

Public Health Law Research

Editors' Introduction

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This issue of *JHPPL* showcases an exciting new field that has grown from the intersection of empirical legal studies, public health law scholarship, and health services research: public health law research (PHLR). PHLR, which has achieved recognition as a field only within the last five years, is the scientific study of the relation of law and legal practices to population health (Burriss et al. 2010: 171). The field seeks to apply the best methods of empirical investigation from the social sciences, along with the deep knowledge of the structure, theory, and functioning of the law that legal scholars possess, to understand how the law can be used to advance public health goals.

In an open call for papers, we invited scholars from a variety of disciplines to contribute original studies exploring some aspect of public health law and addressing the institutional issues their findings raise for public health law-making. The six papers selected for this issue illustrate the diversity of the study types and methodologies, as well as substantive topics, encompassed by PHLR. Here we set the papers in the context of the broader aims of PHLR, highlight the studies' key findings, and discuss some of the key issues facing PHLR as a field.

In a 2010 article in the *Milbank Quarterly*, Scott Burriss and colleagues staked out the boundaries of PHLR. Writing only a couple of years after the field had begun to coalesce and had been recognized with a dedicated Program on Public Health Law Research from the Robert Wood Johnson Foundation (RWJF), the authors described the contours of what had taken

shape to date and laid out a series of challenges that lay ahead. They stressed a key distinction between PHLR and traditional public health law scholarship:

In defining PHLR, we are concerned not with what is right, proper, or legitimate to include within the jurisdiction of public health law but with whether law can be empirically shown to have an impact on the health of the population. . . . PHLR, then, is distinguished from public health law by its focus on description, explanation, and prediction—that is, its focus on empirical investigation. (Burriss et al. 2010: 172)

They went on to describe five broad categories of PHLR research (180). First, *policy-making studies* seek to identify factors that influence whether public health legal interventions will be adopted, how they come to be adopted, and what features the laws have. Second, *mapping studies* aim to describe the current state of the law on a particular topic by applying a systematic method of reviewing and characterizing laws. Third, *implementation studies* examine the gap, if any, between the “law on the books” and the law as it actually plays out on the ground, exploring factors that may mediate its intended effects. Fourth, *intervention studies* investigate the effects of law on health outcomes or on proximal factors (such as behaviors) that are related to health outcomes. Finally, *mechanism studies* explore the specific mechanisms through which law exerts an effect on health outcomes—for example, by deterring a particular behavior or improving an environmental condition that affects health.

These study aims can be pursued through a rich variety of research methods. Among the disciplines that may supply salient methods are economics, political science, sociology, history, anthropology, psychology, epidemiology, and biostatistics. Although econometric analysis of observational data forms the core of the quantitative arm of PHLR, other quantitative methods that may prove useful include experimental studies, decision analysis, simulation studies, survey research, systematic reviews, meta-analysis, and systematic coding of laws and judicial decisions (173). Qualitative methods include interview and focus group studies, case studies, direct observation, participant observation, and thematic content analysis of legal documents (Wood 2013). Regardless of the method employed, rigorous PHLR is characterized by fidelity to the scientific method, including the notion that research starts with a question and a hypothesis, not a position to be defended (Burriss et al. 2010: 173). It also involves the grounding of an empirical model in relevant theory and conservatism in drawing conclusions from the available data.

Perhaps the foundational question for PHLR is why law gets used at all as a tool for public health improvement. What factors influence the development of a legal response to a specific public health issue? Why are some public health problems addressed by law, while others are not, and what accounts for variation across jurisdictions? Why are particular legal tools employed in some cases or settings and not in others? Two of the articles in this special issue shed light on these questions by studying public health policy formation at the state level.

