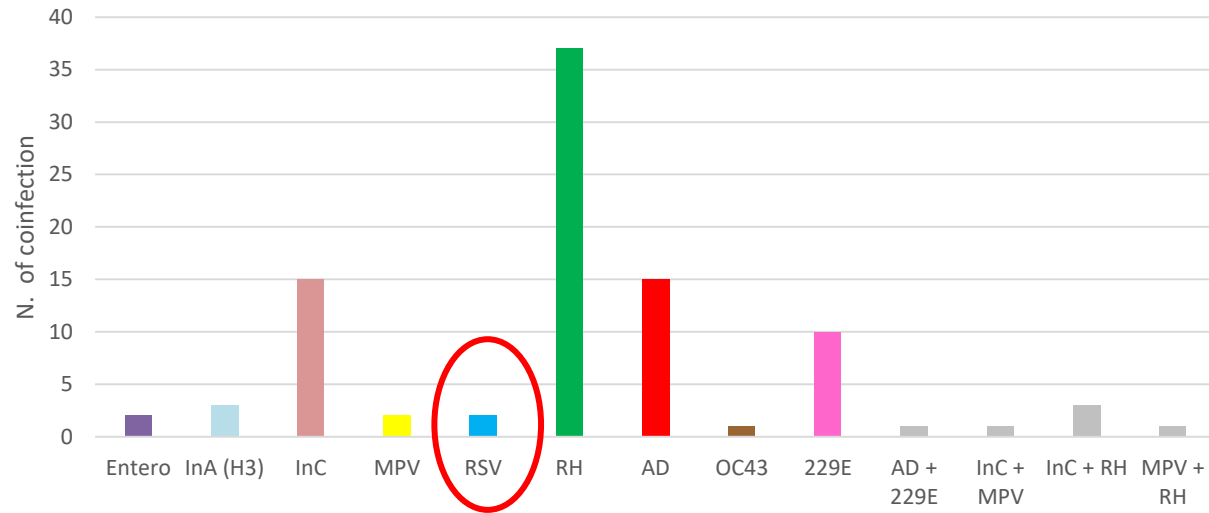


# Problem Co-Zirkulationen und Co-Infektionen



# Problem Co-Zirkulationen und Co-Infektionen

Number of **Sars-CoV-2 infection** + other coinfection



Other coinfections	Entero	InA	InB	InC	MPV	<b>RSV</b>	RH	AD	Para1	Para2	Para3	OC43	229E	NL63
Entero	NA													
InA	0	NA												
InB	0	0	NA											
InC	0	0	0	NA										
MPV	1	1	0	1	NA									
<b>RSV</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	NA								
<b>RH</b>	4	1	0	2	7	<b>22</b>	NA							
<b>AD</b>	1	0	0	1	6	<b>7</b>	9	NA						
Para1	0	0	0	0	0	0	0	0	NA					
Para2	0	0	0	0	0	0	0	1	0	NA				
Para3	0	0	0	0	0	0	1	0	0	0	NA			
OC43	1	0	0	0	2	<b>3</b>	2	3	0	0	0	NA		
229E	0	3	0	0	0	0	1	0	0	0	0	0	NA	
NL63	0	0	0	0	0	0	0	0	0	0	0	0	0	NA

