

The Challenges of Conducting Intrastate Policy Surveillance: A Methods Note on County and City Laws in Indiana

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Policy surveillance is critical in examining the ways law functions as a structural and social determinant of health. To date, little policy surveillance research has focused on examining intrastate variations in the structure and health impact of laws. Intrastate policy surveillance poses unique methodological challenges because of the complex legal architecture within states and inefficient curation of local laws.

We discuss our experience with these intrastate policy surveillance challenges in Indiana, a state with 92 counties and several populous cities, a complicated history of home rule, systemically underfunded local governments, and variations in demography, geography, and technology adoption. In our case study, we expended significant time and resources to obtain county and city ordinances through online code libraries, jurisdiction Web sites, and (most notably) visits to offices to scan documents ourselves.

A concerted effort is needed to ensure that local laws of all kinds are stored online in organized, searchable, and open access systems. Such an effort is vital to achieve the aspirational goals of policy surveillance at the intrastate level. (*Am J Public Health*. 2021;111:1095–1098. <https://doi.org/10.2105/AJPH.2021.306227>)

It has been said “All public health is local.”¹

The design, interpretation, and enforcement of county and municipal law significantly affect local public health.² Legal epidemiology—“the scientific study and deployment of law as a factor in the cause, distribution, and prevention of disease and injury in a population”^{2(p136)}—is critical in examining how such law functions as a structural and social determinant of health.³

A core legal epidemiology practice is policy surveillance: the ongoing, systematic collection, analysis, and dissemination of information about health-related laws and other policies.⁴ Much of this work has focused on interstate

surveillance, comparisons across major metropolitan areas, or variations within substructures of a particular city or county. To date, little policy surveillance research has attempted to comprehensively assess local law variations across an entire state.⁵

Conducting intrastate policy surveillance poses unique sets of methodological challenges.⁶ One set results from the complex legal architecture within each state.⁷ Researchers must understand the intricacies of the particular state’s local autonomy rules to determine which governance powers have been delegated to which governmental authorities (state, county, municipality). Concurrently, local jurisdictions may

have to defer to state authorities in circumstances in which the state prohibits local public health agencies from exerting influence over particular issues or industries (preemption). As described subsequently, a second set of challenges relates to information technology and infrastructure: how researchers obtain access to the local laws themselves.⁸

Policy surveillance requires identifying and assessing relevant content within laws of the target jurisdictions. This process relies on comprehensively cataloging primary source documents. A researcher can find legal documents curated in costly but searchable, centralized, fastidiously updated, and

topically indexed commercial databases (e.g., Westlaw, Lexis). Several commercial enterprises index and publish local laws (e.g., Municode, American Legal, Code Publishing); however, such collections are neither as comprehensive nor as reliably updated as state law sources. Researchers interested in statewide analyses therefore cannot rely on such sources to contain all of a particular state's local laws.

Consequently, researchers must employ less efficient methods, including combing unorganized documents on governmental Web sites and hand searching at physical offices. Similar to searching for and selecting studies in systematic reviews of research documents,⁹ acquiring and examining legal documents through these inefficient means has significant implications for the scalability and utility of intrastate policy surveillance.

SURVEILLING 1 STATE

We faced such challenges in the Indiana Addictions Law and Policy Surveillance Project. Indiana local laws are a complex web of local-level ordinances, orders, and resolutions: the state has 92 counties, a complicated history of home rule, systematically underfunded local governments, and variations in demography, geography, and technology adoption. How Indiana localities choose to store and organize their laws also complicates surveillance. Currently, county governments can fulfill their obligation to publish, record, and maintain a permanent public record of local laws through keeping official copies in a book in their offices. Furthermore, unlike state statutes, most counties organize their laws chronologically by passage date as opposed to topically. In the sections to follow, we detail how these challenges complicated the process of building a

database of potentially relevant local laws for intrastate policy surveillance.

ACQUIRING DATA ON INDIANA'S LOCAL LAWS

To examine the health-related laws covering the largest possible share of the state population in the least number of discrete jurisdictions, we focused on gathering all local laws from Indiana's 92 counties and 20 largest municipalities (112 jurisdictions in total, with municipalities located across 15 counties; [Figure 1](#)). Local laws from 77 of the 112 jurisdictions included (68.8%; 57 counties, 20 cities) were available online. Forty-two jurisdictions (37.5%; 27 counties, 15 cities) contracted with a commercial enterprise to index and publish their laws. Thirty-seven jurisdictions (33%; 32 counties, 5 cities) published local laws on their local government Web sites, although there was variation in resource ease of access, organization, and completeness. Of the 77 jurisdictions with information available online, 65 (84.4%; 45 counties, 20 cities) had their laws codified by topic, and 19 (24.6%; all counties) stored individual ordinances as discrete PDFs.

Thirty-five jurisdictions (29.5%; all counties) did not have their laws available online. By contacting county auditors, we were able to obtain ordinances for 27 of these counties. For 6 counties, we sent the auditors a prepaid, self-addressed envelope and a blank flash drive. Three auditors shared their informal index of ordinances and resolutions, allowing us to view the titles and request the text of any materials that would have been relevant to the project.

Six counties for which we could not obtain ordinances did not respond to our outreach, 4 stated they were converting to an electronic storage system and would soon be able to share

electronic files, and 3 gave us permission to scan the documents. Two counties did not allow us to scan documents but offered us the use of their equipment to copy or print documents for \$0.25 to \$1.00 per page.

