

# Global Health Cast 49

## September 12, 2023

**Every Week**

12.00 noon - CET



**Dr. Melvin Sanicas**

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



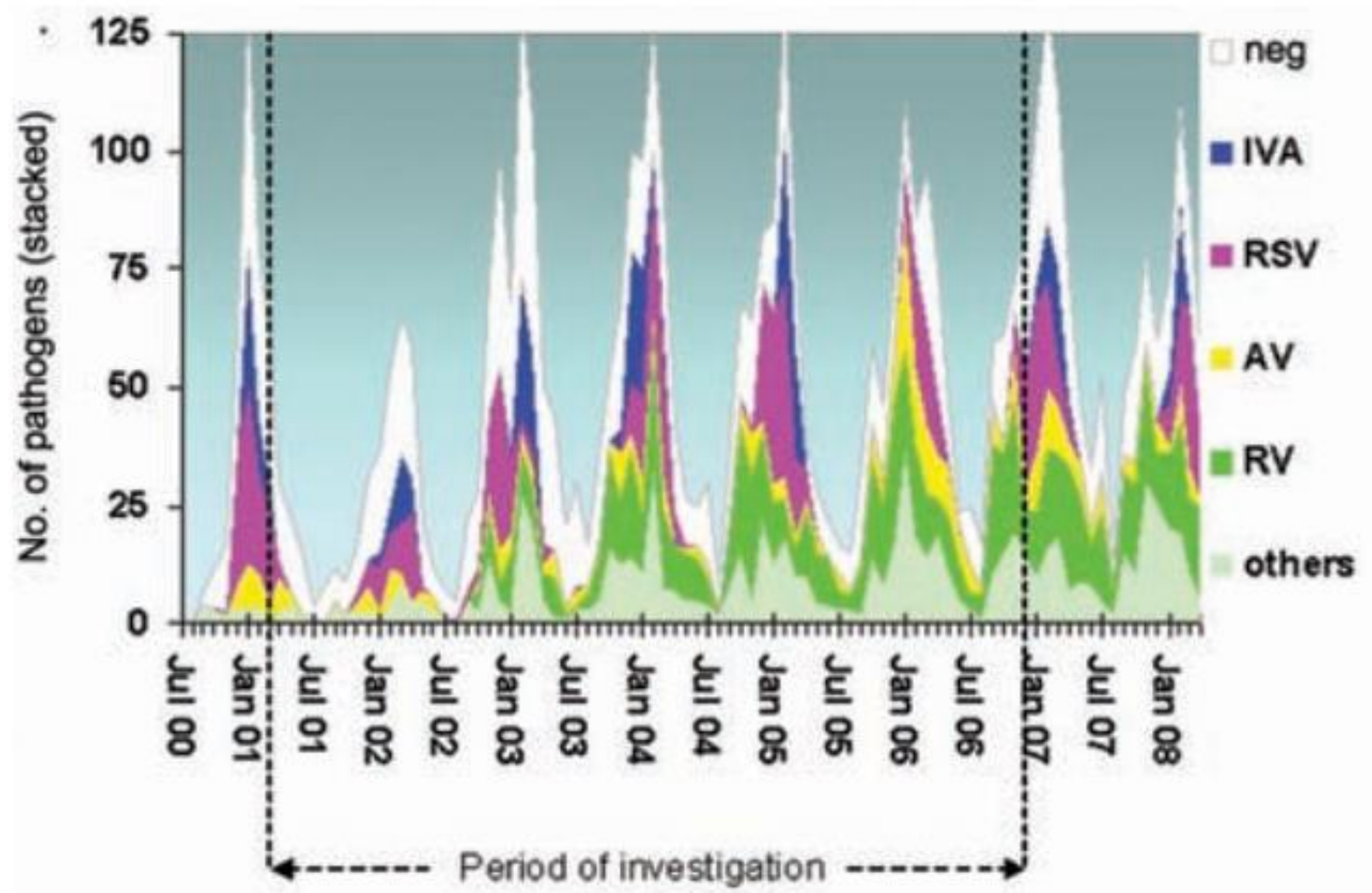
**Prof. Dr. Joe Schmitt**

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

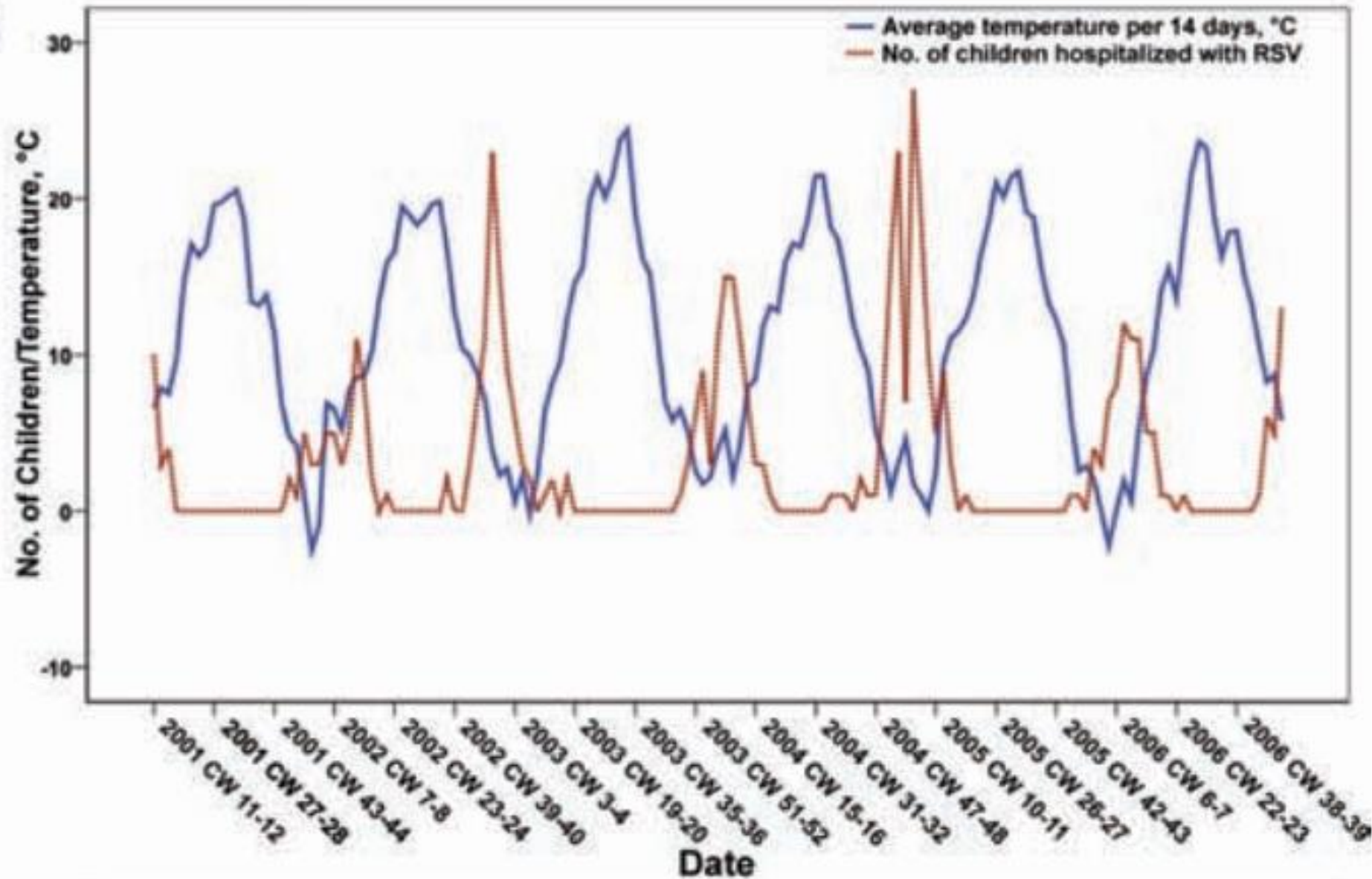
# What we talk about today

- **The “cold season”: ARI – incidence and climate factors**
- **Biologic explanation why people get more colds and flu in winter**
- **SARS-CoV-2 reservoir as a mechanism for PASC**
- **New mutations of SARS-CoV-2 BA.2.86 variant**
- **Bangladesh hit by worst dengue outbreak on record**
- **ViP: additional vaccine recommendations;  
timing of vaccination**