In the first of these policy-making studies, Sara Abiola and Michelle Mello, who are dually trained in law and health policy, join James Colgrove, a historian, in a study that uses qualitative methods to investigate the political dynamics surrounding human papillomavirus (HPV) vaccination policy-making in the states. Relying on John Kingdon's (1995) "Multiple Streams" framework and utilizing semistructured, key informant interviews and content analysis of newspaper articles and archival materials, Abiola and colleagues examined the process by which six states responded—or failed to respond—to the Food and Drug Administration's approval of Gardasil in 2006 with legal interventions to foster uptake of the vaccine. The study appeared to confirm a key proposition of the Multiple Streams framework, the importance of policy entrepreneurs, finding that "policy entrepreneurship played a critical role in determining the course of HPV policy making, and forces in the political stream were extremely influential in affecting which proposals emerged from the 'soup' of alternatives in the policy stream." At the same time, in some states, weaknesses in the "problem stream," arising from the fact that the public did not perceive cervical cancer as a severe enough problem to warrant a strong legal response, prevented "the stream convergence that Kingdon envisioned as creating a 'policy window.'"

Based on their findings, Abiola and colleagues suggest some broader lessons for public health policy makers, at least those operating at the state level. Perhaps most notable is the suggestion that policy entrepreneurship may be unsuccessful if the perception arises that it is driven by profit, rather than concerns for public health, as was sometimes the case regarding Gardasil. In addition, Abiola and colleagues suggest that policy makers should try to control the framing of the policy debate and should ensure that the use of coercion is proportional to the magnitude of the risk. Public health law-making, Abiola and colleagues also argue, demands "skillful leadership able to reconcile conflicting interests and goals."

Their article is a strong example of how to execute a key informant interview study relating to public health law. The authors describe a highly

systematic approach to selecting states for the case studies, sampling groups of stakeholders, and sampling respondents within stakeholder groups. Their approach to data analysis—thematic content analysis—is also rigorous and well grounded in the sociology literature.

The article exemplifies some of the trade-offs involved in conducting qualitative research (Wood 2013), particularly those between breadth and depth. Key informant interview studies are labor intensive, particularly when the full process of interview transcription and systematic content analysis is followed. Given limited resources, how should the advantages of collecting information from a large, representative group of respondents be balanced against the advantages of detailed, focused exploration of each respondent and setting? The authors limited themselves to studying six states and interviewing about ten key informants per state. While their accounts of the action within each state are rich, they acknowledge they can make no definitive claims of generalizability to all states and may have omitted important stakeholders' perspectives within the states they studied.

Rachel VanSickle-Ward and Amanda Hollis-Brusky, both political scientists, take a very different methodological approach to answering a question similar to that addressed by Abiola and colleagues. To investigate the determinants of public health law formation at the state level—in this case, the scope of so-called conscience exemptions to insurance coverage mandates for prescription contraceptives—VanSickle-Ward and Hollis-Brusky opt for a quantitative approach. Their specific interest is in what factors are associated with a state adopting a relatively specific or relatively ambiguous exemption. In particular, they seek to test the hypothesis that political fragmentation (party polarization and interest-group heterogeneity) and institutional fragmentation (executive branch arrangements) are associated with more ambiguous statutory language because ambiguity promotes compromise among political actors who cannot agree on details.

To investigate this hypothesis, the authors systematically reviewed and coded the text of twenty state laws, applying a specificity scale. They then examined bivariate associations between the specificity measure and several established measures of fragmentation. They find some evidence, but not strong or consistent evidence, for the fragmentation hypothesis. The authors then examine the legal consequences of adopting ambiguous exemption language, investigating whether more ambiguous statutes are more likely to be challenged in court. They find very few suits in the appellate courts, with none on record that challenged the more ambiguous statutes.

VanSickle-Ward and Hollis-Brusky's study is an excellent example of the application of political-science theory to the study of public health

lawmaking. The authors apply literature on fragmentation theory that has rarely been applied to public health policy, showing systematically how to operationalize a model by first reducing theory to representative constructs and then testing relationships between observable measures of those constructs. Their findings are important because the federal government is working on defining the scope of the new federal contraceptive-mandate exemption in the Affordable Care Act by learning from the experiences of states.

