

THE FUTURE OF RESEARCH IN LEGAL EPIDEMIOLOGY

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MECHANISMS OF LEGAL EFFECT: THE FUTURE OF RESEARCH IN LEGAL EPIDEMIOLOGY

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Summary

The chapters in this book are points on a long arc of improvement in public health law research methods. Scientific strength is crucial to the field of legal epidemiology in several ways. Better research makes the field more attractive to new entrants, facilitates interdisciplinary collaboration, increases the chances the major health research funders will support investigation of law, and enhances the credibility of research results for informing policy. As the field moves forward, key areas for methodological improvement include disciplinary integration and interdisciplinary collaboration on the theoretical mechanisms and legal components of policy that matter for public health, development of research standards and tools, and better approaches to studying law in a social determinants framework.

As an applied research field, legal epidemiology ultimately will be justified by the extent to which it proves useful to health policy decision makers. To this end, building the field as measured by the quality and quantity of individual studies is only part of the story. We do well, as a field, to think also in terms of our “collective impact.” Individual studies can illuminate particular policy choices; a few studies will be game changers. Collectively the impact of legal epidemiology as a field must exceed the sum of the effects of particular studies. The field asserts and demonstrates the importance of objective inquiry, consistent and rational measurement of laws, and empirically appropriate analysis to better inform science as well as the policy process. Legal epidemiology stands for the propositions that even complicated health problems can be grasped through research and that, sometimes, collective action through social intervention can make us all better off.

Learning Objectives

- Formulate a rationale for the further development of legal epidemiology as a field.
- Recognize how legal epidemiology can contribute to efforts to improve population health.

Legal epidemiology empirically studies the complicated ways that laws and legal practices influence health. Because both law and public health encompass a vast range of heterogeneous human activities, institutions, and environments, research methods serve as an important mechanism for building unity and coherence in the field. We may study very different laws, environments, behaviors, and outcomes, but all of us in legal epidemiology build on established theory to hypothesize and measure how legal inputs contribute to levels and distributions of health in the population. Individual studies can illuminate particular policy choices; a few studies will be game changers. When those studies lead to very different conclusions of policy effects, as we have seen repeatedly in evaluations of specific laws that get measured differently across studies (Horwitz, Davis, McClelland, Fordon, & Meara, 2021; Pacula, Powell, Heaton, & Sevigny, 2015; Patrick, Fry, Jones, & Buntin, 2016; Powell, Pacula, & Jacobson, 2018; Smart, Pardo, & Davis, 2021;), they do neither the science, the policy makers, nor the field any good. We help each other, and strengthen the field, by our efforts to explicitly and transparently define the concepts of interest; use theory to explicate mechanisms of effect and support causal inference; reliably and validly measure the processes under study; incorporate the strongest possible research design features to maximize plausibility of causal interpretations of observed relationships; and analyze the resulting data with the most advanced qualitative and statistical methods available to identify true effects and ensure the robustness of conclusions drawn. Better research makes the field more attractive to new entrants, facilitates transdisciplinary integration, increases the chances the major health research funders will support research on law, and enhances the credibility and utility of research results in scientific and policy-making communities.

A second edition textbook devoted to methods for legal epidemiology is an unmistakable milestone in the development of the field. The chapters in this book have suggested how far the field has come. This closing chapter considers where legal epidemiology might go from here. Although the field has grown (Burris, Cloud, & Penn, 2020) and internationalized (Hoffman, Poirier, Rogers Van Katwyk, Baral, & Sritharan, 2019; Kavanagh, 2016; Kavanagh, Meier, Pillinger, Huffstetler, & Burris, 2020; Phelan & Katz, 2019) since our first volume, we continue to see three priority needs as the field moves forward: further disciplinary integration on several axes; methods improvement through further development of field-specific tools and approaches; and a broad effort to deploy a social determinants framework in legal epidemiology.

