ENFORCEMENT: LINKING POLICY AND IMPACT IN PUBLIC HEALTH

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ABSTRACT: Public health law, even optimally developed and implemented, can fall short of its goals if it is not enforced. Enforcement theorists note four considerations in framing relevant law: likelihood that infractions will be detected, liability standards, sanction types, and penalty size. By these standards, enforcement provisions in public health law are variable, and somewhat inconsistent. Recent public health funding cutbacks threaten public health agencies' ability to execute enforcement duties. In addition, enforcement can be controversial when its targets feel it infringes on their ability to act in their own interests. We present examples in current practice and identify cost-effective enforcement strategies that support objectives of public health law. We apply enforcement theory to four specific objects of public health regulation that experience enforcement challenges: all-terrain vehicles, motor vehicle safety belts, child passenger safety, and driving under the influence.

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> Could the fungal meningitis outbreak, which [was responsible for over 740 infections and claimed 55 lives],[1] been avoided with better oversight? "That's the question that will likely keep state and federal regulators up at night for months to come."[2]

Enforcement is an important link between public health laws and improvement in population health. This article describes strategies that identify effective and efficient provisions for enforcement in public health. Part I establishes the contribution of enforcement to the public health outcomes intended by policy makers and challenges to enforcement such as coordination across levels of government, assertions of intrusiveness and privacy violations, and funding cutbacks. In Part II, enforcement theory is used to develop a model for the development and analysis of enforcement provisions in public health laws. The model addresses the relationship between risk of detection and magnitude of penalty, along with related factors such as the desired popu-

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1. *Multistate Fungal Meningitis Outbreak Investigation*, CENTERS FOR DISEASE CONTROL AND PREVENTION, http://www.cdc.gov/HAI/outbreaks/meningitis.html (last updated May 6, 2013).

2. Dylan Scott, *Meningitis Outbreak Puts State Regulations Under Microscope*, GOVERNING (Oct. 15, 2012), http://www.governing.com/blogs/view/gov-meningitis-outbreak-puts-state-regulations-under-microscope.html. The Centers for Disease Control and Prevention (CDC) data have been inserted to update the original reference.

lation health outcome. Next, Part III provides specific illustrations of the model's application to public health laws with respect to the regulation of all-terrain vehicles (ATVs), motor vehicle safety belts, child passenger safety (CPS), and driving under the influence of alcohol or other drugs (DUI). We conclude by proposing that careful attention to public health law enforcement has the potential to protect the public's health while reducing waste from overenforcement or futile approaches, as well as harm from underenforcement. Much scholarship has been devoted to the issue of regulatory enforcement, and thus this article approaches the topic with due modesty in hope of spurring further development in the public health law research agenda.

I. PROBLEM STATEMENT

Public health laws can be crafted wisely and yet fall short of their goals if they are not enforced.[3] The importance of enforcement is articulated in widely acknowledged definitions of public health as a field. Enforcement of "laws and regulations that protect health and ensure safety" is one of the ten essential public health services.[4] Likewise, a Public Health Accreditation Board standard requires that public health agencies "conduct and monitor public health enforcement activities and coordinate notification of violations among appropriate agencies."[5]

A. Public Health Law Enforcement

When the singular achievements of 20th-century public health law are assessed, one major finding is that "the effectiveness of law as a public health tool was powerfully mediated by factors of enforcement and compliance."[6] For example, all fifty states currently have school immunization laws with the common enforcement mechanism for denying admission to unvaccinated children unless they obtain an exemption.[7] Restaurants are only sporadically inspected for food safety violations, making voluntary compliance critical to the public's health. Christoffel and Teret note the difficulty in evaluating public health law when enforcement and compliance are lacking. They observe:

> Variation in enforcement has a very significant effect on evaluation findings and the meaning and value of these findings. To take an extreme example, a law that is known to be unenforced—like jaywalking ordinances in many

3. INST. OF MEDICINE, FOR THE PUBLIC'S HEALTH: REVITALIZING LAW AND POLICY TO MEET NEW CHALLENGES 1–5 (2011), *available at* http://www.iom.edu/Reports/2011/For-the-Publics-Health-Revitalizing-Law-and-Policy-to-Meet-New-Challenges.aspx; WORLD HEALTH ORG., WESTERN PACIFIC REGION, ENFORCEMENT OF PUBLIC HEALTH LEGISLATION 2 (2006).

4. PUB. HEALTH SERV., U.S. DEP'T OF HEALTH & HUMAN SERVS, THE PUBLIC HEALTH WORKFORCE: AN AGENDA FOR THE 21ST CENTURY 21 (1994), *available at* http://www.health.gov/phfunctions/pubhlth.pdf.

5. PUB. HEALTH ACCREDITATION BD., STANDARDS AND MEASURES 146 (2011), *available at* http://www.phaboard.org/wp-content/uploads/PHAB-Standards-and-Measures-Version-1.0.pdf.