The article is also useful as an illustration of how law itself can be used as quantitative data. Legal text can form the basis for a variable predicting an outcome or, in this case, an outcome predicted by exogenous circumstances. Translating legal text into one or more quantitative variables can be an arduous task for many reasons, including the inherent subjectivity involved in classifying text into categories (Tremper, Thomas, and Wagenaar 2010; Anderson et al. 2012). VanSickle-Ward and Hollis-Brusky, for example, were confronted with the need to distinguish “high,” “moderate,” and “low” specificity in statutory language. They did not submit their full sample of statutes to review by multiple coders, which might have strengthened the validity of the coding scheme, but did report good inter-rater agreement for a subsample of five statutes. They are also fully transparent about their coding scheme, including it as an appendix to allow readers to draw their own conclusions about the scheme’s validity.

The study is also constrained by its small sample size—twenty statutes—which precludes any multivariate analysis. The authors’ ability to make causal attributions based on the bivariate correlations they observed is necessarily limited. Several relationships did not achieve statistical significance, and the authors wonder whether type 2 error may be present. These problems, too, attach to much PHLR research. Although several approaches to constructing comparison groups for evaluating the effects of a law using multivariate models are possible (Wagenaar and Komro 2011), they can be hard to implement using real-world data. Often, there are not enough units of observation to adequately power an analysis, particularly where the model uses states as the unit of analysis. Unless the law is adopted by a large number of jurisdictions and longitudinal data permit the analyst to exploit changes in the law over time (in addition to differences across jurisdictions) as an axis of variation, it can be difficult to draw strong causal inferences from such models.

A second pair of articles in this month’s issue also demonstrates the widely divergent methodological approaches that can be taken to answer a different PHLR question—how are laws implemented on the ground? The

formation of a public health law, either by legislation, regulation, or even judicial decision making, is not sufficient to ensure that that law will affect public health. The law must actually be obeyed. For that, enforcement is usually necessary, and as scholars have long known, there may often be a significant gap between the “law on the books” and the “law on the street.” For this reason, PHLR encompasses implementation studies that look at the mechanisms by which public health laws are carried out, as well as what happens in the process of implementation.

Carla Campbell, a physician, leads a team of researchers from different disciplines, including public health, medicine, and law, in exploring a novel strategy to enforce provisions of a municipal health code. In response to the problem of widespread noncompliance by property owners with residential lead remediation orders issued by the Department of Public Health, the City of Philadelphia created a dedicated Lead Court. The Lead Court strengthened the range of available tools to compel compliance with remediation orders and educated judges, attorneys, and other key stakeholders about the importance of lead abatement.

Campbell’s team reports the results of a qualitative study based on fifteen structured interviews with judges, attorneys, and health department officials involved in the Lead Court. The study’s aim was to evaluate perceptions of the effectiveness of the Lead Court as a mechanism for ensuring that the city’s lead law was fully enforced. The interviews found that “in general, the participants agreed that the PLC [Lead Court] was very effective, particularly in comparison with attempts at health code enforcement prior to initiating the court.”

The internal validity of these findings is affected by the fact that they rest on a modest number of interviews with respondents who all worked for the city or court. However, the study provides promising suggestive evidence that specialized courts can be a valuable mechanism for enforcing public health laws. A strength of the authors’ study design is that they elicited free-text comments from respondents to explain their numerical ratings of the system; these comments shed considerable light on the specific mechanisms through which the Lead Court was perceived to accomplish its objective effectively. For example, respondents commented that a court order showed that the city was serious about enforcement; that having to appear before a judge made an impression on property owners; that the court made effective use of its power to levy fines; that the Lead Court program had a synergistic relationship with a program of HUD grants to subsidize remediation; and that the program fostered collaboration among the law and health departments and the court, creating a “partnership” that

“seemed to allow for greater understanding of the cases and more efficiency in case processing.” In contrast, respondents explained, prior to the Lead Court, a traditional court would order the health department to remediate the hazard, and the health department typically would not follow up because of lack of resources.