Disciplinary Integration

We hope and expect to see more researchers who will identify themselves as primarily focused on legal epidemiology. A core group of dedicated specialists can give the field a clear identity, serving

as the stewards of its history and standards. Given the transdisciplinary nature of the field (Burris, Ashe, Levin, Penn, & Larkin, 2016), and the breadth of both law and health, however, the field's boundaries will continue to be fuzzy. We expect that many or even most of the researchers who identify themselves with the field will not be specialists in legal epidemiology. Moreover, we see it as essential to the development of the field that all researchers who work on the social and behavioral determinants of health be able and willing to integrate legal questions and legal variables into their research, even if the study is not primarily focused on law. For example, while a primary legal epidemiology researcher might investigate whether laws that require the reporting of HIV test results deter people from being tested (Hecht, Chesney, Lehman, et al., 2000), it is equally (or possibly more) valuable for studies examining the behavior of people with HIV to consider including law as one possible influence among many on the decision to test (Myers, Orr, Locker, & Jackson, 1993). Law is rarely the main driver of behavior, but it is very rarely absent from an individual's environment.

An organic connection between legal epidemiology and the field of health policy research is also overdue. Chapter 2 offered concrete ideas for integrating legal epidemiology and public health systems and services research, and legal epidemiologists can draw on well-articulated and tested policy research and translation methods (Eyler, Chriqui, Moreland-Russell, & Brownson, 2015). Although a newer field, legal epidemiology brings from law a commitment to taking seriously the policy instrument – the law, regulation, rule, or other text setting out the behavior or standard constituting the policy – and an explicit understanding that a “policy” is not simply the settled practice of a desirable behavior but a mechanism for deliberately increasing the adoption and enhancing the effects of that practice (Burris, 2017). This attention to the instrument has led to the development of more and better methods and tools for measuring law and sharing legal data. Recognizing that policy is a mechanism for scaling desirable behavior also allows us to better distinguish research that is *relevant* to policy (such as the “policy candidate” experiments described in Chapter 13) and research that actually evaluates whether a policy is succeeding in scaling desirable behaviors or standards.

Two core areas of health policy that are particularly ripe for closer integration with legal epidemiology include policies influencing health care service organization (e.g. the practice of health care by an organization, possibly through the integration of health insurance and/or different health care providers) and health care service delivery (e.g. the appropriate use of telehealth and/or legal limits on opioid prescribing). In the United States, we have seen both with the opioid epidemic and coronavirus pandemic how certain health care delivery laws have influenced the practice of health care through, for example, changes in licensing or scope of practice laws, the legally permitted use of telehealth for delivery of opioid treatment, and changes in allowances regarding home delivery of specific medications (Davis & Samuels, 2021; Pessar, Boustead, Ge, Smart, & Pacula, 2021). While in the United States, we often talk of a market-based health care delivery system, there remain several ways that state and federal laws influence how medical care is delivered, such as by placing limits on location of services (services that can or

cannot be delivered by telehealth or in particular settings), types of services that can be provided by particular providers (scope of practice laws), and whether and how particular services are paid (mandated health insurance benefits and the turning on of reimbursement codes by state agencies). Legal interventions are even more common in countries with universal health insurance or nationalized health care.

The need for integration extends as well toward non-health-related empirical legal research (Mello & Zeiler, 2008). The legal epidemiology category of incidental public health law encompasses laws passed, or legal activities conducted, with little or no consideration of possible health consequences. It follows that research on the operation and outputs of such laws can contribute to the legal epidemiology evidence base if data on health outcomes are included in the research scope. For example, many empirical legal scholars have investigated the implementation and effects of the Americans with Disabilities Act. Studies have documented the importance of the ADA and its enforcement processes to people with disabilities, including its effect on their sense of social position and the fairness of the system (Engel & Munger, 2003; Swanson, Burris, Moss, Ullman, & Ranney, 2006). From a legal epidemiology perspective, we would expect that a law protecting basic social and employment rights of people with a wide range of health conditions would have affective effects on people with disabilities, and would regard health outcomes of one kind or another to be important components of its overall impact. Emerging research at the population level supports this view (Montez, Hayward, & Wolf, 2017).

Criminology offers another example. The study of violence and its control by the police is a matter with obvious health implications (Ratcliffe, Taniguchi, Groff, & Wood, 2011). Links between violence, law and mental health services are well-documented (Swanson, Tong, Robertson, & Swartz, 2020), and criminologists themselves have addressed the overlap in proposing a discipline of epidemiological criminology (Akers & Lanier, 2009). The links between policing and public health have driven efforts to harmonize or better integrate work in the two fields (Anderson & Burris, 2017; Wood, 2019). Including actual or self-reported health outcomes associated with crime within the scope of empirical legal studies would enrich both legal and public health research.

