

RSV surveillance in covid times

Czech Republic

Helena Jirincova

NRL for Influenza and Respiratory Viruses, Czech Republic

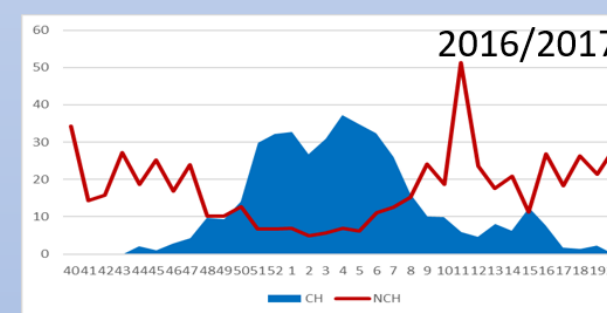
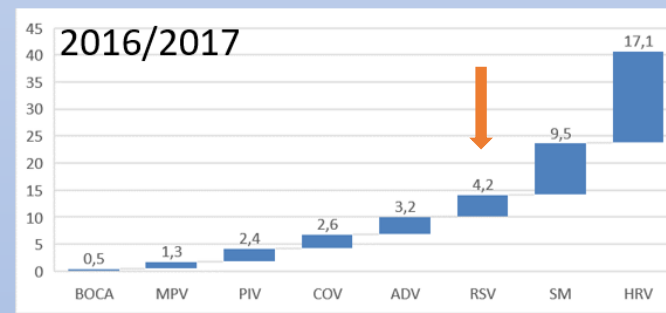
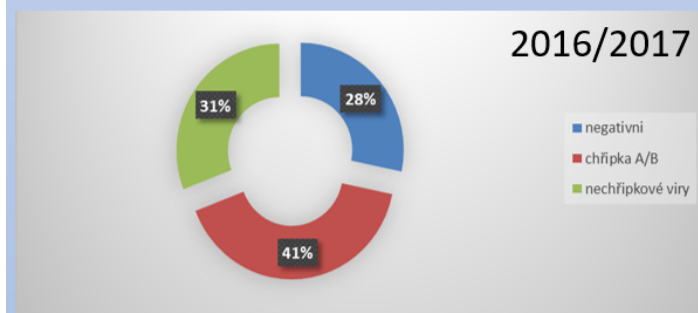
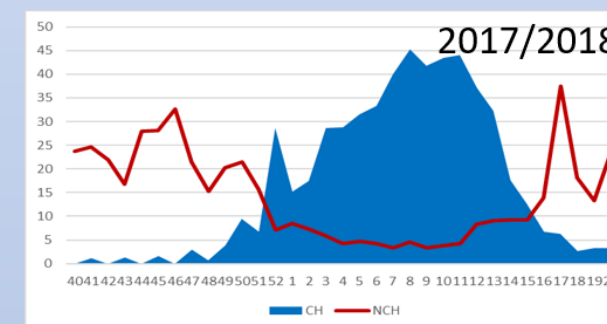
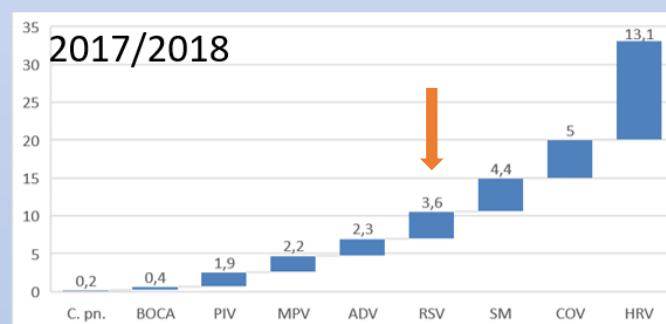
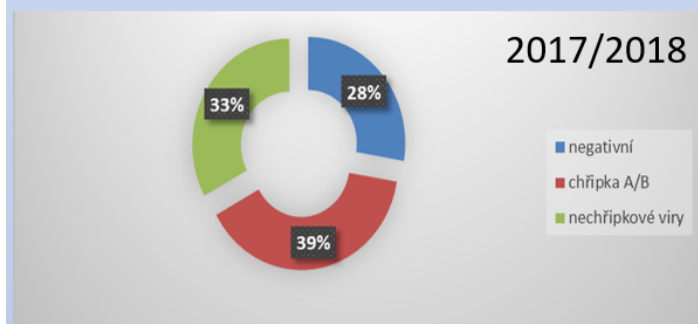
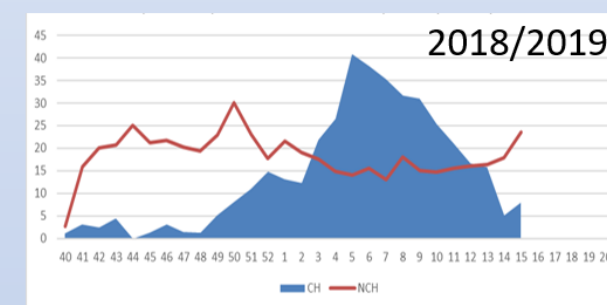
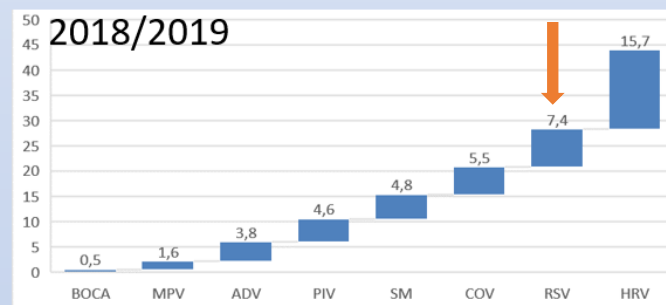
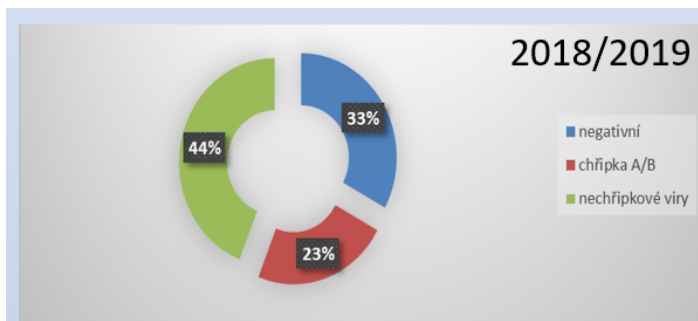
National Institute of Public Health

