

Preventing and controlling influenza infections in health care settings

IPNET conference, Mombasa, Kenya

Dr. Henry Njuguna
Medical epidemiologist,
Influenza program,
CDC Kenya

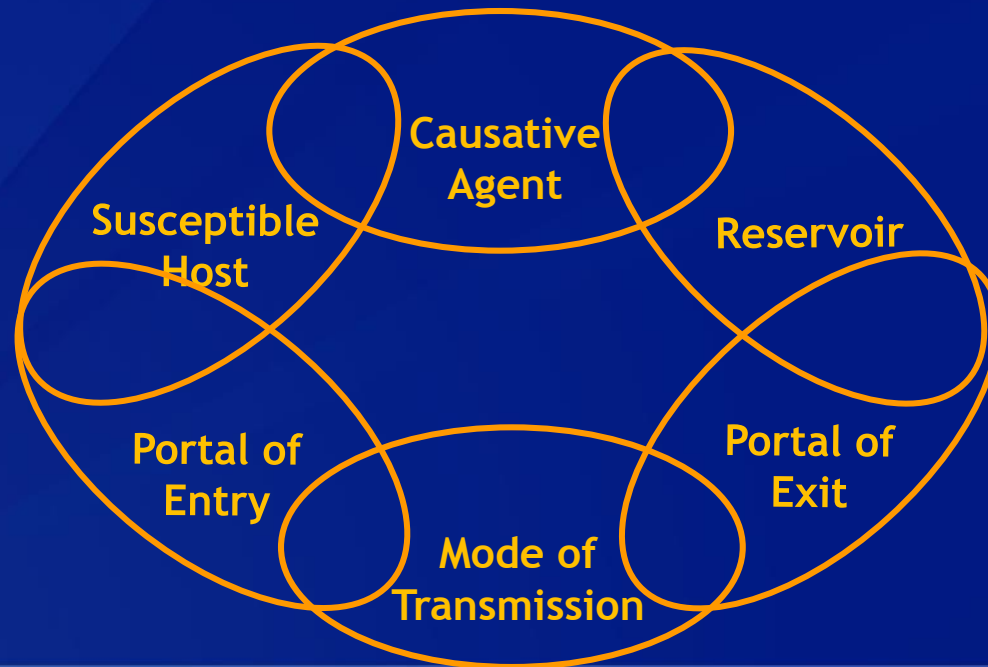


Background

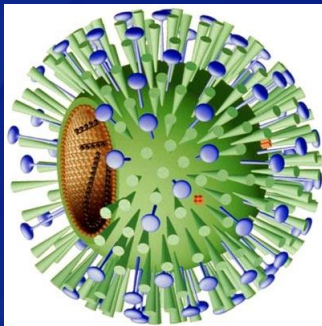
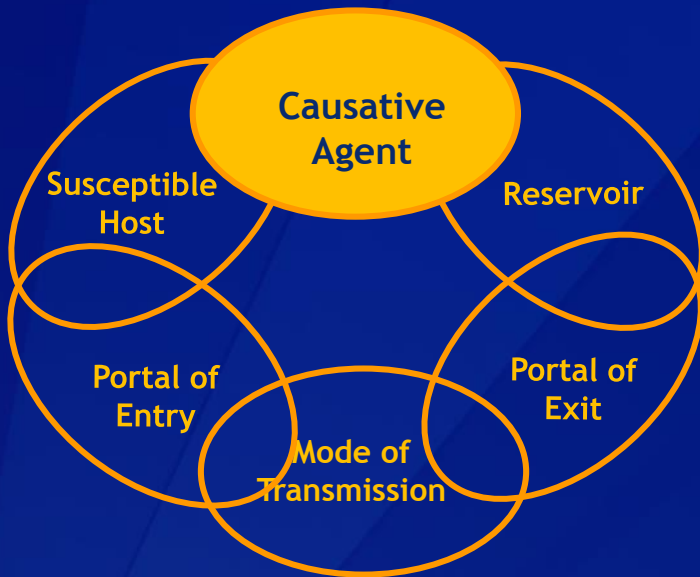
- Influenza poses special hazards inside healthcare facilities and can cause explosive outbreaks of illness
 - Once introduced, it can spread rapidly to patients and health care personnel
- Healthcare personnel are at risk of acquiring influenza
- They may serve as an important reservoir for patients under their care

