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NEWSLETTER

SUB-COMMITTEE ON ANIMAL HEALTH LABORATORY STANDARDS

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Exotic disease diagnosis

New molecular technologies, particularly the use of sequence specific diagnostic probes, offer the opportunity to diagnose and characterise disease causing agents with levels of sensitivity and specificity not previously thought of. Moreover this can be done relatively cheaply, very quickly and often with little specialised knowledge since the sequence data for a specific pathogen or part of it is available freely. Whilst this offers researchers and diagnosticians the opportunity to make new judgments on disease causing agents and their presence or otherwise in Australia, this comes at considerable risk. In generating such information there is no assurance of quality nor indeed the use of any controls to assist in assuring the validity of the results.

The incorrect reporting of an exotic or new agents in Australia could have a very real, and significant negative impact on our overseas trade in livestock and livestock products which is based on freedom from many diseases and disease causing agents. Furthermore even at the national level, the incorrect reporting of a disease could have serious repercussions for local trade in a product or commodity. In order to manage this risk, Australia has developed a series of clearly articulated rules around the testing of livestock or commodities for exotic disease or agents. All States and Territories have these rules as law and it is important that anyone undertaking such testing is familiar with these rules and adheres to them. Whilst the development of the LEADDR network (Laboratories for Emergency Animal Disease

Diagnosis and Response) has seen a move away from all testing being focused at the Australian Animal Health Laboratory (AAHL) to a more national approach, the basic rules are still exactly the same. Any suspect exotic disease and any testing related to this must be communicated immediately to the State and Australian Chief Veterinary Officers (CVOs) and the samples submitted to the competent authority for testing. If you are in any doubt then immediately contact the office of your CVO!

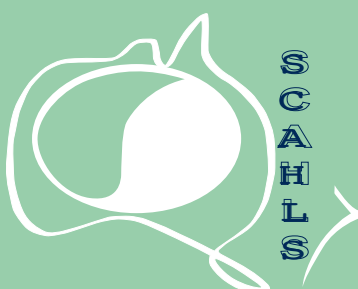
Science is constantly progressing but often creates new challenges and dangers. SCAHLS recognises the huge value that molecular technologies now offer but equally acknowledges the risks and costs of an incorrect or misreported diagnosis. We all have a duty to minimise these risks!!

Australian Biosecurity Intelligence Network (ABIN) Update

ABIN Community Spaces a vehicle for a OneHealth approach to biosecurity management

ABIN community spaces are secure shared online workspaces that allow members to collaborate in a virtual environment and share expertise, data and tools. Community spaces are highly versatile providing infrastructure support to research, surveillance, diagnostics, response, and policy development, as well as

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One Health Congress Update

From the 14 - 16 February 2011, Australia and AAHL hosted the First International Congress on One Health at the Melbourne Conference Centre. The meeting was attended by some 650 delegates and brought together not only those scientists working across the One Health divide (ecologists, animal health specialists, human health practitioners) but many of the senior managers in Government and International Organisations that are looking to support and drive the One Health Initiative. This included the Deputy Director General of the United Nation, senior World Health Organisation personnel, the Food and Agriculture Organisation (FAO) officers including the FAO CVO, the World Organisation for Animal Health representatives and advisers from the World Bank. The meeting was also attended by the Secretary of the Commonwealth Department of Health and Ageing as well as CVOs and Chief Medical Officers from a number of countries, presenting a fascinating mix of people.

The program itself was organized not just around the science but around policy and organisational issues and was prepared in a way that would not just inform on the great science being undertaken, but generate genuine outcomes in terms of organisational change and new policy development. The key elements included the diseases themselves, the impact of these on the environment and the environmental changes on disease outcomes, the threats to food security and food safety brought about by such diseases, and the underpinning structures that help or indeed hinder a One Health approach.

