

Handling of virus

Sow seminar, April 13, 2021

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Influenza

Berlingske

VIDENSKAB

Tanken, næsten ingen tør tænke: En ny pandemi, før coronaen er kvalt

Det er ikke usandsynligt, at en ny pandemi begynder at hænge kloden, før coronavirusen er kvalt. Vores svin udgør en særlig smittefare og er en tikkende bombe, understreger dansk ekspert. For grise er i stigende grad nærmest perfekte »fabrikker« til fremstilling af nye influenzavirusser, der kan hoppe på os - og som vores immunforsvar ikke kan genkende.



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Aktuelt Sygdomme, beredskab og forskning Vaccination Produkter og ydelser Om SSI

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Enkeltstående tilfælde af ny influenza virus-variant hos en borger

I januar blev der fundet et tilfælde af influenza hos en borger med en variant, der formentlig stammer fra svin.

Senest redigeret den 12. februar 2021



Information

Ny virus med potentiale til at blive en pandemi er fundet

MEST SETE P

- B f a fr
- T m r d
- N D m o
- E S P

år på, har forskere fundet en ny arbejdere i Kina.

til at blive en pandemi er fundet i Kina.

ottingham University i Storbritannien er virussen allerede spredt sig til mennesker. Det skriver det

KOB MED RENE INTET OPSTART OG INGEN RENT

SE MERE

Information

KUNSTEN AT HOLDE SIG VARM

Fjällrävens nye 1974 Expedition-kollektion

Forskere frygter, at influenzavirus i svin kan udløse ny pandemi hos mennesker

Tyske forskere har fundet influenzastammer i den europæiske svineproduktion, der kan føre til pandemi hos mennesker. Flere af virusstammerne er fundet i danske svin. Ekspert betegner risikoen for en ny svineinfluenzapandemi som alvorlig

De fleste dyr, der er smittet, dør. Disse virusser kan sprede sig, fordi de stammer fra risikoen for at svine, der er smittet i løbet af rutiner, findes sammen med et rekombineret virus, som findes naturligt i Europa. Det er risikoen ved moderne industrielt landbrugsproduktion, siger professor Hans Jørgen Kolmos.

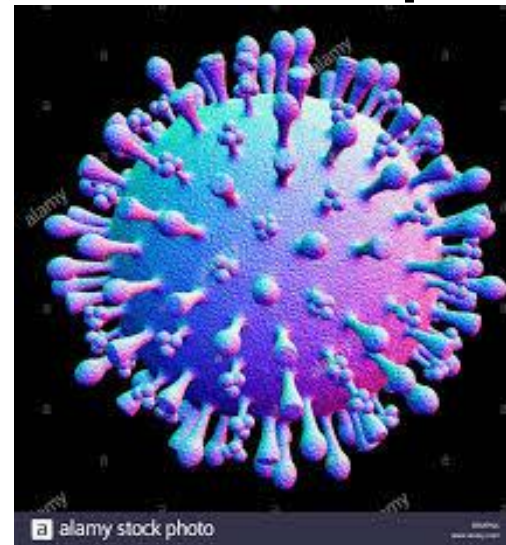
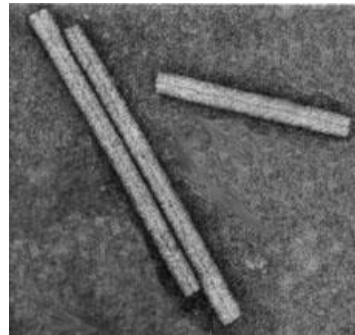
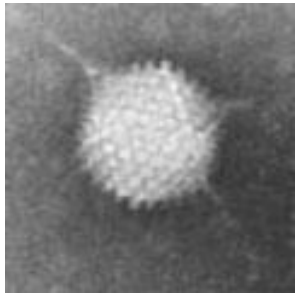
Signe Pedersen

16. oktober 2020

Kommentarer (7)

