The integrated surveillance for respiratory viruses (and other etiologies) in the SARI sentinel, Romania, season 2022-2023

Dr. Odette Popovici

National Institute of Public Health Romania

National Centre for Surveillance and Control of Communicable Diseases

ECDC and WHO Europe

Joint Annual Virtual Influenza and COVID-19 Surveillance Meeting,

5-7 October, 2022

Background

- The **COVID-19 pandemic** - a real challenge for surveillance and severity assessment - some type of information (case based) were missed and all went to "simple" (just deaths & ICU admissions)

- "Simple" is good sometimes, but it was far from SARI surveillance the way it worked before COVID-19 pandemic

SARI surveillance before pandemic (e.g. 2018-2019 season)

- **SARI thresholds - MEM method**
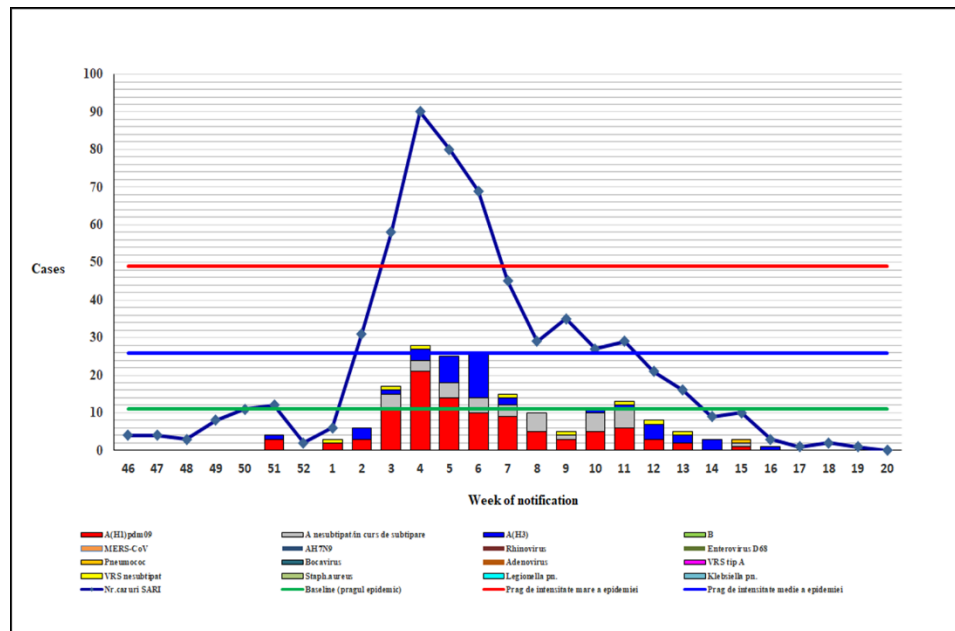 (Tomás Vega, José E. Lozano and colleagues)

11.02 Baseline

26.25 Medium threshold

49.08 High threshold

- The use of **thresholds for SARI** helps to assess the **impact** on healthcare system

- Needs a better consistency
  (the number of cases – still low in some years)

Weekly evolution of SARI cases and detected etiologies, SARI Sentinel Romania, W46 2018 - W20 2019 (n=606)

Weekly evolution of SARI cases and detected etiologies, Romania, SARI Sentinel, 2009/2010-2018/2019

Weekly evolution of SARI cases and detected etiologies, Romania, SARI sentinel, 2009/2010-2014/2015