6. Anthony Moulton et al., *Perspective: Law and Great Public Health Achievements, in* LAW IN PUBLIC HEALTH PRACTICE 15 (Richard Goodman et al. eds., 2nd ed. 2007).

7. LAWRENCE O. GOSTIN, PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT 380 (2nd ed. 2008).

> cities—is tantamount to no law at all, and an evaluation of effectiveness in reducing injury would be a misleading exercise.[8]

Enforcement is a broadly shared responsibility. In its 2011 report on public health law, the Institute of Medicine recommended "that federal agencies, in collaboration with states, facilitate state and local enforcement of federal public health and safety standards, including the ability to use state or local courts or administrative bodies where appropriate."[9] In the domain of environmental public health, for example, regional Environmental Protection Agency (EPA) offices, in conjunction with state and local agencies, respond to citizen reports and engage in compliance monitoring through inspections.[10] Enforcement may take the form of civil action through an administrative agency at the state level, the EPA issuing an administrative order regarding the violation, or a civil lawsuit filed by a state's attorney general's office. Criminal action may also be initiated at the federal, state, or local level and is typically reserved for the most egregious violations.[11]

B. Challenges to Public Health Law Enforcement

The enforcement of public health law implicates both the structural and the legal capacity of responsible entities.[12] Public health enforcement analysis draws upon two developing areas of interdisciplinary study, (1) public health services and systems research and (2) public health law research,[13] as well as the broader study of governmental regulation and its implementation.

Enforcement in the public health sector takes many forms, from outright prosecution of violators to the encouragement of voluntary compliance.[14] Politics inevitably colors approaches to regulatory enforcement. For example, behavioral or "new" governance, with its emphasis on "autonomy and flexibility for those subject to regulation," may attract policy makers with a bias against

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8. TOM CHRISTOFFEL & STEPHEN P. TERET, PROTECTING THE PUBLIC: LEGAL ISSUES IN INJURY PREVENTION 182 (1993).

9. INST. OF MEDICINE, *supra* note 3, at 52.

10. *See, e.g.,* Wayne B. Gray & Jay P. Shimshack, *The Effectiveness of Environmental Monitoring and Enforcement: A Review of the Empirical Evidence*, 5 REV. ENVTL. ECONS. & POL'Y 3, 3–4 (2011); Neal D. Woods & Matthew Potoski, *Environmental Federalism Revisited: Second-Order Devolution in Air Quality Regulation*, 27 REV. POL'Y RES. 721, 724–28 (2010).

11. JOEL A. MINTZ, ENFORCEMENT AT THE EPA: HIGH STAKES AND HARD CHOICES *passim* (2012). .

12. Jennifer Ibrahim et al., *Public Health Law Research: Exploring Law in Public Health Systems*, 18 J. PUB. HEALTH MGMT. & PRAC. 499, 501 (2012) (identifying structural capacity as "a variety of well-identified nonlegal factors, such as financing, human resources, and availability of technology" and noting the role of law in both dictating and shaping individual and organizational activities).

13. *Id.*; Scott Burris et al., *Moving from Intersection to Integration: Public Health Law Research and Public Health Systems and Services Research*, 90 MILBANK Q. 375, 385 (noting areas in which these two newer areas of research can work together).

14. *See generally* Christopher Carrigan & Cary Coglianese, *The Politics of Regulation: From New Institutionalism to New Governance.* 14 ANN. REV. POL. SCI. 107 (2011) (addressing complex relationships among elected officials, regulatory agencies, and regulated entities).

the expenditure of tax dollars for perceived intrusion into private activity.[15] Likewise, enforcement of public health laws can be controversial when the targets feel that enforcement infringes on their ability to act in their own interests.[16] This challenge to enforcement is illustrated by the U.S. Supreme Court's opinions related to the takings clause of the Fifth Amendment, which reflect the difficulties that arise when competing public and private interests must be balanced.[17]

The 2013 Institute of Medicine report on shortfalls in U.S. health care metrics in comparison with other industrialized nations points to enforcement issues as contributing factors:

> Opposition to rigorous enforcement applies to speed control, life-style choices, and restrictions on industry. Constitutional prohibitions restrict not only unreasonable searches but also proscribe interventions on gun possession. Resource limitations apply not only to law enforcement but also explain deficiencies in public health programs, the foods chosen for school lunch menus, and weakness in social and safety net services.[18]

Business-friendly governments are likely to curtail enforcement authority and limit the resources necessary to perform enforcement duties.[19] Recent history includes a number of examples, including

- the near-death experience of what is now the Agency for Healthcare Research and Quality when it attempted to circumscribe spine surgeons' interventional criteria;[20]
- long delays in appointing commissioners to the federal Consumer Product Safety Commission that, along with budget cuts, hindered the agency's ability to conduct business;[21] and

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15. On Amir & Orly Lobel, *Liberalism and Lifestyle: Informing Regulatory Governance with Behavioural Research* 3 (Univ. of San Diego Legal Studies Research Paper No. 12-094, 2012), *available at* ssrn.com/abstract=2145040.

