

# The Novo Nordisk Foundation Institute for Vaccines & Immunity

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Infectious Diseases

# Current vaccines for respiratory pathogens have limitations

## LOCAL IMMUNITY

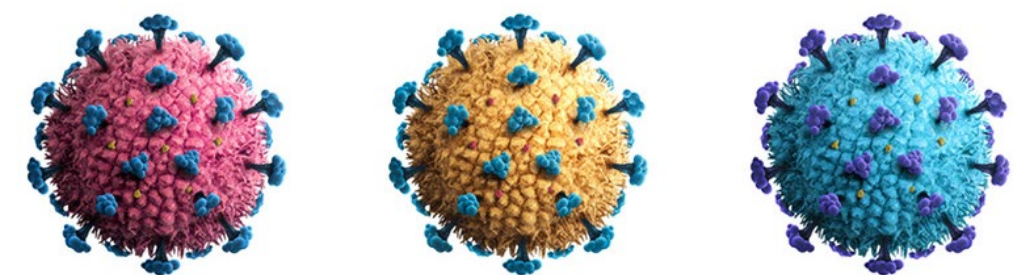
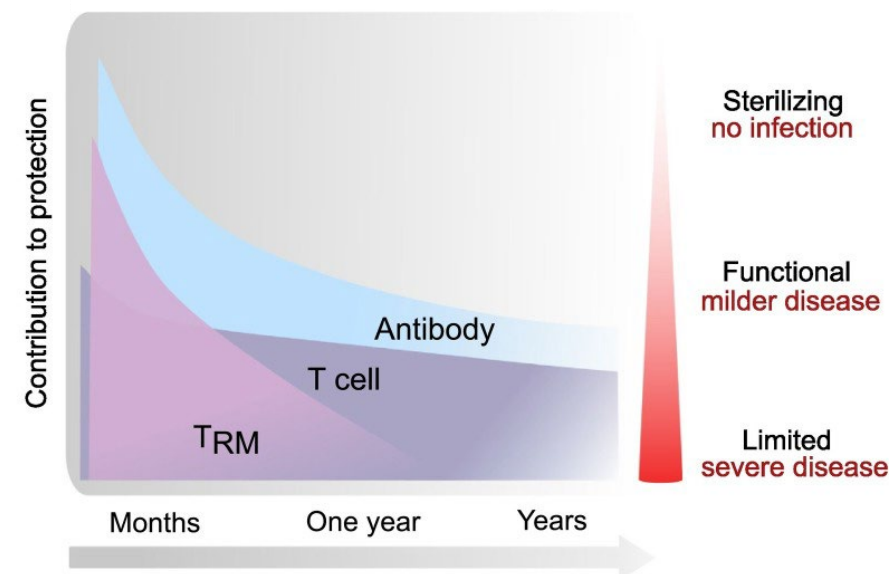
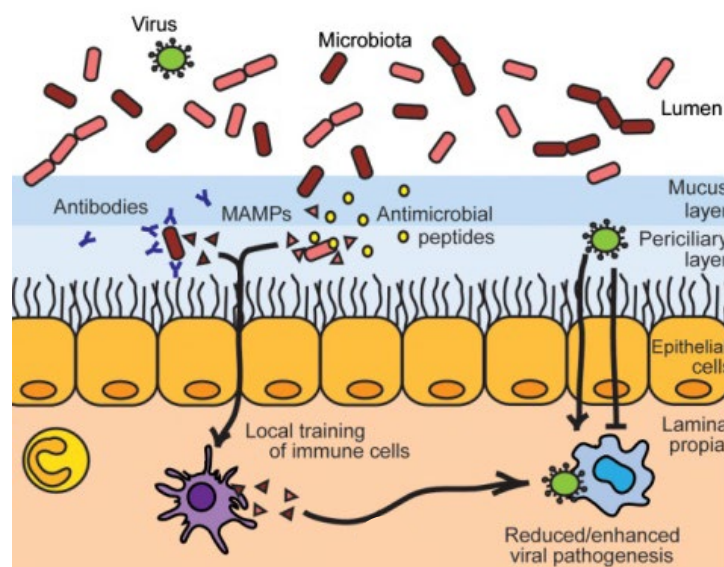
Insufficient local immunity in the respiratory tract allows colonization, transmission, and recurrence of infection

