

Explaining "waning immunity" the need for boosters to older adults

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Possible conflicts of interest

- **Member European Scientific Working group on Influenza**
- **Speakers fee from Sanofi, Viatris, MSD**
- **Chair of the Dutch Immunisation Foundation**
sponsored by AZ, GSK, Moderna, MSD, Pfizer, Sanofi, Seqirus and Viatris

Waning Immunity of Respiratory Vaccines



Immune System Security Team: Strong at first → Weaker over time → Booster retrains!

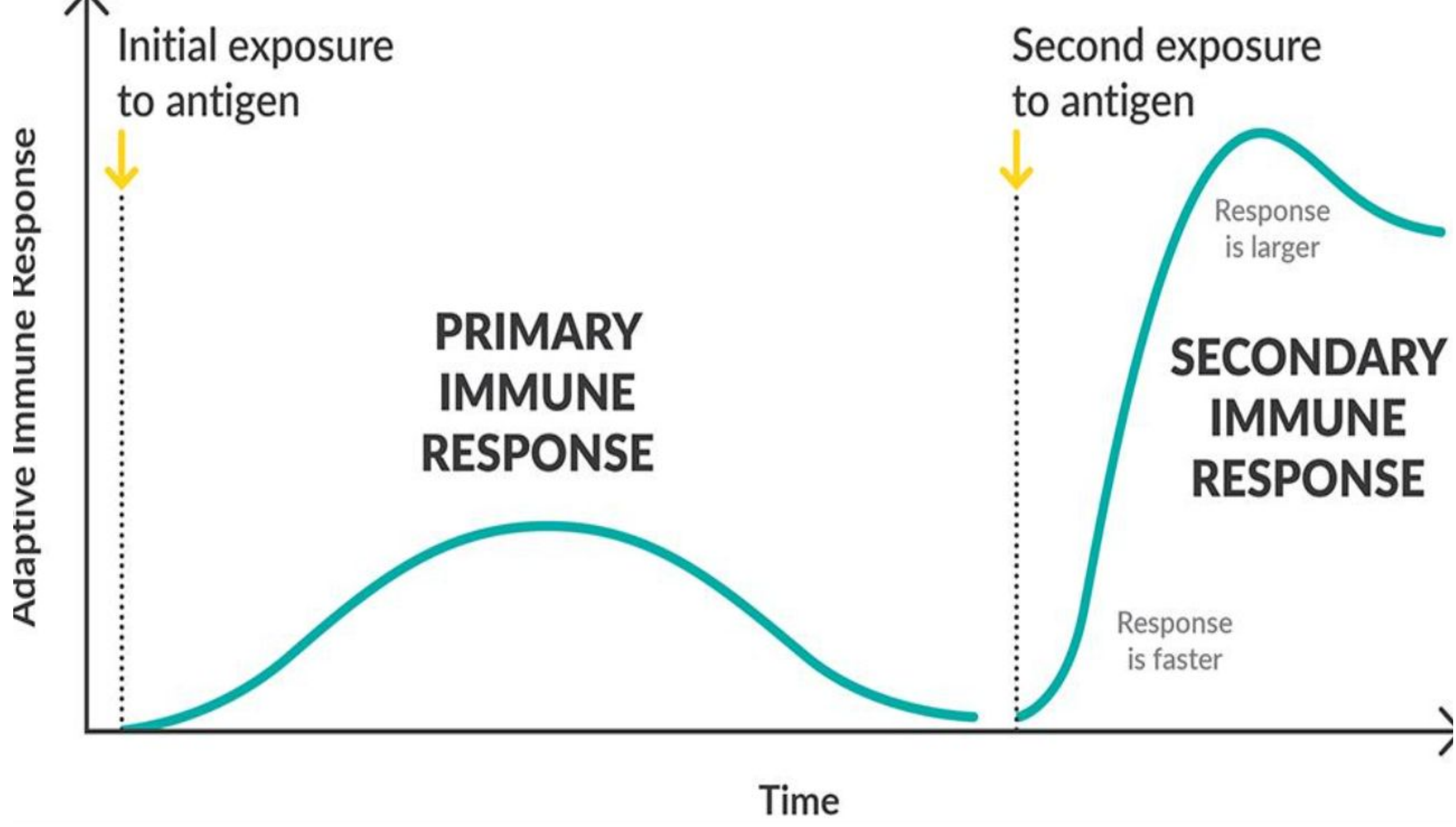
Why Immunity Fades



1. Immune Memory Declines



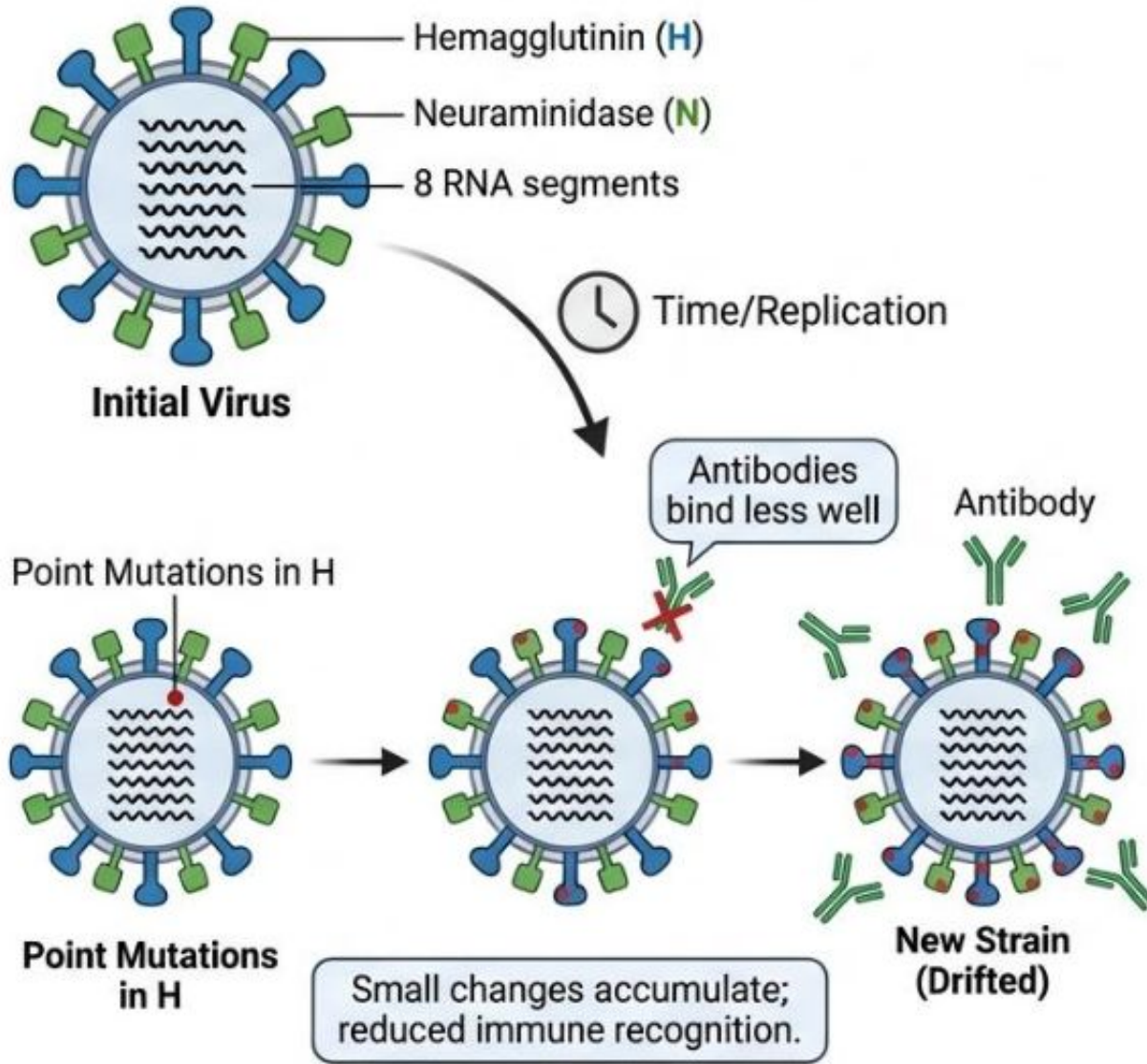
2. Virus or Bacteria Changes



Antigenic Drift vs. Antigenic Shift in Influenza

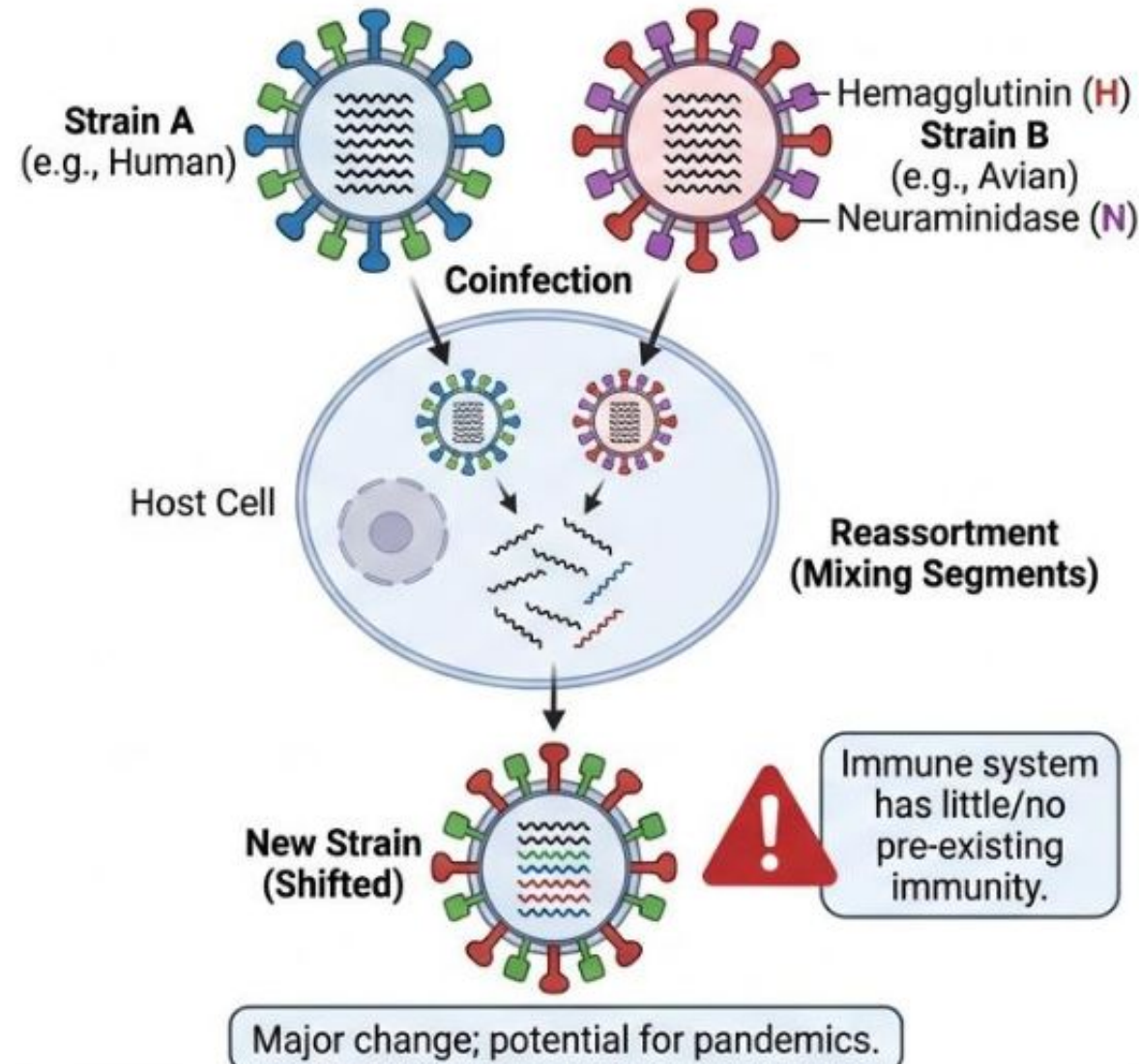
Drift: mutation

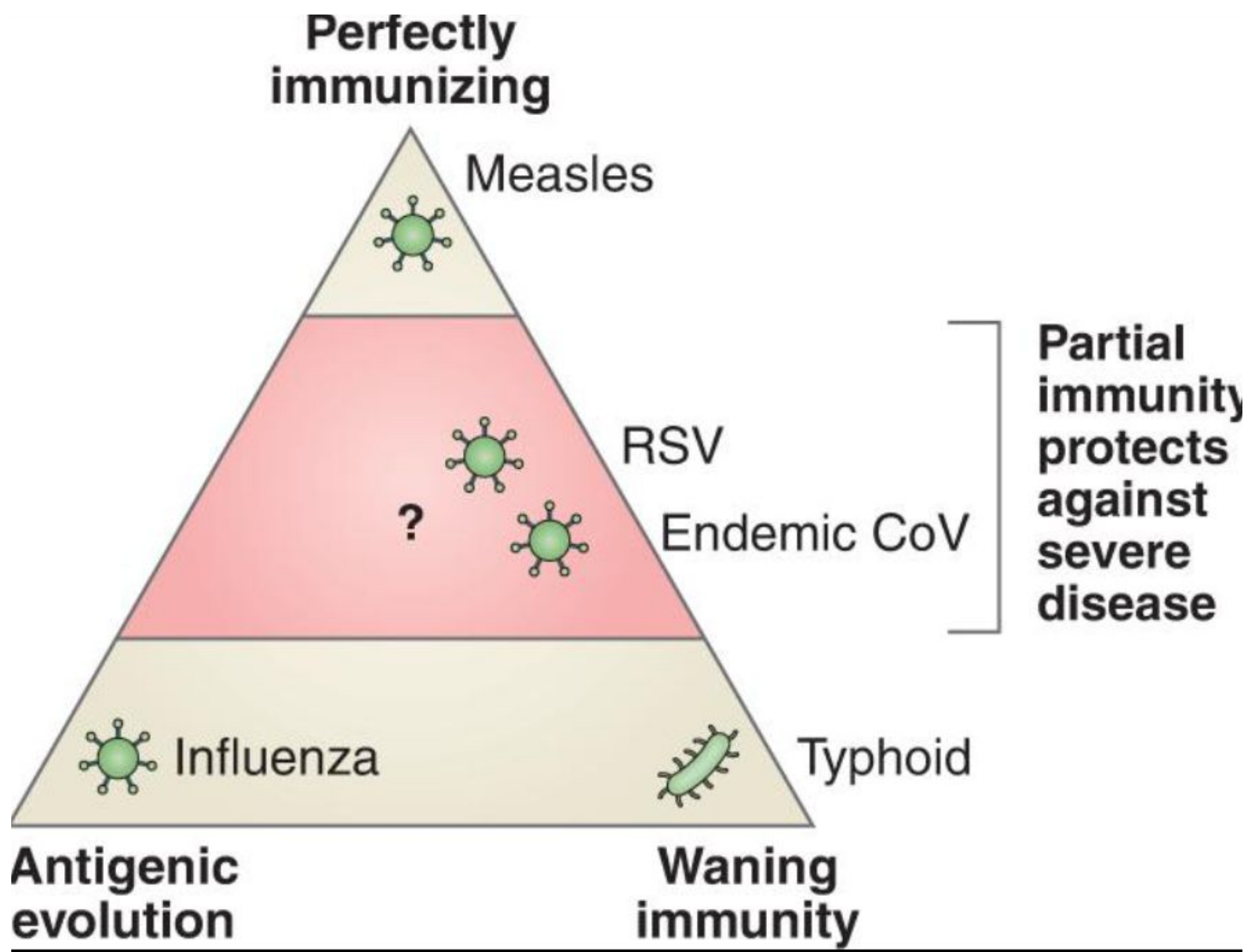
ANTIGENIC DRIFT (Gradual Changes)



Shift: reassortment (coinfection)

ANTIGENIC SHIFT (Abrupt, Major Changes)





Influenza (Flu)