Weekly evolution of SARI cases and detected etiologies, Romania, SARI sentinel, 2015/2016-2018/2019
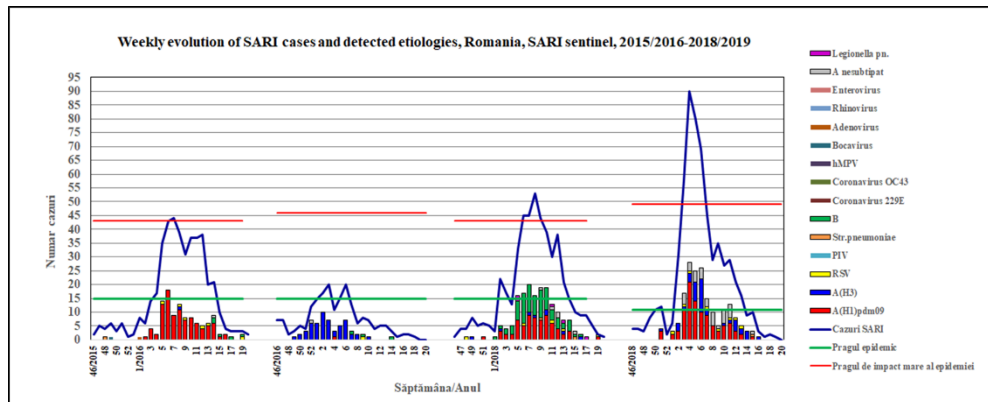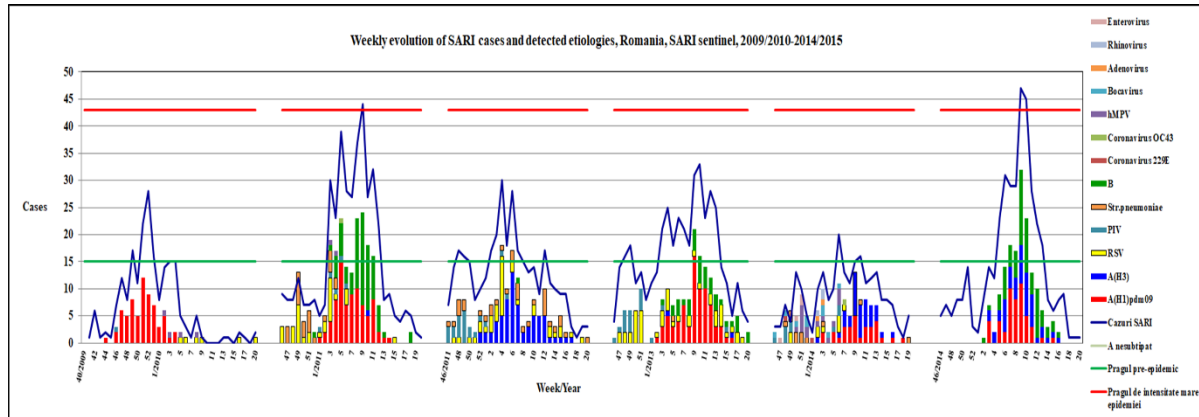
- Higher severity - in the seasons with A(H1)pdm09 as dominant and with **co-circulation** of influenza viruses
- The high threshold of **impact** was exceeded in the seasons with **co-circulation** of influenza viruses A(H1)pdm09 and B +/- A(H3);
- The SARI surveillance using the MEM method for thresholds calculation helped us to understand the **impact** on healthcare system and to prepare recommendations for **response** to epidemic;

Example of risk factors analysis for death in SARI cases, both genders, 2009/2010-2018/2019

Multivariate logistic regression:

