



The Jockey Club
 School of Public Health and Primary Care
 15th Anniversary

International
 Conference on
 Innovations in
 Public Health Sciences
 公共衛生科學國際會議
 創意與開拓

23-25 September 2016
 School of Public Health Building | Hong Kong

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Oral Presentation – Session A : Infectious Diseases

**When the Best Time Is Launching Japanese Encephalitis Vaccination
Programs in Hong Kong - A Risk-benefit Approach**

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Japanese encephalitis (JE) is a fatal mosquito-borne disease. Hong Kong currently equips with all necessary elements to become a JE endemic or epidemic city. Hence, scientific epidemiologic studies are demanded to support political contingency planning in case of an abrupt surge in the future JE incidence. Yet, no previous studies addressed this aspect. By comparing the risk of vaccinations (RV), serious vaccine associated complication rates, and the benefit of vaccinations (BV), protection rates against lethal JE infections among vaccine responders, the need of JE vaccinations among general public and target populations in Hong Kong is illustrated using an inactivated Vero cell-derived vaccine, IXIARO®, as an example. The standard two samples proportion differences method, the Agresti-Coull interval and Modified Wilson interval are used to analyze proportions in different scales. The result is that RV is statistical insignificantly different from BVs among general public and potential high risk groups. This implies that neither universal nor target populations JE vaccination programs are currently required when focusing solely on risk-benefit comparisons. However, there are other key factors that are needed to be simultaneously contemplated in order for Hong Kong Government deciding when to launch such vaccination programs, which are out of the scope of this study. Overall, other than comparing RV and BV using the methodology in this study, an ongoing evaluation of the other key factors is also essential to determine when the best time is launching JE vaccination programs in Hong Kong.