# Was erwartet uns in Zukunft ?

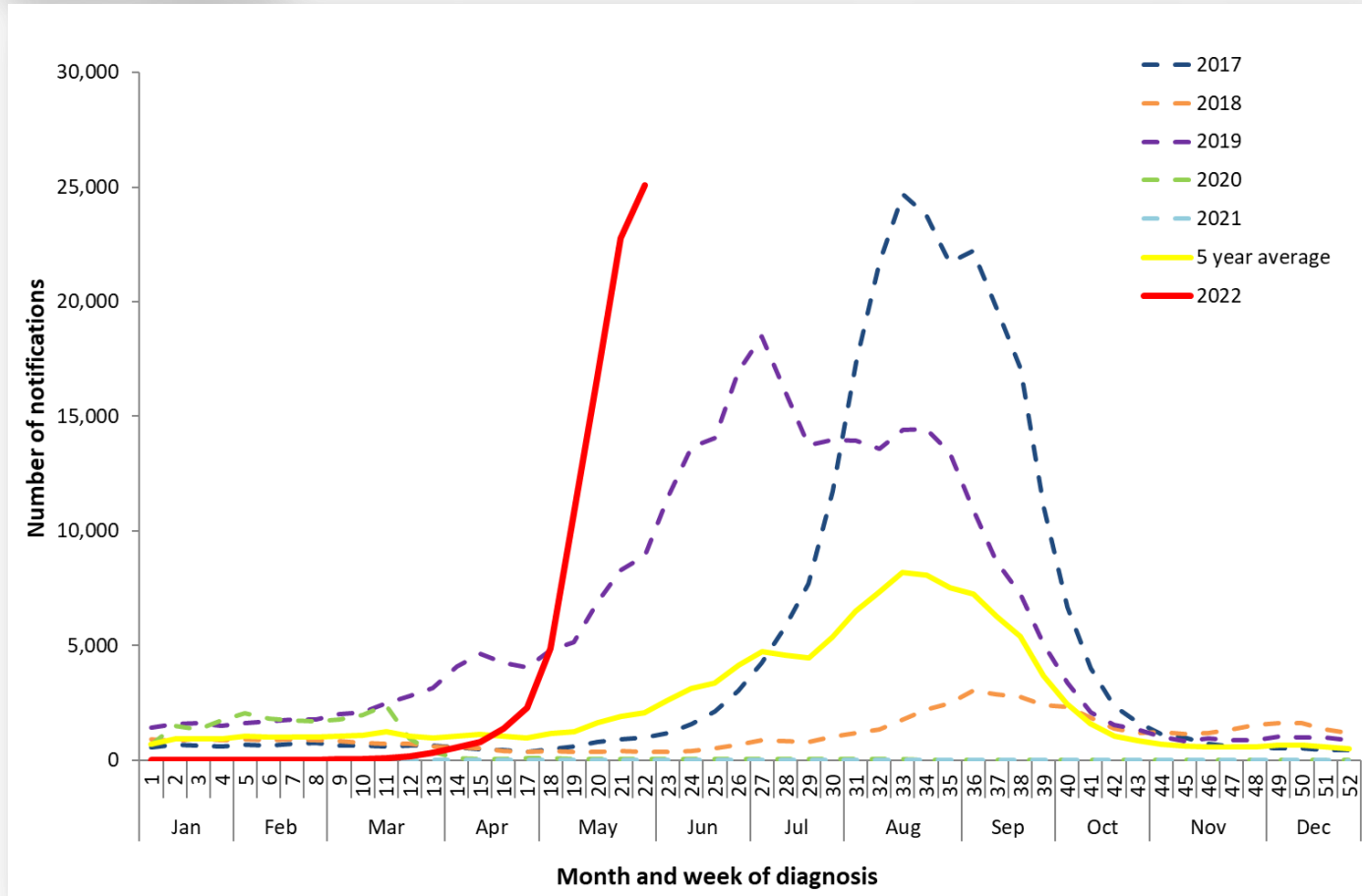


Der verlässlichste  
Wegweiser für die  
Zukunft ist die  
Vergangenheit.