- n = 2919
- Influenza virus A(H1)pdm09
- Compromised immunity
- Chronic liver diseases
- Chronic lung diseases
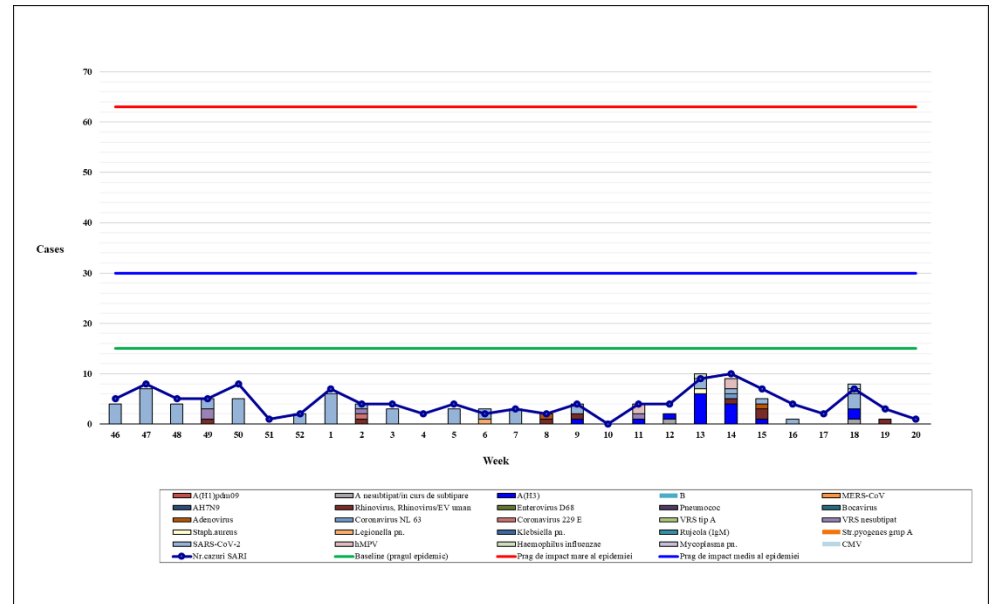- Neuro-cognitive disorders
- Male gender

- Risk factors analysis recommended for each season - if enough number of SARI cases

TOTAL (both genders) (n=2919)			
RISK FACTORS	Odds Ratio	Z-Statistic	P-Value
A(H1)pdm09	3.4212	8.9828	0
ASTHMA	0.7269	-0.997	0.3188
DIABETES	1.2667	1.3517	0.1765
CHRONIC CARDIAC DISEASES	0.8703	-0.8349	0.4038
COMPROMISED IMMUNITY	1.5645	2.2562	0.0241
CHRONIC KIDNEY DISEASES	1.5202	1.7468	0.0807
CHRONIC LIVER DISEASES	1.6831	2.3977	0.0165
CHRONIC LUNG DISEASES	1.6768	3.1205	0.0018
NEUROCOGNITIVE DISORDERS	3.4809	3.74	0.0002
NEUROMUSCULAR DISEASES	1.7281	1.8532	0.0639
OBESITY	1.2491	1.5012	0.1333
GENDER = MALE	1.5916	3.564	0.0004

SARI surveillance during pandemic (e.g. 2021-2022)

Weekly evolution of SARI cases and detected etiologies, SARI Sentinel Romania, W46 2021 - W20 2022 (n=117)

- Low number of reported SARI cases

- Most of them - COVID-19

- 3 SARI cases with SARS-CoV-2-influenza (AH3/A) co-infection

- The national COVID-19 platform didn't have yet all the necessary variables for case based SARI surveillance

The integrated surveillance for respiratory viruses (and other etiologies) in the SARI sentinel, Romania, season 2022-2023

- The **national COVID-19 electronic platform** – (soon will be) prepared for the integrated surveillance for influenza and COVID-19 – for **ARI, ILI** (W 40) **and SARI** (W46);

- First step: **results** uploaded by all the laboratories and family doctors who perform tests for SARS-CoV-2 (RT-PCR and RAT) and influenza (RT-PCR);

- The hospitals – fulfill the electronic hospitalization record; from this $\Longrightarrow$

  SARI electronic surveillance form (only for sentinel hospitals):

- the variables for **case based** surveillance – will soon be integrated;

- *other etiologies*: RSV, Str.pneumoniae, Legionella pn., MERS-CoV;

- Hopefully - a higher quality of (**SARI**) surveillance in Romania in **2022-2023** season.

Thank you
for your attention!

Autumn in Bucovina, România
Photo by Marian Poară