Controlling influenza infections in health care settings

- For effective control of influenza infections, there is need to clearly understand the chain of infection



Causative agent

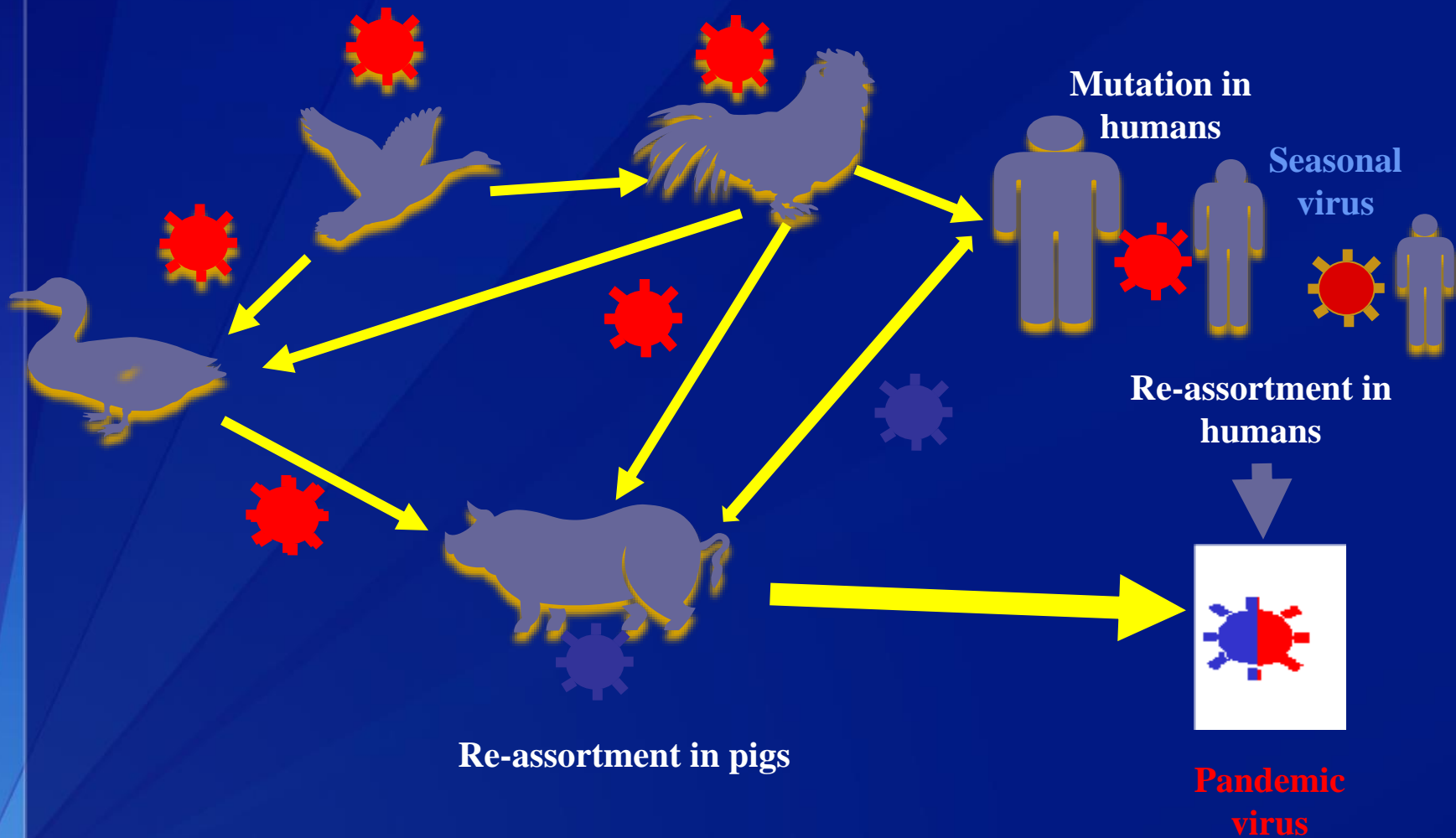


- Influenza virus
- Types A, B and C
- In humans, influenza A and B are of epidemiological interest
- Types B and C limited to humans
- Type A viruses affect other species and are more virulent