## MEMORY

Immunological memory wanes, requiring frequent boosters

## BREADTH

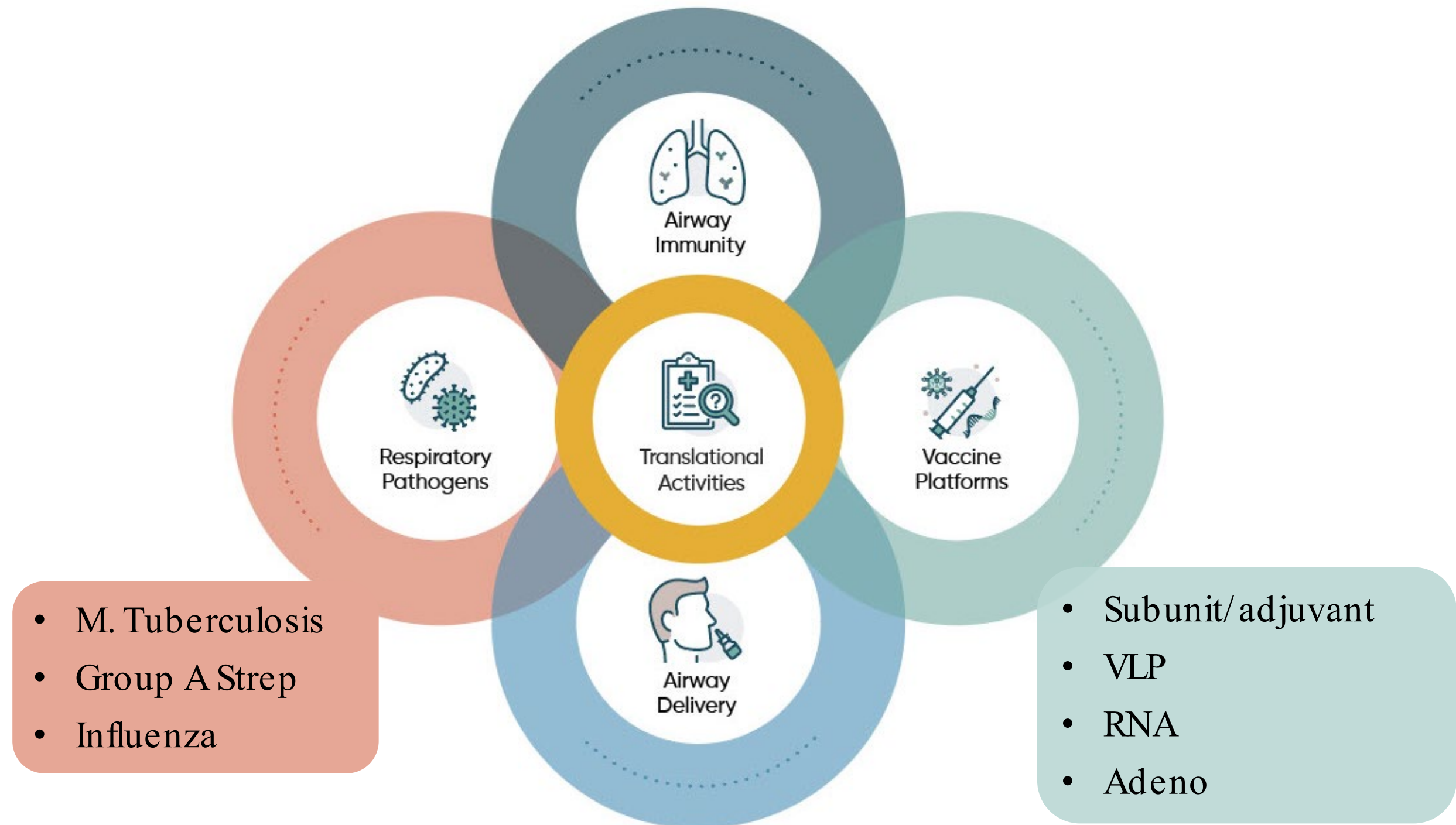
Vaccines may not adequately protect against new variants