SPRUCH  
DES  
TAGES  
SPRUCH-DES-TAGES.ORG

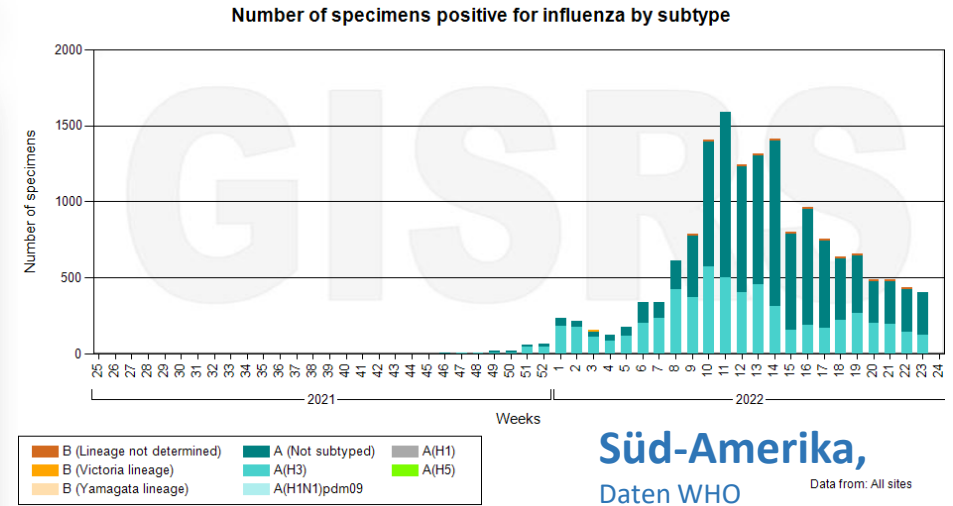
# Aktuelle Situation Australien - Influenza

Figure 1. Notifications of laboratory-confirmed influenza, Australia, 01 January 2017 to 05 June 2022, by month and week of diagnosis\*



Source: NNDSS

\*NNDSS notification data provided for the current and most recent weeks may be incomplete. All data are preliminary and subject to change as updates are received, with most recent weeks considered particularly subject to revisions. Please refer to Data considerations for interpretation of the 5 year average.



