



ARBOVIRUS ADOPTION FORUM

Canberra, 17 June 2008

Executive Summary

The Arbovirus Adoption Forum 2008 was held at the Australian Government Department of Health and Ageing (DoHA) National Office in Canberra on 17 June 2008. The forum brought together the National Arbovirus and Malaria Advisory Committee (NAMAC), arbovirus researchers and other stakeholders with a professional interest in these viruses, to review all current arbovirus-related research projects funded by the Australian Biosecurity Cooperative Research Centre for Emerging Infectious Disease (AB-CRC).

Coming together at this time provided the AB-CRC with an opportunity to explore research outcomes from both the researcher and end user perspectives, provide an update on progress since the first arbovirus forum in 2006, discuss pathways to adoption, identify research gaps, and understand how the AB-CRC may contribute to filling these gaps in the proposed Biosecurity CRC Mark II.

The forum began with six researchers providing an overview of eleven AB-CRC funded arbovirus projects: nine research projects and two PhD projects. These presentations covered research into surveillance methods, mosquito vector competency, methods of characterising unknown arboviruses, *Aedes albopictus* and Chikungunya, Kunjin virus (KUNV) infection in birds, and West Nile Virus (WNV) detection.

The forum concluded with a discussion session facilitated by Dr Julie Hall, Chair of NAMAC and Principal Medical Advisor at the Office of Health Protection, DoHA. There was general consensus that the significant outcomes described in the presentations were (i) the identification of a number of possible local mosquitoes as potential Chikungunya virus (CHIKV) vectors; (ii) the demonstration of *Ae. albopictus* haplotype diversity, suggesting multiple incursions and reincursions into Torres Strait by these mosquitoes; (iii) the advances in mosquito detection methods' leading to surveillance methods using pooled mosquito samples; and (iv) the value in sequencing uncharacterised viruses.

A number of key gaps in research knowledge were identified. These included the need (i) to identify competent vectors for arboviruses particularly research into urban host feeding patterns of domestic human biting mosquitoes (including *Ae. vigilax* and *Ae. procax*); (ii) to study mosquitoes in Torres Strait and surrounding regions, including New Guinea, to gain understanding about the vector competence of these populations; (iii) to validate *Ae. albopictus* haplotyping using other molecular phylogenetic systems and re-evaluate risk of the incursion of *Ae. albopictus* borne pathogens based on these outcomes; and (iv) to develop advanced mosquito surveillance systems with improved sensitivity and temporal detection of pathogens.

The full report contains an overview of the presentations, a summation of the oral and written responses provided by the delegates during the three forum sessions, an evaluation of the forum, the outcomes of the questionnaire addressing the delegate's views of the arbovirus research priority areas for inclusion research portfolio of the proposed Biosecurity CRC Mark II, and NAMAC's response to the forum. The forum proceedings, research abstracts, and powerpoint slides have also been included.

It was evident from both the formal and informal feedback from the delegates that this was a very productive forum that contributed significantly to knowledge exchange amongst NAMAC, interested stakeholders, and AB-CRC researchers. Based on discussion during the forum, the feedback provided by NAMAC, and the Biosecurity CRC Mark II questionnaire, a number of key recommendations for the AB-CRC have been developed. These recommendations, listed below, will be used by the AB-CRC in planning and implementing future arbovirus research and knowledge exchange activities. Further details for each of these recommendations can be found on pages 17-18 of the full report.

Recommendation 1: The AB-CRC continues to promote interaction and linkage between NAMAC, AB-CRC researchers and other stakeholders by holding arbovirus adoption forums in the future.

Recommendation 2: The AB-CRC continues to advance arbovirus research through its existing research program.

Recommendation 3: The AB-CRC considers future priority areas in arbovirus research for inclusion in the Biosecurity CRC Mark II.

Recommendation 4: The AB-CRC continues to support specific knowledge exchange activities amongst arbovirus researchers.

The full Arbovirus Adoption Forum Final Report is available as a PDF on the AB-CRC website:

<http://www1.abcrc.org.au/>