A number of key messages emerged, although many debates, discussions and group meetings attested to the considerable interactions that took place through the three days. It is clear that there is a pathway of emergence of high risk infectious diseases from wildlife, to domestic animals and then to humans. It was clear that many barriers exist to prevent us tackling these in a holistic manner, that silos exist in our thinking and culture and that resources for the wildlife sector are woefully inadequate. But it was also clear, that at the level of the science, new partnerships are being forged and that these are generating new science and new opportunities for intervention and risk mitigation. From an Australian perspective, much is being done to understand bat borne infectious agents and the drivers for emergence of such pathogens.

At the political level it is clear that much still needs to be done but that a number of international meetings have started to pave the way for a One Health approach. Clearly WHO, OIE and FAO have started to work closely together in this "space" and a further intergovernmental meeting in Mexico this November will continue progress at this level.

There was overwhelming support to continue the impetus created by the Congress and one initiative is to create an International Society for One Health (ISOH). It is proposed to hold a meeting mid-year to take this forward, to determine the scope and functions of ISOH and create an appropriate governing body. The broad remit for ISOH would be to provide a forum for one health scientists to meet and exchange views, to publish and to influence policy through the science undertaken. It was unanimous that another meeting should take place and Thailand has already offered to host such a meeting in early 2013.

All the abstracts of the meeting have been published in a special edition of Ecohealth (2011 Vol 7) and further information on the presentations can be found on the One Health website.

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the activities of national forums, committees and working groups.

ABIN has now established community spaces for the Wildlife (WildHealth), Veterinary Pathology (VetPath), Aquatic Animal (NEPTUNE), and Fruit Fly Body of Knowledge proof of concept projects. In addition, the ABIN Biosecurity Intelligence Generation (BIG) and Remote Connectivity and Surveillance (RC&S) programmes now have established spaces for members to interact. Early interest from other members of the biosecurity community has also led to the establishment of further Community Spaces, and ABIN staff who are nationally distributed are basing ABIN's operations from a community space.

Search and discovery across biosecurity

ABIN's second critical success factor is now in a consultation phase with stakeholders. A consultation paper and survey (<http://www.abin.org.au/web/capabilities/search-and-discovery/>) is now available. Please consider filling in the survey, so ABIN is able to gather information

Secure Clean Room infrastructure

Also under development, the Secure Clean Room is building on the Community Space concept, adding security, and other functionality to service the emergency response use case scenario. Because biosecurity data and intelligence can have trade, market access, privacy and national security sensitivities associated with it ABIN's infrastructure has been designed to provide compartmentalised, need to know, and secure infrastructure to service the need for cross organisation collaboration during times of

'emergency response' and on other sensitive matters. ABIN's infrastructure is currently undergoing a security accreditation process which will enable those who work in biosecurity to use ABIN's virtual work spaces up to and including a national security level of RESTRICTED. Accreditation will be obtained by September this year.

Update – Proof of Concept projects of interest to the animal sector

Veterinary Pathology (VetPath) Project

The Veterinary Pathology proof-of-concept project is a means of developing and demonstrating capacity in virtual microscopy, collaborative workspaces and knowledge repositories to support veterinary pathologists working in the animal biosecurity sector. SCAHLS has been a key stakeholder in the development of the VetPath project and has assumed a formal governance role in its ongoing management through chairing and representation on the project reference group.

The ABIN Board of Management has approved 11 nominated sites and the project will now move to an implementation phase at these sites. ABIN will fund national infrastructure for the establishment of the virtual microscopy network and make this funding available to jurisdictions.

An important technological breakthrough was made in identifying some specialised software to support virtual microscopy. Deployed with the ABIN collaboration platform, it allows virtual microscopy cameras to be shared as a standard web camera, and hence requires only standard firewall access. Furthermore the tool supports a complete array of collaboration tools, retains high resolution of images and operates with low

latency. Further integration work is planned for this product in the next quarter.

Wildlife Health (WildHealth) Project

The WildHealth Proof of Concept Project was established to both engage stakeholders within ABIN and to bring within ABIN's infrastructure the web-based, spatial wildlife health database and data of the Australian Registry of Wildlife Health (Taronga Conservation Society Australia).

