

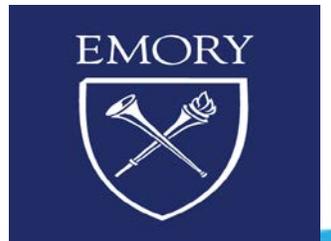
# An 18 year old man with pneumonia *and* An 80s year old person with no symptoms

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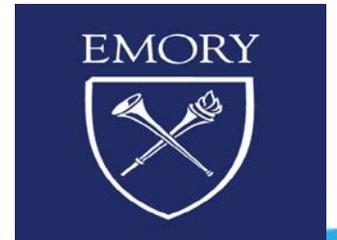


# An 18 year old man with pneumonia

- 6 days of cough, shortness of breath, fever, and diarrhea
- Smoker, otherwise previously healthy
- Found to have leukopenia and thrombocytopenia
- Required mechanical ventilation and vasopressors



Hien et al., NEJM 2004

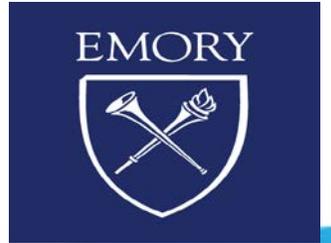


# An 18 year old man with pneumonia

- Influenza antigen positive
- Worked as a farmer, handled live and dead chickens 4 days previously
- This occurred in January 2004, in Vietnam
- Nasal and throat swabs were positive for H5N1 influenza by RT-PCR



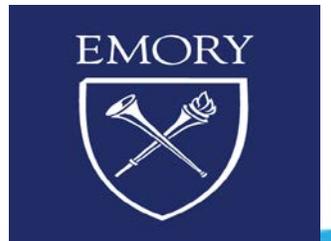
Hien et al., NEJM 2004



# An 18 year old man with pneumonia

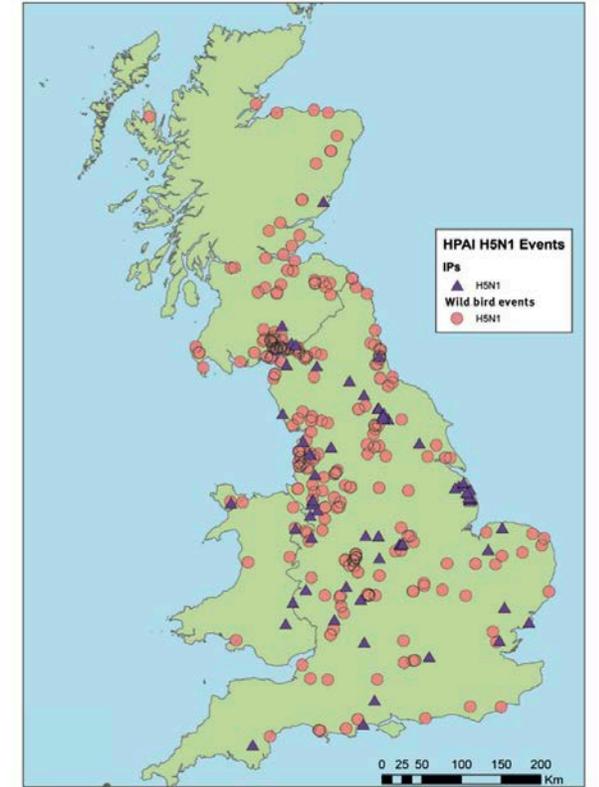
- Treated with oseltamivir and high-dose methylprednisolone
- Died on day 9
- No family members or contacts became sick
- *This patient was one of 10 cases of H5N1 influenza reported in Vietnam from Dec. 2003 – Jan. 2004 amidst a large known outbreak in poultry*

Hien et al., NEJM 2004

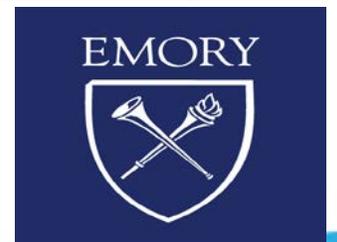


# An 80s year old person with no symptoms

- December 2021: H5N1 outbreak among ducks, part of a larger outbreak in England
- An asymptomatic duck owner tested positive for influenza A; H1 and H3 typing PCRs were negative
- They isolated at home
- They were treated with oseltamivir for 10 days



Oliver et al., Eurosurveillance 2022

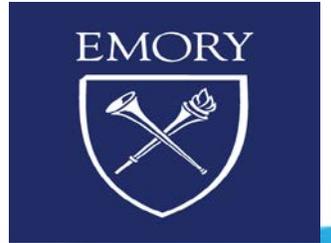


# An 80s year old person with no symptoms



- H5 subtyping PCR was positive; Ct in mid-30s
- Sequencing showed H5N1, similar to sequence from duck
- Patient remained asymptomatic with two negative PCR tests
- One close contact remained negative

Oliver et al., Eurosurveillance 2022



# Inferences and questions from these two cases

- Influenza H5N1 is strongly associated with exposure to poultry, with limited human-to-human transmission
- Though H5N1 is “highly pathogenic” to birds and humans, asymptomatic infection occurs.
  - What accounts for the wide spectrum of illness?
  - Are we missing mild or asymptomatic cases?

