

A STATISTICAL METHOD FOR FORECASTING DEMOGRAPHIC TIME SERIES COUNTS, WITH APPLICATION TO HIV/AIDS AND OTHER INFECTIOUS DISEASE MORTALITY IN SOUTHERN THAILAND

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Abstract. This study investigated regional and temporal patterns of death reported from infectious diseases (including HIV/AIDS) in 14 provinces of southern Thailand over the period 1999-2004, using data obtained from the Thailand Bureau of Policy and Strategy, Ministry of Public Health. Causes of deaths were identified using the International Classification of Diseases 10th revision (ICD-10), and mortality incidence rates were then calculated using populations obtained from the 2000 population census. Poisson and negative binomial lagged observation-driven regression models for mortality incidence were fitted to the data separately for HIV/AIDS and other infectious diseases. Overall, the hospital mortality rates started to increase sharply in 2003 - 2004. The in-hospital mortality for HIV/AIDS showed peaks in urban districts and decreased from north to south with mortality for males approximately double that of females. For other infectious diseases, an upward trend in hospital mortality age 40 and over started in 2003-2004, particularly among persons reported as dying from septicemia, while showing a slightly increasing trend for other infectious diseases. Identifying the real cause of hospital deaths recorded as septicemia would substantially improve hospital mortality data quality.

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