



## Media Release

**For immediate release**

### **‘Ring of fire’ disease threat to our north**

Australia is surrounded to its north by a ‘ring of fire’ where new human and animal plagues are likely to erupt without warning, with potentially devastating consequences.

“A study by one of our partners has revealed a number of global hot-spots where new and unknown diseases are most likely to erupt – and it turns out that one of the hottest is spread in an arc to Australia’s north,” says Australian Biosecurity Cooperative Research Centre for Emerging Infectious Disease (AB-CRC) chief executive officer Dr Stephen Prowse.

“We’re in the front line for outbreaks of diseases like SARS, bird flu, Nipah virus, enterovirus 71 and chikungunya – which infect both people and animals. Such diseases are most likely to emerge in our region,” Dr Prowse says.

The study highlights the vital importance of developing and maintaining effective disease surveillance in our region – as often the only defence against a new disease is to spot it early, before it spreads. However it also offers scope to anticipate where new plagues could arise.

The study of global disease hotspots was carried out by Dr Peter Daszak and colleagues of the Consortium for Conservation Medicine in New York, a partner of the AB-CRC.

“We’ve developed an ‘earthquake zone’ map for emerging diseases. It shows which countries are most likely to be on the front line of an emerging pandemic. We now have a way to predict the places from where the next HIV, SARS or avian influenza is likely to emerge,” Dr Daszak says.

“Our risk map shows that Australia is surrounded to the north by a ‘ring of fire’ – countries that are some of the hottest of the hot-spots. This means Australia needs to be forward thinking in its approach to biosecurity risk.”

And that is exactly what we are doing, says AB-CRC CEO Dr Prowse. “The map is fascinating because of what it tells us of the probability of new diseases emerging or of old diseases – like rabies for example - re-emerging. It also invites us to think much more creatively about how we go about preventing them.”

Instead of relying on a handful of overworked professional doctors and vets spread across an enormous area to spot new plagues, Dr Prowse believes Australia can help to develop a regional “neighbourhood watch” involving farmers, teachers, other healthcare professionals and even ordinary citizens on the lookout for unexplained sickness or deaths in animals or people.

“New and emerging diseases rarely have any form of treatment and death rates can be quite high – as in the case of Nipah virus which kills about half of those who contract it,” he says. “The best course is to stamp out the bushfire before it takes hold and spreads.”

The importance of early detection and diagnosis is paramount, he adds. “The rapid diagnosis test developed by our partners was very important in helping to eradicate of equine influenza (EI) in Australia following the recent outbreak. We played a critical part in getting the test into the major veterinary laboratories in the country. This meant that it was possible to quickly establish if the disease was present or not and take the proper steps to contain and eradicate it.”

EI was a warning of what can happen when a major disease gets loose, whether among humans or livestock, he says.

../ continued

Meanwhile some old pestilences are emerging anew: bluetongue is spreading again in Europe - possibly due to climate change - rabies is on the comeback in Bali, and foot-and-mouth disease remains a huge problem in many regions of South-East Asia.

The Asian tiger mosquito – a feared carrier of several deadly diseases – is spreading worldwide due to trade and possibly climate change. “It’s a genuine barbecue-stopper,” says Dr Prowse. “It can carry deadly diseases like dengue fever and chikungunya.”

That Australia has unknown diseases of its own was graphically shown in recent cases of Hendra virus and Bungowannah virus. Also koalas are being wiped out in record numbers by a new retrovirus.

The current state of the disease threat to Australia and its main events over the past twelve months is outlined in a new public report by the AB-CRC which is available on the web at [www.abcrc.org.au/pages/news.aspx?NewsArticleID=312&Display=1](http://www.abcrc.org.au/pages/news.aspx?NewsArticleID=312&Display=1)

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The Australian Biosecurity CRC is one of 30 CRCs announced in 2002 by the Federal Government. The total resources of the Centre will be more than \$60 million over 7 years. The Centre has major research nodes in Brisbane, Geelong and Perth, and partners in Bangkok (Thailand), New York (USA) and Winnipeg (Canada). For more information about the AB-CRC visit [www.abcrc.org.au](http://www.abcrc.org.au)



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