Economists, criminologists, epidemiologists, and other empirical scientists evaluating legal and policy effects would be well served by incorporating improved understanding of the sociology of law from sociolegal traditions. Law is much more than a specific statute or regulation, and a more nuanced conceptualization and understanding by health and social scientists of the nature of law and its meanings and diffused operation throughout all of society's major institutions would clearly advance the field of legal epidemiology.

Another form of integration that is important to the future robustness and impact of the field encompasses empirical researchers and lawyers, including legal scholars who do not do empirical research. Lawyers are, we believe, crucial constituents of a multidisciplinary team for a number of reasons. As we discuss in Chapters 11 and 12, lawyers are indispensable to the accurate

conceptualization and execution of processes to collect, code, and measure legal variables that meet scientific standards of reliability and validity. Lawyers bring to bear experience and knowledge about how legal systems work, and through training and socialization are professionally suited to identifying issues – including research questions – that other lawyers and legal decision makers are likely to deem important. More importantly, their firm understanding of the public health powers granted to specific jurisdictions (e.g. federal, state, county and city in the United States) can ensure proper interpretation of laws on the books within a given jurisdiction. This combination of legal mapping skills, proper legal interpretation, and a legal understanding of breadth of impact, when combined with social and health empirical scientists can produce hybrid legal research and empirical analysis that are both conceptually elegant and highly policy-relevant. Consider, for example, a classic study from the early days of legal epidemiology. Teret and colleagues (1986) analyzed and categorized state law on child car restraints to determine the population covered. These legal data were then merged with Fatality Analysis Reporting System (FARS) data, which allowed the researchers to estimate the number of child fatalities among children who would have been protected by laws with fewer exemptions or a wider range of covered ages (Teret, Wells, Williams, & Jones, 1986). Integrated cross-disciplinary teams that combine lawyers with empirical social and health scientists are essential for continued advances in the theoretical sophistication and methodological quality of legal epidemiology studies.

The next advance for theory in legal epidemiology is the development and evaluation of transdisciplinary systems theories on how law affects health. Such theory combines concepts from the panoply of specific theories on effects of law, advancing understanding of trade-offs and mitigating factors affecting specific mechanisms of legal effect, and advancing understanding of feedback loops that enhance or diminish effects. A first step is the Theory of Triadic Influence (Chapter 8), which integrates numerous micro-theories from sociology and psychology. Or consider the relationship of deterrence (Chapter 5) and procedural justice (Chapter 6) theories of compliance. Procedural justice integrates Weberian legitimacy with experiences of fair treatment as drivers of compliance, but does not heavily engage with deterrence. Integrative theory would advance understanding of the ways these two mechanisms reinforce or mitigate each other, and point the way toward proposed laws designed to optimize both types of effects on behalf of population health and well-being. A single grand theory integrating all possible legal effects is neither feasible nor desirable – diversity of perspective is a benefit to research – but seizing opportunities for transdisciplinary theoretical integration will clearly advance the field legal epidemiology.

Theoretical advances will also come from engaging the burgeoning field of implementation science and legal epidemiology. Implementation science emerged to fill a knowledge gap in evidence-based policy (Nilsen, Ståhl, Roback, & Cairney, 2013), whereas legal epidemiology started with implementation as a central concern, and drew on a long tradition of policy implementation research (see Chapter 1). Cross fertilization of these traditions and their concerns has already been

noted, and more will be better. Studies testing links between law and health outcomes must be expanded to include a greater emphasis on proximal effects of law, including implementation structures and processes, and implementation fidelity across jurisdictions and across time. Such research unpacking the “black box” between law and health will improve theory by expanding the number of causal links considered, and improve generalizability of a given evaluation to other areas of law and health.