The firsthand observations of “insiders” like Campbell and colleagues’ respondents are extremely valuable in helping others understand what is going on inside the black box of a legal innovation like the Lead Court. For this reason, qualitative research designs are very well suited to understanding the dynamics of implementation of laws. Quantitative approaches are also possible, however, as demonstrated by the article on public health safeguards in Indian patent law by the economist Bhaven Sampat and the attorney Tahir Amin. In recent years, public health law scholars and practitioners have focused attention on the potentially deleterious impact of the 1995 Trade Related Intellectual Property Rights (TRIPS) agreement, and intellectual property law in general, on access to essential medicines, especially in low- and middle-income countries. In this study, Sampat and Amin examine the implementation and impact of section 3(d) of India’s Amended Patent Act of 2005, a TRIPS-compliant provision that restricts the scope of patentable subject matter so as to limit so-called evergreening. Evergreening refers to the practice of filing patents on incremental modifications to an existing patent, late in the patent term, with the objective of extending the period of market exclusivity. Sampat and Amin report that India’s section 3(d) has been heralded as a “revolutionary” approach to combating the problem of evergreening and “a leading example of how developing countries can protect public health interests in the post-TRIPS era.”

This study on the impact of the “law on the books” was motivated by concerns that section 3(d) might have little effect in practice because “resource-constrained Indian patent examiners may have incentives to mimic patent prosecution decisions” of patent examiners in higher-resourced countries, or because patent examiners in higher-resourced countries already vigorously police evergreening by rejecting such applications for conventional reasons, such as lack of novelty. To investigate the issue, the researchers collected and coded applications and outcome data on two different types of patent classes in both the Indian Patent Office and the European Patent Office between 1995 and 2010. Using difference-in-difference models, they observed that the enactment of section 3(d) did not “translate into very different patent outcomes in practice, relative to Europe, a jurisdiction without this provision.” Moreover, and surprisingly, they found that applications that would be subject to section 3(d) in India “have a

significantly lower grant rate” in Europe, despite the absence of section 3(d) or a comparable anti-evergreening provision. This suggests that the “law on the streets” in Europe and India may not be very different for such applications, regardless of differences between the “law on the books.”

Sampat and Amin, through painstaking coding of thousands of patent applications and a carefully controlled analysis, are able to produce powerful insights into the law’s practical effect. The article is an excellent example of how a legal data set can be constructed by employing investigators with legal expertise to examine the text of legal decisions and reduce it to quantitative variables, as well as the high-quality work that can result from partnerships of legal scholars and researchers trained in econometric analysis. Of course, identifying the explanation for a quantitative finding can be challenging. Unlike Campbell’s team, Sampat and Amin do not marshal the wisdom of insiders to explain why they might be seeing the results they see. It is somewhat questionable, in this case, whether complementing their quantitative study with a qualitative investigation would have yielded useful information about the reason for their findings—would Indian patent examiners, for example, have been willing to admit it if they do tend to rely on decisions in Europe because they lack the resources to do a thorough, independent review? Sampat and Amin identify some quantitative strategies that could be used to test possible explanations for their results, but stop short of pursuing them. The next step for research in this area would seem to be to pursue the *why*—perhaps through a mix of interview research with knowledgeable patent attorneys and additional quantitative work.

The final two articles in this issue are both intervention studies. An environmental health scientist, Katrina Korfmacher, joins Michael Hanley, a practicing attorney focusing on housing and civil rights, to examine the effect of local lead laws. The study focused on housing-based primary-prevention policies, or “laws that aim to identify and fix lead hazards before children become poisoned.” The local laws they studied fill gaps left by state and federal laws. State and federal laws do not, for example, apply to privately owned housing built before 1978 unless it is subsidized by government programs, and in most states, the laws do not involve primary-prevention approaches.