# (PID-) ARI.net-hospitalization by pathogen, 2000-2008



# RSV-hospitalization and outside temperature



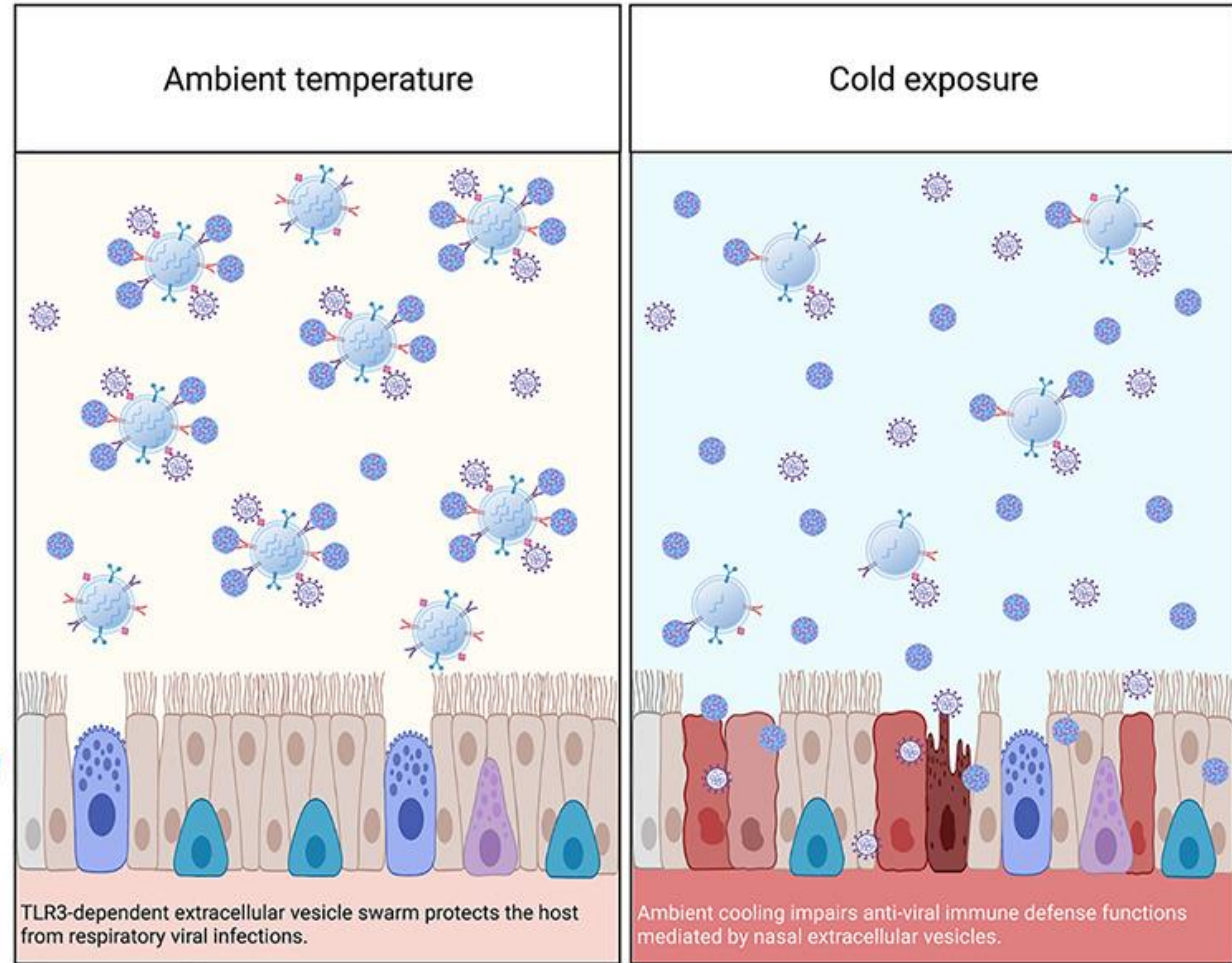
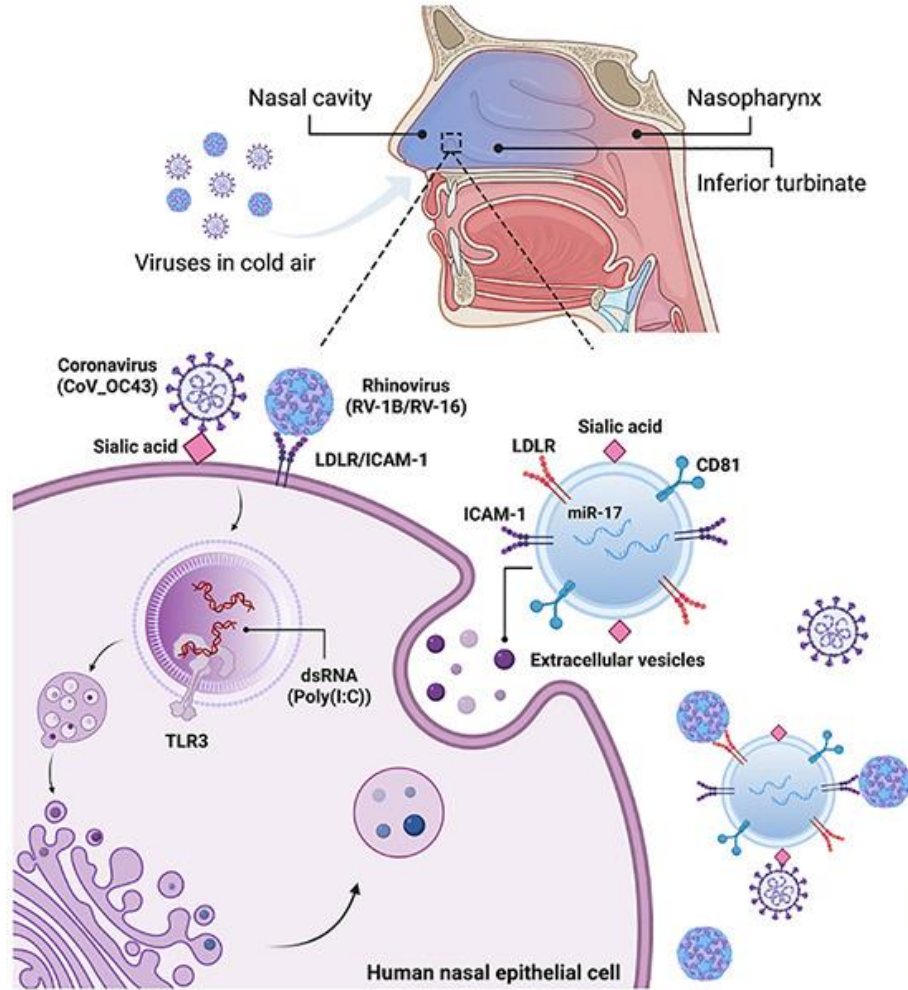
## Main Findings:

1. Influenza A, RSV, adenovirus were correlated with temperature
2. Rhinovirus was correlated with relative humidity.
3. Time series model with climatic conditions predicted RSV-outbreaks