16. *See, e.g.,* GOSTIN, *supra* note 7, at 462 ("[P]ublic health regulation of commercial activity, like the regulation of personal behavior, is highly contested terrain.").

17. *See id.* at 477–82 ("Much depends on the direction of the Supreme Court, which, at present, has several members apparently committed to expansion of the regulatory takings doctrine.").

18. NAT'L RESEARCH COUNCIL & INST. OF MED. OF THE NAT'L ACADS., U.S. HEALTH IN INTERNATIONAL PERSPECTIVE: SHORTER LIVES, POORER HEALTH 231 (Steven H. Woolf & Laudan Aron eds., 2013) (citations omitted).

19. *See, e.g.,* Geoff Wong et al., *Policy Guidance on Threats to Legislative Interventions in Public Health: A Realist Synthesis*, 11 BIOMED CENT. PUB. HEALTH 222 (2011) (examining threats to public health legislation interventions using the case study of smoking in cars carrying children).

20. Clifton R. Gaus, *An Insider's Perspective on the Near-Death Experience of AHCPR*, 10 HEALTH AFF. w3-311, w3-311–12 (June 25, 2003), http://content.healthaffairs.org/content/early/2003/06/25/hlthaff.w3.311.full.pdf. In brief, AHCPR developed clinical guidelines that recommended less surgery and greater use of "watchful waiting." *Id.* at w3-312. Spine surgeons mobilized congressional opposition that nearly terminated the agency's appropriation. *Id.*

21. Amy Widman, *Advancing Federalism Concerns in Administrative Law Through a Revitalization of State Enforcement Powers: A Case Study of the Consumer Product Safety and Improvement Act of 2008*, 29 YALE L. & POL'Y REV. 165, 184 (2011) (describing history of Consumer Product Safety Commission's "massive regulatory failure").

- the stalled enactment of updated food safety regulations.[22]

An example of enforcement curtailment at the state level comes from Florida. Its recent rollback of public health regulations removes restaurant, nursing home, and day care inspections from the health department, fragmenting inspection and monitoring of disease outbreaks.[23]

The problematic regulation of compounding pharmacies—as suggested in the epigraph—will provide material for future analyses. In particular, it highlights the intergovernmental nature of public health law enforcement as a federal-state responsibility: it is not always clear where ultimate authority lies.[24] Food and Drug Administration (FDA) Commissioner Margaret Hamburg testified before the Senate Health, Education, Labor, and Pensions Committee that the FDA has "limited, unclear, and contested" authority over compounding pharmacies.[25]

In addition to these impediments to enforcement, cutbacks in public health funding and staffing since 2008 have reduced public health staff available to execute enforcement duties.[26] Presentations at an October 2012 public health law conference addressed these issues in the context of new mandates (specifically clean indoor air laws and menu labeling of accurate calorie counts) that have become effective at a time when enforcement resources are shrinking rather than growing to meet these new demands.[27] While public health staff capacity to police these new requirements has shrunk, state attorneys general have become more active in health-related enforcement actions, particularly

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22. Elizabeth Wiese, *Delays in New Food Safety Regulations Cause Frustration*, USA TODAY (July 15, 2012), http://usatoday30.usatoday.com/news/nation/story/2012-07-15/food-safety-rules-delayed/56219812/1.

23. *HB 1263 Bill Summary*, THE FLORIDA SENATE, http://flsenate.gov/Committees/BillSummaries/2012/html/218 (last visited Apr. 11, 2013); Stacy Singer, *Worst TB Outbreak in 20 Years Kept Secret,* PALM BEACH POST (July 8, 2012), http://www.palmbeachpost.com/ news/news/state-regional/worst-tb-outbreakin-20-years-kept-secret/nPpLs/; Marc J. Yacht, *Legislation Would Gut Florida's Department of Health,* TAMPA TRIBUNE (Mar. 21, 2012), http://tbo.com/list/news-opinion-commentary/legislation-would-gut-floridas-department-of-health-383155.

24. Scott, *supra* note 2.

25. *Pharmacy Compounding: Implications of the 2012 Meningitis Outbreak Before the S. Comm. On Health, Education, Labor and Pensions*, 112th Cong., (Nov. 15, 2012) (statement of Margaret A. Hamburg, Commissioner of Food and Drugs, Food and Drug Association).