The study is the first to map the range of local approaches to primary prevention and systematically analyze their features. The authors selected eight municipalities from among nineteen that have adopted relevant laws in recent years. The researchers developed case studies of each law based on a textual analysis of both local and state laws, case law relating to the

ordinances, and information about the cities collected by the Centers for Disease Control and Prevention and the Census Bureau. Although their case study descriptions were sent to key informants in each city to check their accuracy and completeness, Korfmacher and Hanley did not gather information from city officials or other local experts. Interviewing or surveying stakeholders might have shed a brighter light on the authors' research questions, which concerned the strengths and weaknesses of the different approaches cities have taken. The authors present, instead, their own expert judgment of the laws' strengths and weaknesses.

A strength of this study is the authors' creation and application of a systematic framework for examining the key provisions of the law that would be expected to affect its overall effectiveness in preventing exposure to lead hazards. The set of legal characteristics they analyzed was derived from a logic model that explicitly sets forth factors that, on theoretical grounds, might mediate or moderate the effect of the law. The authors also recognize the importance of analyzing the laws in the context of the broader legal environment in which they operate—asking, for example, how the local and state laws interact; how preemption issues constrained what could be done; and how judicial decisions in the jurisdiction may affect the successful implementation of the law.

The article makes a valuable contribution by proposing a series of concrete recommendations for municipal policy makers. Among these is the suggestion to conduct a detailed environmental scan before deciding on key features of the law to ensure that several important conditions for optimal design and successful implementation are present. For example, landlords are likely to be more responsive to laws that use voluntary certification or compliance in jurisdictions in which there is legal precedent for awarding damages against landlords for exposing tenants to lead hazards than in jurisdictions where landlords do not perceive a liability threat. The authors also provide specific suggestions for setting up a comprehensive monitoring system after a law is implemented. While this study does not tell us how effective the various local laws actually have been in preventing lead poisoning, it does provide policy makers with a detailed map of their policy options and well-informed expert recommendations as to how to navigate that map.

In the final article, Carol Lynn Cannon, a social anthropologist, leads a large interdisciplinary team in a study of the effect of municipal mixed-use zoning (MUZ) laws on the walkability of neighborhoods. Traditional zoning creates separate residential and nonresidential areas, increasing reliance on vehicular transportation. MUZ laws, in contrast, aim to increase

people's physical activity, including walking and biking, by reducing the physical distance between where they live and where they conduct daily activities involving work, school, shopping, and recreation.

The study is novel both in the question asked—it is the first analysis of these laws' effects—and in the methods used, including a novel method of assessing walkability. The specific hypothesis tested is that there will be a positive relationship between the extent to which a neighborhood's MUZ law adheres to the provisions of the American Planning Association's model MUZ ordinance and the neighborhood's walkability. Walkability is defined as the percentage of forty-three different "daily-use activities" present in each neighborhood.

The study data included 168 MUZ ordinances from twenty-two California cities and data on the types of zones within each city and the quantity and location of buildings representing different daily-use activities in each zone. The authors developed a new way to code daily-use activities that involved using Google Earth layer mapping tools combined with Google keyword searches, and report that this permitted them to code daily-use activities with greater specificity than traditional methods. With this information in hand, the team used hierarchical linear regression modeling to examine associations between the ordinances and the walkability scores, controlling for city population size, demographics, and zone size. The results bear out the hypothesis that the more an MUZ law resembles the model ordinance, the more walkable the neighborhood is.