Süd-Amerika,  
Daten WHO  
Data from: All sites



Australian Government  
Department of Health

AUSTRALIAN INFLUENZA  
SURVEILLANCE REPORT

No. 05, 2022  
Reporting fortnight: 23 May to 05 June 2022

# Wie wird der nächste Herbst/Winter?

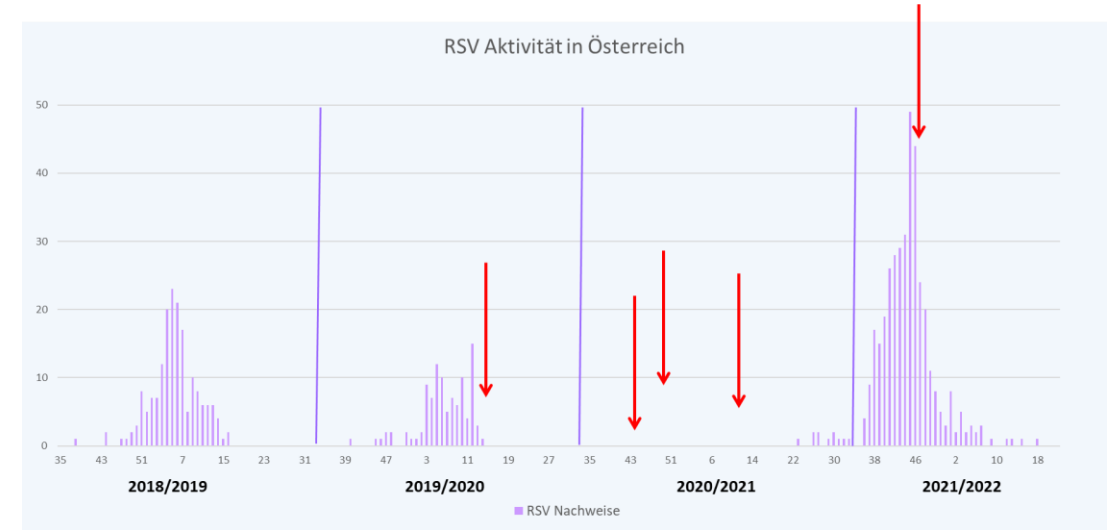
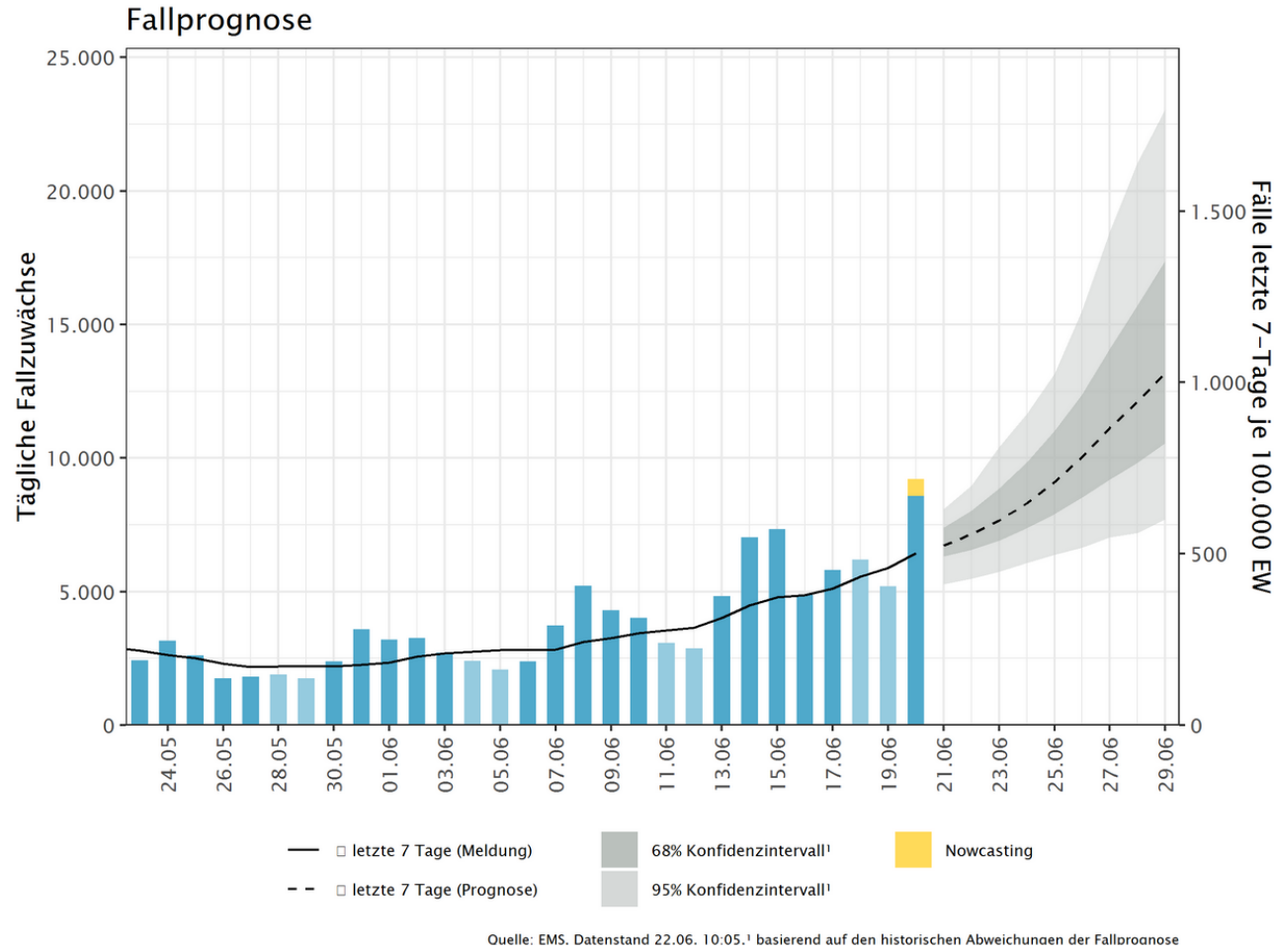
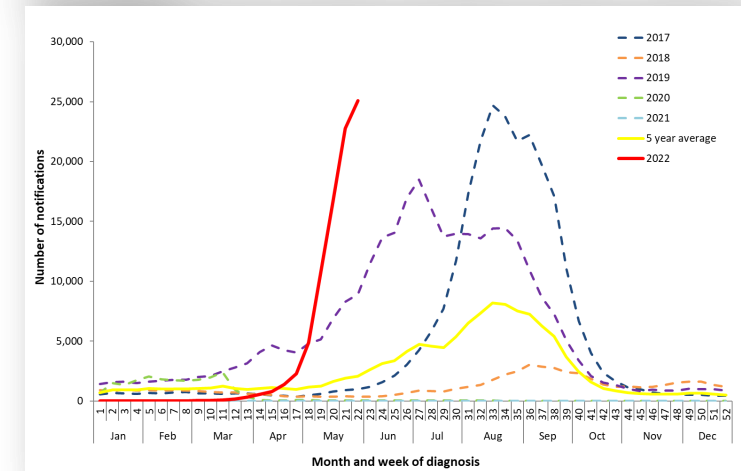