RSV surveillance in the Czech Republic – an overview

- Based on influenza surveillance system (whole year / 40 to 20 CW)
- 14 regions, regional epidemiologist – GP for children/adults
 - + reports from 14 regional hospital laboratories – aggregated data
- ARI/ILI surveillance: at least 2 samples per week from each region
 - (1 -15 YoA, older than 16 YoA)
- 2013/14 - from this season 6 respiratory pathogens (RSV, MPV, ADV, PIV, hCoV)
- 2015/16 rhinoviruses added
- 2017/18 RSV A/RSV B partial sequencing, added enteroviruses
- 700 to 1000 samples per season on average 2020/21 added parecho viruses, genotypization PIV 1 – 4, RSV A/B by PCR
- National register – only theoretic, mostly influenza, even thus SARI is also used only for Influenza reports

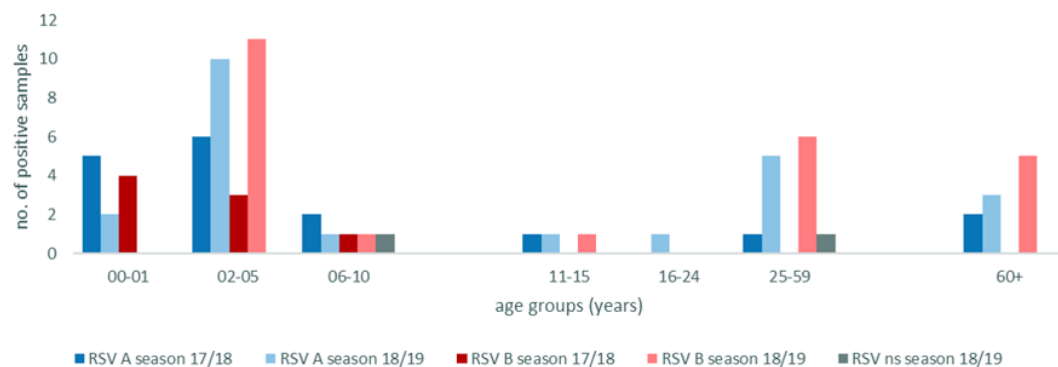
ARI/ILI/RSV surveillance in three pre-covid seasons