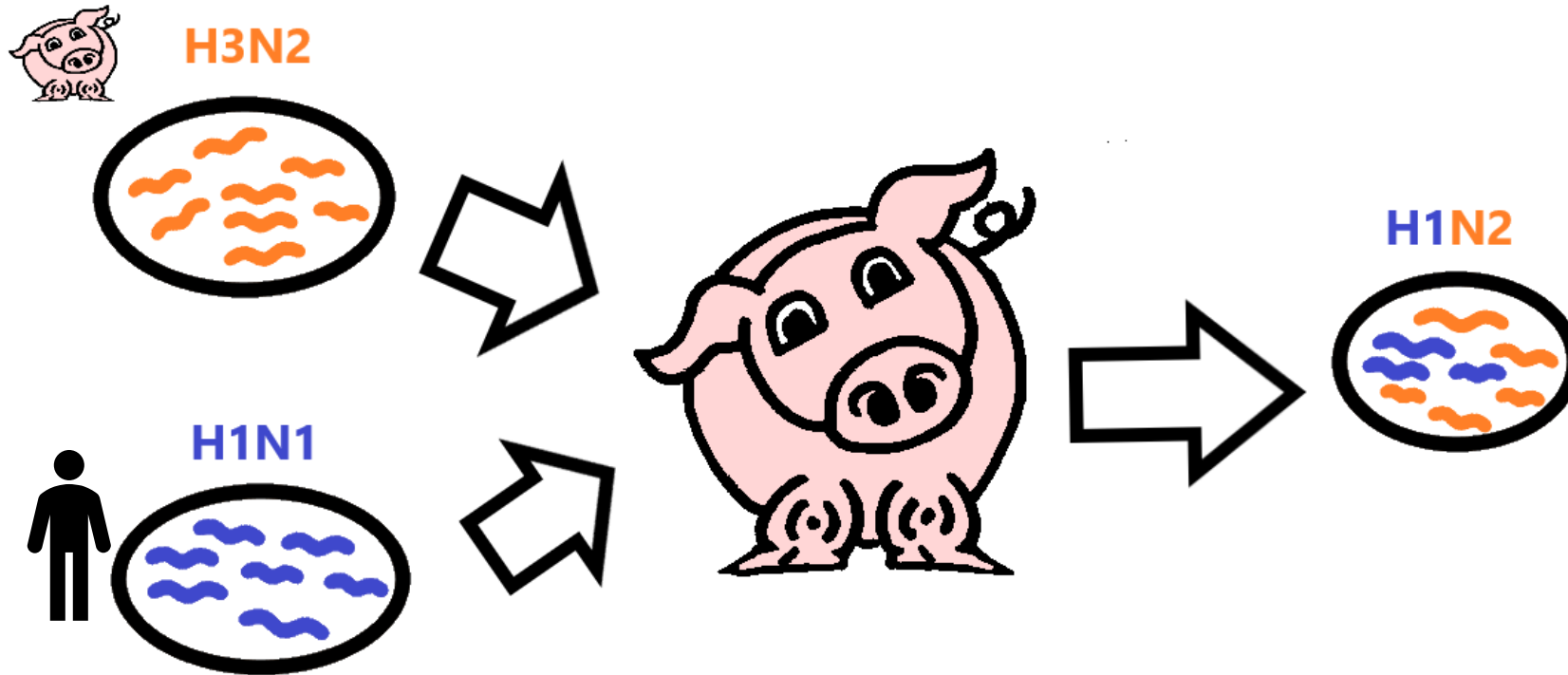
What is virus?

- **Virus – means mucous, poison (Latin)**
- **Extremely small – nano particles**
- **Requires a cell to grow in – ie. no growth outside the body as opposed to bacteria**
- **Antibiotics ineffective against virus, but consumption will increase**