# Novo Nordisk Foundation Institute for Vaccines and Immunity (NIVI)

A Translational research center with the capacity to move from discovery research into clinical trials and provide POC from either CHIM or advanced animal challenge models

**FOCUS:**  
Novel vaccines against  
respiratory pathogens  
through  
improved understanding of  
airway immunity and  
immune memory



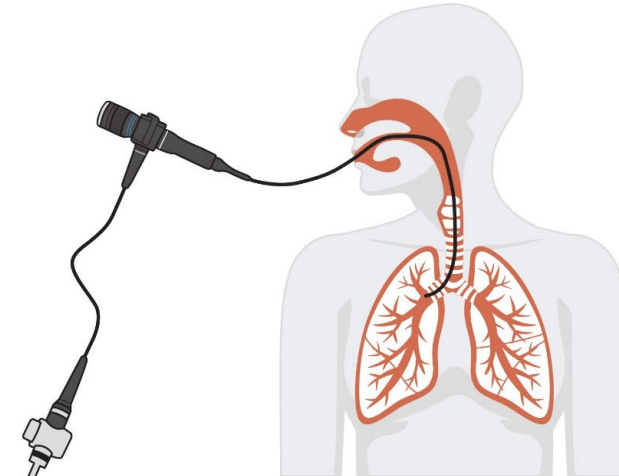
# Airway Immunity is a central element of NIV research agenda

- Understand the interplay between airway- and systemic immunology
- Develop novel airway sampling and analytical methods in humans
- Formulate vaccines for airway delivery and test them in parental prime airway boost regimes



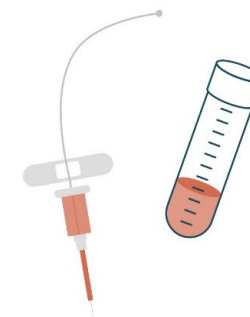
## Upper airway

Fluid: nasal wash, saliva  
Cells: brushing  
Tissue: biopsies  
Organs: adenoids, tonsils



## Lower airway

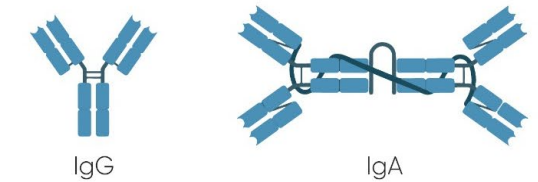
Fluid: sputum, BAL  
Cells: brushing, BAL  
Tissue: biopsies  
Organs: lung, transplants



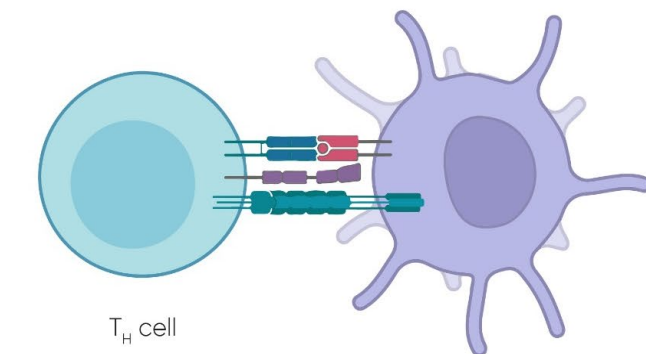
## Blood

Fluid: serum  
Cells: PBMC

## Humoral immunity assessment (fluids)



## Cellular immunity assessment (cells, tissues and organs)



# Focus on airway immunity and translational vaccine research

- NIVI will be a translational vaccine research center in the greater Copenhagen area based on:
  - A non for profit research center (~150 employees)
  - A translational vaccine development unit with GxP experts (~40 employees)
- NIVI will focus on research, early development and clinical testing up to phase 2
- NIVI will develop vaccines for both parental and airway administration
- Strategic partnerships both nationally and internationally (CHIM, NHP, GMP manufacturing)
- Launch early 2024 – recruitment of the NIVI management and PI's will start soon

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# **The Novo Nordisk Foundation Copenhagen, Denmark**

**Mission: Improve people's health and the  
sustainability of society and the planet**