4.2 – 7.4 %

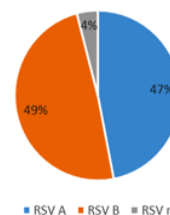


RSV Surveillance 2017/18

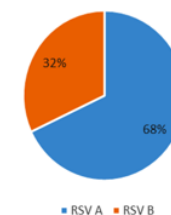
Sentinel surveillance, RSV positive samples, seasons 2017/18 and 2018/19 by age groups, Czech Republic



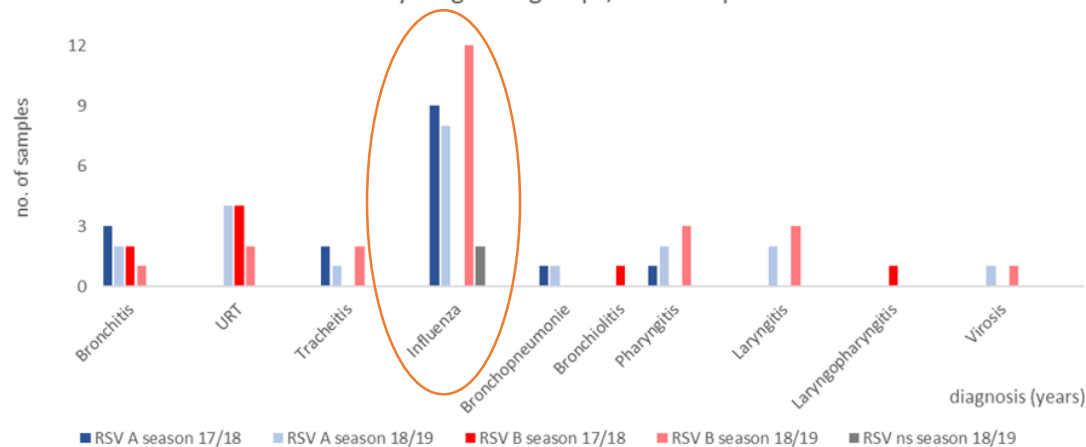
Sentinel surveillance, RSV positive samples, seasons 2018/19 by type, Czech Republic



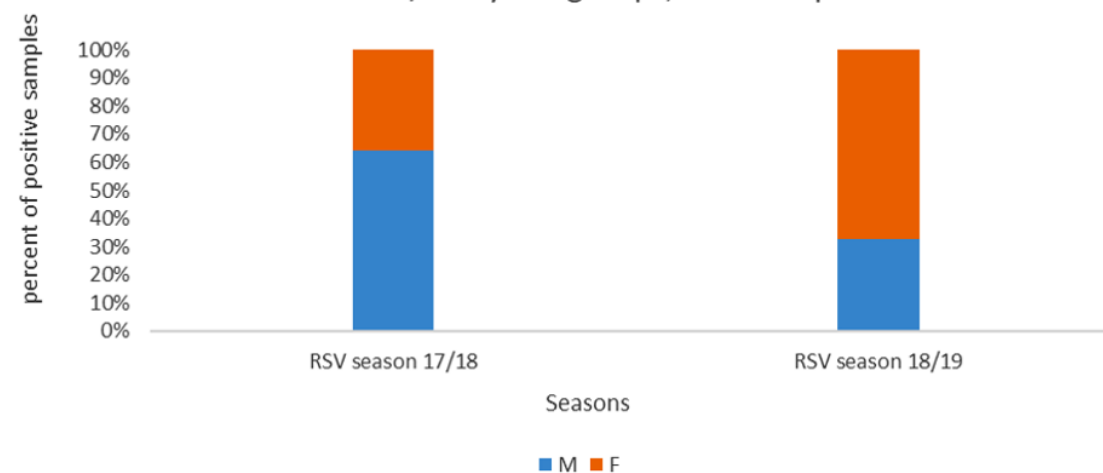
Sentinel surveillance, RSV positive samples, seasons 2017/18 by type, Czech Republic