26. NAT'L ASS'N OF CNTY. & CITY HEALTH OFFICIALS, LOCAL HEALTH DEPARTMENT JOB LOSSES AND PROGRAM CUTS: REPORT OF THE JANUARY 2012 SURVEY 1 (2012), *available at* http://naccho.org/topics/infrastructure/lhdbudget/upload/Research-Brief-Final.pdf (noting 57% of U.S. local health departments underwent program cuts in 2011); U.S. DEP'T OF JUSTICE, THE IMPACT OF THE ECONOMIC DOWNTURN ON AMERICAN POLICE AGENCIES 13 (2011) (noting loss of over 12,000 uniformed police positions 2008–2011, particularly in low-income communities); *See also* TED R. MILLER & DELIA HENDRIE, PUB. HEALTH LAW RESEARCH PROGRAM, ECONOMIC EVALUATION OF PUBLIC HEALTH LAWS AND THEIR ENFORCEMENT 4–5 (2012), *available at* http://publichealthlawresearch.org/sites/default/files/EconomicEvaluationPHL-Monograph-MillerHendrie2012.pdf.

27. *See, e.g.*, Wilfredo Lopez et al., Presentation to 2012 Public Health Law Conference, Atlanta, GA: Effective Enforcement of Public Health Codes and Regulations (Oct. 11, 2012) (noting persistent asymmetry between number of regulated establishments and health department resources for inspection).

those that can yield substantial income to state coffers through fines and other monetary sanctions.[28]

C. Applying Enforcement Theory

In an era when any government infringement on business is bitterly contested and enforcement budgets are under attack,[29] a careful examination of theory and practice in public health law enforcement is needed. Both effectiveness and efficiency are at issue, as is the appropriate balance of adversarial enforcement and behavioral conditioning in the achievement of public health objectives.

Enforcement theorists note four elements about which policy makers must make choices: (1) the likelihood that infractions will be detected, (2) strict liability versus fault-based liability, (3) monetary versus nonmonetary sanctions, and (4) the appropriate size of the penalty.[30] As a general matter, these four areas are weighed with the assumption that enforcement should be self-supporting. For example, an infraction that causes serious harm but is difficult to detect (such as the emission of carcinogenic pollutants) would be the subject of a larger monetary penalty than one causing similar harm that is readily detected (such as emissions with obvious and immediate effects). The cost of detecting the infraction and preventing the harm should be included in the penalty to make enforcement sustainable.[31] Likewise, Emily A. Mok, Lawrence O. Gostin, and their colleagues note "simpler measures work better if backed by a credible threat of sanctions in the case of repeated noncompliance."[32]

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28. *See generally National State Attorney General Program*, COLUMBIA LAW SCH., http://www.law.columbia.edu/center_program/ag (last visited Apr. 11, 2013) (Nine attorneys general are supporting federal legislation of particulate matter in the air, which is known to cause respiratory illness; the Iowa Attorney General sued Grain Processing Corporation for allegedly violating state air and water pollution laws; and eleven attorneys general sued the EPA for failing to meet a deadline to issue new soot pollution standards.).

29. *See generally* NAT'L ASS'N OF CNTY. & CITY HEALTH OFFICIALS, *supra* note 26 (discussing local health department program funding cuts).

30. A. Mitchell Polinsky & Steven Shavell, *A Theory of Public Enforcement of Law*, *in* 1 HANDBOOK OF LAW AND ECONOMICS 403, 405–06 (A. Mitchell Polinsky & Steven Shavell eds., 2006).

31. Indeed, federal regulations are subject to a detailed cost-benefit calculus before promulgation, but these considerations include environmental and social costs that are not directly implicated in the cost of enforcement. *See, e.g.*, Cass R. Sunstein, *The Real World of Cost-Benefit Analysis: Thirty-Six Questions (and Almost As Many Answers)* 5–7 (Harvard Public Law Working Paper, 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2199112.

32. Lawrence O. Gostin et al., *Implementing Public Health Regulations in Developing Countries: Lessons from the OECD Countries*, 38 JOURNAL OF LAW, MEDICINE & ETHICS 508, 513 (2010). While this statement is made in the context of regulatory policy for the developing world, it is equally pertinent for "first world" policy. *See also* CTRS. FOR DISEASE CONTROL & PREVENTION, NATIONAL ACTION PLAN FOR CHILDHOOD INJURY PREVENTION 65 (2012), *available at* http://www.cdc.gov/safechild/pdf/National_Action_Plan_for_Child_Injury_Prevention.pdf (noting that "[i]mposing high fines for non-compliance may work in some settings, but . . . . [s]ometimes stronger enforcement or even the perception of stronger enforcement alone may deter unsafe acts").

II. PROPOSED SOLUTION

As explained above, enforcement policy can be approached by assessing penalties and enforcement mechanisms for the following factors: (1) the likelihood that infractions will be detected, (2) strict liability versus fault-based liability, (3) monetary versus nonmonetary sanctions, and (4) the appropriate size of the penalty.

