

Geospatial Correlates of Doctor Shopping in Massachusetts

**THCI Conference on Prescription Monitoring
Research Update**

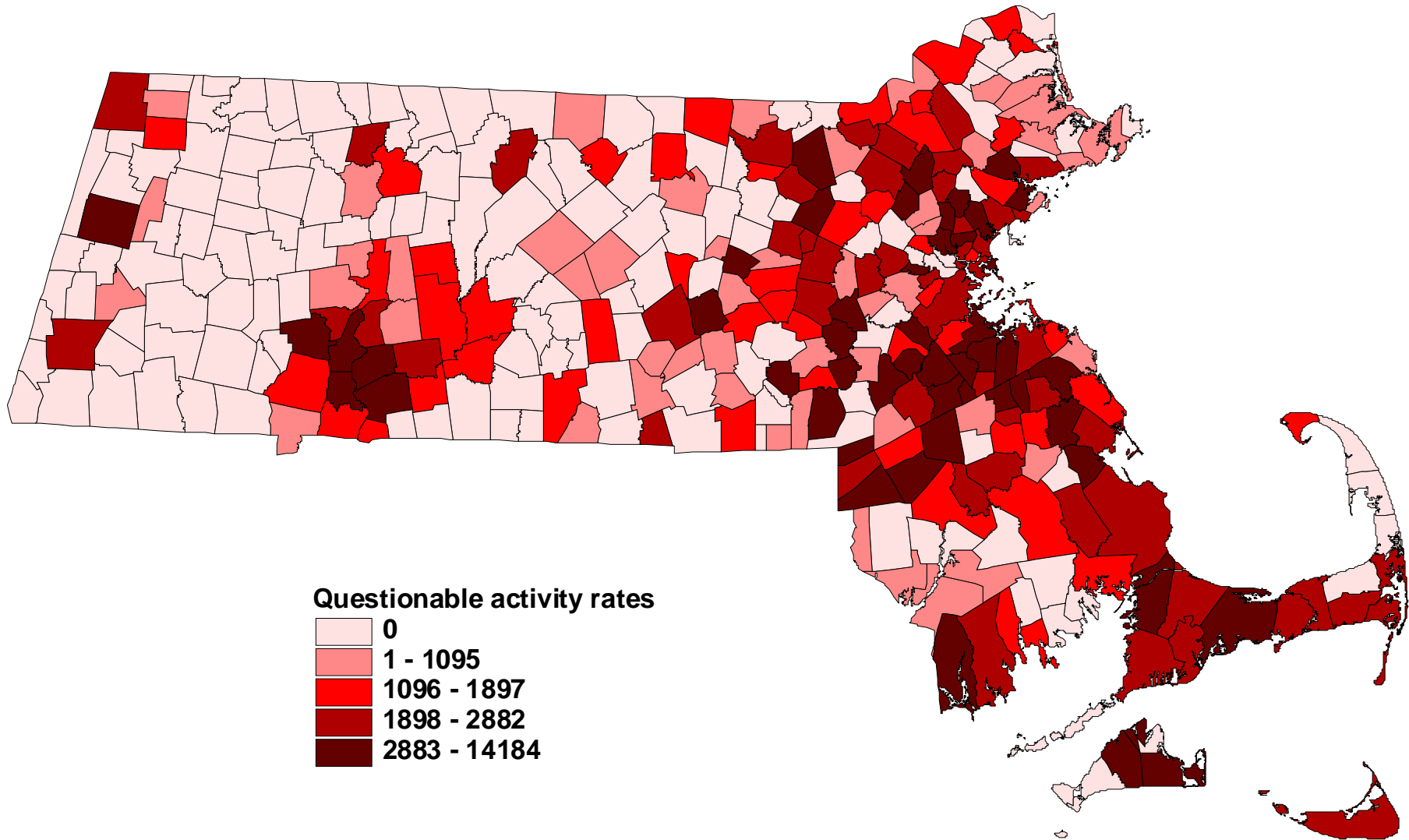
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**Peter Kreiner, Ph.D.
Brandeis University**