Causative agent: influenza virus

- Haemagglutinin (HA) and Neuraminidase (NA) glycoproteins are the main antigenic determinants of influenza A and B viruses
- Antibodies to HA are protective
- Mutations in the antigenic sites reduce or inhibit binding of neutralizing antibodies, a phenomenon is called **antigenic drift**
- **Antigenic shift** (genome re-assortment) arises when the HA is exchanged e.g. H1 replaced by H5

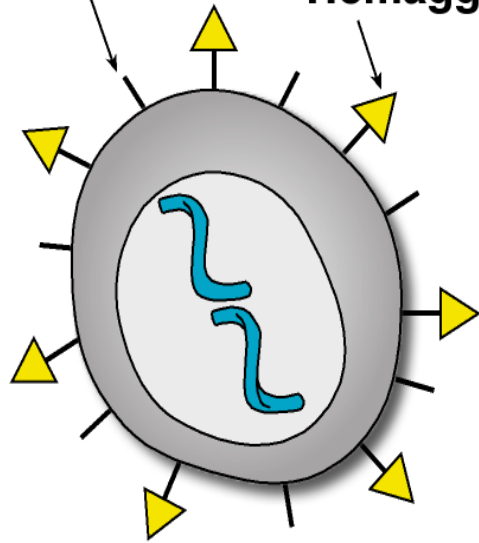
Antigenic drift and shift



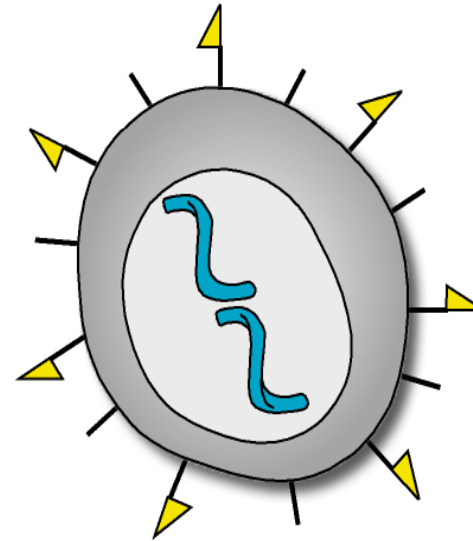
Influenza: Antigenic Drift and Shift

Neuraminidase (N)

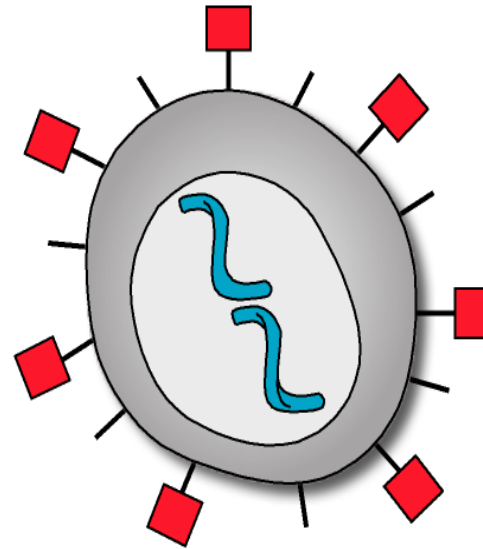
Hemagglutinin (H)



