Kidney cancer (CaK) mortality rates are significantly higher among individuals diagnosed with later-stage disease:

- There are no efficacious methods for CaK screening.
- Primary prevention via reduction of modifiable risk factors (e.g., smoking) and prompt diagnosis following early symptoms of the disease are key to reducing CaK mortality.

Research conducted at Southern Illinois University School of Medicine (SIUSOM) found that rural residents of Southern and Central Illinois have some of the highest kidney cancer incidence and mortality rates in the nation.

- This disparity is not fully explained by the limited number of urologists practicing within the region.
- Higher rates of smoking, higher thresholds for medical help-seeking behavior, and/or lower levels of health literacy may contribute to the disparities.
- Urban-rural variation in these factors has not been examined within the bi-state region that encompasses Springfield, IL; St. Louis, MO; and the rural areas surrounding both cities.

### Background

#### Core-Based Statistical Areas & CaK Mortality Rates

*Left: Map of metropolitan, micropolitan & rural Illinois counties; downloaded from [www2.census.gov/geo/maps/metroarea/stcbsa_pg/Feb2013/cbsa2013_IL.pdf](http://www2.census.gov/geo/maps/metroarea/stcbsa_pg/Feb2013/cbsa2013_IL.pdf)*

*Right: County-level age-adjusted CaK mortality rate per 100,000 individuals, 1990 to 2010. Published in Frye TP, et al. Journal of Urology. 2015; 193(5)1608*  

#### Research Objectives

- Assess potential geographic differences in:
  1. Health literacy (REALM-R) and cancer literacy (CHLT-6)
  2. Smoking status & knowledge of smoking as a kidney cancer risk factor
  3. Degree of bother caused by urological symptoms (AUASI; PROMIS-29)

#### Research Methods

A convenience sample of 300 individuals age ≥ 40 who 1) do not have CaK and 2) are attending clinic appointments in Springfield, IL; Carbondale, IL; or St. Louis will complete an ~20 minute self-administered web-based survey.

### Observations & Implications for Future Work

- Using WUSTL's institutional access to the REDCap Android app is an effective and cost-efficient way to standardize data collection, entry, storage, and analysis across sites.
- Due to variation in clinic organization, patient flow, and provider subspecialties across geographic locations, establishing uniform practices for clinic-based recruitment & enrollment is challenging.
- Future analyses may need to account for outcome variation by both clinic site & residential area, as a greater proportion of participants who live outside of a metropolitan area and report a personal history of cancer enrolled at WUSTL (79%) than SIU (21%).