and two-dimensional PDE to examine how the epicenter moves in space and time under different assumptions about the speed and direction of poultry. ODE Simulations showed that by reducing 95% of the initial susceptible poultry population or by culling all infected poultry birds within one day disease outbreak could control spread in a local setting. Results further elucidated that cleaning the environment is also a feasible and useful control measure, but culling wild birds and destroying their habitat are ineffective control measures. We noticed from the PDE models that the diffusion rate of the (w) has very little impact on the spread speed (1.69–1.74 km/day) where as (d) has shown substantial raise of spread speed (2–7.8 km/day) depending on the transmission direction indicating significant role of migration. Finally, we assumed that epicenter progresses dominantly along the convection direction of the domestic poultry and the disease spread to other direction via random diffusion. Mathematical modeling could prove effective in answering epidemiological issues.

PRESCRIBING TRENDS IN ANTIVIRAL PRESCRIPTIONS AMONG PATIENTS WITH INFLUENZA IN THE UNITED STATES FROM 1999–2005

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**OBJECTIVE:** To analyze the trend in antiviral prescriptions for patients with influenza from 1999–2005. **METHODS:** This is a cross-sectional database analysis using data from the NAMCS (National ambulatory medical care survey) and NHAMCS (National hospital ambulatory medical care survey) for the years 1999–2005. Records were extracted for office and hospital based physician-patient encounters having a diagnosis of influenza (ICD-9-CM codes 487.0, 487.1, 487.8). The rate of neuraminidase inhibitors (NI) and adamantanes prescribed per 1000 patients with influenza was determined. The association between the type of antiviral drug and the physician specialty, region, patient sex, and patient age was evaluated by adjusted odds ratios. Data were analyzed with Proc logistic regression with adjusted odds ratios by years using SAS® 9.1.3. **RESULTS:** The prescrib-