The authors acknowledge two important limitations of their analysis. First, their measure of walkability does not take into account qualities of a neighborhood, such as safety and the pedestrian-friendliness of the physical terrain, that affect people's willingness to walk or bike. Nor does it measure actual walking behavior. Second, all the cities examined were in California, where "smart growth" has been more of a political priority than in other states, raising a question about generalizability to other states. Another limitation is that the analysis includes only zones that have an MUZ ordinance. Consequently, while the study shows the comparative strength of different kinds of MUZ laws, it cannot tell us how much adopting an MUZ law increases walkability relative to not having an MUZ law—a question policy makers may be interested in answering before proceeding to a more detailed assessment of what features an MUZ ordinance optimally should have.

Nevertheless, the study provides important new information through a novel data-collection method and rigorous, appropriate statistical methods. In addition to contributing a new approach to scoring walkability, the study represents best practice in creating a legal data set, adhering to

systematic, reproducible search and coding protocols, and utilizing two legal researchers to code each law.

Considering these articles as a collection presents an opportunity to reflect on what they represent about the current state of PHLR. Three years ago, Burris and colleagues (2010) identified four major challenges facing the field. The articles presented here illuminate some of the areas where substantial progress has been made, as well as some of the lingering challenges and opportunities for further maturation of the field.

The first problem Burris and colleagues raised was the need to ensure methodological rigor in PHLR. They noted the uneven and often disappointing quality of the research published to date, a problem that attached to both the rigor of the legal analysis (especially when study teams did not include a legal scholar) and the rigor of the empirical methods employed. Much of the existing work, they noted, involved “simple descriptive studies, nonsystematic qualitative work, and overly simplistic regression modeling.” The articles published in this issue vary in their methodological complexity, but as a group, they represent the significant progress observable in the field on this front over the past few years.

The diversity of disciplinary expertise represented among the research teams who conducted the studies in this special issue no doubt strengthened the quality of the work. The Sampat and Amin article is a leading example: the researchers collaborated with a former patent examiner to systematically and expertly code the patent applications while leaving the regression analysis in the hands of a highly capable econometrician. As the community of PHLR researchers has grown and strengthened ties over the past few years, so has the recognition of the importance of multidisciplinary teams. Researchers in the field are more aware of who they could and should be collaborating with and, in particular, of the need to involve colleagues with appropriate methodological expertise.

It is also evident that an evolving consensus about “gold standard” methods in PHLR played an influential role in shaping the design of the studies presented in this issue of *JHPPL*. The RWJF Program on Public Health Law Research has been instrumental in building this consensus by sponsoring and disseminating methodological guides (Program on Public Health Law Research 2013a), most notably Charles Tremper and colleagues' work on how to gather and measure statutes and regulations (Tremper, Thomas, and Wagenaar 2010; Anderson et al. 2012). These guides have been collected in a book (Wagenaar and Burris 2013) that presents a comprehensive catalog of available methods for PHLR and best practices for applying each method to the study of legal questions.

The second challenge identified by Burris and colleagues was identifying sources of data. Here, too, the articles published in this issue provide some cause for optimism about the progress of the field. While some of the teams undertook the laborious task of obtaining original data, others showed ingenuity in leveraging available secondary data—patent applications, for instance, and Google Earth maps. Other PHLR work published recently or in progress has taken advantage of legal data sets created or publicized by the RWJF Program (Program on Public Health Law Research 2013b, 2013c). Many, if not most, PHLR studies will continue to require researchers to compile new legal data sets, as the number of available data sets is small compared with the range of legal topics being explored in the field. Data sets also require constant updating to reflect new developments in the law. The availability of standardized protocols for obtaining and coding laws (Tremper, Thomas, and Wagenaar 2010; Anderson et al. 2012) and practical tools to facilitate this work (Program on Public Health Law Research 2013a) at least reduce the time costs associated with building and updating data sets, as well as leading to higher-quality results.

The third challenge described by Burris and colleagues was ensuring adequate funding for PHLR. This remains a major concern. RWJF breathed life into the field by providing a dedicated program of research sponsorship, which stimulated researchers in diverse settings and fields to coalesce around the goal of studying how the law can improve population health. Since its inception, the program has funded sixty-three studies for a total of \$11.4 million. The program will not be funded in perpetuity, however, and attention has turned to how to make the field self-sustaining.

