



ASIA-PACIFIC CONFERENCE ON ZOOONOTIC AND NEGLECTED TROPICAL DISEASES

“Global One Health : from concept to reality”

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S2.3 Malaria in Sarawak: The Road to Elimination

Dr Ooi Choo Huck

Sarawak embarked on human malaria elimination activities in 2010 and has set 2020 as its deadline to achieve elimination of malaria status in Sarawak. Malaria elimination aims at the sustainable interruption of local human malaria transmission by mosquitoes despite the continued presence of malaria vector mosquitoes and the importation of parasites from abroad through international travel and migration.

Sarawak achieved zero indigenous *P. falciparum* in 2013 and has remained zero until now. Sarawak achieved zero indigenous *P. vivax* in 2016 and remained at zero until now. Zoonotic *P. knowlesi* malaria was forecasted to be on an upward trend in Sarawak.

Purely spatial, purely temporal, and spatiotemporal analyses were performed to define clustering of *knowlesi* malaria incidence. Purely spatial and spatiotemporal analyses indicated most likely clusters of *knowlesi* malaria in the northern region of Sarawak, along the Sarawak–Kalimantan border, and the inner central region of Sarawak between 2008 and 2017. Temporal cluster was detected between September 2016 and December 2017. This study provides evidence of the existence of statistically significant *Plasmodium knowlesi* malaria clusters in Sarawak.

S3.1 Melioidosis: Not Gone, Not Forgotten

Dr Yuwana Podin

Burkholderia pseudomallei, a saprophytic Gram-negative environmental bacteria which causes melioidosis, was first described in what was known then as Burma in 1911. It is able to survive in extreme pH, temperature and even low nutrient conditions, rendering it a hardy environmental bacteria. Ever since it was first reported, melioidosis which was initially only known endemically in the tropical and sub-tropical regions has since been reported in more countries in other regions. Based on a study published in 2014 which collated and analysed historical data, there is an estimated 165,000 human melioidosis cases annually worldwide where 89,000 are potentially fatal. Yet, melioidosis remains underreported in the 45 endemic countries in addition to the 34 countries with newly reported cases. In Malaysia, melioidosis is yet to be gazetted as a notifiable disease under the Prevention and Control of Infectious Diseases Act 1988. Hence, despite approximately 1,000 cases reported annually nationwide with a mortality rate of up to 55%, the country's true incidence and burden of melioidosis disease remains to be determined. In Sarawak of Malaysian Borneo, melioidosis has been recognised as an endemic disease, especially in the central regions, including Kapit and Bintulu, caused predominantly by the unique *B. pseudomallei* strain of ST881, which is unconventionally susceptible to aminoglycoside and macrolide. Contrary to what is known thus far, the medical and scientific communities were shocked by the recently reported outbreak of melioidosis in Kota Samarahan; which raises the question of how widespread melioidosis is in Sarawak and the timeliness of environmental investigation for a non-notifiable disease.

Apart from the epidemiological perspective, since *B. pseudomallei* is known to be resistant to a myriad of antibiotics, the biphasic treatment regime of melioidosis is important in preventing recurrent infection. Due to this too that antibiotics susceptibility continues to be monitored in the clinical and laboratory setting.

The aim of this paper is to present the latest research updates on melioidosis which provide new insights into the biogeography of the disease and the antibiotics susceptibility work in Sarawak. It is hoped that this paper is able to inform public health that melioidosis is still and will not be forgotten, or else we will continue to be haunted by the bacteria from the underground.