Finally, legal epidemiology can be part of and promote integration not just across research traditions but across the key domains of professional and social practice in public health. Research findings and researcher knowledge are instrumental at every step of public health law work. Evidence and expertise can instigate and guide the development of policy ideas; they inform the transformation of policy concepts into actual laws; they serve as persuasive tools in the political process to secure enactment; they provide guidance for effective implementation and evidence to support laws against legal challenges (Burris, Ashe, Blanke et al, 2016). Even if legal epidemiology research is funded at a level commensurate with its importance, a professional model in which researchers stand apart waiting for laws to be enacted and implemented long enough to allow credible causal inference studies is inadequate to the challenge of making law a positive force for health. We would better aspire to something more like systematic social experimentation, in which stakeholders and researchers collaborate across all the stages of the policy process to define policy needs, test policy candidates, study implementation, and provide timely feedback beginning with early single-jurisdiction and cross-sectional evaluations (Burris, Korfmacher, et al, 2020; Korfmacher, 2019).

Methods Improvement

The section of this volume devoted to elucidating the “mechanisms of law” reflects our belief in the importance of opening the black box that too often fills the causal diagram between law and health effects in legal epidemiology. Theories of how law works to change environments and behaviors can support more robust hypotheses and more confident causal inferences. We hope that the contributions of our authors will support that sort of improvement. As we worked on this volume, however, we identified several topics we expect will require more coverage in a future edition: the need to further develop widely accepted shared standards and protocols for measuring law, and norms of archiving legal datasets for public access; the need for further conceptual and operational clarity regarding indices and scales for measuring theory-based attributes of laws such as stringency; and diffusion of optimal research designs and methods across all topics in legal epidemiology.

Reliable and valid measurement of legal concepts is central for the advancement of scientific evaluation of the many public health effects of law, and depends on both good theory and strong methods. The two chapters focused on coding legal variables propose a variety of good practices in conducting, memorializing, and sharing the results of legal research. Anderson and coauthors in

Chapter 11 suggest that creators of legal datasets routinely include certain basic attributes (such as exact dates a law takes effect or ceases to be in effect) and use widely accepted geographic tags (such as FIPS codes). Further conventions for consistent citation of statutes and regulations could also be useful. Designing a quality measurement protocol requires conceptual clarity about what dimensions of law one wishes to measure. The design of quality measures is inherently related to the specific research questions at issue in a given study. As new studies accumulate, an improved understanding of the effects of law leads to further specificity about the dimensions of law that need to be measured for the next study. Continued attention to methods focused on the challenges of collecting and coding law across nations for both intra- and cross-national research should be a priority for the field (Kavanagh et al., 2020; Meier et al., 2017).

Many legal epidemiology studies are taking on the challenge of creating an ordered scale of strength or quality of laws in a given area, to permit improved dose-response studies of legal effects (Woodruff, Pichon, Hoerster, et al., 2007). In this new edition, Anderson and colleagues make explicit the separation of observation of the apparent features of legal texts and the subsequent phase of transparently building scales, indices or other composite measures based on those observations. And working through the operational problems and complexity in reliably coding “strength” enhances conceptual clarity about the many meanings of “strength” and which of those meanings are most relevant for the current study.

Increased use of scientific standards and protocols for the measurement of law will provide the opportunity then to create accessible archives of legal datasets across an increasing number of domains relevant to legal epidemiology. Anderson and colleagues also propose a norm of open-source legal data, in which datasets are posted with codebooks and detailed research protocols for replication by other researchers, who in turn post updated and expanded datasets including their own contributions. As open-source legal data becomes more common, it can be harmonized and then integrated into “data dashboards” that aim to aggregate and organize health data for practical action (Politis, Halligan, Keen, & Kerner, 2014; Thorpe & Gourevitch, 2022).

Technology has also proven to be important to leverage the advantages of solid scientific methods. More than one thousand researchers now use the MonQcle software platform to create and publish legal data, and custom platforms have also been effectively used. For example, a team at Oxford University built a platform that allowed more than four hundred volunteers around the world to build and maintain three datasets tracking national COVID-19 policies, accurately capturing more than 1.2 million datapoints in just its first six months (Hale et al., 2021). The deployment of machine learning in research and coding is an exciting possibility on the verge of feasibility.

