

Global Health Cast 51

October 24, 2023

Every Week

12.00 noon - CET



Dr. Melvin Sanicas

 [@Vaccinologist](https://twitter.com/Vaccinologist)



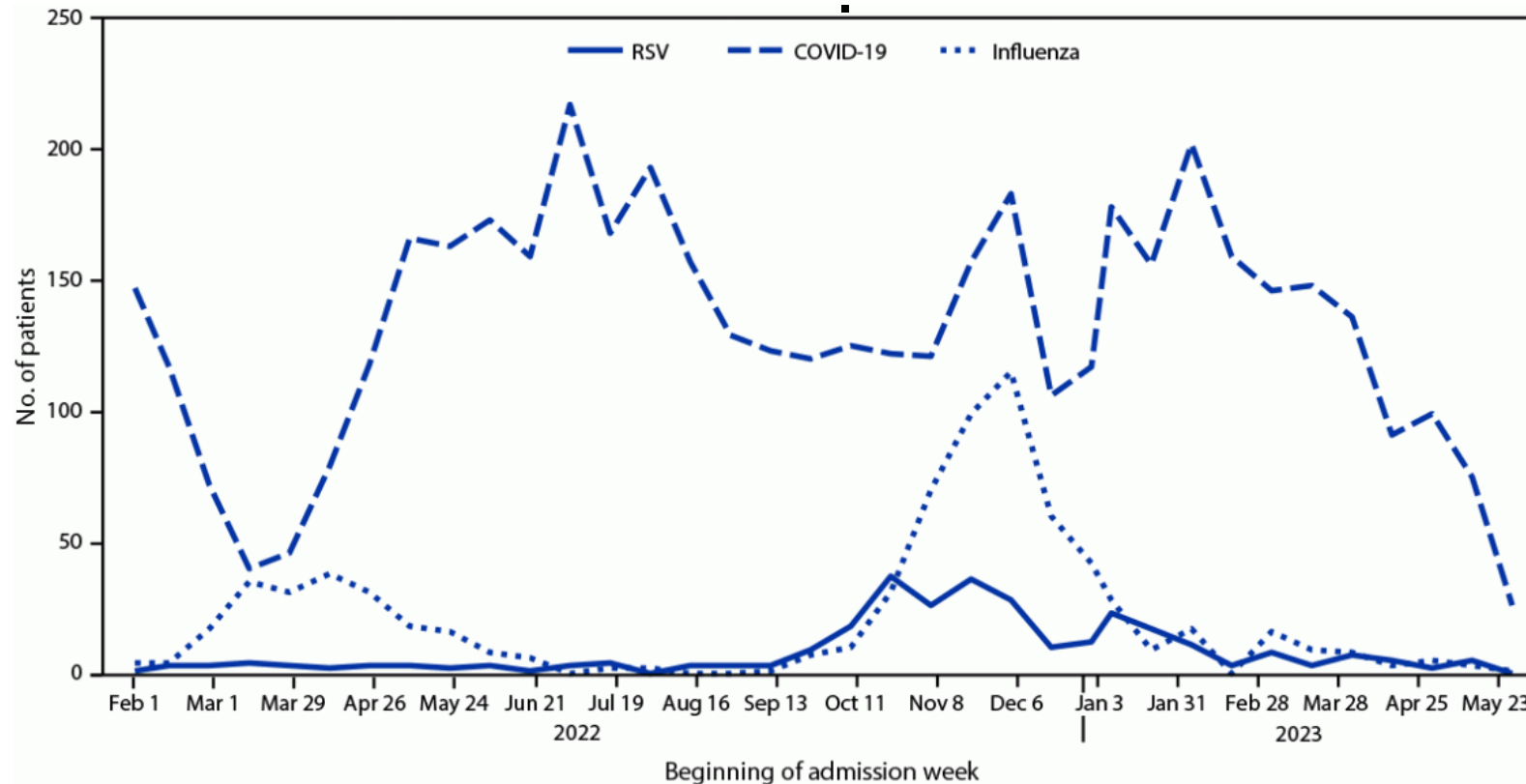
Prof. Dr. Joe Schmitt

 [@Prof_Schmitt](https://twitter.com/Prof_Schmitt)

What we talk about today

- **RSV hospitalizations have worse clinical outcomes for older Americans than influenza, COVID**
- **Study from South Korea shows higher risk of new-onset post- COVID autoimmune, autoinflammatory disorders**
- **Cases of dengue fever rise in Switzerland and Italy**
- **Acute Respiratory Tract Infections (ARI): viruses needed**

RSV hospitalizations have worse clinical outcomes for older Americans than influenza or COVID-19



These findings suggest that **although RSV hospitalizations occur less frequently than COVID-19 or influenza hospitalizations, RSV disease among hospitalized adults aged ≥ 60 years in the United States during February 2022–May 2023 was more severe** than that associated with COVID-19 and influenza.