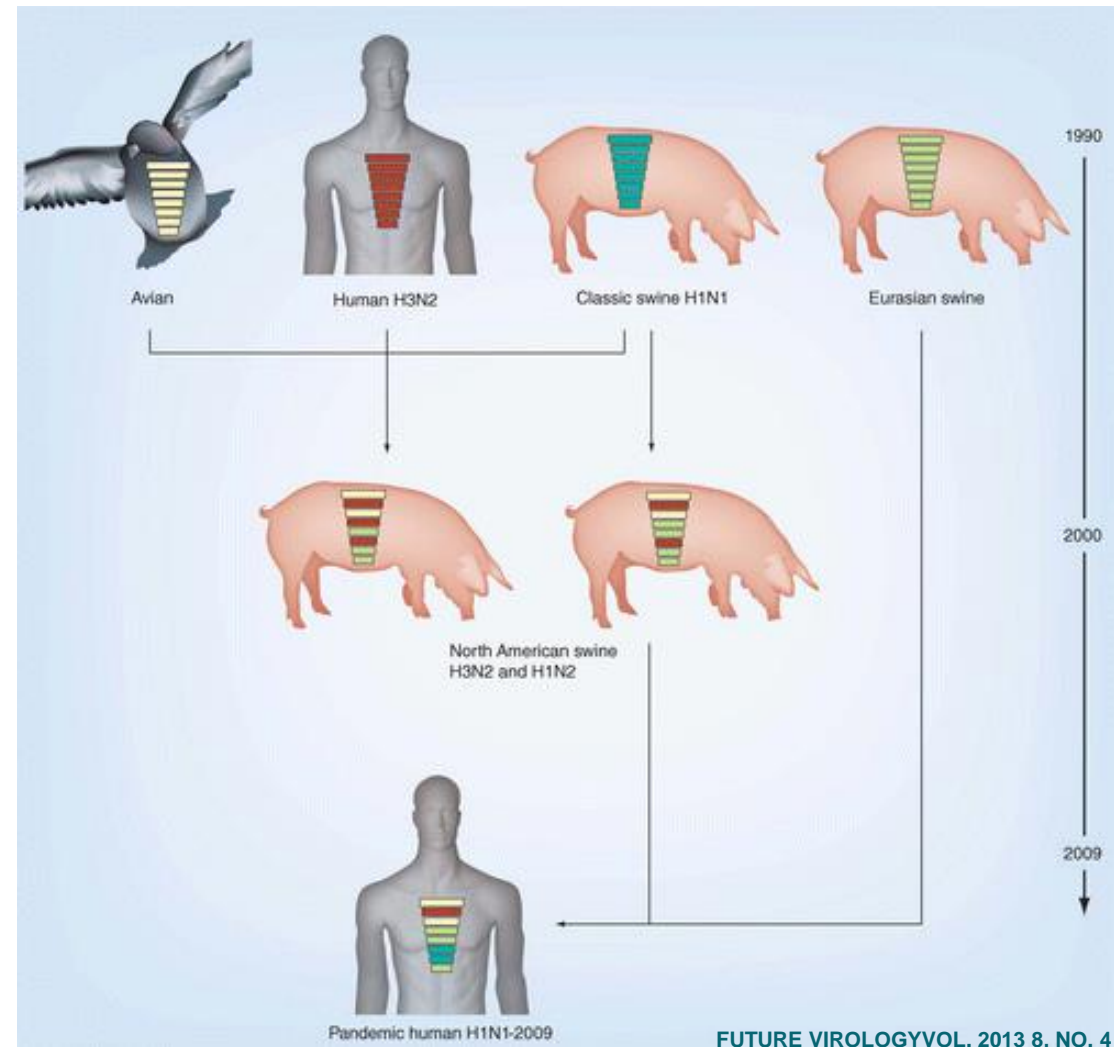
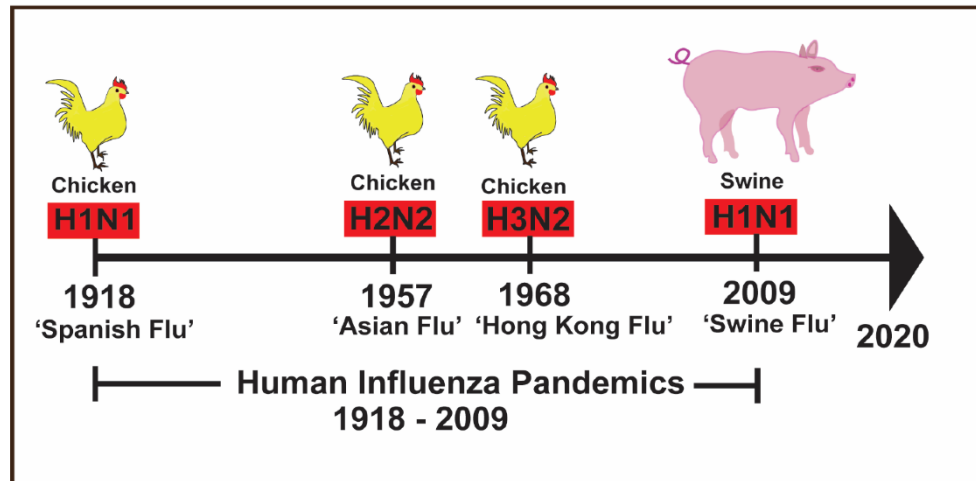
Elektronmikroskopisk billeder af forsk. virus

Pigs are quite good at developing new influenza viruses



Pandemic in 2009 – originated from pigs!

½ million died in the first year (1 million died from Covid-19 in the first year)