Influenza Virus

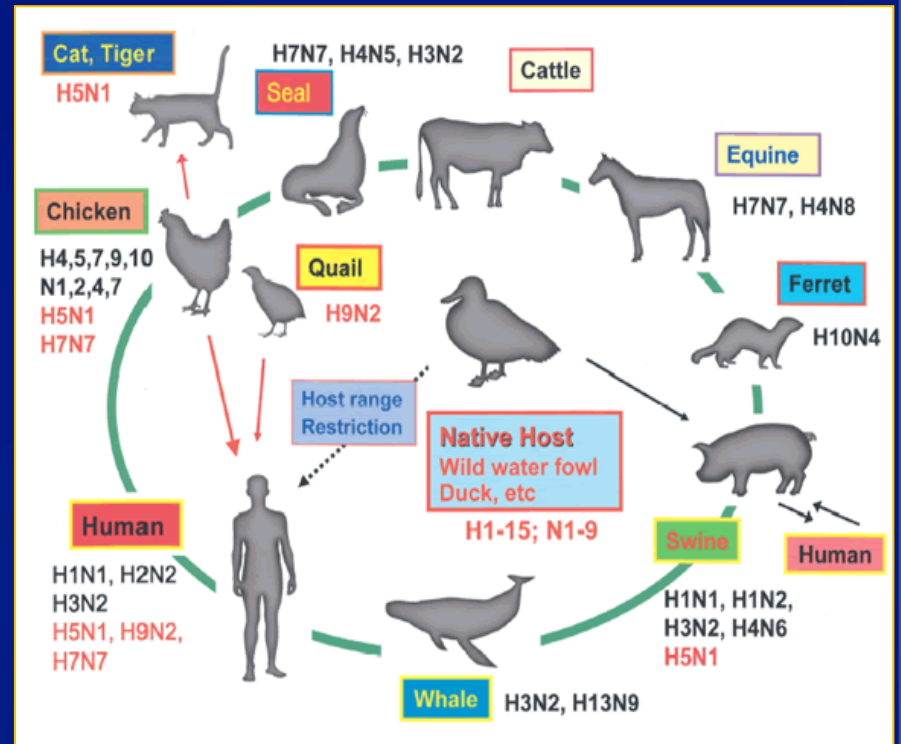
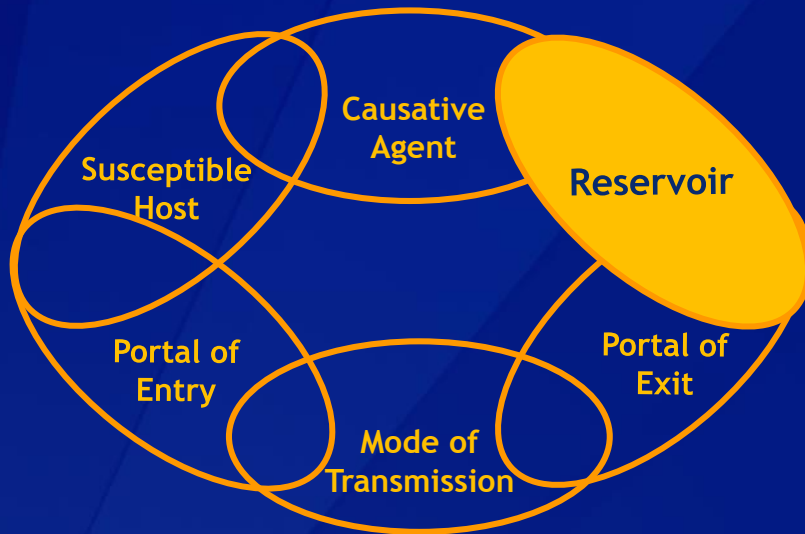


