Abstract

The purpose of the project is to establish prediction models based on influenza-like-illness and enterovirus reporting by sentinel physicians. The surveillance data are weekly data from the 1st week of 1999 through the 46th week of 2005. The model studied will also take consideration of the temperature effect. We will adopt both the time series analysis approach and the CUSUM approach. The latter is a method adopted in the "Early Aberration Reporting Systems (EARS)" by US-CDC. The surveillance data based on reporting of sentinel physicians will be validated by the data from the National Health Insurance Database (NHID). According to the present data, it seems that the effect of the surveillance data based on reporting of the sentinel physicians is about 1~2 weeks delay than the NHID data. In the first year of the project we will study time series models using seasonal auto-regressive integrated moving average and transfer function models, with which the covariate variables such as temperature can be incorporated into the model. Data will be stratified by regions: north, middle, south and east. However, since the temperature effect might be local, we will use Taipei city and Taichung city as examples to develop the transfer function model of temperature effect. For the second year, we will strengthen the prediction model by establishing a validated system.