Original Investigation | Infectious Diseases

Autoimmune and Autoinflammatory Connective Tissue Disorders Following COVID-19

Sung Ha Lim, MD; Hyun Jeong Ju, MD, PhD; Ju Hee Han, MD; Ji Hae Lee, MD, PhD; Won-Soo Lee, MD, PhD; Jung Min Bae, MD, PhD; Solam Lee, MD, PhD

Abstract

IMPORTANCE Multiple cases of autoimmune and autoinflammatory diseases after COVID-19 have been reported. However, their incidences and risks have rarely been quantified.

OBJECTIVE To investigate the incidences and risks of autoimmune and autoinflammatory connective tissue disorders after COVID-19.

DESIGN, SETTING, AND PARTICIPANTS This was a retrospective population-based study conducted between October 8, 2020, and December 31, 2021, that used nationwide data from the Korea Disease Control and Prevention Agency COVID-19 National Health Insurance Service cohort and included individuals who received a diagnosis of COVID-19 via polymerase chain reaction testing and a control group with no evidence of COVID-19 identified from National Health Insurance Service of Korea cohort. Data analysis was conducted from September 2022 to August 2023.

EXPOSURES Receipt of diagnosis of COVID-19.

MAIN OUTCOMES AND MEASURES The primary outcomes were the incidence and risk of autoimmune and autoinflammatory connective tissue disorders following COVID-19. A total of 32 covariates, including demographics, socioeconomic statuses, lifestyle factors, and comorbidity profiles, were balanced through inverse probability weighting. The incidences and risks of autoimmune and autoinflammatory connective tissue disorders were compared between the groups using multivariable Cox proportional hazard analyses.

Key Points

Question Is COVID-19 associated with an increased risk of autoimmune and autoinflammatory disorders?

Findings This cohort study including 354 527 individuals with COVID-19 and 6 134 940 controls identified a significant elevation in the risk of multiple incident autoimmune and autoinflammatory disorders subsequent to COVID-19. Notably, certain disease risks exhibited a positive association with the severity of COVID-19.

Meaning These findings suggest that autoimmune and autoinflammatory connective tissue disorders may manifest as post-COVID-19 sequelae, highlighting the potential long-term health ramifications associated with COVID-19; long-term management should include evaluating the development of such disorders in

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Meaning These findings suggest that autoimmune and autoinflammatory connective tissue disorders may manifest as post-COVID-19 sequelae, highlighting the potential long-term health ramifications associated with COVID-19; long-term management should include evaluating the development of such disorders in patients who had COVID-19.

Cases of dengue fever on the rise in Switzerland



<https://www.swissinfo.ch/eng/society/cases-of-dengue-fever-on-the-rise-in-switzerland/48855580>

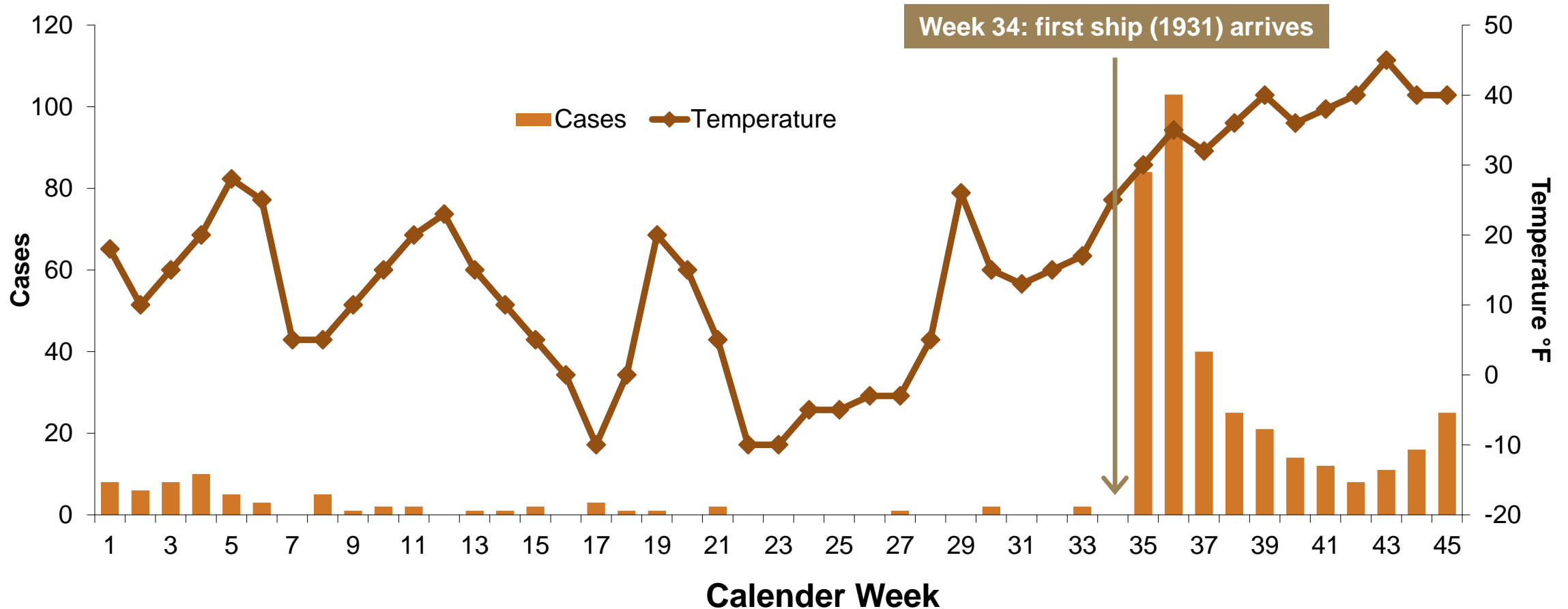
Italy: Confirmed dengue fever activity reported in multiple regions through early October /update 3

