

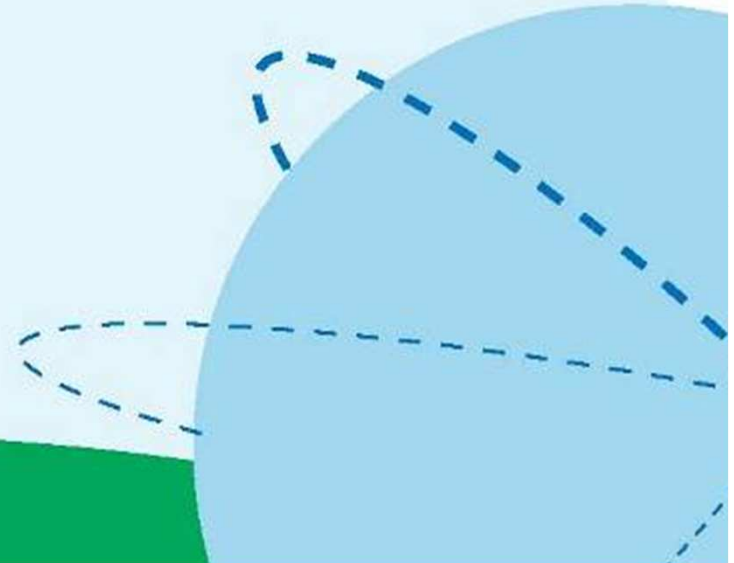


Pandemic H1N1 influenza in animals and the veterinary (OFFLU) response

Presented by Peter Daniels

CSIRO Australian Animal Health Laboratory

For OFFLU



OFFLU

The OIE–FAO network of expertise on animal influenza
Initially established in 2005 to address HPAI H5N1, strengthen links within the animal health network and also with WHO

The OFFLU mandate was expanded in May 2009 in response to pandemic H1N1 2009:

- To cover all ‘animal influenza’ viruses
- To address technical issues relating to all animal influenzas, and pandemic H1N1 2009
- To collaborate with WHO – GIP and share information to protect both animal and public health

