Teleconference to discuss options for collaboration between WHO GISR and OFFLU in developing and running laboratory proficiency tests:

9 September 2011, (13.00h – 14.00h)

In attendance: Nichole Hines (APHIS-USDA), Timm Harder (FLI), Tamiko Hisanaga (CFIA), Wenqing Zhang (WHO), Terry Besselaar (WHO), Gemma Carlile (AAHL), Gwenaelle Dauphin (FAO), Filip Claes (FAO), Keith Hamilton (OIE), Gounalan Pavade (OIE).

WHO

- The WHO Global Influenza Surveillance and Response System (GISR) comprises National Influenza Centres (136), Collaborating Centres (6), H5 Reference labs (11).
- The WHO external quality assurance project (EQAP) was launched in 2007 to monitor quality, comparability, and identify gaps in detecting influenza viruses by RT-PCR. EQAP is implemented by the WHO H5 Reference lab, NIC at the Centre for Health Protection, China, Hong Kong SAR.
- PT Panels are made up of vacuum dried RNA of avian (H5N1) (different H5 clades), seasonal A (H1N1), A (H3N2), B and pandemic H1N1 (2009) influenza viruses. In 2011 lyophilized inactivated viruses were also included in the panel.
- EQAP has led to improved accuracy of diagnosis; feedback of results to participants has been helpful.
- Various components including the number of participating laboratories, dispatch frequency, number of samples, testing materials, reagents, staff, logistics, packaging, materials, shipment, cost have to be taken in account for the smooth functioning of EQAP.

OFFLU

- The OFFLU laboratory network comprises OIE and FAO Reference Centres for avian, equine, and swine influenza, and other OFFLU affiliated national veterinary influenza laboratories in strategic locations.
- The OFFLU PT is currently focused on avian influenza (AI) virus diagnostics in avian influenza laboratories.
- AI strains tend to show variability between different regions of the world and AI PTs have been run for several years at the regional level, led by OIE/FAO Reference Centres for AI in different regions.
- AI PTs have focused on detection and pathotyping (HPAI vs. LPAI) of subtypes H5 and H7 (notifiable to OIE).
- FAO has prepared a comparison of AI/ND PT schemes in different regions (America, Africa, Asia, and Europe).
- The OFFLU PT technical activity aims to develop a harmonised approach to PT for AI between different regions.

- In 2011 OFFLU has launched its first global PT for AI involving the OIE/FAO Reference Centres and other selected OFFLU laboratories which provide support to a region. This would run in parallel to regional PTs.
- The global PT aims to:
    - Enhance detection of AI worldwide using harmonised approaches to diagnostic testing.
    - Develop guidelines to harmonise approaches to PT world wide
    - Evaluate/improve ability to detect viral material by RT-PCR, to subtype viruses by HIT. and to pathotype viruses as HPAI or LPAI (by sequencing)
    - Function on an annual basis
- Progress with the OFFLU global PT so far:
    - FLI has prepared and shipped a panel of 10 samples for molecular analyses and 6 samples for serologic antigen characterization to OIE/FAO reference labs in August 2011
    - Waiting on molecular and subtyping results from each of the laboratories

Comparison between WHO and OFFLU approaches to PT

- WHO focus on RT-PCR. OFFLU focus on RT-PCR, HIT, and pathotyping.
- WHO PT panels focus on seasonal influenza A viruses, some H5 avian influenza viruses, and some influenza B viruses. OFFLU PT panels focus on AI virus only.
- The OFFLU PT panel uses lyophilized inactivated virus - which was quite stable during shipment - to also evaluate extraction efficiency. WHO panel uses vacuum dried RNA and inactivated virus.

Common issues

- WHO and OFFLU have an interest in monitoring and improving global diagnostic capability for zoonotic influenza viruses - in humans (WHO) and in animals (OFFLU) - and emerging influenza viruses e.g. H5N1 HPAI, pandemic H1N1 2009 in pigs, H9N2, sporadic outbreaks of H3N2.
- WHO and OFFLU experience problems with sample shipment to some countries.
- Human resources implications for making and shipping PT panels.

Follow-up

- Identify areas for cooperation between WHO and OFFLU PT i.e. what is of common interest to human health and animal influenza health sectors.
- WHO and OFFLU to work together to resolve shipping issues.
- Discuss the possibility of involving a selected number of OFFLU laboratories in WHO PTs; identify OFFLU labs and strains of common interest.
- Discuss involving a selected number of WHO CCs in OFFLU PT to optimise ability of WHO CCs to detect zoonotic viruses in humans.

- Explore advantages and disadvantages of including different types of material in the PT panel i.e. vacuum dried RNA vs. inactivated virus, and composition of panels.
- Look into potential restrictions of:
    - handling animal origin viruses or genetic material isolated from humans in AH labs
    - handling human origin viruses or genetic material in AH labs
- Discuss ways to sustain the OFFLU global PT on annual basis (funding, rotate coordination between different laboratories)

Action

- Organise second OFFLU-WHO teleconference after OFFLU has received and analysed results of the first global OFFLU PT (January 2012).