The zoonotic aspect - burning platform

Increasing herd size



Influenza stays in the herd



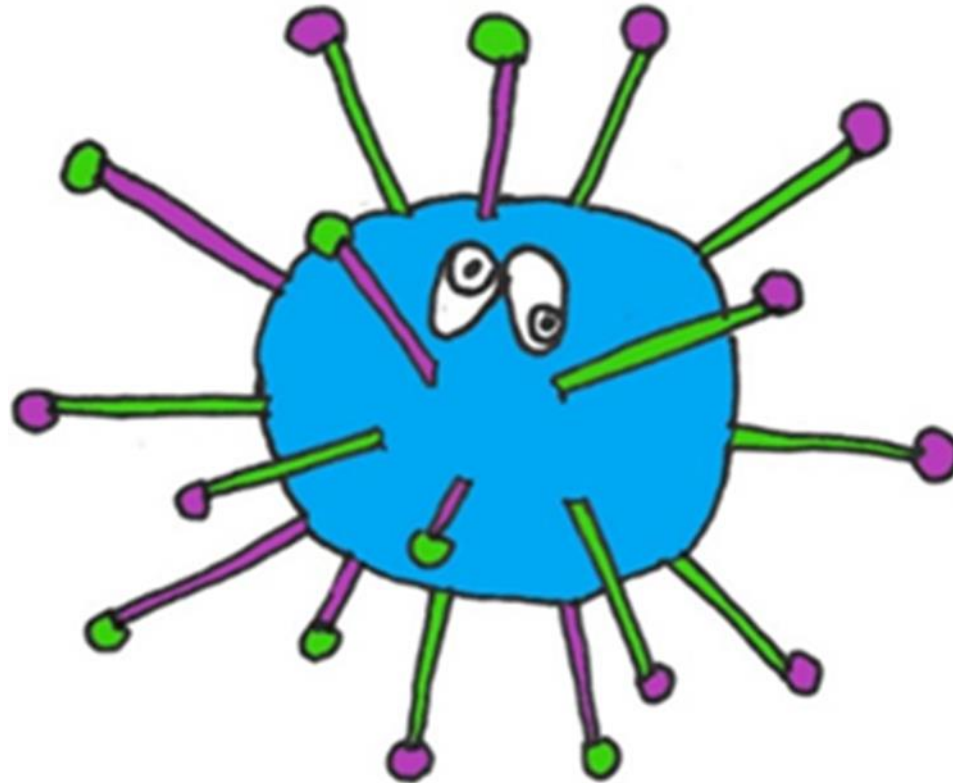
Risk of new influenza viruses developing



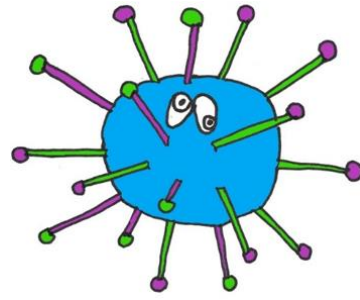
New influenza pandemic in humans originated from pigs in 2009

It can/will happen again!!

Do you know other virus?



Other viruses?



- The ones causing production losses: PRRS, Influenza, PCV2, Parvo, Rota
- The one we fear: Svinepest (African Swine Fever)



Fighting virus is also worthwhile!

frontiers
in Veterinary Science

ORIGINAL RESEARCH
published: 09 November 2022
doi: 10.3389/fvets.2022.988791

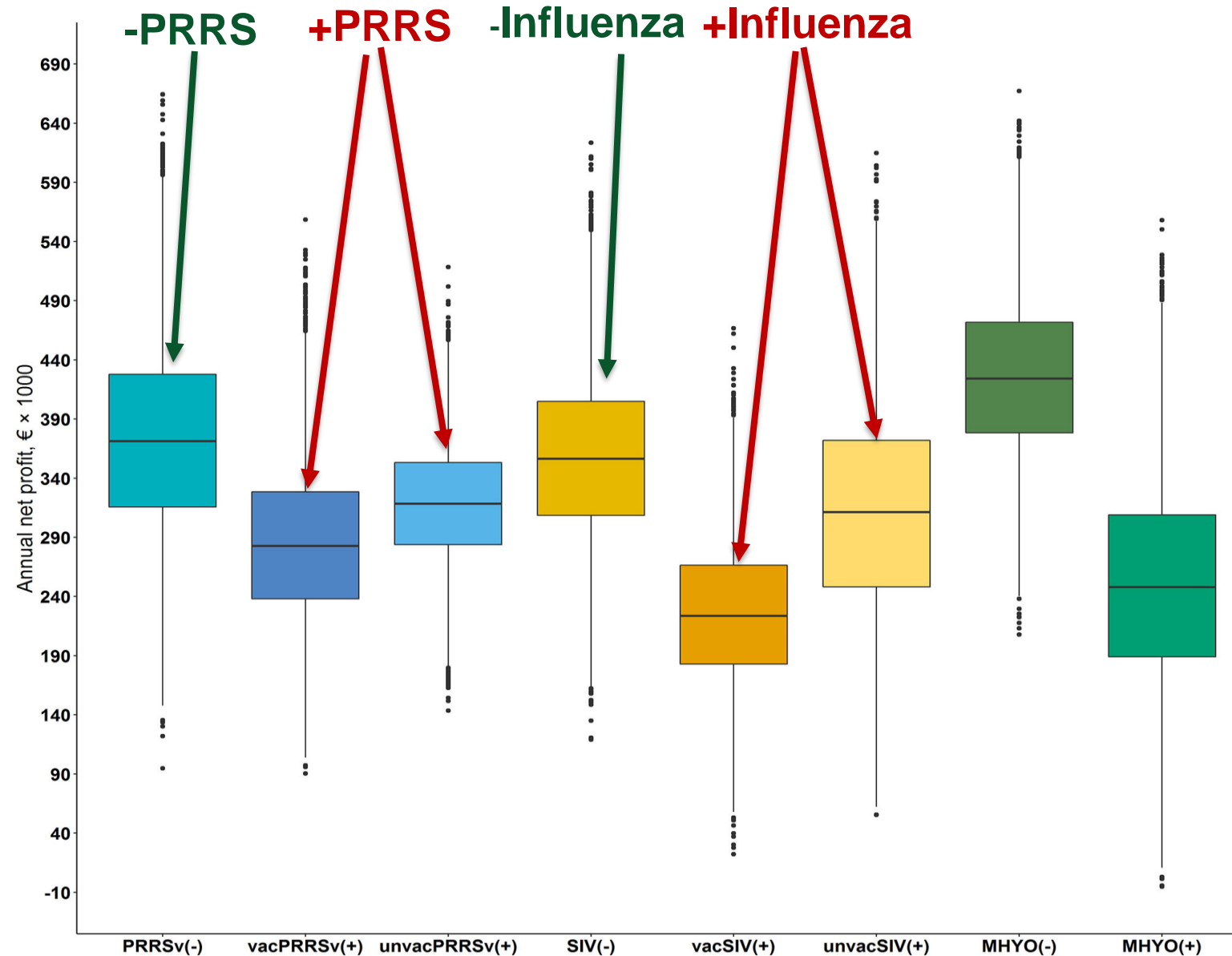
Financial Analysis of Herd Status and Vaccination Practices for Porcine Reproductive and Respiratory Syndrome Virus, Swine Influenza Virus, and *Mycoplasma hyopneumoniae* in Farrow-to-Finish Pig Farms Using a Bio-Economic Simulation Model