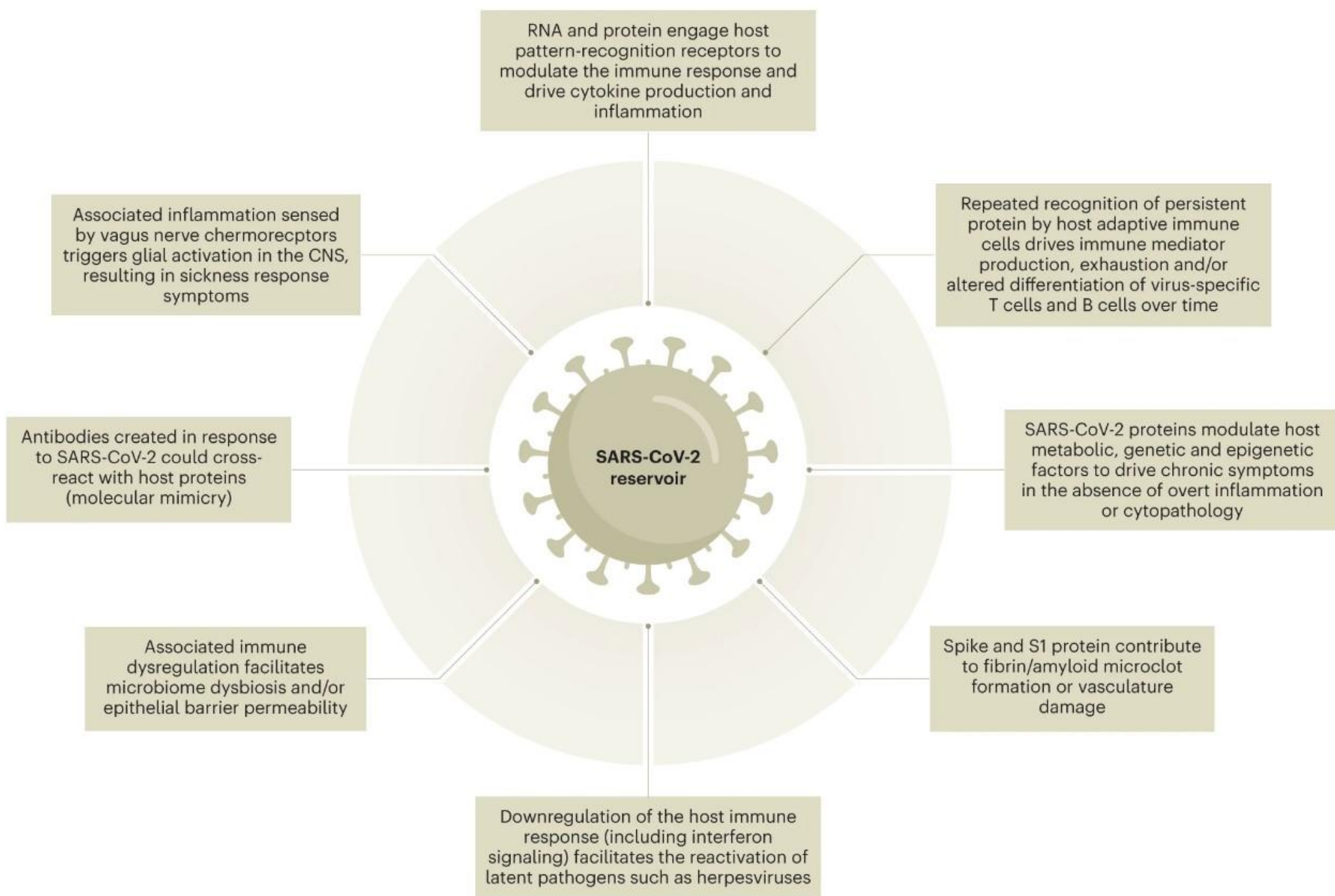


# Cold Exposure Impairs Extracellular Vesicle Swarm Mediated Nasal Anti-Viral Immunity



All of experiments described in this article including TLR3 stimulation by poly(I:C) and cold exposure were performed *in vitro* on primary human nasal epithelial cells and turbinate tissue explants.