**Seasonal
Influenza**

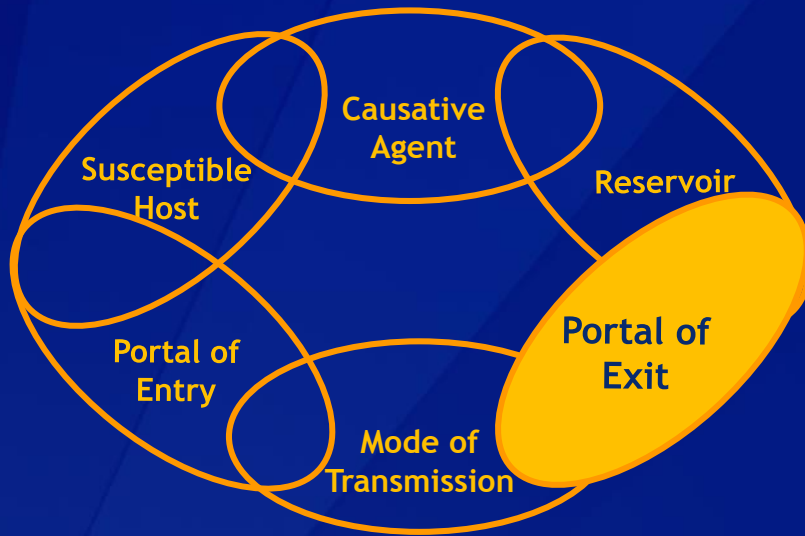


**Pandemic
Influenza**

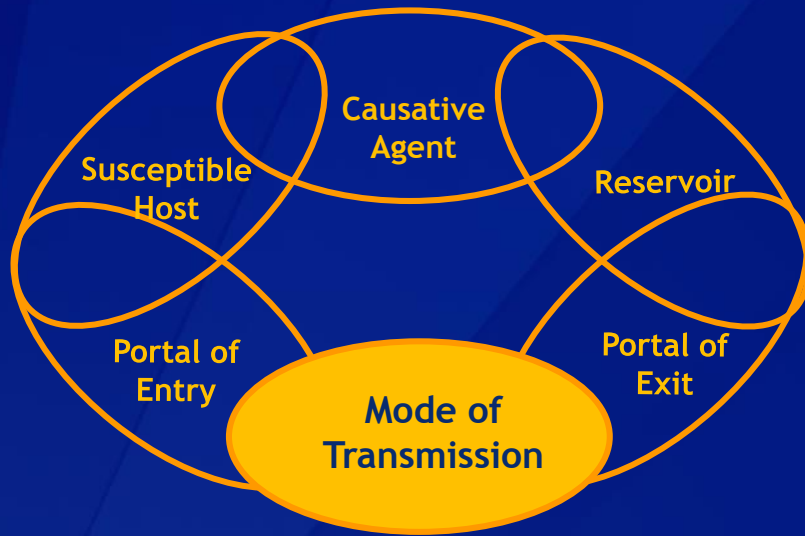
Reservoir



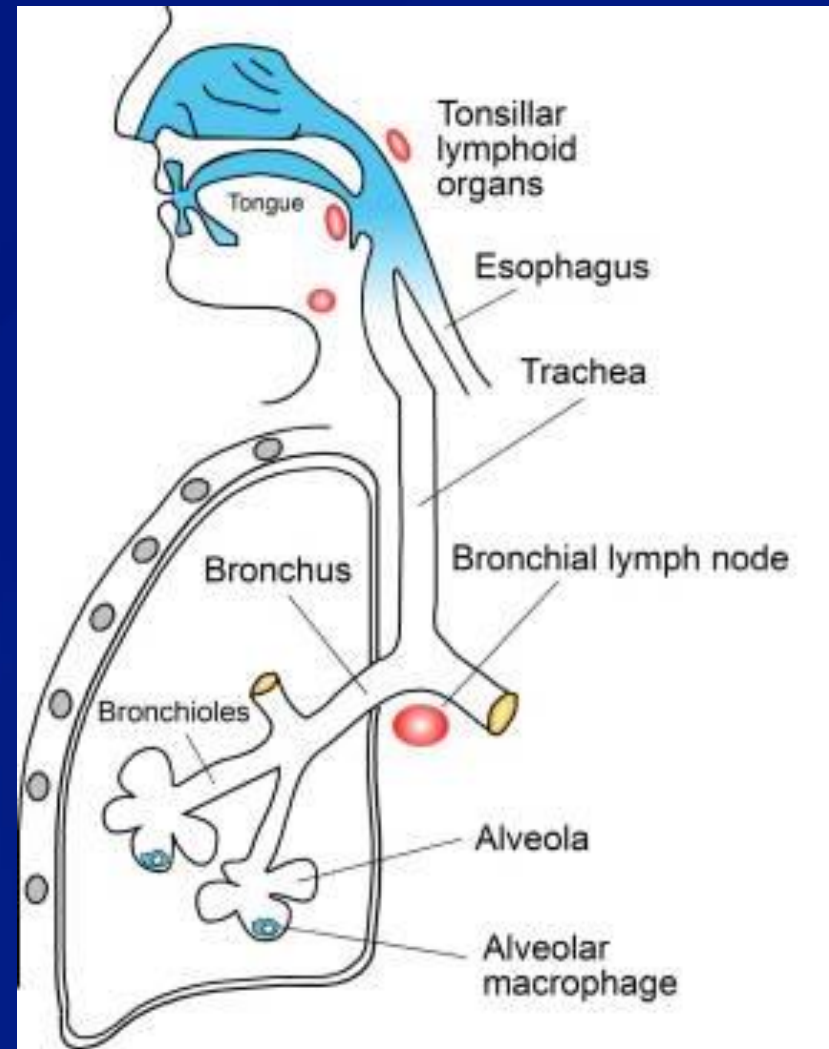
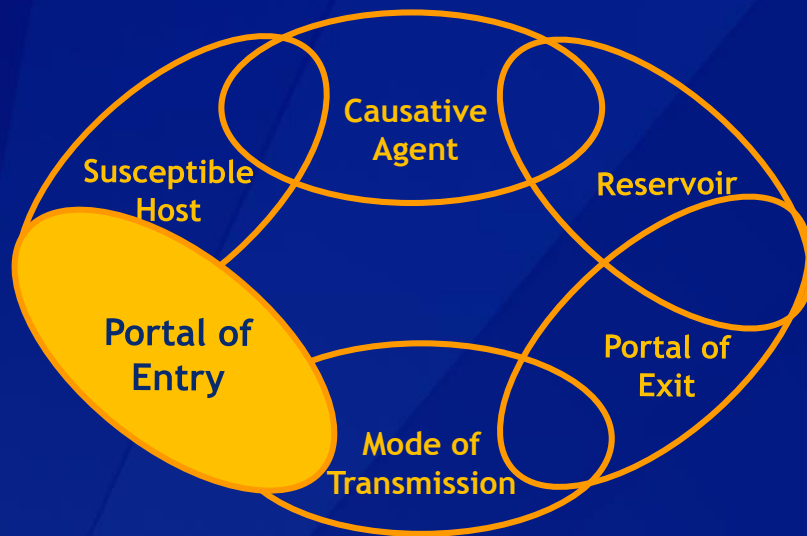
Portal of Exit