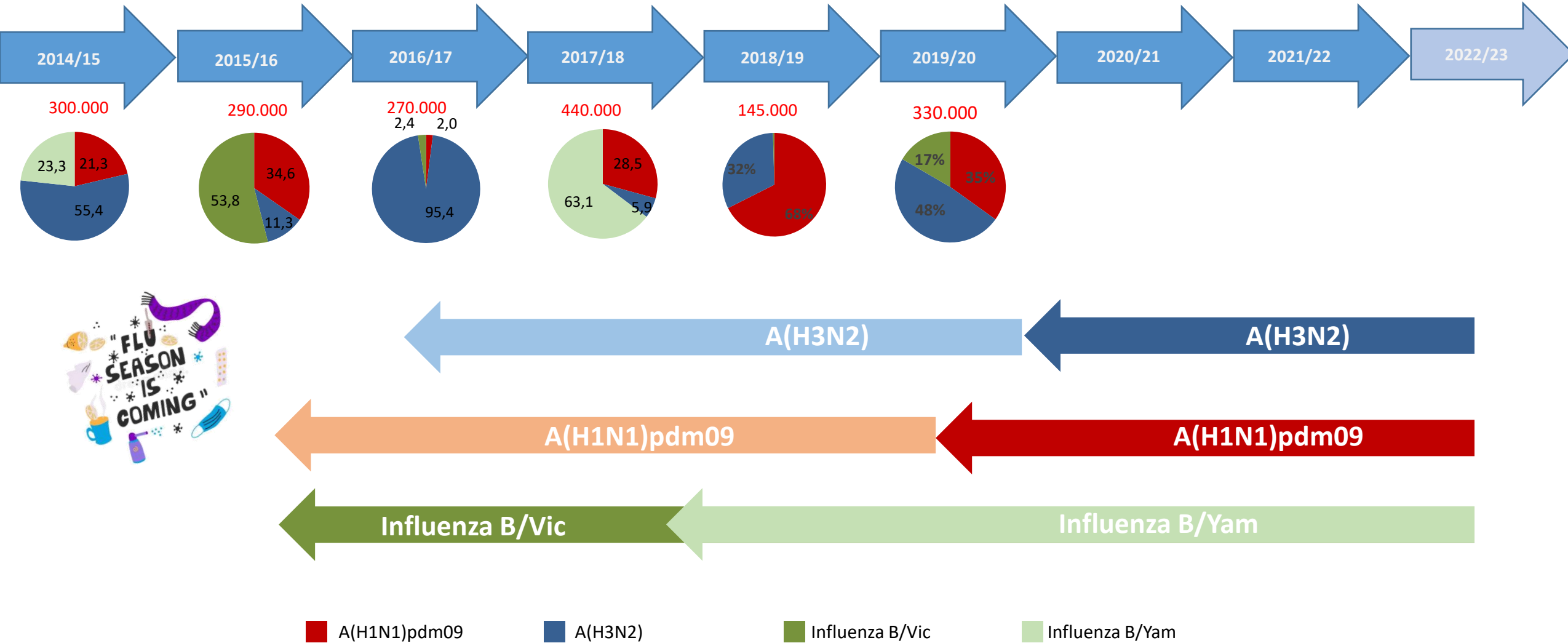
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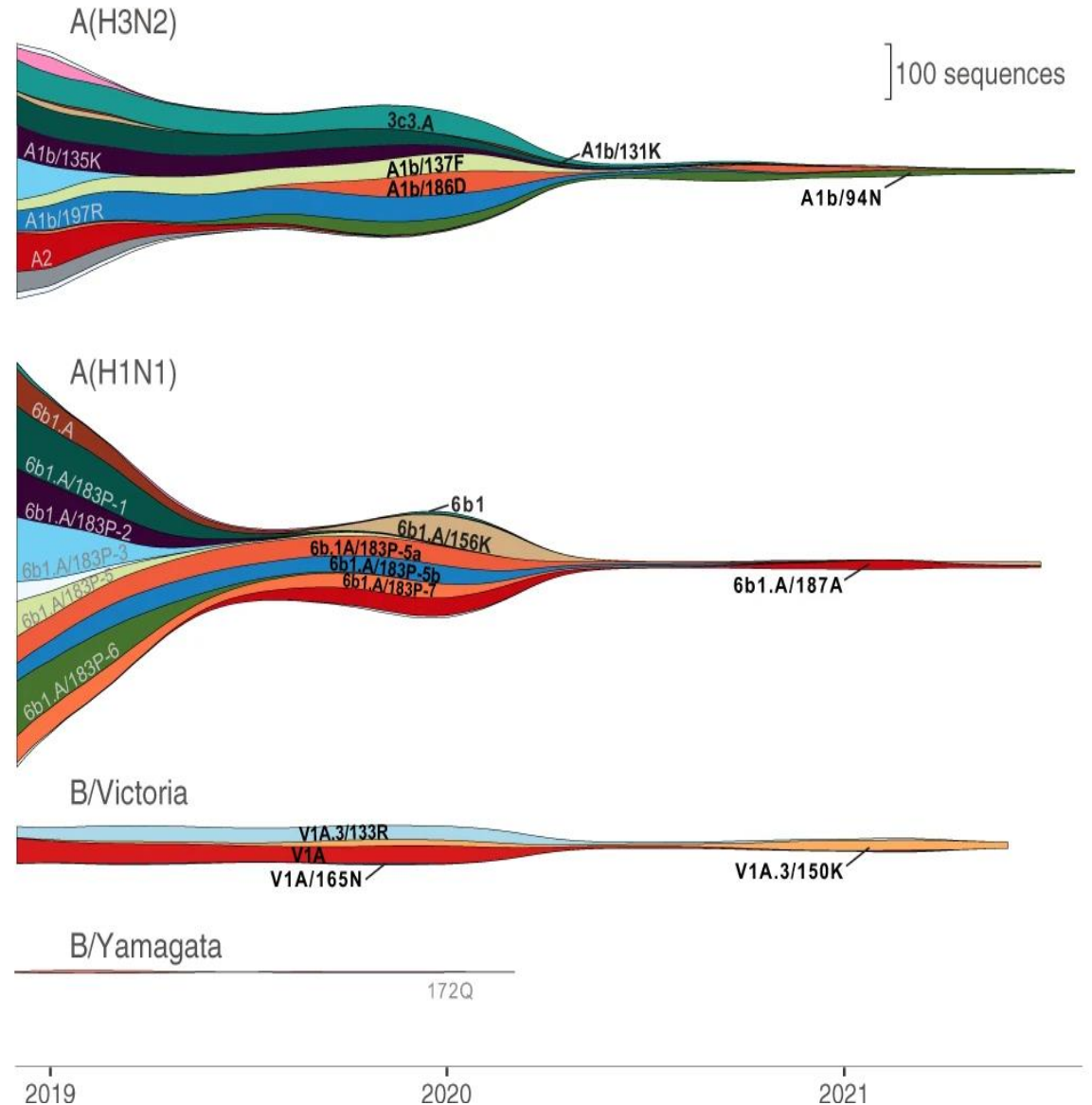
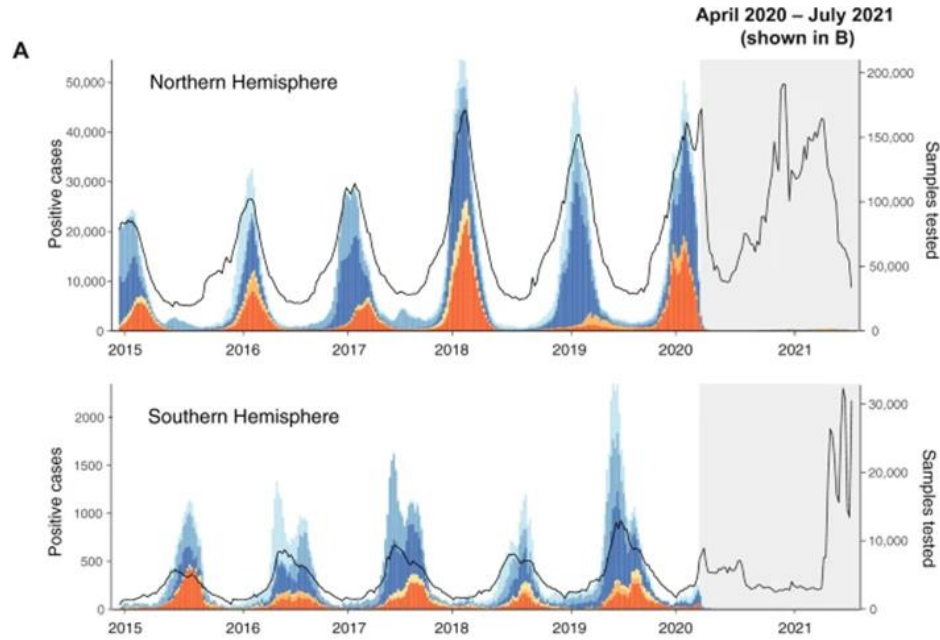


Source: NNDS

\*NNDS notification data provided for the current and most recent weeks may be incomplete. All data are preliminary and subject to change as updates are received, with most recent weeks considered particularly subject to revisions. Please refer to Data considerations for interpretation of the 5 year average.

# Dominanz der Influenzavirus Typen/Subtypen





ARTICLE



<https://doi.org/10.1038/s41467-022-29402-5> OPEN

## Human seasonal influenza under COVID-19 and the potential consequences of influenza lineage elimination

Vijaykrishna Dhanasekaran<sup>1,2</sup>, Sheena Sullivan<sup>3</sup>, Kimberly M. Edwards<sup>1,2</sup>, Ruopeng Xie<sup>1,2</sup>, Arseniy Khvorov<sup>3</sup>, Sophie A. Valkenburg<sup>1,2</sup>, Benjamin J. Cowling<sup>1,2</sup> & Ian G. Barr<sup>3,4</sup>

**„Die Zukunft kann man am besten voraussagen, wenn man sie selbst gestaltet.“**

**Danke für Ihre Aufmerksamkeit**