A. Likelihood that Infractions Will Be Detected

When health is the context for enforcement, detecting infractions can be complicated by a host of factors including the latency period between the infraction and discernible effects, intervening events that mitigate or exacerbate effect on health status, locations that elude routine surveillance, and privacy or confidentiality issues. Thus, the magnitude of penalties should be calibrated to provide reasonable assurance that infractions will be deterred even if parties have little risk of detection. An example is penalties for DUI of alcohol or other drugs, which must be severe because policing that is adequate to detect all incidents would be excessively intrusive and expensive.[33]

B. Strict versus Fault-Based Liability

As Polinsky and Shavell explain, liability

> could be *strict* in the sense that a party is sanctioned whenever he has been found to have caused harm (or expected harm). Alternatively, the rule could be *fault-based*, meaning that a party who has been found to have caused harm is sanctioned only if he failed to obey some standard of behavior or regulatory requirement.[34]

Strict liability may induce individuals to overinvest in protection against every conceivable cause of injury, with adverse results for both rational economic allocation and population health. For example, schools that have been sued when students were injured at recess may decide to cancel recess, thereby limiting students' opportunities for physical activity and other benefits.[35] Conversely, if a party is only liable when fault can be attributed, not only must some adjudication occur, but there must be a way to determine whether that party (or anyone at all) is at fault. The choice between strict and fault-based liability must therefore take into account such factors as the likelihood that an

33. *See, e.g.*, Robert B. Voas et al., *Towards a National Model for Managing Impaired Driving Offenders*, 106 ADDICTION 1221, 1225 (2011) (noting that certainty of sanction is effective for avoiding recidivism).

34. Polinsky & Shavell, *supra* note 30, at 407.

35. *Recess: Is It Needed in the 21st Century?*, EARLY CHILDHOOD AND PARENTING COLLABORATIVE, http://ceep.crc.uiuc.edu/poptopics/recess.html (last updated July 2004). It is important to note that pressure to perform on standardized tests and related allocation of school time may have more influence on cancellation of recess than real or perceived threats of litigation. *See, e.g.*, Margaret W. Pressler, *Schools, Pressed to Achieve, Put the Squeeze on Recess*, WASH. POST, June 1, 2006, at A1, *available at* http://www.washingtonpost.com/wp-dyn/content/article/2006/05/31/AR2006053101949_pf.html.

infraction will be detected and the responsible party identified, and the potential adverse consequences of risk-averse responses to the threat of liability.

C. Monetary versus Nonmonetary Sanctions

Public health laws touch multinational corporations and indigent individuals alike, so the nature of sanctions must obviously take the type of offender into consideration. Ideally, many public health laws would induce voluntary compliance, at least given the passage of time, through the establishment of cultural norms.[36] Thus, a gradual reduction in smoking has been seen.[37] This reduction is not just a result of sanctions for violating clean indoor air laws: smoking has become less socially acceptable and public health education has contributed to enhanced understanding of the dangers of tobacco use.[38]

Monetary sanctions may not always be the most effective policy tool. Minkovitz and her coauthors found that financial sanctions against recipients of Aid to Families with Dependent Children for missed vaccinations were ineffective.[39] In this case, the well-known nonmonetary sanction is prohibiting school entry for children without up-to-date vaccinations. An extensive literature addresses the role of nonmonetary sanctions in self-regulation under the "new governance" models that have been implemented in occupational safety and health, public schools, and environmental protection, both in the United States and elsewhere in the industrialized world.[40]

D. Appropriate Size of the Penalty

Penalties that are out of proportion to risk of detection and appropriate standard of liability can fail to deter the unwanted behavior (if too low) or have unintended negative consequences (if too high). Again using the well-documented issue of drunk driving, it is clear that a high cost must be imposed because of the very low incidence of detection.[41] However, excessive penalties for behavior that threatens harm to vulnerable populations may drive those who practice the undesirable behavior to sites even more resistant to detection, thereby risking further harm to the public's health: thus, for example, early attempts to curb the spread of HIV through enforcement strategies moved high-risk activities away from public gathering places without reducing their

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36. *See generally* Cass R. Sunstein, *Empirically Informed Regulation*, 78 U. CHI. L. REV. 1349 (2011) (using behavioral economics to develop standards for the use of nonmonetary regulatory enforcement strategies such as disclosure).

37. *See, e.g.*, Samantha Graff & Jacob Ackerman, *A Special Role for Lawyers in a Social Norm Change Movement: From Tobacco Control to Childhood Obesity Prevention*, 6 PREVENTING CHRONIC DISEASE, July 2009, at 1, *available at* http://www.cdc.gov/pcd/issues/2009/jul/pdf/08_0262.pdf (explaining social norm approach in tobacco control).

38. *Id.*

39. Cynthia Minkovitz et al., *The Effect of Parental Monetary Sanctions on the Vaccination Status of Young Children: An Evaluation of Welfare Reform in Maryland,* 153 ARCHIVES PEDIATRIC ADOLESCENT MED. 1242, 1245–47 (1999).