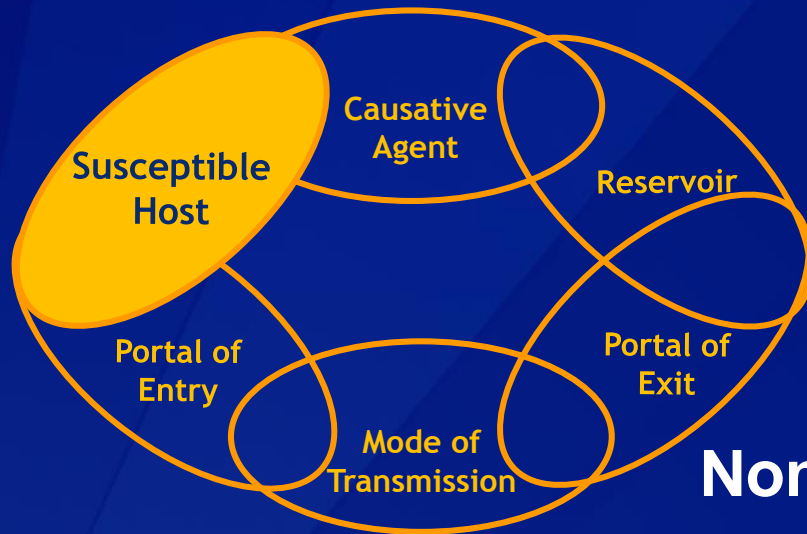
Mode of transmission



Portal of Entry



Susceptible host



Non immune persons



Breaking the chain of influenza infection



Causative Agent



Reservoir



Portal of exit



Mode of transmission



What do **YOU** do for hand hygiene compliance at point of care?



Portal of entry



Susceptible host



Why SHOULD HEALTH CARE WORKERS GET IMMUNIZED?

**DON'T GET
THE FLU.
DON'T SPREAD
THE FLU.**

GET VACCINATED.

cdc.gov/flu



Thank you!

Questions?

For further information please contact
Henry Njuguna
Medical epidemiologist, influenza program
CDC Kenya
(hnjuguna@ke.cdc.gov)

The findings and conclusions are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.