The importance of high-quality public-use datasets also extends to the dependent variables in legal epidemiology studies – measures of health-relevant exposures, behaviors, and outcomes. These include regularly repeated consistently conducted sample surveys across all states (for

example, the Behavioral Risk Factor Surveillance System or National Survey on Drug Use and Health), as well as census records on all adverse events (for example, the Fatality Analysis Reporting System or National Vital Statistics System). Even in these well-used public data systems there are important data aggregation techniques (the use of sampling or age-adjusted weights, the inclusion of waves of data or jurisdictions in which key populations are defined differently) that the careful researcher must attend to when asking particular research questions. Continuing technology and management information system improvements will result in an increasing number of very large longitudinal continuous measures (e.g. uniform electronic medical records, health monitoring devices such as the Apple watch). Such databases will create many opportunities for statistically powerful and precise evaluations of public health law effects once the representation and limits of these data are well understood by the researcher.

The benefits of random assignment as a research design element for social policy research is now widely recognized (Chapter 13). As a result, we have a growing body of high quality randomized controlled trials (RCTs) testing particular preventive or treatment approaches for addressing health outcomes. These trials to date largely do not evaluate actual laws, but illustrate potential policy candidates that might be integrated into future law. Such RCTs also advance legal epidemiology by improving understanding of various mechanisms of effect on health-relevant structures, environments, and behaviors. The resulting better theory, in turn, improves the development of legal innovations.

The benefits of randomization as a scientific tool must not be limited to studies of policy candidates or specific legal mechanisms, however. The field must push policy makers to integrate high-quality evaluations of legal effects into new laws. There are many cases where implementation of a new law of necessity is phased, or where resource allocations prevent immediate universal implementation. Recent advances in stepped-wedge randomized trial designs are ideally suited to such situations, and substantially improve causal inference regarding a law's effects (see Chapter 13).

Randomization is but one beneficial research design element improving causal inference, and often is not feasible when evaluating the health effects of law. Most laws are natural experiments where the scientific team has no influence over implementation (Chapter 14). In that common situation, creative combinations from the many available design elements strengthening causal inference will further establish legal epidemiology as a respected field of scientific and scholarly inquiry. As a collaborative paper between a lawyer and a statistician reminds us (Ho & Rubin, 2011), research *design* always trumps statistical methods. Complex statistical modeling methods imperfectly attempt to make up for poor design. Strong research designs (for example, long time series, multiple comparison groups, and multiple measures) have been used for many years on some topics in legal epidemiology, such as road safety. Such strong designs, which are the studies that produce credible causal inferences, must now be disseminated across all topics in legal

epidemiology. The fundamental aim of legal epidemiology is to understand law's effects on health, and it is neither necessary nor proper to shy away from this ambition (Galea, 2013; Hernán, 2018).

Social Determinants

Research to date has made a clear case that social position – particularly income and education – matters for almost all dimensions of mental and physical health. Responding to this evidence is arguably the most important challenge we face in public health, and it is one of particular importance to law. Law clearly acts as a major force structuring our societies, defining our social positions, maintaining or altering existing distributions of resources. It follows that law has the potential to be a major domain of action to address social determinants of health. So far, however, efforts to pursue legal epidemiology aimed at the social determinants of health have been limited.

In a 2002 paper, an interdisciplinary team of authors from legal epidemiology, social epidemiology, and sociolegal research set out a conceptual framework for research in this area (Burriss, Kawachi, & Sarat, 2002); more recent papers have elaborated on the original model (Burriss, 2011a; Burriss, 2011b). The basic idea advanced is that we can study law as a system that creates environments and sorts the people within them to health outcomes based on their positions within those environments. There is now a growing body of research illustrating the effects of laws that affect social position. Studies of natural experiments involving even relatively small changes in social position reflected in changes to mandated minimum wages or tax credits for those with low incomes have shown significant effects on population levels of diverse health outcomes such as suicide, HIV and infant and child health (Kaufman, Salas-Hernández, Komro, & Livingston, 2020; Komro, Livingston, Markowitz, & Wagenaar, 2016; Markowitz, Komro, Livingston, Lenhart, & Wagenaar, 2017; Spencer et al., 2020; Van Dyke, Komro, Shah, Livingston, & Kramer, 2018). Research examining policy differences have shed important light on the effects of overall policy “dispositions” on state-level differences in key health indicators (Montez et al., 2020; Wolf, Monnat, & Montez, 2021). In work like this, legal epidemiology points to concrete opportunities to changes in core social programs and policy constellations to create environments in which people can be healthy.