Fades Fast

Virus Changes
Every Year

New Flu Shot Yearly

COVID-19



Moderate Decline

Evolving Variants



Booster Shots Needed

RSV



Short Protection

Reinfections
Common

Seasonal Shots
for Risk Groups

Pneumococci



Slower Decline

Many Strains



Boosters in Seniors
& High Risk



- The flu vaccine is the best way to protect yourself against the serious consequences of flu.
- By getting the flu vaccine, you also protect others.
- You cannot get flu from the flu vaccine.

Why is the flu vaccine important?

- If you get the flu vaccine, you are about 35% less likely to get the flu.
- Even if you do get the flu, you are less likely to become seriously ill.
- Hospital admission due to flu is about 40% less likely.



A new flu vaccine every year

- There are various types of influenza viruses that cause flu. These viruses are constantly changing.
- That is why a new flu vaccine is made every year.
- Sometimes the virus mutates or a different flu virus becomes dominant. If that happens, the flu vaccine will be slightly less effective, but still offers protection.

Why is a COVID-19 vaccine important?



The protection from the coronavirus vaccines doesn't last forever in your body, so it is important to get your spring or autumn vaccine to help keep you safe for longer.



UK Health
Security
Agency

NHS

Your guide to the **RSV** vaccine for older adults

How to protect
yourself by having the
Respiratory Syncytial
Virus (RSV) vaccine



Information on the free RSV vaccine for people who:

- are aged 75 years or older
- are an adult of any age living in a care home for older adults

How long will I be protected for?

In the clinical studies, RSV vaccine provided good protection for at least 2 years, and is expected to last longer.

Do I need to have the vaccine every year?

No, a single dose is expected to give you good protection for a few years.

de nederlandse
immunisatie
stichting

Pneumococci are bacteria. An infection could cause a serious illness, such as pneumonia. People over 60 are more likely to become ill from a pneumococcal infection, and have a higher risk of becoming seriously ill. After getting the vaccine, you are less likely to get pneumococcal disease.

The vaccine offers
extra protection
against pneumonia



About pneumococci

- Pneumococci are bacteria that can make you ill.
- You are more likely to become ill if your immune system is weaker, for example because you are aged 60 years and older.
- After pneumococcal disease, you may have permanent health impacts.
- For example, you could develop pneumonia. In serious cases, you could even die.



The vaccine offers protection

- After getting the vaccine, you have a lower risk of illness, hospital admission and death from pneumococcal disease.

Explaining waning immunity

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