The WildHealth **Community Space** is now the gateway and platform for monthly National Wildlife Health Rounds, which successfully united more than 110 simultaneous participants during the last session. ABIN's web-conferencing system (ABIN Connect) has also been used to expedite disease outbreak investigations related to two threatened species. The Community Space utilises the ABIN **Expertise and Resource directory** capability to improve the accessibility of experts, services, and resources. The Expertise and Resources directory also functions as a virtual tissue-bank - tracking specimens stored around the country that might be available for research or outbreak investigation. The online database of the **Australian Registry of Wildlife**

Health, now integrated within WildHealth, is a highly detailed laboratory information management system for wildlife, which incorporates mapping capabilities; this is a globally unique capability.

Aquatic Animal (NEPTUNE) Project

NEPTUNE is a part of ABIN's National Connectivity and Collaboration programme. ABIN's contribution of infrastructure to support the NEPTUNE project has progressed with the establishment of a Community Space for the aquatic animal health community. The NEPTUNE community space will provide a user-friendly information resource for training, storage, sharing, and analysis of aquatic animal health biosecurity data.

The NEPTUNE Proof of Concept Project Manager, Simon Barry is the current site moderator, and is populating the site with content. Although it's early days, the site has around a dozen active members.

For more information on ABIN visit the web portal at www.abin.org.au, sign up to ABIN's e-newsletter <http://www.abin.org.au/web/newsletters/> or contact ABIN's Biosecurity Community Engagement Manager, Stephen Thompson (stephen.thompson@csiro.au).

New LEADDR Co-ordinator

The face-to-face meeting of LEADDR partners in November 2010 was an opportunity to build on the positive relationships which are developing across the network and to discuss the future direction of this very successful initiative.

The momentum of the network has been greatly enhanced by the appointment of a co-ordinator in August 2010. Andrew Davis has done an excellent job in this role, but, unfortunately for LEADDR, he has recently taken up a position working for OIE in Bangkok. Congratulations and best wishes to Andrew. His good work will not be lost, as Jemma Bergfeld has agreed to take on the role. Jemma is based at AAHL, and she will continue to promote co-operation and collaboration between the network partners.

New Test Evaluations

In the last six months two tests have completed the SCAHLS approval process and been endorsed by Animal Health Committee (AHC). These are the bovine Johne's disease herd environmental culture submitted by DPI Victoria and the abalone herpesvirus real time polymerase chain reaction (PCR) submitted by the Australian Animal Health Laboratory.

Tests currently under evaluation are the:

- *C. fetus* subsp. *venerealis* real time PCR
- Equine influenza real time PCR
- 3ABC foot and mouth disease enzyme-linked immunosorbent assay (ELISA).

An improved test for *C. fetus* subsp. *venerealis* is currently being developed and this will be submitted as an extension to the existing assay. No further information will be submitted on the original application. The equine

influenza real time PCR and the 3ABC foot and mouth disease ELISA are both close to completion.

A request has recently been received for approval of the BioChek Avian Influenza Test Kit. This is an ELISA test manufactured by BioChek UK Ltd, to be suitable for serological diagnosis of type A avian influenza in chickens (specific IgG in serum). This test has completed the OIE approval process, including Australian samples, so will require no further evaluation. SCAHLS has approved this test out of session and it has been submitted to AHC for endorsement.

ANZSDP

SCAHLs continues to commission esteemed authors to produce the Australian and New Zealand Standard Diagnostic Procedures (ANZSDPs), which are consistent with the OIE Manual of Standard Diagnostic Tests and Vaccines but may contain specific requirements and information necessary for the Australian and New Zealand circumstances. All ANZSDPs are published on the SCAHLS website (www.scahls.org.au) for public use. AHC has recently endorsed the ANZSDP for Porcine Circovirus.

Search and discovery across biosecurity

ABIN's second critical success factor is now in a consultation phase with stakeholders. A consultation paper and survey (<http://www.abin.org.au/web/capabilities/search-and-discovery/>) is now available. Please consider filling in the survey, so ABIN is able to gather information on your experience and preferences for interacting with search interfaces and results.