Confirmed dengue fever activity reported in multiple regions in Italy through early October. Avoid mosquito bites.

<https://crisis24.garda.com/alerts/2023/10/italy-confirmed-dengue-fever-activity-reported-in-multiple-regions-through-early-october-update-3>

ARI in Longyearbyen, (Spitzbergen)

Surveillance Week, 4th October 1930 to 8th August 1931



ARI and Weather

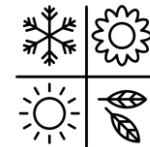
Specific Pathogens and Climate factors:

- ▶ Influenza, RSV, Adenovirus: Increase with lower temperatures
- ▶ Rhinovirus: Increase with higher humidity
- ▶ RSV: Modell to predict season beginning and end of season with 2 week-precision



Practical Experience

- Winter-Winter-summer seasonality on northern/southern hemishperes
- Countries near equator: year-round ARI

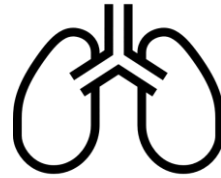


„Common Cold“ is no diagnosis



1

Pathogen



2

Organ



3

Modifiers
Exposition

Knowing 2 / 3 elements allows prediction of third element

ARI – Pathogens: Classification

Colonizers

Bacteria: Betalactam +

- *Streptococcus pneumoniae*
- *Haemophilus influenzae*
- *Moraxella spp.*
- *Staphylococcus aureus*
- *Neisseria meningitidis*

