

The cost of influenza in Thailand

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Abstract

The cost of influenza in less wealthy tropical countries is needed to inform national vaccine policy decisions. Between September 2003 and August 2004, we prospectively identified hospitalized pneumonia cases and outpatients with laboratory confirmed influenza in a Thai province. Disease incidence, patient interviews, medical record reviews, and data from a national health survey were used to calculate direct and indirect costs which were extrapolated to the Thai population. Influenza was identified in 80 (11%) of 761 hospitalized pneumonia inpatients with projected annual incidence of 18–111/100,000 population. Influenza was confirmed in 23% of 1092 outpatients with an estimated annual incidence of 1420/100,000 population. Influenza was estimated to cause between US\$ 23.4 and US\$ 62.9 million in economic losses with lost productivity accounting for 56% of all costs. The burden of influenza in Thailand is greater than previously appreciated, particularly in young children and the elderly. The impact and cost-effectiveness of influenza vaccination for high-risk groups merits further investigation. Published by Elsevier Ltd.

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1. Introduction

Influenza is a vaccine preventable infectious disease that causes morbidity in all age groups and appreciable mortality, especially in the elderly, young children, and those with underlying illness [1]. In the temperate climates of Europe

and North America, seasonal influenza epidemics are associated with substantial illness, death, and significant economic losses due to direct medical costs and absenteeism from the workplace [2–4], while new data suggest that influenza is also an important cause of illness in Hong Kong and Singapore [5,6]. Recent studies have identified a significant disease burden and cost of influenza in young children [7–9], a finding which contributed to the US Advisory Committee on Immunization Practices recommendation for influenza vaccination of all healthy children aged 6–23 months [10].

In developed economies, influenza may cause 10–12% of all absence from work [11] and while direct medical costs are substantial, the primary economic impact of influenza is from lost wages due to sickness absence [12,13]. In the United States during 1976–1999, influenza was associated with 88,479–225,985 hospitalizations and between 7608 and 72,399 (mean 34,470) deaths each year, the majority of these

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