Publication of lists of viruses and diagnostic tests by region

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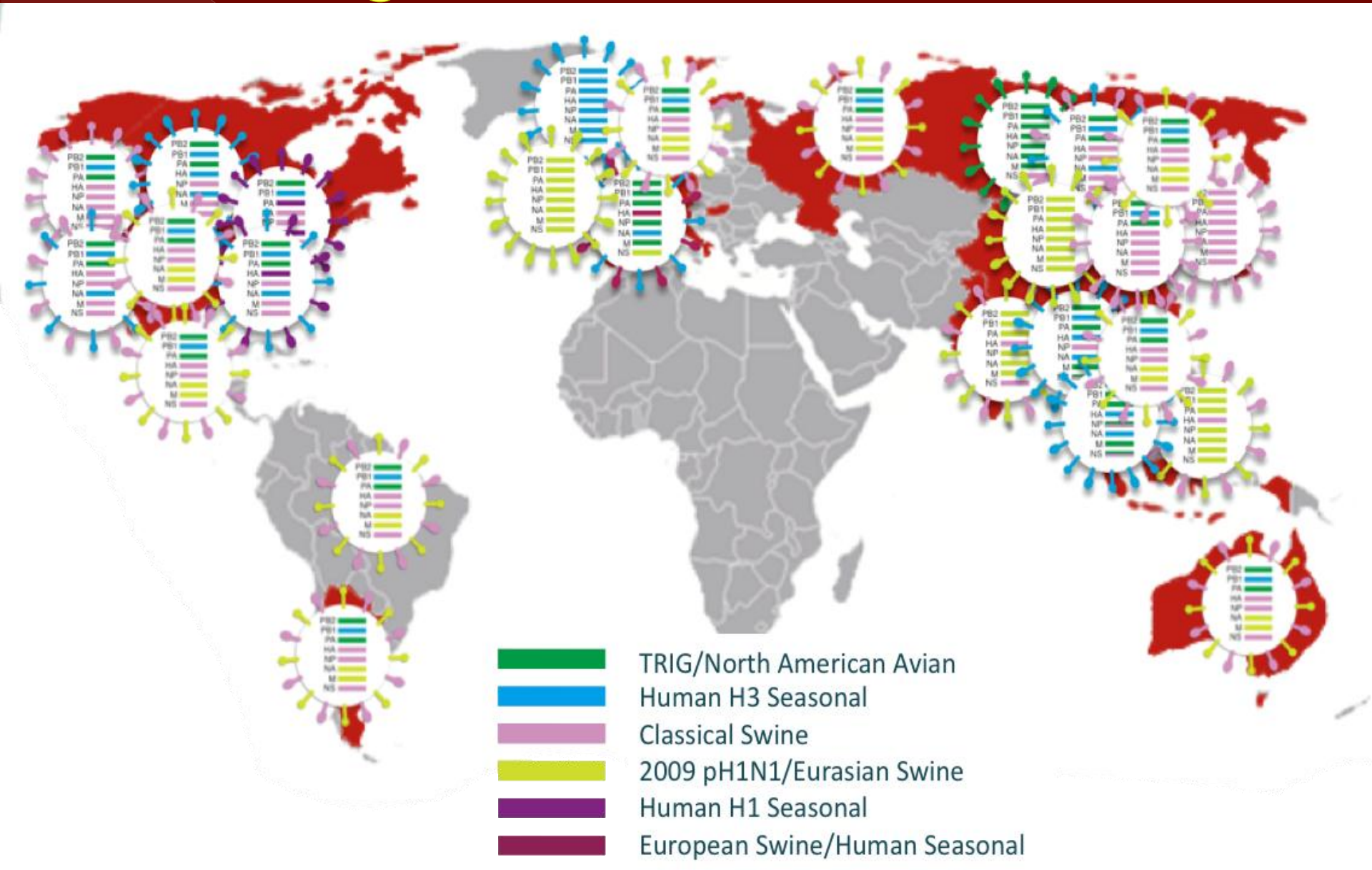
Goal

- To publish a list of viruses and diagnostic tests by region.
- The list shall be updated annually at each OFFLU meeting for guidance materials to be published on OFFLU website.