Unfortunately, there has been little uptake by the National Institutes of Health or other major research funders of the notion that PHLR should be funded in its own right. Public health law researchers continue to have to shoehorn their studies into calls for proposals that do not primarily contemplate funding research on the effects of law, and to compete for funding in a process in which peer reviewers are likely to lack expertise in legal studies and appreciation for the importance and complexities of PHLR. The field has the advantage of involving many researchers based at law schools who do not require salary support, but empirical research by its nature involves research expenses that must be covered. It is critical that leaders in the field continue to press the case for sponsors to fund PHLR and that researchers demonstrate by example the value that this research has for advancing the missions of health research funders.

Finally, Burris and colleagues discussed the need to better connect PHLR to the world of public health law practice. A key issue is how to align

the agenda of public health law researchers with public health policy makers' needs for information. The eclectic mix of topics represented in the articles in this issue of *JHPPL* probably does not represent the topics that public health officials or public health legal practitioners would prioritize for research, if asked, though the topics addressed are important and timely. Part of the problem may be the difficulty of designing studies that deal with the most complex legal issues practitioners face, which raise questions of doctrinal ambiguity. Indeed, the articles do not deal at all with areas in which the meaning and boundaries of the law are contested. But another aspect of the problem is that the public health law research community remains fairly disconnected from frontline practitioners.

An initiative recently launched by the RWJF Program may begin to bridge this gap. Dubbed "Critical Opportunities," this initiative aims to elicit and prioritize ideas for potentially high-impact public health legal interventions from diverse stakeholders and to craft agendas for both research and law-making or legal reform (Program on Public Health Law Research 2013d; Mello et al. 2013). The questions to be asked and answered about potential opportunities are threefold (Mello et al. 2013): Is this a problem of high public health significance? Are the mechanisms underlying the problem sufficiently well understood to support a conclusion that it is amenable to influence by law? And is there a plausible legal intervention that could address the causes of the problem but is not being utilized to its full potential advantage? Sometimes the answers to these questions may point to an immediate decision to move forward with a proven legal approach (or to roll back laws proved to be more harmful than helpful). In other cases, they may point to specific needs for additional information, to which the PHLR community should respond.

There is yet another dimension of the problem of translating PHLR into practice. Sometimes PHLR may hit a high-priority topic, but fail to provide policy makers with concrete, comprehensible guidance as to what to make of the research results. Some of the articles in this issue are more successful on the translation front than others. Korfmacher and Hanley, for instance, offer a series of specific recommendations embedded in a kind of action guide for lawmakers considering how to design and implement local lead laws. In contrast, the take-home messages from Abiola and colleagues' study of HPV vaccination policy making are more general and, some might say, rather opaque. In a similar vein, it is not clear what a lawmaker should conclude from Sampat and Amin's findings: are anti-evergreening laws a waste of time, or is there something about the Indian context that caused a good idea to go awry? The likelihood that PHLR will have an impact on policy making is maximized when researchers make it easy for policy

makers to grasp what their findings mean for the critical questions policy makers confront—whether a particular legal intervention is worth pursuing, how to design and implement it for maximum effect, what it will cost, and how to tell if it is working.

As the field of PHLR moves into its adolescence, it will continue to grapple with these challenges and others. But it is maturing gracefully, as the articles in this issue highlight. Continuing to grow and strengthen this field is critically important for the nation's ability to make the best possible use of official power to combat illness and injury. President Barack Obama's historic call in the wake of the Sandy Hook shootings for Congress to appropriate \$10 million for research into the causes of gun violence, including the effects of gun-control laws and other public health legal interventions, poignantly illustrates the urgency of the need—and the potential for this work have a real and lasting impact on the nation's health.

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