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Thesis Advisors: Prof. Frank P. Schelp, Dr. Nattapong Puttanapong

ABSTRACT

Background: Hepatitis A is one of the most spread infectious diseases worldwide. In developing countries like Thailand, hepatitis A can be a big burden for the public health system. Although the disease itself does not cause permanent disability and the mortality rate is extremely low, the cost of the outpatient treatment and increasing number of complications resulting in hospitalizations is considered to be a significant burden for the government, especially if the outbreaks happen often and involve thousands of people. Over the past decades the prevalence of hepatitis A in Thailand has decreased significantly due to the improvement in household sanitation and education about the importance of disease prevention. However, the sporadic outbreaks of hepatitis A occur quite often, leaving thousands of people infected and hundreds hospitalized. The need for implementing prevention measures should be explored.

Method: Data from MOPH on the hepatitis A incidence over the past 11 years was analysed. In this research the population was divided into two age groups: 0-19 year old and >20 year old. Three intervention scenarios were analysed with Markov model: a) no vaccination, b) vaccination of 19-20 year old individuals without prior serological testing, and c) vaccination of 19-20 year old individuals with prior serological testing.

Results: The cost-benefit ratio was calculated for both age groups and different vaccination scenarios. For the vaccination without prior serological screening, the cost-benefit ratio was 0.0008043 and 0.0032887 for 0-19 year old and >20 year old age groups respectively. For the vaccination with prior screening the cost-benefit ratio was

even lower: 0.0007272 in the age group 0-19 years old and 0.0029738 in the age group >20 years old.

Conclusion: the strategy of vaccinating the individuals in the age 19-20 years old is not cost-beneficial for the government from the financial perspective

Keywords: hepatitis A, hepatitis A vaccination, cost-benefit analysis, Thailand, hepatitis A seroprevalence, hepatitis A vaccine cost