Sentinel surveillance, RSV positive samples, seasons 2017/18 and 2018/19 by diagnosis groups, Czech Republic



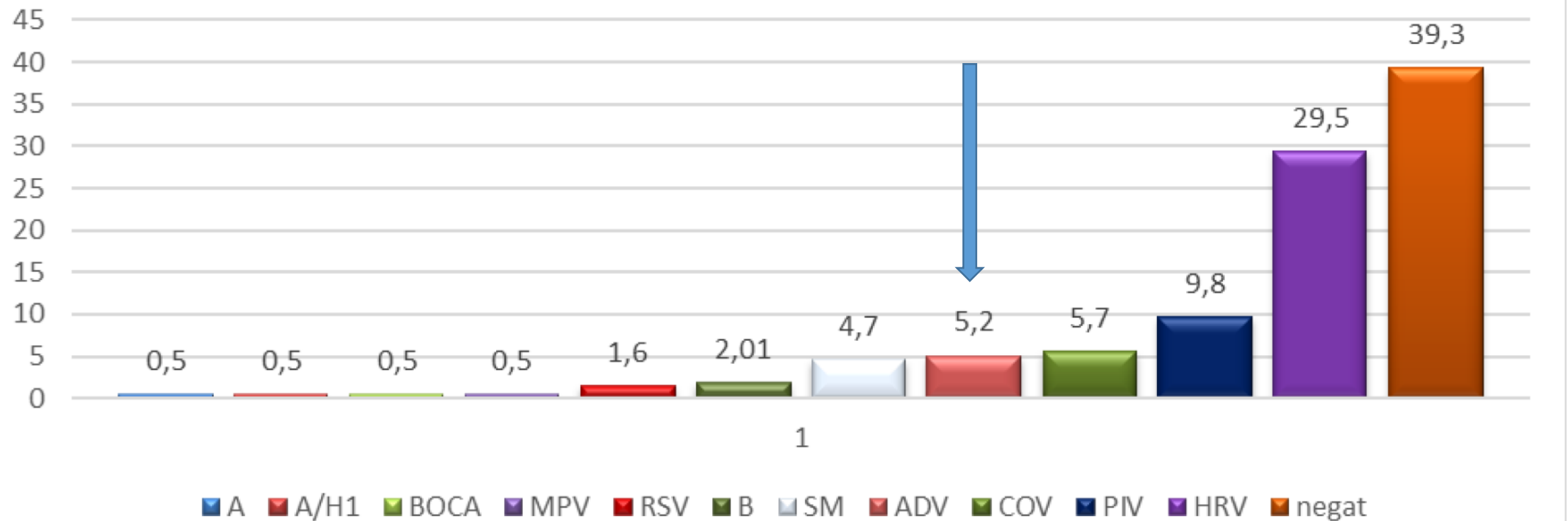
Sentinel surveillance, RSV positive samples, seasons 2017/18 and 2018/19 by sex groups, Czech Republic



