Validation of LexisNexis Accurint in the Georgia Cancer Registry’s Cancer Recurrence and Information Surveillance Program

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BACKGROUND

The problem:
- The Cancer Recurrence Information Surveillance Program (CRISP) of the Georgia Cancer Registry (GCR) captures recurrence for breast, lymphoma, colorectal, and prostate cancer patients diagnosed 2013 to 2017.
- 6% of cancer deaths among Georgia patients occur in an out-of-state location.
- There is no systematic strategy to identify emigration & censor cases, potentially biasing recurrence surveillance.

A potential solution:
- LexisNexis® Accurint® is a database that provides information regarding individuals’ location of residence.
- Uses financial transaction information and public records to track individuals.
- Low-cost method for tracking people if they leave a state’s catchment area.

STUDY OBJECTIVES

- Determine the validity of LexisNexis in accurately tracking CRISP cases using a subset of patients with a known residential state at the time of death from the National Death Index.
- Calculate sensitivity and specificity of LexisNexis residential data.
- Assess predictors of cases whose residence state in LexisNexis does not match their state of death from the National Death Index, as well as those who are not included in LexisNexis.

METHODS

FIGURE 1. Flow chart of validation study of LexisNexis in the GCR CRISP study

- Link LexisNexis data to CRISP cohort.
- Predictive model for being missed by LexisNexis.
- For cases who have died and have a discordance between LexisNexis state and National Death Index (NDI) state, manually review LexisNexis to determine most recent residence of patient before death (n=755).
- Stratify to patients who left GA.
- Among those who died, compare last residence from LexisNexis to NDI.
- Predictive model for having a mismatching state in NDI and LexisNexis.
- Among those who died, compare last residence from LexisNexis to NDI.
- Calculate sensitivity (the probability of being correctly classified as residing outside of the state of GA in the LexisNexis database for those who died out of state).
- Calculate specificity (the probability of being correctly classified as residing within the state of GA in the LexisNexis database for those who died in state).

RESULTS

FIGURE 2. National Death Index vs. LexisNexis Residential State at Time of Death Match Status

LexisNexis was not able to accurately identify most CRISP patients who died out of state.
Sensitivity: 35%; 95% CI: 30%, 39%

LexisNexis did accurately identify most CRISP patients who died within GA.
Specificity: 89%; 95% CI: 89%, 90%

- 65,890/69,494 (95%) of CRISP cohort members were found in LexisNexis (Table 1).
- 4,568/65,890 (7.0%) had a current out of state address in LexisNexis.
- 8,278/9,597 (86%) had a matching residential state at the time of death in LexisNexis with state of death reported by NDI.
- Hispanics compared to Non-Hispanics (OR: 2.8; 95% CI: 2.1, 3.7), single cases compared to married patients (OR: 2.8; 95% CI: 2.4, 3.3), and black patients compared to white patients (OR: 1.4; 95% CI: 1.3, 1.6) were more likely to have a mismatch between NDI and LexisNexis.

CONCLUSIONS

- LexisNexis was not able to identify most patients who died out of state.
- LexisNexis had a higher probability of misidentifying or missing men, unmarried patients, blacks, Asian/Pacific Islanders, Hispanics, those living in high poverty neighborhoods, younger cases, and those who have died.
- The ability of LexisNexis to track state of residence at the time of an individual’s death is limited.

REFERENCES