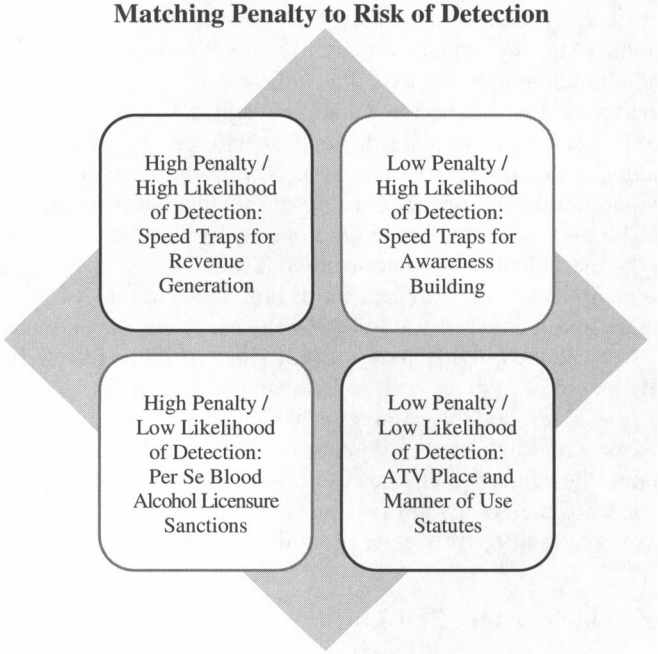
40. *See, e.g.*, LAW AND NEW GOVERNANCE IN THE EU AND THE US (Gráinne de Búrca & Joanne Scott eds., 2006) (noting development of new governance models in a broad range of regulated domains).

41. Voas et al., *supra* note 33, at 1226.

frequency.[42] Beyond the question of monetary penalties, public health interventions for the prevention of communicable disease resort to highly restrictive measures only as a last resort, and even then, function in the context of constitutional protections against unwarranted government intrusion.[43]

The Figure below illustrates such assessments with a focus on matching the penalty to the risk of detection and objective of the enforcement strategy.

Figure 1. Examples of Enforcement Strategies: Matching Penalty to Risk of Detection



In the first example, where the objective of intensive speeding violation enforcement is revenue generation, a high penalty will have the desired outcome and offset the cost of deploying additional enforcement resources. Moving to the right, if the objective of the speeding campaign is to build awareness of exceeding speed limits, the shock of being stopped for speeding may suffice with little or no financial penalty.[44] ATV laws, motor vehicle safety belt laws, CPS, and DUI laws are addressed next.

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42. *See generally* Edwin Cameron et al., *HIV Is a Virus, Not a Crime: Ten Reasons Against Criminal Statutes and Criminal Prosecutions*, 11 J. INT'L AIDS SOC'Y 7 (2008) (describing negative consequences of AIDS criminalization).

43. *See* Peter D. Jacobson et al., *Regulating Public Health: Principles and Application of Administrative Law*, *in* LAW IN PUBLIC HEALTH PRACTICE, 43 (Richard Goodman et al. eds., 2nd ed. 2007). ("Agencies usually attempt to impose the least restrictive method to outbreak control."); GOSTIN, *supra* note 7, at 428–45 (reviewing public health strategies for mitigation of epidemics and their constitutional assessment).

44. CHRISTIAN M. RICHARD ET AL., MOTIVATIONS FOR SPEEDING VOLUME I: SUMMARY REPORT 22–25 (2012), http://permanent.access.gpo.gov/gpo32069/811658.pdf.

III. ILLUSTRATIONS

A. All-Terrain Vehicle (ATV) Laws

ATV laws have been enacted in 44 states, but they vary widely.[45] Their effectiveness has been questioned in recent studies, with only helmet use requirements demonstrating any impact on fatality rates thus far. In the analytical context presented above, this finding is not at all surprising because ATV use is primarily in rural areas, typically off paved highways, and unlikely to be observed by any enforcement authority.[46] Thus far, only helmet use requirements demonstrate any impact on fatality rates, and results are somewhat mixed in the limited number of existing studies.[47]

The nature of the sanction and liability regime is also of interest in this example. Monetary sanctions are difficult to enforce on younger and lower-income riders, who comprise a substantial proportion of all ATV users. Strict liability would not be appropriate because of the inherent risks associated with ATV use. The mere fact of being injured in an ATV crash does not necessarily mean that the individual was violating any relevant law.

