

## Senate Community Affairs Committee

### ANSWERS TO ESTIMATES QUESTIONS ON NOTICE

#### HEALTH PORTFOLIO

**Additional Estimates 2013 - 2014, 26 February 2014**

**Ref No:** SQ14-000069

**OUTCOME:** 14 - Biosecurity and Emergency Response

**Topic:** Mosquito-Borne Disease

**Type of Question:** Hansard Page 147, 26 February 2014

**Senator:** Boyce, Sue

**Question:**

Every summer we get the vast number of stories around dreaded mosquito-borne disease that is affecting us. Would you be able to give me a snapshot of trends, incidence and other areas that may be of concern and how they are being dealt with?

**Answer:**

Governance

The Communicable Diseases Network Australia (CDNA) is the standing committee of the Australian Health Protection Principal Committee which provides national public health coordination on communicable disease surveillance, prevention and control. The CDNA comprises representatives from all Australian states and territories and other relevant organisations. The National Arbovirus and Malaria Advisory Committee (NAMAC) of CDNA provides technical advice, risk assessment, guidelines and policy recommendations on arboviruses of public health significance, malaria, and their mosquito vectors. NAMAC provides a national focal point for coordination, surveillance and control activities. The Department of Health collects and analyses data to inform policy on notifiable vectorborne diseases, develops response documents in conjunction with CDNA (for example and most recently, documents to guide surveillance and response for Murray Valley encephalitis in Australia) and is well placed to coordinate a response to outbreaks.

The Department of Health is responsible for human health policy relating to vector monitoring, while the Department of Agriculture conducts vector monitoring services on behalf of the Department of Health. The Department of Health is currently working towards an updated vector monitoring risk assessment that will assess all Australian ports of entry. This assessment will inform a review of vector monitoring policy and protocol.

Vector monitoring

Vector monitoring occurs at air and sea ports to protect Australia from the entry and establishment of exotic mosquitoes that can transmit vector borne diseases of concern such as dengue, yellow fever and malaria. Incursions of *Ae. Aegypti* have been detected at three different southern Australian airports in February and March 2014. All appear to be associated with, and limited to, suitable breeding habitats in airport baggage tunnels. Comprehensive response measures for these incursions are coordinated by state health authorities in liaison with the Department of Agriculture. Activities include insecticide fogging treatments of the baggage tunnels; residual harbourage treatments; application of mosquito larvicide and treatments of breeding sites; and enhanced surveillance activities.

### Key mosquito borne diseases

In Australia in 2013, the number of notifications of Barmah Forest virus, dengue virus infection and chikungunya virus infection exceeded the 5 year mean, that is, the average number of notifications for Australia per year between 2008 and 2012 (see table). The reasons for these increases are outlined below.

Barmah Forest virus. Private pathology laboratories reported a dramatic increase in cases of Barmah Forest virus infection in several Australian jurisdictions from mid to late 2012, despite a lack of evidence of any environmental increase in activity of the virus. A CDNA working group found the increase to be due to a high number of false positive diagnoses.

Dengue virus infection. The number of overseas acquired cases of dengue has increased markedly in recent years with the majority of these travel related cases being acquired in Indonesia. At present, the risk of local outbreaks from the imported cases is restricted to urban areas of Queensland where *Aedes aegypti*, a mosquito vector for dengue virus, is well established. There is a risk that dengue could become endemic in those areas and concentrated efforts are applied to bring outbreaks under control. There have been isolated cases of locally-acquired dengue infection outside of the known dengue receptive areas, emphasising the importance of effective surveillance and control of exotic vectors.

Chikungunya virus infection. There has never been a known instance of chikungunya transmission in Australia, but it remains a possibility in areas of Queensland where the mosquito species *Ae. aegypti* and *Ae. albopictus* are present. The number of imported cases has increased in recent years, and recent regional outbreaks, including in Papua New Guinea, have required close monitoring in the places of acquisition, and quick responses to prevent further spread.

### Malaria

Australia was declared free of endemic malaria in 1981, and while it is a relatively common infection of returning travellers from malaria-affected areas (414 cases in 2013), the number of cases has decreased slowly over the past 10 years. There is the potential for local transmission in northern Australia, but no local transmission has been recorded since 2011 when there was a small outbreak in the Torres Strait.

Table. Notifications of vectorborne diseases Australia, 2013, by state or territory#

Disease	ACT	NSW	NT	QLD	SA	TAS	VIC	WA	Australia	5 Year Mean <sup>^</sup>
Arbovirus infection (NEC)*	0	0	1	20	0	0	0	0	21	11.8
Barmah Forest virus infection	6	431	409	2,223	75	3	72	1,024	4,243	1,722.0
Chikungunya virus infection	NN	22	2	14	7	1	31	54	131	32.4
Dengue virus infection	9	294	61	489	75	21	412	478	1,839	1,109.2
Japanese encephalitis virus infection	0	0	0	2	1	0	0	1	4	0.4
Kunjin virus infection	0	0	0	3	0	0	0	0	3	1.4
Malaria	13	88	22	108	8	11	88	76	414	440.4
Murray Valley encephalitis virus infection	0	0	0	1	0	0	0	0	1	4.6
Ross River virus infection	4	499	302	1,784	166	8	167	1,366	4,296	5,061.0

Source: National Notifiable Diseases Surveillance System (<http://www9.health.gov.au/cda/source/cda-index.cfm>)

#Notifications were analysed by date of diagnosis, which represents the onset date, or the earliest of a range of other dates where no onset date is available.

\*Arbovirus not elsewhere classified enables the capture of information on cases of emerging flaviviruses that are not separately notifiable.

<sup>^</sup>The five year mean is the average number of notifications for Australia per year between 2008 and 2012.