Season 2019/2020 in CWs 40 to 51 of 2019

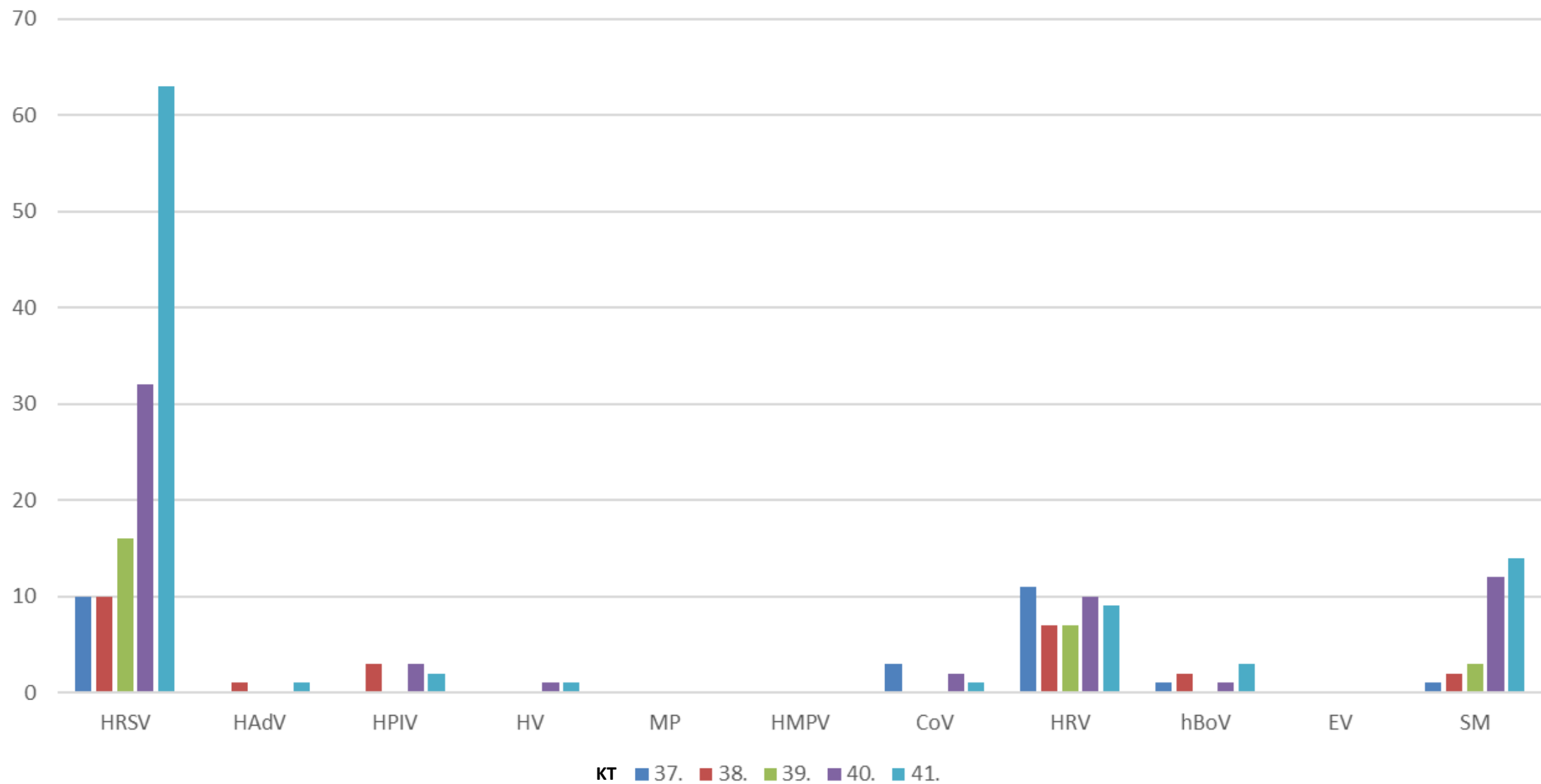
- Total 193 sentinel samples
- Influenza virus 13 (H1pdm 5, H3 1, B Victoria 6, 1 x unsubtyped)
- HRVs 57 (29.5 %),
- PIVs 19 (9.8 %),
- hCOVs 11 (5.7 %)
- ADVs 10 (5.2 %)
- RSV 13 in sentinel samples (mostly in mixed infections)
- Sentinel and non sentinel total 21 RSV, 7 RSV A, 10 RSV B