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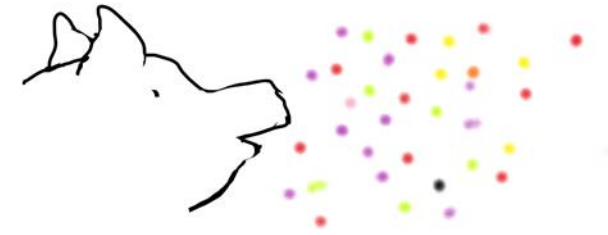


How does virus enter the herd and how is it transmitted?

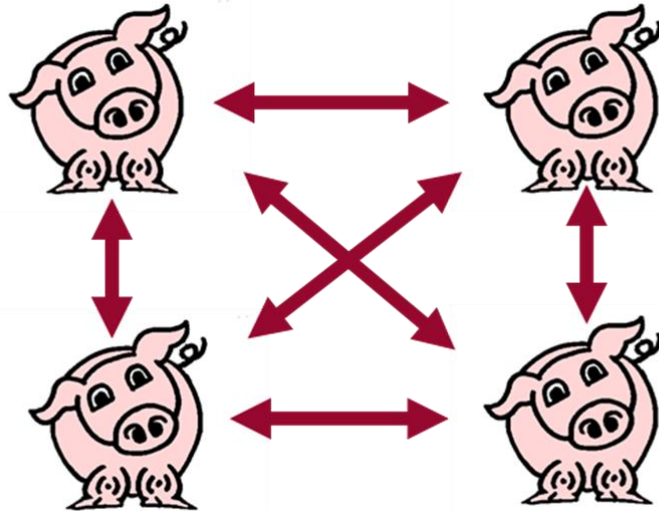
- Virus into the herd
 - With pigs
 - With humans
 - With air?
- Virus in the farrowing unit
 - Almost all piglets get infected
 - Naive piglets born almost every day
 - 3-day-old piglets can get infected
 - Sows and older pigs play a important role
- Virus in the nursing unit
 - Virus transferred from farrowing unit
 - Mixing of piglets - new naive piglets



Size does matter!



2 potential paths of transmission



12 potential paths of transmission

Modelling reveals that with no vaccination and sectioning, PRRSV will take 6 six years to die in a sow herd with 115 sows – and 80 years in a herd with 230 sows!

Know your virus - choice of vaccine

Resiporc 3 Vaccinen

H1avN2sw
H1avN1av
H1avN1pdm09
H1avN2hu95

Ca. 25 %

Flusure Pandemic Vaccinen

H1pdm09N2hu95
H1N1pdm09
H1pdm09N2sw
H1pdmN1av

Ca. 72 %

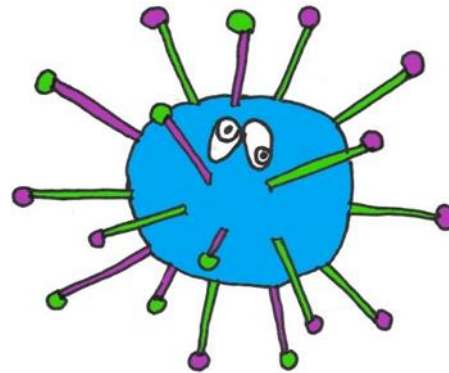
Ingen vaccine!