In the case of the other 18 counties, we acquired data on laws by visiting local county offices and scanning documents. Visiting offices and scanning physical documents into a searchable PDF format was resource and time intensive. We purchased a notebook computer and 2 portable scanners (we burned out the first) and rented a university vehicle to drive to local county offices. Source documents required delicate handling, including removing (and then replacing) staples and placing pages in (and taking them out of) binders and protective covers. Documents that could not be scanned as a result of their fragility or size had to be captured with a telephone scanning app and concatenated with the appropriate scanned files. Database curation required that we keep source materials in the proper order and save files systematically using titles that included the jurisdiction name, ordinance indicator, and year (e.g., *Franklin_O_2005.pdf*), after which we uploaded files from the notebook computer to a secure shared drive.

Because documents were chronologically organized, we could not efficiently or consistently assess any particular law's potential topical relevance (e.g., substance use, social determinants of health) on site. Consequently, we scanned all local laws back to a predetermined date, leaving determinations regarding relevance to our project to a subsequent scoping process. We scanned more than 25 000 pages of primary source documents from 18 counties. Our scanning efforts halted when COVID-19 orders were imposed.

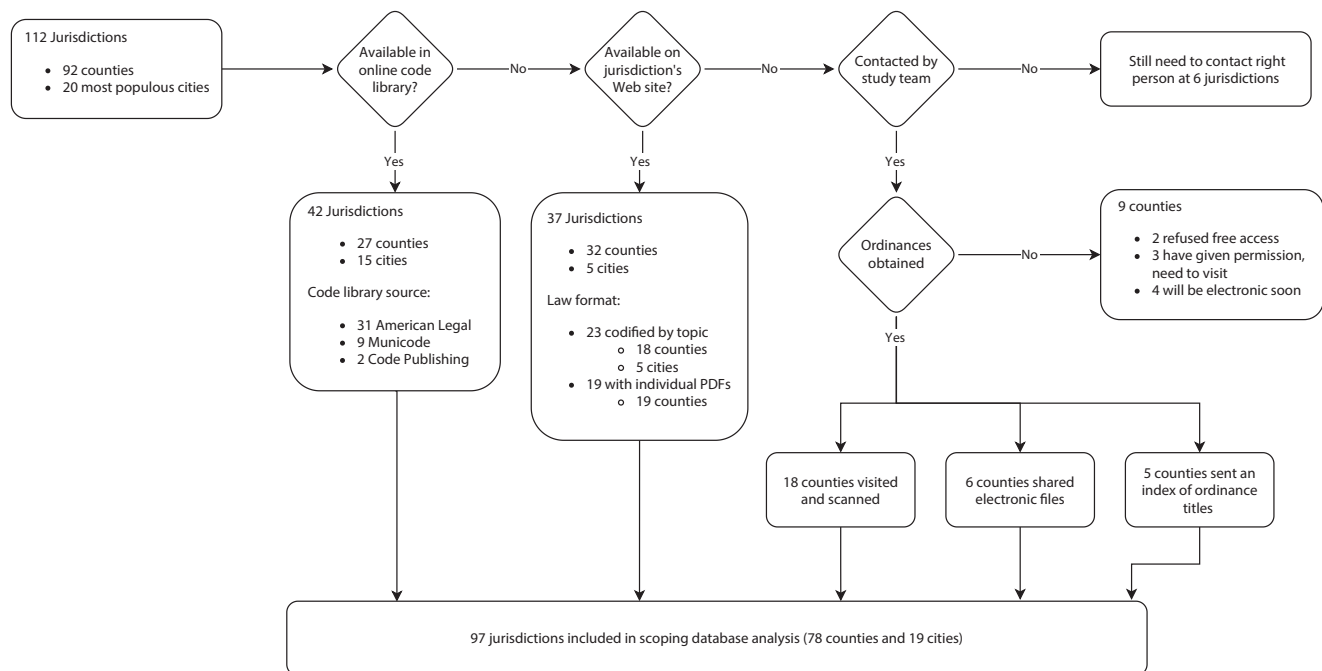


FIGURE 1— Flow Diagram: Obtaining Copies of County and City Laws in Indiana

Many counties have limited resources and do not have the ability to convert all of their files to electronic storage. As some auditors indicated that our scanning would allow them to put their ordinances online, we loaded their scanned county files onto a flash drive we gave to them. In addition to contributing to our searchable database of local legislation, we hope that converting paper documents to electronic files will help facilitate open government initiatives, easing residents' access to the laws that govern them.

INTRASTATE POLICY SURVEILLANCE IMPLICATIONS

To assess the impact of law on public health, researchers must be able to obtain accurate, up-to-date, and comprehensive data on local-level laws. Indiana is not unique in the varied ways local governments publish and store laws. To improve access to and

assessment of local public health laws, we recommend that (1) local laws of all kinds be online; (2) online systems be standardized across jurisdictions, organized, and searchable; and (3) online systems be freely and openly accessible. These recommendations not only would assist researchers in examining the public health impact of laws but would facilitate transparency and accountability. A concerted effort to fund and implement such an approach to local legal publication will pay dividends in public health and democratic engagement with local government. *AJPH*

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CONFLICTS OF INTEREST

S. Grant's spouse is a salaried employee of Eli Lilly and Company and owns stock. He has accompanied his spouse on company-sponsored travel.

HUMAN PARTICIPANT PROTECTION

No protocol approval was needed for this study because no human participants were involved.

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