Conclusion

Research over time approaches the truth, and gains credibility and authority, by accretion. A series of more or less coordinated studies explores a particular phenomenon, producing a body of evidence that in time can be systematically weighed and even reanalyzed to produce a confident statement of the facts. So, with law, the efficacy of interventions ranging from fluoride to safety belts to tobacco and alcohol taxes was established by years of assiduous study. In a field as new and diverse as legal epidemiology, however, this level of sustained attention may be difficult to reach. As individual researchers, we need to keep in mind our place within a larger effort not only to assess the effects of particular laws but to determine the particular mechanisms and mediators of legal

effect that are broadly generalizable across public health problems, and to illuminate the utility of law generally as a force for better public health. In turn, legal epidemiology will have more visibility, more resources allocated to it from NIH and other health research funders (Ibrahim, Sorensen, Grunwald, & Burris, 2017; Purtle, Peters, & Brownson, 2016), and a larger impact on population health if we have a measure of coherence and identity as a field, and some degree of consensus on major critical opportunities for research advancing the public's health. The field of legal epidemiology asserts and demonstrates the importance of objective inquiry and rational analysis to a policy process that too often seems to undervalue both. Legal epidemiology stands for the propositions that even complicated health problems can be grasped through research and that, sometimes, collective action through social intervention can make us all better off.

Further Reading

Burris, S., Kawachi, I., & Sarat, A. (2002). Integrating law and social epidemiology. *Journal of Law, Medicine & Ethics*, 30, 510–521.

Burris, S., Ashe, M., Levin, D., Penn, M., & Larkin, M. (2016). a transdisciplinary approach to public health law: the emerging practice of legal epidemiology. *Annual Review of Public Health*, 37(1), 135-148.

Epstein, L., & King, G. (2002). The rules of inference. *University of Chicago Law Review*, 69(1), 1.

References

- Akers, T. A., & Lanier, M. M. (2009). "Epidemiological criminology": Coming full circle. *American Journal of Public Health*, 99(3), 397–402.
- Anderson, E., & Burris, S. 2017. Policing and Public Health: Not Quite the Right Analogy. *Policing and Society* 27(3):300-13.
- Burris, S. (2011a). From health care law to the social determinants of health: A public health law research perspective. *University of Pennsylvania Law Review*, 159(6), 1649–1667.
- Burris, S. (2011b). Law in a social determinants strategy: A public health law research perspective. *Public Health Reports*, 126 (Suppl. 3), 22–27.
- Burris, S. (2017). Theory and methods in comparative drug and alcohol policy research: Response to a review of the literature. *International Journal of Drug Policy*, 41, 126-131.
- Burris, S., Ashe, M., Blanke, D., Ibrahim, J., Levin, D. E., Matthews, G., . . . Katz, M. (2016). Better Health Faster: The 5 Essential Public Health Law Services. *Public Health Reports*, 131(6), 747-753.
- Burris, S., Cloud, L. K., & Penn, M. (2020). The growing field of legal epidemiology. *Journal of Public Health Management and Practice*, 26, S4-S9.
- Burris, S., Kawachi, I., & Sarat, A. (2002). Integrating law and social epidemiology. *Journal of Law, Medicine & Ethics*, 30, 510–521.
- Burris, S., Korfmacher, K., Moran-McCabe, K., Prood, N., Blankenship, K., Corbett, A., & Saxon, B. (2020). *Health Equity Through Housing: A Blueprint for Systematic Legal Action*. Retrieved May 23, 2022 from https://phlr.org/sites/default/files/uploaded_images/HousingHealthEquityLaw-Report6-July2020-FINAL.pdf
- Davis, C. S., & Samuels, E. A. (2021). Continuing increased access to buprenorphine in the United States via telemedicine after COVID-19. *International Journal of Drug Policy*, 93, 102905.
- Engel, D. M., & Munger, F. W. (2003). *Rights of inclusion: Law and identity in the life stories of Americans with disabilities*. Chicago: University of Chicago Press.
- Eyler, A. A., Chiqui, J. F., Moreland-Russell, S., & Brownson, R. C. (2015). *Prevention, policy, and public health*. New York: Oxford University Press.
- Galea, S. (2013). An Argument for a Consequentialist Epidemiology. *American Journal of Epidemiology*, 178(8), 1185-1191.
- Hale, T., Angrist, N., Goldszmidt, R., Kira, B., Petherick, A., Phillips, T., . . . Tatlow, H. (2021). A global panel database of pandemic policies (Oxford COVID-19 Government Response Tracker). *Nature Human Behaviour*, 5(4), 529-538.
- Hecht, F. M., Chesney, M. A., Lehman, J. S., et al. (2000). Does HIV reporting by name deter testing? MESH Study Group. *AIDS*, 14(12), 1801–1808.
- Hernán, M. A. (2018). The c-word: Scientific euphemisms do not improve causal inference from observational data. *American Journal of Public Health*, 108(5), 616-619.
- Ho, D. E., & Rubin, D. B. (2011). Credible causal inference for empirical legal studies. *Annual Review of Law and Social Science*, 7(1), 17–40.
- Hoffman, S. J., Poirier, M. J. P., Rogers Van Katwyk, S., Baral, P., & Sritharan, L. (2019). Impact of the WHO Framework Convention on Tobacco Control on global cigarette consumption: quasi-experimental evaluations using interrupted time series analysis and in-sample forecast event modelling. *BMJ*, 365, 12287.
- Horwitz, J. R., Davis, C., McClelland, L., Fordon, R., & Meara, E. (2021). The importance of data source in prescription drug monitoring program research. *Health Services Research*, 56(2), 268-274.
- Ibrahim, J. K., Sorensen, A. A., Grunwald, H., & Burris, S. (2017). Supporting a Culture of Evidence-Based Policy: Federal Funding for Public Health Law Evaluation Research, 1985-2014. *Journal of Public Health Management and Practice*, 23(6), 658–666.