Abbreviations: CD81, Cluster of differentiation 81; dsRNA, Double-stranded RNA; ICAM-1, Intercellular adhesion molecule 1; LDLR, Low-density lipoprotein receptor; miR, MicroRNAs; Poly(I:C), Polyinosinic-polycytidylic acid; TLR3, Toll-like receptor 3

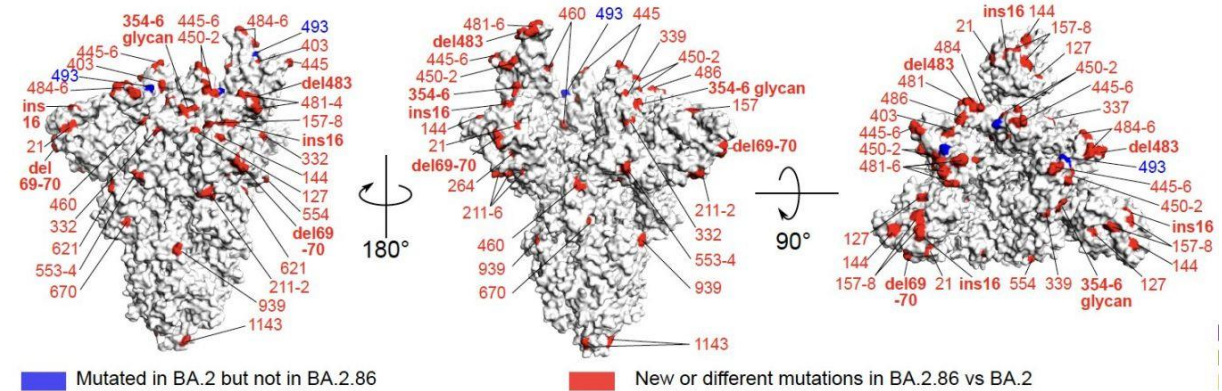




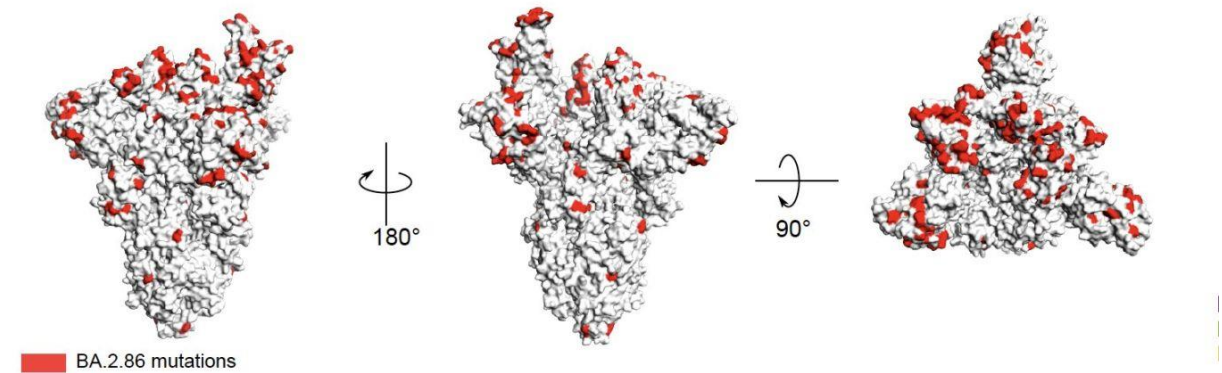
Based on the number of **NEW** mutations (*shown in red in the image*) **BA.2.86** would have been a variant of extreme concern.