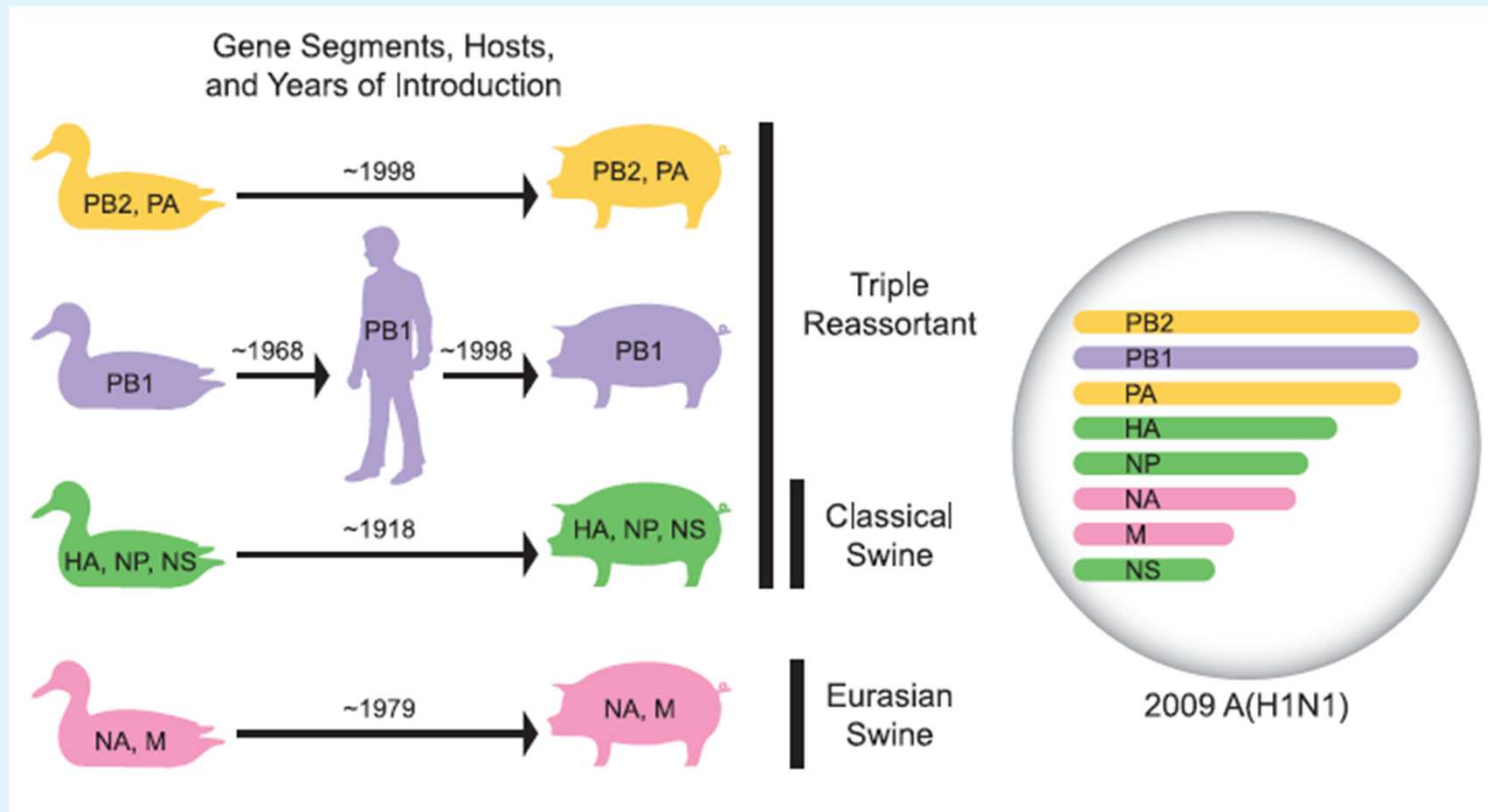
Offlu's vision

The animal health community will provide early recognition and characterisation of emerging influenza viral strains in animal populations, and effective management of known infections, thereby better **managing the risk to human health** and promoting global food security, animal health and welfare, and other community benefits derived from domestic animals and wildlife.

<http://www.offlu.net/index.html>



Pandemic H1N1 2009



Garten *et al.* *Science* (2009); 325:197-201

NOT Swine Flu!

Joint Mission May 2009

FAO, OIE, CDC, USDA, in cooperation with PAHO

- **Epidemiologic investigations in the pig production sector, including historical occurrence of swine influenza**
- **Develop surveillance and response plan for novel swine influenza infections in the swine population jointly with “Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria” (SENASICA)**
- **Recommendations/guidelines for diagnostic approach working closely with SENASICA**

OFFLU Coordinated International Consultations

- **Joint WHO/OFFLU technical teleconference to discuss human–animal interface aspects of the current influenza A (H1N1) situation. Meeting Summary 4 May 2009**
- **OFFLU teleconference - laboratory diagnosis of Pandemic H1N1 2009 (new A/H1N1) in swine - 14th May 2009,**
- **OFFLU/WHO teleconference: surveillance issues around novel influenza A (H1N1) and the human animal interface - 21st May**
- **Consultation on potential risks of pandemic influenza A (H1N1) 2009 virus at the human-animal interface: Scientific teleconference - 3 June 2009**



<http://www.offlu.net/OFFLU%20Site/MeetingsH1N1.pdf>

**Potential risks of pandemic influenza A (H1N1) 2009 virus at the human-animal interface:
Key Findings, Scientific Teleconference - 3 June 2009**

- **Humans can be infected with influenza from swine**
- **Exposure from environmental sources associated with pig farming is minimal**
- **The risk of infection with influenza from pork consumption is negligible**
- **Pigs will likely be infected with pandemic H1N1 2009 virus from people**

<http://offlu.net/OFFLU%20Site/ScientificConsultationonH1N1.pdf>



Occurrence of pandemic H1N1 influenza virus infection in animals

Reporting in animals

- **Swine influenza is not an OIE listed disease**

Pandemic H1N1 2009 virus in pigs is reportable to OIE as an 'emerging disease' of animals

'new infection resulting from the evolution or change of an existing pathogenic agent, a known infection spreading to a new geographic area or population, or a previously unrecognized pathogenic agent or disease diagnosed for the first time and which has a significant impact on animal or public health'

Reports to OIE of pandemic H1N1 2009

occurrences in pigs (month of first outbreak):

- April Canada
- June Argentina
- August Australia
- September Northern Ireland, and Ireland
- October Norway, Japan, and Iceland
- November USA, Chinese Taipei, and Finland
- December Italy

Reports to OIE of pandemic H1N1 2009

occurrences in turkeys:

In total - 3 reports in turkey breeder flocks

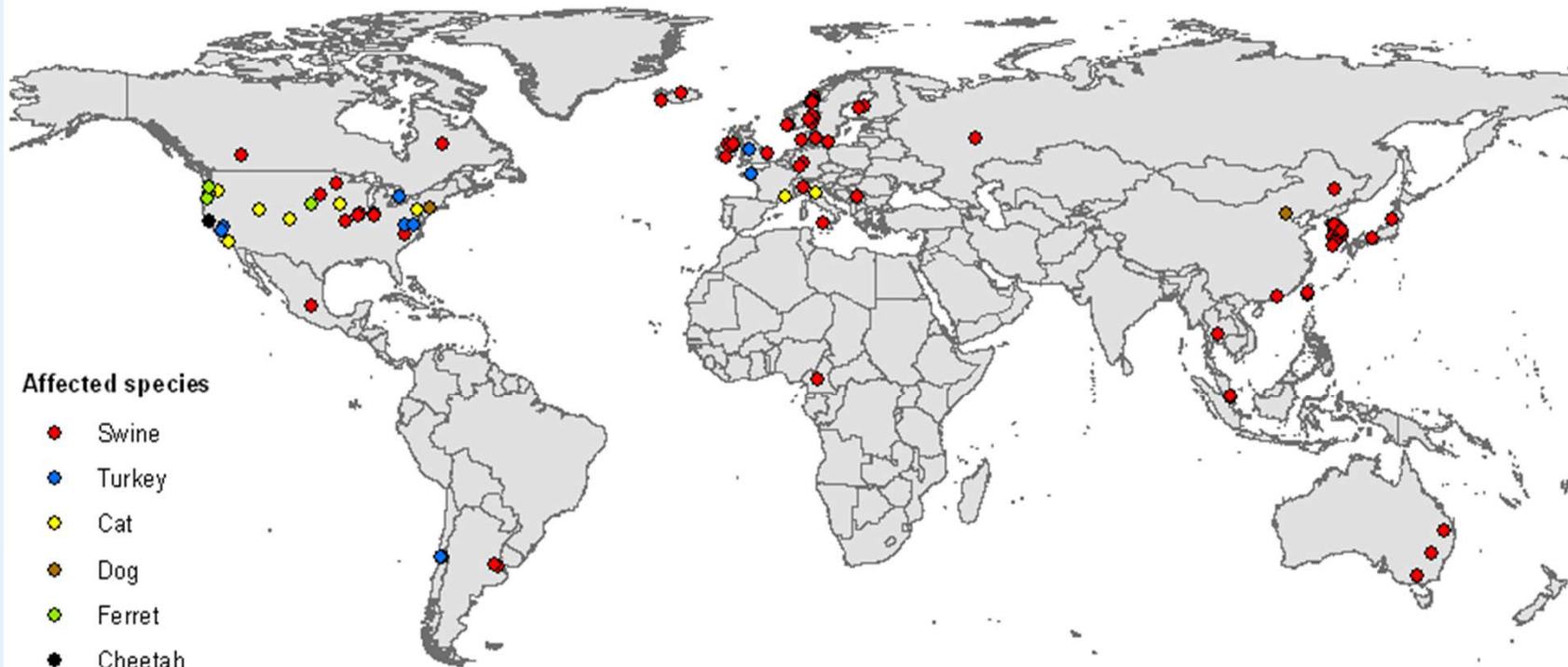
- August Chile
- October Canada
- November USA

pH1N1 since 2009



EMPRES
EMERGENCY PREVENTION SYSTEM

**Confirmed animal cases with Pandemic H1N1 2009 Influenza virus
Situation as of 09 February 2011**



Information from reports in pigs (natural infections)

- **Most likely source of infection – humans**
- **Generally a mild disease with a full recovery**
- **Varies from mild respiratory disease, fever, inappetance to asymptomatic infection**
- **Genetic sequencing – has been a useful tool for confirming detection and similarity with human isolates; molecular monitoring is essential for detecting mutations and reassortments early**

Experimental infections of pigs with pandemic H1N1 2009

- **Pigs successfully infected with human isolates**
- **Clinical disease is mild (like SIV infection) – respiratory signs, fever, inappetence**
- **Onwards transmission amongst pigs**
- **Pandemic H1N1 2009 virus found only in respiratory tract of pigs**

Other OFFLU Coordinated pandemic H1N1 influenza activities

1. Diagnostics

2. Surveillance

3. Biosafety:

<http://www.offlu.net/OFFLU%20Site/OIEguidanceH1N1.pdf>

4. Analysis of isolates within the WHO framework (under further development)

Pandemic H1N1 and Swine influenza Serological Analysis: HI Testing*

Antiserum	Virus				
	Auckland	New Jersey	Rachaburi	Miyagi	Nakorn
Ferret 1510	320	<20	<20	20	<20
Ferret 1513	640	20	<20	<20	<20
Ferret 1514	320	<20	<20	<20	<20
Ferret 1515	1280	40	<20	<20	<20
Swine NJ	320	1280	<20	<20	<20
Normal swine	<20	<20	<20	<20	<20
H3N8	<20	<20	<20	<20	40

A/Auckland/1/2009 – (Ferrets were immunized with this virus)

A/New Jersey/8/76 H1N1

A/swine/Rachaburi/2000 H1N1

A/swine/Miyagi/5/03 H1N2

A/swine/Nakorn Patham/2002 H3N2



* Selleck, 3 June, 2009

Summary and Ongoing Actions

- Strong cooperation between human health and animal health sectors
- Rapid mobilisation of expertise in response to pandemic H1N1 2009, information shared quickly through OFFLU
- Development of guidance for surveillance in animals
- http://www.offlu.net/OFFLU%20Site/OFFLUsurveillancepH1N1_180110.pdf
- Biosecurity to protect pigs from human infection
- Encourage OIE Members to continue to notify influenza in pigs to OFFLU – need for ongoing surveillance specifically addressed
- An OFFLU research agenda developed
- <http://www.offlu.net/OFFLU%20Site/OFFLU%20Research%20Priorities.pdf>

Thank you

OFFLU secretariat

World Organisation for Animal Health (OIE), 12 rue de Prony, 75017 Paris France

- Tel: +33 (0)1 44 15 18 88 • Fax: +33 (0)1 42 67 09 87
- offlu@oie.int • <http://www.offlu.net>