In the analytical framework set out in Figure 1, current ATV statutes addressing place and manner of use have "low penalty and low likelihood of detection." They are thus highly likely to fall short of their intended objective. The penalty would have to be very large to be effective in deterring infractions given the low likelihood of enforcement. This issue is recognized by two commentators who suggest that parents of young children injured in ATV crashes should be subject to charges of child neglect.[48] Another option would be confiscation of the ATV following an accident. Absent the political will to raise the cost of flouting ATV law, the toll of ATV injuries is likely to continue its rise.[49]

B. Motor Vehicle Safety Belt Laws

Motor vehicle safety belt laws are applicable to a broader segment of the U.S. population than ATV laws, and vary less from state to state. In general, safety belt laws are either primary (that is, allowing for the imposition of

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45. *ATV State Legislative Resource Bank*, ATVSAFETY.GOV, http://www.atvsafety.gov/legislation/legislation.html (last visited Apr. 11, 2013). State ATV law varies in areas such as licensure and registration requirements, use by children under 16, and a wide range of exemptions. *Id.*

46. *See generally* James C. Helmkamp et al., *State-Specific ATV-Related Fatality Rates: An Update in the New Millennium,* 127 PUB. HEALTH REP. 364 (2012) (finding that helmet use requirements mitigate ATV death rates slightly but training requirements do not); Allison S. McBride et al., *Pediatric All-Terrain Vehicle Injuries: Does Legislation Make a Dent?* 27 PEDIATRIC EMERGENCY CARE 97 (2011) (North Carolina helmet law did not increase helmet use in injured children); Robert D. Winfield et al., *All-Terrain Vehicle Safety in Florida: Is Legislation Really the Answer?*, 76 AM. SURGEON 149 (2010) (noting inadequacy of current Florida law).

47. Use on paved highways is actually an infraction in several states because design features make ATVs particularly prone to tipping over on paved surfaces. *See, e.g.,* KY. REV. STAT. ANN. 189.515(1) (West 2011).

48. *See* Bruce S. Greenberg & Chetan C. Shah, *All-Terrain Vehicle Use by Children: A Form of Child Neglect?*, 39 PEDIATRIC RADIOLOGY 657, 657–58 (2009).

49. *See, e.g.,* Helmkamp et al., *supra* note 46, at 371–73.

sanctions for failure to comply with applicable law), or secondary (that is, requiring another infraction in addition to the safety belt law violation).[50] There is clearly a strong element of social norm influence in the use of safety belts, in addition to the incentive of federal grants for states that enact primary enforcement laws.[51] In this case, the liability regime is not relevant because noncompliance with applicable law is penalized and no actual harm needs to be documented. Unlike ATV laws, safety belt laws have broad applicability, so monetary sanctions bolstered by social norm influences appear to be effective.[52]

C. Child Passenger Safety (CPS)

Seats that protect children during motor vehicle crashes have been the subject of legislation for over 30 years, but the optimal combination of sanctions and liability regime remains unclear. A systematic review of the literature published 1980–2006 found:

> Six articles . . . demonstrated increased (perceived or observed) compliance with child restraint use with legislation. Three studies showed a decrease in injury, and three showed a decrease in mortality with enactment of child restraint legislation. The magnitude of the decrease in injury and death ranged from 10% to 50%. Ages in the studies were not uniform and ranged from 0 to 15 years (citations omitted).[53]

As is often the case with public health law, studies that would provide the highest quality of evidence have not been performed because they would expose children to known risks of harm.[54] Further, none of the articles noted above addressed enforcement. Thirty years of child safety advocacy does not seem to have moved CPS to a higher priority among the many duties of law enforcement officers. Remaining enforcement initiatives typically take the form of sporadic public awareness campaigns.[55]

The optimal type of sanction for violation of CPS law would encourage (or even compel) compliance rather than impose substantial financial burdens on families. This assessment is based on findings that CPS compliance de-

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50. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., SUMMARY OF VEHICLE OCCUPANT PROTECTION LAWS 1 (10th ed. 2012).

51. Maggie Wittlin, *Buckling Under Pressure: An Empirical Test of the Expressive Effects of Law*, 28 YALE J. ON REG. 419, 428–30 (2011).

52. *Id.*

53. Robert D. Barraco et al., *Child Passenger Safety: An Evidence-Based Review*, 69 J. TRAUMA-INJ. INFECTION & CRITICAL CARE 1588, 1589 (2010).

54. *See* Leila Barraza et al., *Denialism and Its Adverse Effect on Public Health*, 53 JURIMETRICS J. 307, 309 (strategies used to deny effectiveness of public health interventions include "advocacy of impossible research standards").

55. *See generally* CTRS. FOR DISEASE CONTROL & PREVENTION, *supra* note 32 (discussing childhood injury prevention and suggesting methods to prevent injury and improve education); NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., ENFORCING CHILD PASSENGER SAFETY LAWS: EIGHT COMMUNITY STRATEGIES (1990), *available at* http://ntl.bts.gov/lib/25000/25800/25880/DOT-HS-807-631.pdf (examining the effectiveness of different strategies to increase use child safety seats and belts such as education and increased enforcement).

clines with household income.[56] One example of such a strategy allows parents to participate in an educational program rather than pay a substantial fine, again on the assumption that social or cultural norm development can play a positive role where more direct enforcement strategies will fall short of their objectives.[57]

