



Service Priorities and Programmes

Electronic Presentations

Convention ID: 1090

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Winter surge – relationship with influenza activity and air temperature

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Keywords:

Hospitalization

Emergency Service, Hospital

Influenza, Human

Temperature

Patient Admission

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Introduction

In Hong Kong, increase of inpatient (IP) admissions from A&E department (AED) is one of major burdens to the healthcare system during winter surge. Influenza activity is a key associated factor, especially among the elderly and children.

Objectives

To illustrate the relationship between IP admissions from AED, influenza activity and air temperature and to determine whether there is a difference in the time of occurrence and severity between elderly (≥ 65 years old) and children (0-14 years old) patients

Methodology

Weekly total IP admissions from AED (15 group-1 hospitals in HA) and weekly IP admissions from AED with influenza (ICD9CM code = 487) from 2009 to 2012 were downloaded from HA Clinical Data Analysis and Reporting System (CDARS) while weekly average air temperature was calculated from the daily average temperature downloaded from the Hong Kong Observatory website. For the weekly total IP admissions from AED, percentage change in the corresponding week (compared with the average of the previous 52 weeks) was used, instead of the raw data. The weekly data were plotted for comparison.

Result

Increase of total IP admissions (all ages) was generally in line with influenza admissions and the impact was more severe in the winter flu season than the summer flu season in the recent three years. The winter surge was clear in the elderly; especially during the weeks with the lowest temperature. The peak of total IP admissions usually appeared one to two weeks after the lowest temperature had occurred and increased up to 20% of the previous 52-week average. In fact, total IP admissions usually started increasing six to seven weeks earlier than the winter

influenza admissions increase. For children, although the total IP admissions increased during winter, similar increases were noted during different seasons throughout the years. Unlike the elderly, the increase of total IP admissions in children lagged two to three weeks behind the increase of winter influenza admissions and the peak could be 30% higher than the average of the previous 52 weeks.