Surveillance in 42 – 51 CWs 2019

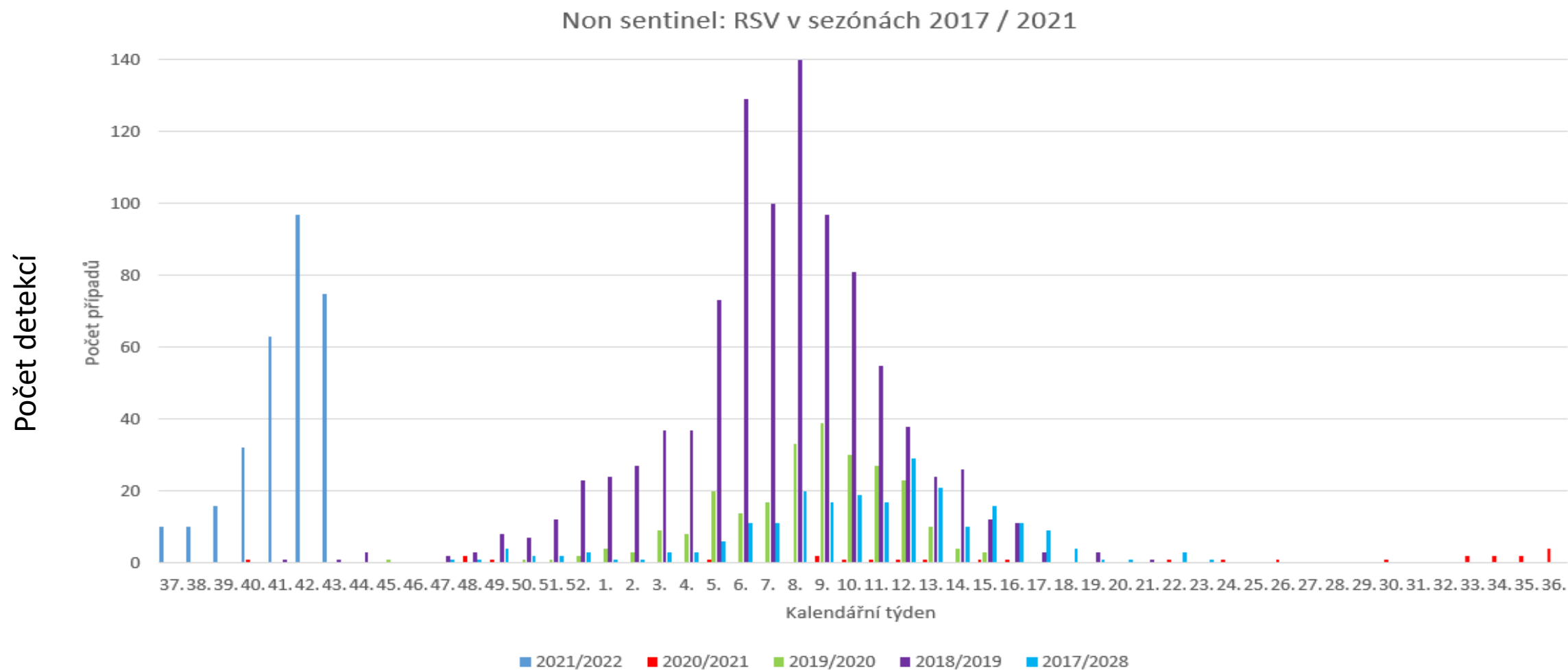


Non sentinel 2021/2022

Počet detekcí



Non sentinel: RSV in 2017 / 2021



RSV April 2020 till September 2021

- Sentinel samples - 119 (nearly two seasons) !!
- Ten times less samples than in „normal“ season
- RSV 8 samples positive
- No genotypization

RSV September – October 2021

- 25 sentinel samples (surveillance has started 41 CW)
- 4 RSV positive
- 4 HRV positive

Non sentinel samples September – October 2021

- Total 27
- 2 RSV positive
- 1 Parecho
- 3 HRV
- 3 PIV

Season 2021/2022 – surveillance changed

- ARI/ILI surveillance: at least 5 samples per week from each region
 - Two samples 0 -15 YoA,
 - Two samples 16 – 65 YoA
 - One samples older 66 YoA

Actual situation:

Many children with bronchitis, bronchiolitis, also oxygen therapy necessary

Limited number of samples – virological screening, dominant viruses RSV, HRV.

RSV A/B or rhinoviruses C?

Questions for the future & summary

- ARI/ILI surveillance system almost destroyed due to covid
- Will it be setup again in enhanced regime?
- Inclusion criteria for RSV surveillance?
- NGS in future (also non sentinel – samples from hospital labs)?
- Sanger/NGS recommended protocol?
- NRL capacity?

- Thank you....

Project „Enhancing Whole Genome Sequencing (WGS) and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the Covid-19 pandemic in the European Union and European Economic Area“ had received funding from the European Centre for Disease Prevention and Control under the Grant Agreement number ECDC/HERA/2021/004 ECD.12218.



More information about the project: <http://www.szu.cz/ecdc-1>

NOTE:

Information included reflects only the authors' view and the Centre (ECDC) is not responsible for any use that may be made of the information it contains.