- Kaufman, J. A., Salas-Hernández, L. K., Komro, K. A., & Livingston, M. D. (2020). Effects of increased minimum wages by unemployment rate on suicide in the USA. *J Epidemiol Community Health*, *74*(3), 219-224.
- Kavanagh, M. M. (2016). The right to health: Institutional effects of constitutional provisions on health outcomes. *Studies in Comparative International Development*, *51*(3), 328-364.
- Kavanagh, M. M., Meier, B. M., Pillinger, M., Huffstetler, H., & Burris, S. (2020). Global policy surveillance: Creating and using comparative national data on health law and policy. *American Journal of Public Health*, *110*(12), 1805-1810.
- Komro, K. A., Livingston, M. D., Markowitz, S., & Wagenaar, A. C. (2016). The effect of an increased minimum wage on infant mortality and birth weight. *American Journal of Public Health*, *106*(8), 1514-1516.
- Korfmacher, K. (2019). *Bridging Silos: Collaborating for Health and Justice in Urban Communities*. Cambridge, MA: MIT Press.
- Markowitz, S., Komro, K. A., Livingston, M. D., Lenhart, O., & Wagenaar, A. C. (2017). Effects of state-level Earned Income Tax Credit laws in the U.S. on maternal health behaviors and infant health outcomes. *Social Science & Medicine*, *194*, 67-75.
- Meier, B. M., Tureski, K., Bockh, E., Carr, D., Ayala, A., Roberts, A., . . . Burris, S. (2017). Examining national public health law to realize the Global Health Security Agenda. *Medical Law Review*, *25*(2), 240-269.
- Mello, M. M., & Zeiler, K. (2008). Empirical health law scholarship: The state of the field. *Georgetown Law Journal*, *96*(2), 649-702.
- Montez, J. K., Beckfield, J., Cooney, J. K., Grumbach, J. M., Hayward, M. D., Koytak, H. Z., . . . Zajacova, A. (2020). US state policies, politics, and life expectancy. *The Milbank quarterly*, *98*(3), 668-669.
- Montez, J. K., Hayward, M. D., & Wolf, D. A. (2017). Do U.S. states' socioeconomic and policy contexts shape adult disability? *Social Science & Medicine*, *178*, 115-126.
- Myers, T., Orr, K. W., Locker, D., & Jackson, E. A. (1993). Factors affecting gay and bisexual men's decisions and intentions to seek HIV testing. *American Journal of Public Health*, *83*(5), 701-704.
- Nilsen, P., Ståhl, C., Roback, K., & Cairney, P. (2013). Never the twain shall meet?--a comparison of implementation science and policy implementation research. *Implement Sci*, *8*, 63.
- Pacula R.L., Powell D., Heaton P. & Sevigny, E. (2015). Assessing the effects of medical marijuana laws on marijuana: the devil is in the details. *Journal of Policy Analysis and Management*, *34*(1): 7-31.
- Patrick, S. W., Fry, C. E., Jones, T. F., & Buntin, M. B. (2016). Implementation of prescription drug monitoring programs associated with reductions in opioid-related death rates. *Health Affairs*, *35*(7), 1324-1332.
- Pessar, S. C., Boustead, A., Ge, Y., Smart, R., & Pacula, R. L. (2021). Assessment of state and federal health policies for opioid use disorder treatment during the COVID-19 pandemic and beyond. *JAMA Health Forum*, *2*(11), e213833-e213833.
- Phelan, A. L., & Katz, R. (2019). Legal epidemiology for global health security and universal health coverage. *J Law Med Ethics*, *47*(3), 427-429.
- Politis, C. E., Halligan, M. H., Keen, D., & Kerner, J. F. (2014). Supporting the diffusion of healthy public policy in Canada: the Prevention Policies Directory. *Online journal of public health informatics*, *6*(2), e177-e177.
- Powell, D., Pacula, R.L., & Jacobson, M. (2018). Do medical marijuana laws reduce addictions and deaths related to pain killers? *Journal of Health Economics*, *25*, 29-42.
- Purtle, J., Peters, R., & Brownson, R. C. (2016). A review of policy dissemination and implementation research funded by the National Institutes of Health, 2007-2014. *Implement Sci*, *11*, 1.
- Ratcliffe, J. H., Taniguchi, T., Groff, E. R., & Wood, J. D. (2011). The Philadelphia foot patrol experiment: A randomized controlled trial of police patrol effectiveness in violent crime hotspots. *Criminology*, *49*(3), 795-831.
- Spencer, R. A., Livingston, M. D., Woods-Jaeger, B., Rentmeester, S. T., Sroczynski, N., & Komro, K. A. (2020). The impact of temporary assistance for needy families, minimum wage, and Earned Income Tax Credit on Women's well-being and intimate partner violence victimization. *Social Science & Medicine*, *266*, 113355.