Non-colonizers

„Epidemic“ Bacteria (5): Macrolide +

- *Chlamydia, Legionella, Mycoplasma, Bordetella*

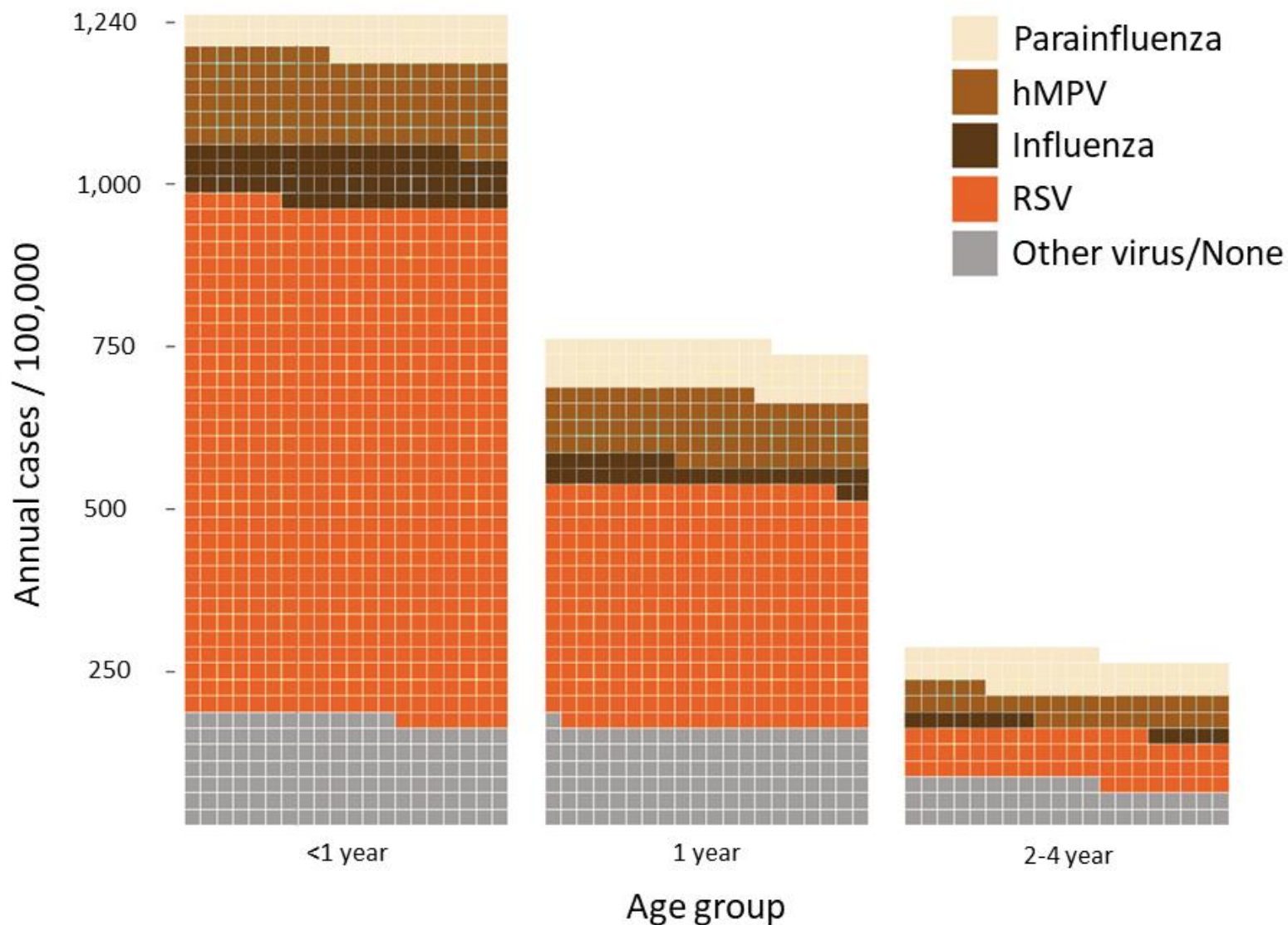
„Epidemic“ Viruses (14):

- **SARS-CoV2**, RSV, Adenovirus
Influenza A, Influenza B, PIV1-4,
hMPV, Enterovirus, Rhinovirus,
Coronaviruses, Reovirus, Adeno

Newly Discovered Relevance of ARI-Viruses:

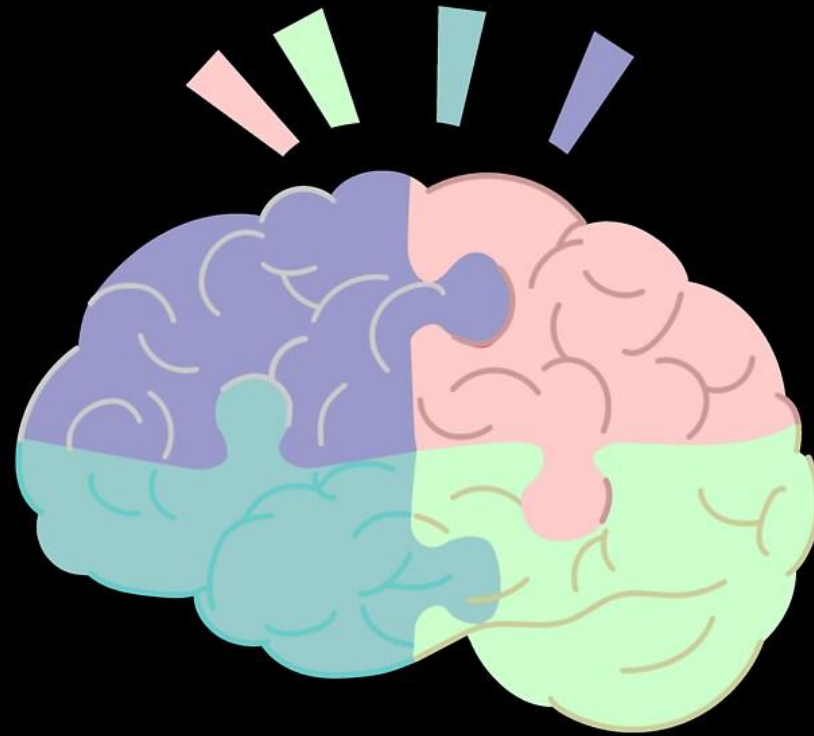
Estimated contribution of ARI- viruses to “CAAP” in children <5 years in southern Israel

Are viral infections a necessary prerequisite for bacterial ARI-infections in children?



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**ARTIFICIAL INTELLIGENCE IS NO
MATCH FOR NATURAL STUPIDITY**