D. Driving Under the Influence (DUI) Laws

Drunk or drugged driving is hazardous behavior that eludes detection in many cases and thus warrants predictable, substantial penalties. Alcohol-related impairment is responsible for about one-third of all traffic-related fatalities.[58] Years of advocacy bore fruit in the 2001 federal appropriations bill's provisions that reduced federal highway funding for states that failed to enact laws setting the threshold for criminal alcohol impairment at .08 grams per deciliter blood alcohol concentration.[59] Importantly, these laws impose a *per se* standard that does not require proof of an individual's actual impairment. While penalties vary across the states, 42 states use administrative suspension of the driver's license for at least a month, and most states impound the drunk driver's vehicle.[60] Exceptions, such as for essential work-related driving, must be sought from the court in 36 states.[61]

Declines in motor vehicle fatality rates are multifactorial and cannot be attributed to any single intervention, but evaluations of enforcement initiatives in seven states indicate that strategies such as checkpoints and intense patrolling of high-risk areas, along with at least three mobilized enforcement crackdowns per year, appear to be effective in reducing drunk driving.[62] The driving public apparently requires frequent, visible reminders that drunk drivers can be caught, as well as heavy and long-lasting penalties, because comprehensive enforcement is beyond the capacity of state and local authorities.[63]

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56. *See generally* Flaura K. Winston et al., *Parent Driver Characteristics Associated with Sub-optimal Restraint of Child Passengers,* 7 TRAFFIC INJ. PREVENTION 373 (2006) (noting lower child passenger restraint use by parents with lower household income and educational attainment).

57. Phyllis F. Agran et al., *Violators of a Child Passenger Safety Law,* 114 PEDIATRICS 109, 112–13 (2004) (noting effectiveness of alternative sentencing program that included parent education).

58. NAT'L HIGHWAY TRAFFIC SAFETY ADMIN., TRAFFIC SAFETY FACTS 2008 115 (2008), *available at* http://www-nrd.nhtsa.dot.gov/Pubs/811170.pdf; Shawna Mercer et al., *Translating Evidence into Policy: Lessons Learned from the Case of Lowering the Legal Blood Alcohol Limit for Drivers*, 20 ANNALS OF EPIDEMIOLOGY 412, 412 (2010).

59. LEGISLATIVE HISTORY OF .08 PER SE LAWS, DOT HS 809 286, NAT'L HIGHWAY TRAFFIC SAFETY ADMIN. (July 2001), *available at* www.nhtsa.dot.gov/people/injury/research/pub/alcohol-laws/08History.

60. *Drunk Driving Laws*, GOVERNORS' HIGHWAY SAFETY ASSOCIATION (Apr. 2013), http://www.ghsa.org/html/stateinfo/laws/impaired_laws.html.

61. *Id.*

62. James Fell et al., *Evaluation of Seven Publicized Enforcement Demonstration Programs to Reduce Impaired Driving: Georgia, Louisiana, Pennsylvania, Tennessee, Texas, Indiana, and Michigan*, 52 ASS'N ADVANCES AUTOMOTIVE MED. 23, 33 (2008), *available at* http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3256786/pdf/aam52_p023.pdf.

63. *Id.*

Public health law is certainly not alone in its problematic enforcement. As the conservative economist and Nobel laureate George Stigler noted, while lack of understanding may contribute to less than rational enforcement policy, "the desire of the public *not* to enforce the laws" as expressed in legislative and funding decisions also plays a role.[64] The recent Institute of Medicine report on deficiencies in the performance of U.S. health systems observes that progress "might require the adoption of policies and practices that give greater priority to public health but impose restrictions on individuals or businesses [and] may be at odds with traditional American beliefs (e.g., limited government, free enterprise, individual rights and freedoms)."[65]

Careful attention to public health law enforcement has the potential to protect the public's health while reducing waste from overenforcement or futile approaches, as well as harm from underenforcement. Of particular concern are public health laws that resist enforcement by conventional adversarial means, and must be bolstered by campaigns and other strategies that build social and cultural norms to support health-promoting behavior. It is therefore essential that public health law research identify appropriate enforcement strategies for public health laws based on the likelihood of infraction detection and the desired policy outcome.

64. George J. Stigler, *The Optimum Enforcement of Laws*, *in* ESSAYS IN THE ECONOMICS OF CRIME AND PUNISHMENT 55, 66 (Gary S. Becker & William M. Landes eds., 1974); *see also* Margaret H. Lemos, *State Enforcement of Federal Law*, 86 N.Y.U. L. REV. 698, 705 (2011) (citing Richard B. Stewart & Cass R. Sunstein, *Public Programs and Private Rights*, 95 HARV. L. REV. 1193, 1214 (1982) ("Public enforcement is . . . frequently inadequate because of budget constraints . . . .")).

65. NAT'L RESEARCH COUNCIL & INST. OF MED. OF THE NAT'L ACADS., *supra* note 18, at 286.