- Smart, R., Pardo, B., & Davis, C. S. (2021). Systematic review of the emerging literature on the effectiveness of naloxone access laws in the United States. *Addiction, 116*(1), 6-17.
- Swanson, J. W., Burris, S. C., Moss, K., Ullman, M. D., & Ranney, L. M. (2006). Justice disparities: Does the ADA enforcement system treat people with psychiatric disabilities fairly? *Maryland Law Review, 66*, 94–139.
- Swanson, J. W., Tong, G., Robertson, A. G., & Swartz, M. S. (2020). Gun-related and other violent crime after involuntary commitment and short-term emergency holds. *Journal of the American Academy of Psychiatry and the Law Online, JAAPL.200082-200020*.
- Thorpe, L. E., & Gourevitch, M. N. (2022). Data dashboards for advancing health and equity: Proving their promise? *American Journal of Public Health, 0*(0), e1-e4.
- Teret, S. P., Wells, J. K., Williams, A. F., & Jones, A. S. (1986). Child restraint laws: An analysis of gaps in coverage. *American Journal of Public Health, 76*(1), 31–34.
- Van Dyke, M. E., Komro, K. A., Shah, M. P., Livingston, M. D., & Kramer, M. R. (2018). State-level minimum wage and heart disease death rates in the United States, 1980–2015: A novel application of marginal structural modeling. *Prev Med, 112*, 97-103.
- Wolf, D. A., Monnat, S. M., & Montez, J. K. (2021). Effects of US state preemption laws on infant mortality. *Prev Med, 145*, 106417.
- Wood, J. D. (2019). Private policing and public health: a neglected relationship. *Journal of Contemporary Criminal Justice, 36*(1), 19-38.
- Woodruff, S. I., Pichon, L. C., Hoerster, K. D., et al. (2007). Measuring the stringency of states' indoor tanning regulations: Instrument development and outcomes. *Journal of the American Academy of Dermatology, 56*(5), 774–780.