H3hu16N2sw
H3hu05N2sw
H1avN2hu95

Ca. 2 %

What have we learnt?

- What do you do to avoid getting COVID-19?
- Write it in the chat...



Do you know this?

Beskyt dig selv og andre



Vask dine hænder tit eller brug håndsprit



Host eller nys i dit ærme



Begræns fysisk kontakt



Vær opmærksom på rengøring

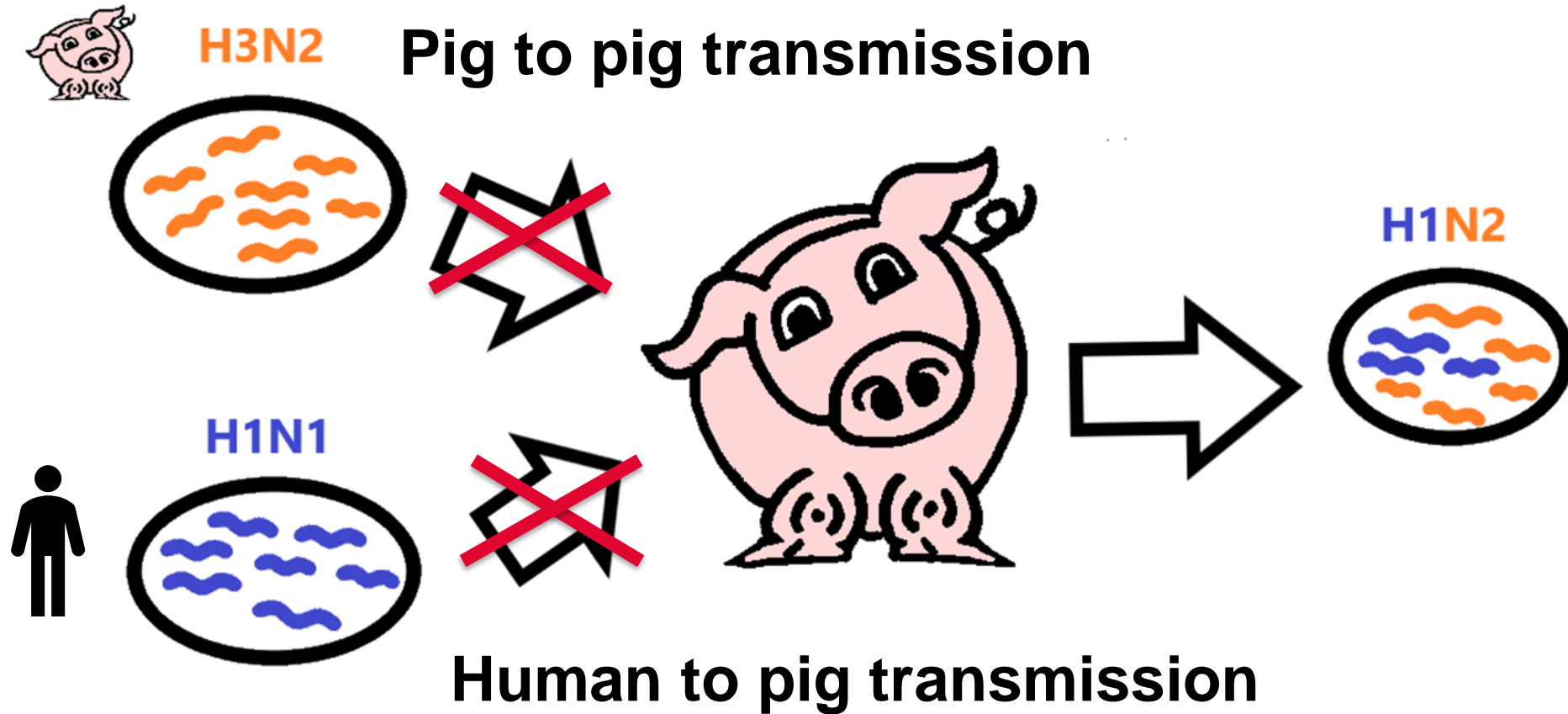


Ældre og kronisk syge - hold afstand og bed andre tage hensyn

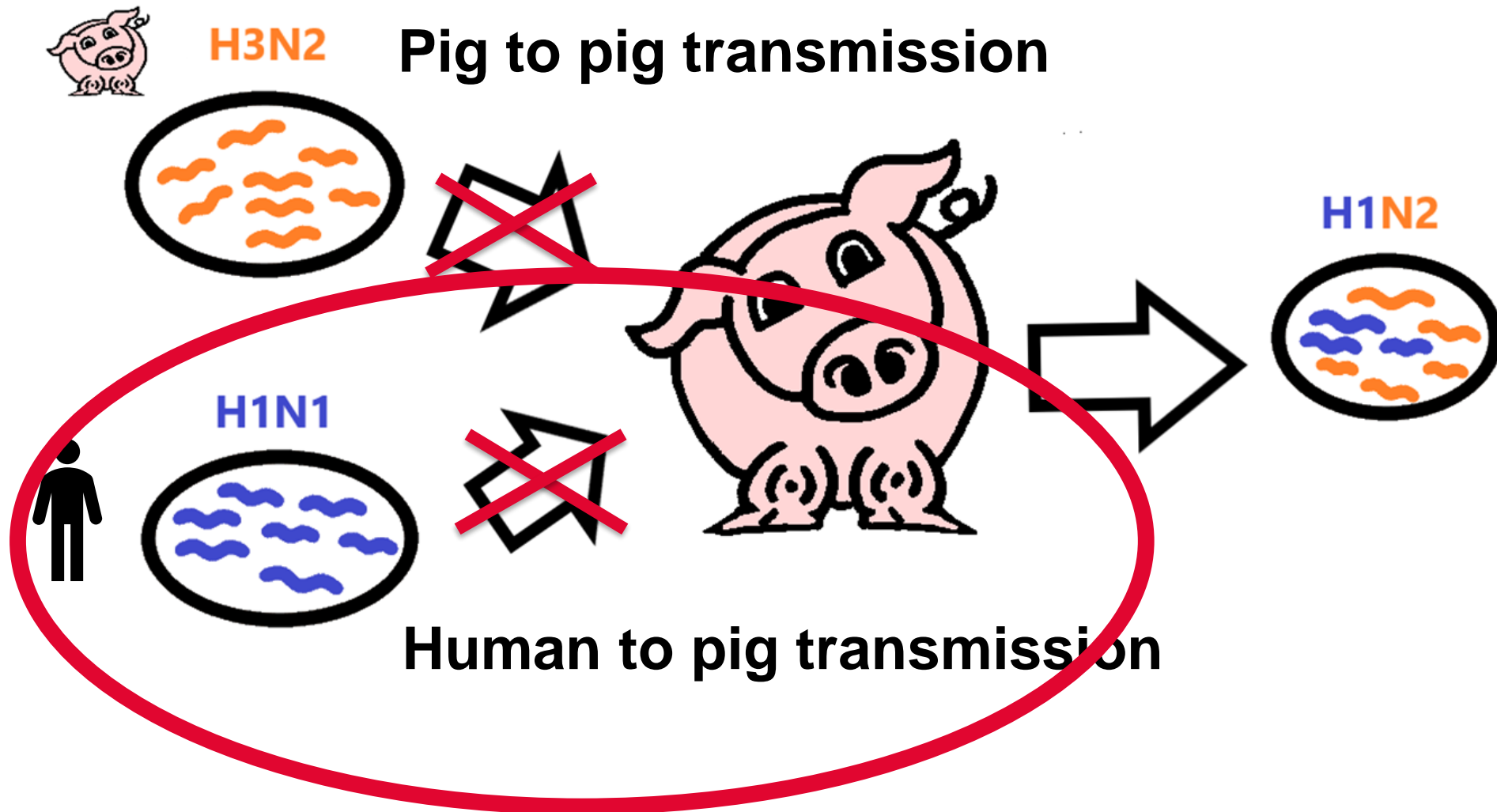


www.sst.dk/corona

Stop influenza



Stop influenza



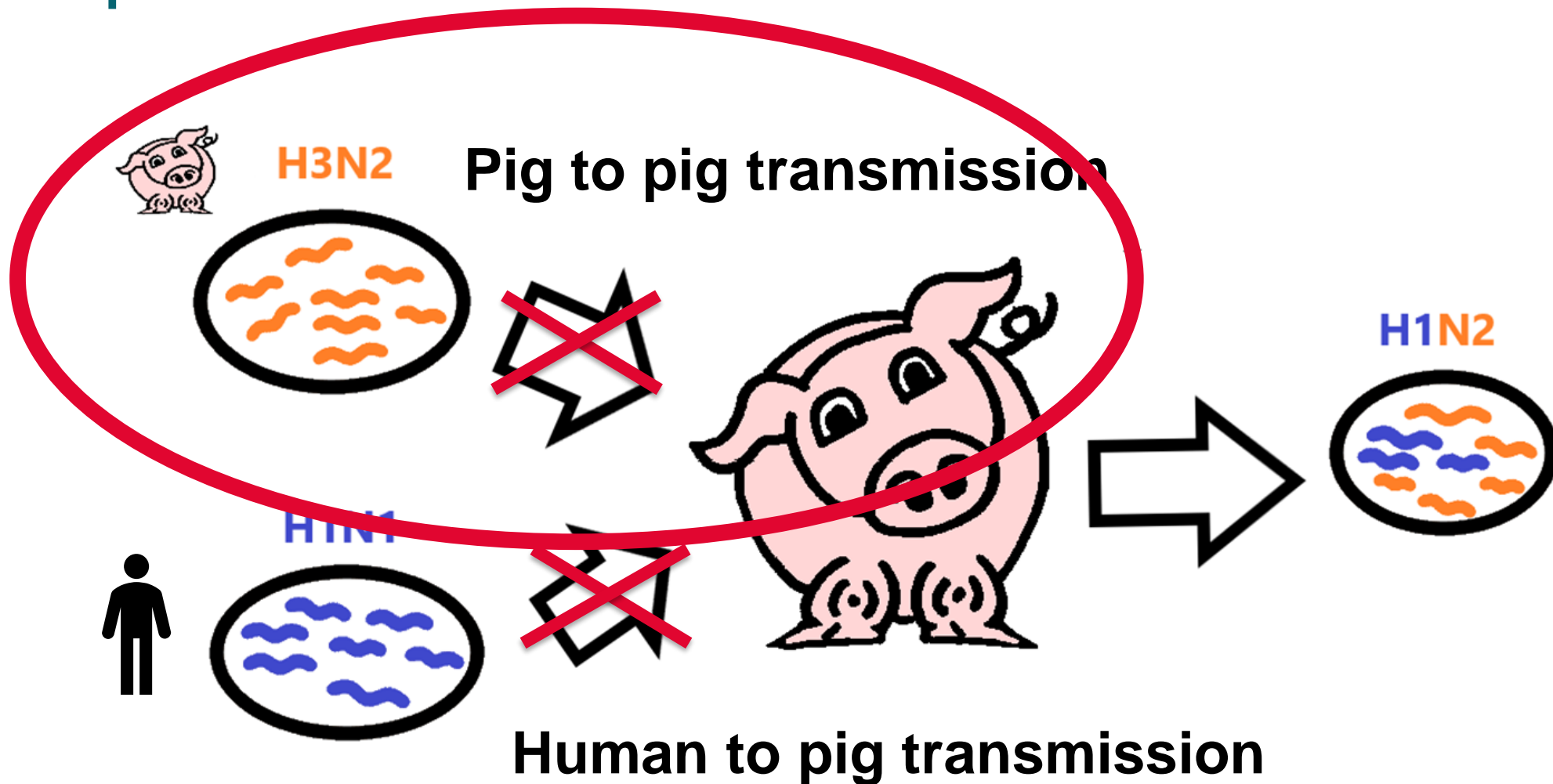
Human to pig



- Wash your hands/use hand sanitizer
- Sneeze/cough into your sleeve
- Limit physical contact
- Get vaccinated against influenza
 - Also for the pigs