Thanks to vaccination and immunity from SARS-CoV-2 infection and our immune system we are NOT back to 2020 or 2021 (*in terms of COVID-19 serious cases, hospitalization, and deaths*)

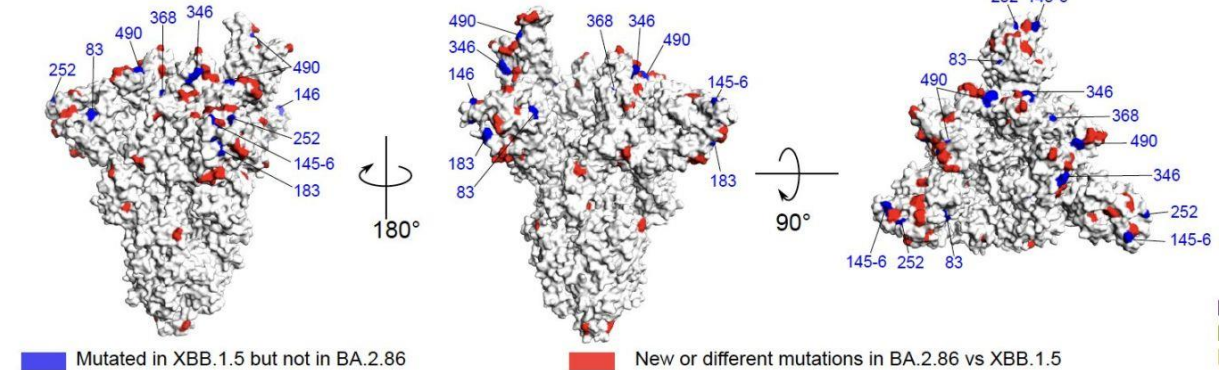
B BA.2.86 differences from BA.2



C BA.2.86 mutations from Wuhan-1



D BA.2.86 differences from XBB.1.5





**Situation Report #2**  
**5 September 2023**

**SITUATION IN NUMBERS<sup>1</sup>**



**133,134**

Dengue cases (38% female) recorded (Health Emergency Operation Centre and Control Room, DGHS 4<sup>th</sup> Sep 2023)



**25,626**

children (0-15 yrs, 39% girls) infected (Health Emergency Operation Center and Control Room, DGHS 4<sup>th</sup> Sep 2023)



**64/64**

**Districts**

Districts affected (Health Emergency Operation Center and Control Room, DGHS 4<sup>th</sup> Sep 2023)

# Bangladesh Hit by Worst Dengue Outbreak on Record

- As of 4 September 2023, 133,134 dengue cases (including 38% women and 19% children (0-15 yrs.) have been infected, with 646 deaths (58% female, 12% children below 15 years old).

*It is to be noted that, these numbers reflect only reported cases from government hospitals and some selected private hospitals that are reporting. The actual number of cases (unreported) is much higher.*

- *Countries in sub-Saharan Africa, such as Chad, have also recently reported outbreaks.*
- *Last week Guatemala declared a national health emergency for its dengue outbreak.*



## Public Service Announcement on dengue prevention



## Community engagement tool for dengue prevention and



Young actress Nishat Ara Alvida died of dengue; Photo: Collected

Young actress Nishat Ara Alvida died of dengue. She passed away at 8 am on Thursday (August 31). Nishat was 19.



