*Dataset:* We will use two rich encounter-level national claims datasets, available from the Health Care Cost and Utilization Project (HCUP): The State Inpatient Databases (SID) and the State Emergency Department Databases (SEDD). Both databases are available from 1990 onwards and include zip code level identifiers as well as patients with Medicaid, Medicare, commercial, and no insurance. The SID contains all inpatient care records in 49 participating state data organizations and covers more than 97% of all U.S. inpatient (IP) hospital discharges. The SEDD covers all emergency department (ED) visits that do not result in an admission, yielding a weighted 145 million national estimates of hospital-owned ED visits across 42 states. Both datasets include encounter-level information on age, gender, urban/suburban/rural geography. We chose these claims datasets rather than typical surveillance system (e.g.FluSurv-NET, ILINet) because surveillance systems do not provide coverage of local-level outcomes across the study geographies and years**,** and research shows strong performance of high-volume electronic medical claims data to monitor local influenza activity49,50.