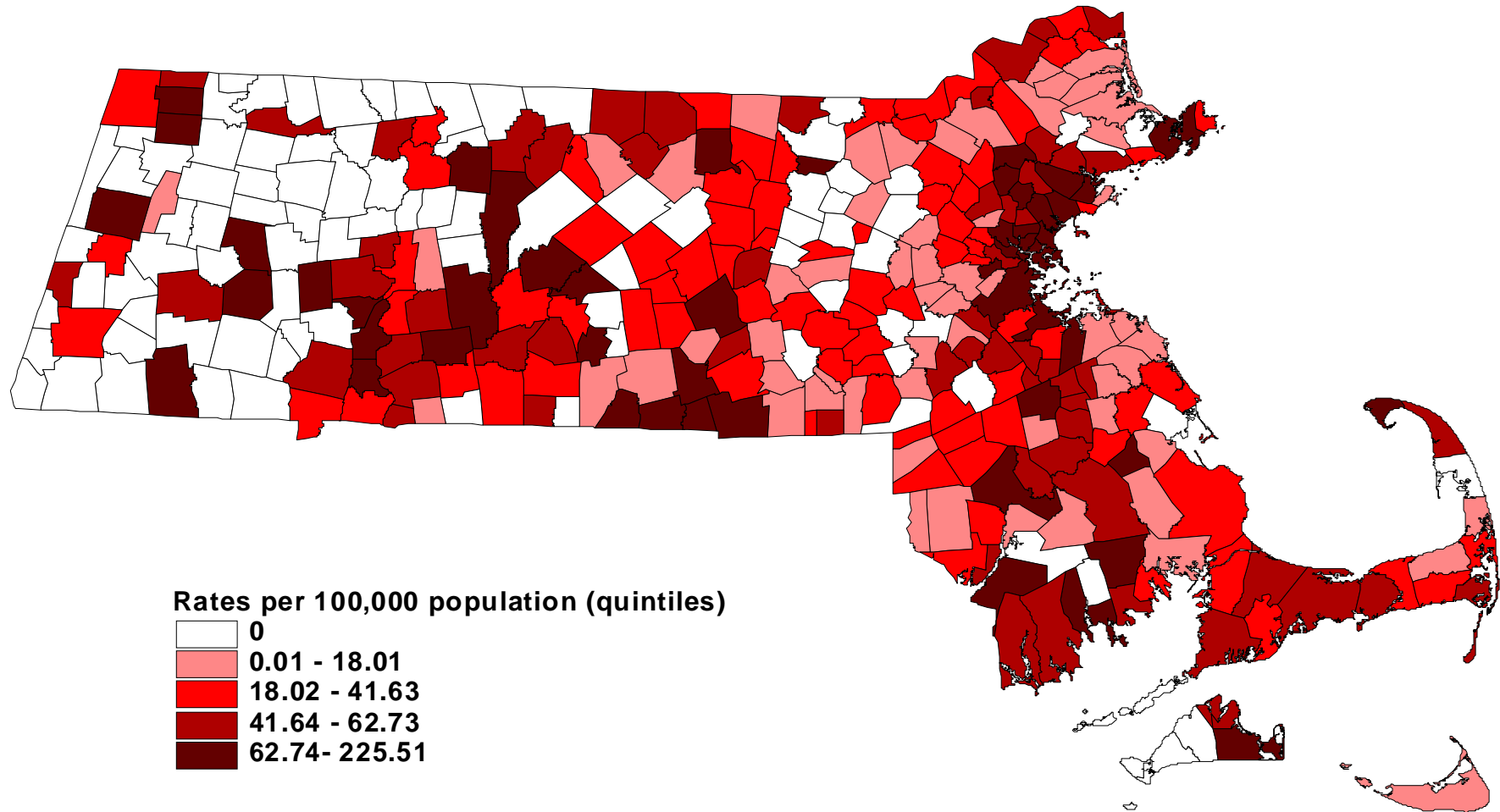
Research Questions

- Are rates of Schedule II prescriptions and questionable activity (doctor shopping) associated with socio-demographic characteristics of towns/Zip Codes?
- Are rates of opioid overdose cases (fatal and non-fatal) associated with rates of questionable activity in towns/Zip Codes, controlling for socio-demographic variables?

2005 Prescriptions Associated with Questionable Activity (Rates per 100,000 Prescriptions) by Pharmacy Town



2005 Massachusetts Opioid Poisoning Cases Rates per 100,000, by Town



Analytic Approach

- Analyses used:
 - 2005 Schedule II prescription data from MA PMP
 - 2000 Census data for population density, poverty rate, population mobility, proportion age 65 and over, and ethnic diversity
 - 2001 data for an index of nonprofit size diversity

Analytic Approach

- Spatial regressions controlled for spatial autocorrelation of dependent variable (tendency for adjacent areas to be similar)
- Questionable activity was defined as at least 4 Schedule II prescriptions filled in at least 4 pharmacies during 12-month period; rates of prescriptions and questionable activity per 100,000 prescriptions
- Opioid overdose cases drawn from death, hospitalization, ED, and poison control data; rates per 100,000 population

Selected Findings

- Rates of prescriptions prescriber Zip Code were significantly associated with:
 - Population mobility (negative association, $p < .001$)
 - Percent of the population 65 and over ($p < .05$)
 - Index of nonprofit size diversity ($p < .001$)
 - Rates of prescriptions per prescriber of adjacent Zip Codes ($p < .05$)
- Rates of prescriptions pharmacy Zip Code were significantly associated with:
 - Population mobility (negative association, $p < .001$)
 - Population density ($p < .01$)
 - Index of nonprofit size diversity ($p < .001$)
 - Rates of prescriptions per prescriber of adjacent Zip Codes ($p < .05$)