

## **Coding Strategy For Interrupted Time Series Analysis Of Clean Indoor Air Law**

Regression Model:

(County-level, age-adjusted, monthly admission rate) =  $\alpha$  +  $\beta_1$ \*time +  $\beta_2$ \*county +  $\beta_3$ \*month +  $\beta_4$ \*comprehensive law +  $\beta_5$ \*moderate law +  $\beta_6$ \*county\*time +  $\beta_7$ \*complaw\*time +  $\beta_8$ \*modlaw\*time + Error

### **Independent (Predictor) Variables**

Time variable example below indicates coding for 20 time units (months or quarters most likely)

The effect of smoke free air laws is modeled by two variables; one for comprehensive laws which includes the statewide law and a few county level laws that went into effect just prior to the statewide law; and one for moderate laws that were all county level, didn't have the same restrictions as the comprehensive law, and were enacted at different times but all prior to the statewide comprehensive law.

Below is an example of how we coded key variables assuming a 20 month time series.

1. Comprehensive Law takes effect at month 13 – Main Effect (ME) measures for an immediate drop in AMI rate; CL X Time interaction measures for a gradual and continuous reduction in AMI rate. Either or both are possible outcomes.
2. County 1 moderate law takes effect in Month 7.
3. County 2 moderate law takes effect in Month 3.
4. County 3 does not have a moderate law.
5. Repeat for every county.

Separate indicator (dummy) variables are developed for month of the year, county, and a county X time interaction. The *xi*. command in STATA makes this a very easy task.

### **Dependent Variable**

Age-adjusted, county level, monthly rate (per 100,000 population) of admission for AMI (ICD-9 codes 410.00–410.99).

