



Australian Government
Department of Health

CHIEF MEDICAL OFFICER

Progress Report on Lyme Disease in Australia

On 31 July 2014 I wrote to you about Lyme disease in Australia and provided you with a progress report against each of the terms of reference of the former Clinical Advisory Committee on Lyme Disease in Australia (CACLD). I also highlighted what the Department of Health's future role will be regarding Lyme disease in Australia.

The department remains concerned about many Australians suffering a chronic debilitating illness which they associate with a tick bite. My colleagues and I have closely followed the research being undertaken in Australia, in particular keeping a watchful eye on that being undertaken at Murdoch University and Sydney University.

Please find attached an update on the Department of Health's recent activities on Lyme disease and on the research from Professor Peter Irwin at Murdoch University.

Should you have any questions please contact Dr Gary Lum (Gary.Lum@health.gov.au).

Yours sincerely

A handwritten signature in cursive script that reads 'Christopher J. Baggoley'.

Professor Chris Baggoley, AO

BVSc (Hons), BM BS, BSocAdmin, FACEM

20 August 2015

Attachment:

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Research

The Department of Health has recently contracted with the National Serology Reference Laboratory to undertake an evaluation of the serology assays currently used for the diagnosis of Lyme disease in some specialist Lyme disease laboratories as well as accredited pathology laboratories in Australia. Specimens for this evaluation have been collected from Australian individuals both with and without symptoms of Lyme disease. The results will be used to examine the performance characteristics of these currently used assays and hopefully resolve the question as to why test results from one patient can be positive in one laboratory and negative in another.

The Department of Health welcomes the exciting and ground breaking research publication from Professor Peter Irwin and his team from Murdoch University. This Australian Research Council funded work which is published in www.parasitesandvectors.com/content/8/1/345/abstract, (Inhibition of the endosymbiont "*Candidatus* Midichloria mitochondrii" during 16SrRNA gene profiling reveals potential pathogens in *Ixodes* ticks from Australia) has revealed amongst the large number of bacteria in ticks at least one new species for further investigation.

While no Lyme disease *Borrelia* bacteria were found in Australian ticks, the Murdoch team readily detected Lyme disease bacterial DNA in the ticks from Germany. In one Australian tick collected from a wild echidna, out of a sample of 196 ticks, the DNA from a *Borrelia* species associated with relapsing fever was detected. The clinical significance of this finding is still to be determined but should not be overstated. The department will remain engaged with Professor Irwin to consider the implications of this research for human health in Australia. It is anticipated that research on ticks taken from humans will be published later in 2015.

The Chief Medical Officer, Professor Chris Baggoley, had an opportunity to speak with Professor Irwin, who emphasised that it is not yet appropriate to link the bacteria he found in the ticks to them causing disease in humans. Nothing can be assumed without further research.

The Department of Health continues to monitor progress made in other research, for example, the department continues to seek updates on the work of the University of Sydney's Tick Borne Diseases Unit, which is funded by the Karl McManus Foundation.

Diagnostics

Over the time the department has been engaged in this work, it became apparent that many members of the medical profession still are not aware that Lyme disease infection should be considered in Australians travelling in endemic areas and in tourists from the same locations. The department with members of the Diagnostic Pathway Working Group, has worked with state and territory government health agencies on an *Australian guideline on the diagnosis of overseas acquired Lyme disease/borreliosis*. The guideline was

progressed through the Public Health Laboratory Network and the Communicable Diseases Network Australia. It has recently been endorsed by the Australian Health Protection Principal Committee (Attachment A).

Prevention

The department in collaboration with the National Arbovirus and Malaria Advisory Committee has rewritten a tick bite prevention education product which will be made available on the department's website. The department is aware of new clinical information about tick protein and mammalian meat allergy and safer approaches to tick removal. It is hoped that in future iterations the advice will be updated to incorporate new techniques in tick bite first aid. The department is working with state and territory health agencies to finalise the product and present it to the Australian Health Protection Principal Committee for endorsement.

Communication

The department continues to act as a point of contact within Australian Government for the Lyme disease community including medical practitioners and state and territory health authorities. The person to contact in the department is Dr Gary Lum whose e-mail address is Gary.Lum@health.gov.au

Attachment:

- A. *Australian guideline on the diagnosis of overseas acquired Lyme disease/borreliosis*