## Community awareness session on dengue prevention



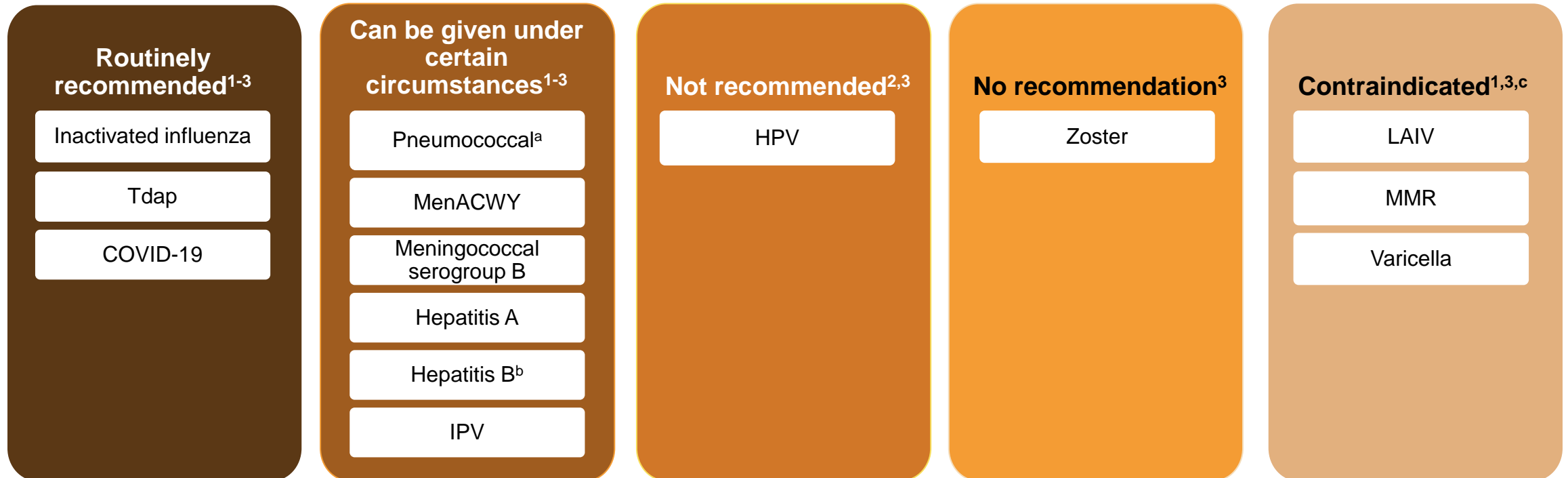
## Dissemination of Dengue messages at a school in Jashore, Khulna



## Vaccination in Pregnancy (ViP)



# US Recommendations for Vaccine Use During Pregnancy Fall Into Several Categories



2. [Vaccinations needed during pregnancy](#). American College of Obstetricians and Gynecologists. Accessed July 7, 2022. Accessed April 7, 2023

3. [Guidelines for vaccinating pregnant women](#). Centers for Disease Control and Prevention. Updated July 13, 2022. Accessed April 7, 2023

# JCVI Recommendations for Vaccine Use During Pregnancy Fall Into Several Categories

## Routinely recommended

Influenza

Tdap

COVID-19

## Can be given under certain circumstances

Pneumococcal<sup>a</sup>

Meningococcal

Hepatitis A

Hepatitis B

IPV

## No recommendation

HPV

LAIV

## Contraindicated

MMR

Varicella

Zoster<sup>b</sup>

# European Recommendations for Routine Vaccination During Pregnancy

Influenza, Tdap, and COVID-19 vaccinations are recommended during pregnancy<sup>1-5</sup>

Country	Influenza vaccine	Tdap vaccine	COVID-19 vaccine
<b>United Kingdom</b> <sup>1-3</sup>	Any trimester during pregnancy <sup>1</sup>	Any time during pregnancy, ideally during 16–32 weeks of gestation <sup>2,a</sup>	BNT162b2 (Pfizer) and mRNA-1273 (Moderna) for some or all pregnancies <sup>3</sup>
<b>Spain</b> <sup>3,4</sup>	Any trimester during pregnancy <sup>4</sup>	Between 17 and 36 weeks of gestation, depending on the person's Td vaccination history <sup>4</sup>	BNT162b2 (Pfizer) and mRNA-1273 (Moderna) for some or all pregnancies <sup>3</sup>
<b>Germany</b> <sup>3,5</sup>	From second trimester to delivery <sup>5</sup>	Between 28 and 32 weeks of gestation or in the second trimester if at increased risk of preterm birth <sup>5</sup>	BNT162b2 (Pfizer) for some or all pregnancies <sup>3</sup>



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"And a toast to vaccines!  
Thanks to vaccines, we  
won't need to have 10  
children in hopes that  
3 or 4 of them live  
to adulthood."

som<sub>ee</sub>cards  
user card



**SO LET ME GET THIS  
STRAIGHT**

**PEOPLE IN YOUR COUNTRY ACTUALLY REFUSE  
VACCINES?**