Making "this" available for diagnostic and research use



Suitable Sample Types

- Nasal swabs
- Lung lavage fluid
- Airway brush swabs
- Fresh lung tissue
- Oral fluid samples
- Formalin-fixed lung tissue
  - nasal turbinate and trachea also appropriate

Diagnostic Assays for Virus Detection

- North America, Europe, South America
  - Nasal swabs, lung lavage fluid, airway brush swabs, fresh lung tissue and oral fluids:
    - PCR
      - Flu A Matrix gene or Nucleoprotein Gene
      - subtypes H1, H3, N1, N2
      - Differentiating PCRs for pM and pN1
    - Sequence HA, NA, Matrix genes (routinely USA)
      - NP, NS1, NS2, PA, PB1, PB2 in many research labs & South America
- North America, Europe, South America, Asia
  - Virus isolation on MDCK or ST cells or embryonated chicken eggs
- North America, Europe, South America,
  - Formalin-fixed lung, trachea, or nasal turbinates:
    - Histopathology for the detection of lesions compatible with influenza A virus infection
    - Immunohistochemistry for detection of NP protein of influenza A virus in tissues

Influenza A virus strains in North American Swine

- Currently, up to seven antigenic HA clusters and subtypes are co-circulating in pigs in Canada and the United States:
  - α-, β-, γ-, δ1-, and δ2-cluster viruses of H1
  - 2009 pandemic H1N1
  - cluster IV triple reassortant H3N2
- List of strains and references available in the draft document

Influenza A virus strains in European Swine

- 3 predominant/enzootic subtypes and pH1N1:
  - avian-like H1N1: since 1979, all 8 gene segments avian-like
  - H3N2, probably introduced around 1970, became widespread in the mid 1980s.
    - H3N2 reassortants since 1984
  - H1N2, first reported in Great Britain in 1994 and a few years later in mainland Europe, with season human H1
    - hH1N2 and 2nd generation reassortant H1N2 less frequently
- Lists of strains and references available in draft document

Influenza A virus strains in Brazilian and Argentinian Swine

- H3N8 of Eq origin
  - Brazil
- pH1N1
  - Brazil and Argentina
- H1N2 with H and N of human origin and internal of pH1N1 origin
  - Brazil
- H3N2 (wholly human)
  - Argentina
- δ2 cluster H1N1 with internal of pH1N1 origin
  - Argentina
- Lists of viruses and references in draft document

Influenza A virus strains in Asian swine

- Classical swine H1N1
- Classical swine H1N2
- Classical/TRIG swine H1N2
- Eurasian H1N1
- Reassortant H1N1/TRIG H1N1
- pH1N1
- trH3N2
- Lists of strains and references in draft document

Future Directions

- Determine most appropriate strains for
  - Seroprevalence studies
  - Vaccine studies
  - Diagnostic assay refinement
- Depository of strains with publicly available sequences
  - ATCC? WHO reference labs? OTHER?

SAVE THE DATE

isirv
International Society for Influenza and other Respiratory Virus Diseases

2ND INTERNATIONAL SYMPOSIUM ON NEGLECTED INFLUENZA VIRUSES

7TH - 8TH MARCH 2013

The Royal College of Physicians of Ireland
Number Six Kildare Street
Dublin 2, Ireland

This 2nd International Symposium on Neglected Influenza Viruses will retain the format, and build on the success of the inaugural symposium held in Florida in 2010. This conference will explore the latest surveillance data, vaccination and control strategies, diagnostic techniques, experimental research data and epidemiological and economic impact studies relating to swine, equine, canine and other nonhuman/nonavian influenza viruses.

GOALS AND OBJECTIVES

- To promote a transdisciplinary, co-ordinated approach to the control of influenza by integrating the scientific input from public health, veterinary health, environmental health, and basic science.
- To share knowledge of swine, equine, canine and marine mammal influenza viruses across continents and disciplines.
- To promote interaction among scientists interested in nonhuman/nonavian influenza viruses whose work may not regularly receive international attentio
- To explore the exploitation of data relating to the prevention, diagnosis, surveillance and control of influenza viruses in the protection of human and animal health.