- Stay home if you are sick with influenza
 - Fever, aches, cough, cold
 - Influenza season (November-March)
 - Sick family



Stop influenza



Pig to pig



- Small, separate units
- Sectioning
- Keep crossfostering to a minimum
 - If necessary, only within the first 12 hrs
- Destroy very weak pigs
- Cleaning
- Ventilation



Beskyt dig selv og andre

- Vask dine hænder tit eller brug håndsprit
- Host eller nys i dit ærme
- Begræns fysisk kontakt
- Vær opmærksom på rengøring
- Ældre og kronisk syge - hold afstand og bed andre tage hensyn

Husk at lufte ud – i hver pause

- Tør rummet for børn og voksne – det gør udluftning mest effektiv
- Luk vinduer og døre op, så der er gennemtræk – helst på tværs af lokalet
- Skab gennemtræk 5-10 min. i hver pause

Udluftning er vigtig for at forebygge smitte med ny coronavirus, og i får samtidig et bedre indklima.

Pig to pig



- Change equipment
- Wash/disinfect hands between litters/pens
- Gloves
- Vaccination against influenza



Take home messages

- Viral infections cost money every day
- Increases drug consumption
- The next influenza pandemic will be handled much more firmly than the one in 2009 – as we saw with the mink industry!
- Take the fight against COVID-19 to the pig house
- *Win-Win* situation to fight virus
 - Improved and more predictable production economy
 - The better we do in 'quiet times', the better equipped we are to deal with disaster

