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Evading Emergency: Strengthening Emergency Responses Through Integrated Pluralistic Governance[1]

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ABSTRACT

This Article examines the significant governance challenges that arise during responses to public health emergencies and proposes a new multifaceted strategy—integrated pluralistic governance—to address these challenges. Emergency preparedness is an inherently complex problem that entails the integration of scientific and medical expertise, good logistical planning, and clear laws and policies. The governance function has particular import for public health emergencies because pandemics, hurricanes, and other disasters can have profoundly divisive social and political consequences. Moreover, recent disasters like Hurricane Katrina and the BP Deepwater Horizon *oil spill revealed an emergency preparedness and response infrastructure in the United States that was broken: starved of necessary resources, beset by problems at all levels of government, and undermined by poor decision making at each of these levels.*

Governance theories are particularly relevant to addressing the challenges posed by public health emergencies because these theories can help to explain and shape outcomes within complex systems. This Article delineates and explores three categories of governance models: traditional governance models, New Governance models, and diffuse governance models. These models provide insight into existing efforts to govern public health emergencies within and outside of formal emergency response systems and highlight unexplored avenues for strengthening these systems. Integrated pluralistic governance adopts aspects of all three governance models and encourages the development of concurrency, coordination, and redundancy to create a more effective and resilient public health emergency response system.

INTRODUCTION

Public health emergencies have cast a long shadow over the first decade of the twenty-first century. During these years, infectious diseases, natural disasters, and intentional attacks have persistently arisen to endanger the health and well-being of populations in the United States and around the world. Novel threats to the public's health emerged from many sources throughout the decade, beginning with the high-profile damage and loss of life caused by the September 11, 2001 terrorist attacks in the United States and the ensuing release of anthrax spores via the United States Postal Service.[2] Devastating

[2] NATIONAL COMMISSION ON TERRORIST ATTACKS UPON THE UNITED STATES, THE 9/11 COMMISSION REPORT 278–323 (2004) (describing the September 11, 2001, terrorist attacks and response). Though not all terrorist attacks can be considered public health emergencies, the September 11 attacks and other large-scale potential attacks can have significant public health impacts. Additionally, public fears of terroristic threats to health have been exacerbated by spectacular terrorist attacks in London, Madrid, Bali, Beslan, and Mumbai. *See generally* ANGEL RABASA ET AL., THE LESSONS OF MUMBAI (2009), http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCEQFjAA&url=http%3A%2F%2Fwww.rand.org%2Fpubs%2Foccasional_papers%2F2009%2FRAND_OP249.pdf&ei=51yLUI2NE6KeiALYuIDoCQ&usg=AFQjCNElOOyBJr3FPtcZHzXUy1vHWVw9bg&sig2=06ZiUp2Oj63-JHGiS4QH1g (2008 Mumbai attacks); H.M. CORNONER, CORONER'S INQUEST INTO THE LONDON BOMBINGS OF 7 JULY 2005 1–65 (May 6, 2011), http://7julyinquests.independent.gov.uk/docs/orders/rule43-report.pdf (2005 London bombings); Dov Lynch, *'The enemy is at the gate': Russia after Beslan*, 81 INT'L AFF. 141, 141–61 (2005) (footnote omitted) (2004 Beslan siege); J Peral-Gutierrez de Ceballos et al., Review: *11 March 2004: The Terrorist Bomb Explosions in Madrid, Spain – An Analysis of the Logistics, Injuries Sustained and Clinical Management of Casualties Treated at the Closest Hospital*, 9 CRITICAL CARE 104, 104–11 (2005) (2004 Madrid bombings); Raymond Bonner & Jane Perlez, *Bali Bombings Kill at Least 25 in*

natural disasters instigated widespread destruction though a variety of means ranging from earthquakes to hurricanes to tsunamis to floods.[3] The appearance of infectious diseases such as Severe Acute Respiratory Syndrome (SARS) and new strains of influenza threatened to kill and harm people across the globe.

These recent public health emergencies stand out from prior events in part due to the magnitude of their actual and potential negative impact on the public's health and in part for what they have revealed about the capacity of our systems to respond. Hurricane Katrina and its aftermath revealed an emergency preparedness and response infrastructure in the United States that was broken: starved of necessary resources, beset by problems at all levels of government, and undermined by poor decision making at each of these levels.[4] The

Tourist Spots, N.Y. TIMES: INT'L (Oct. 2, 2005), http://travel.nytimes.com/2005/10/02/international/asia/02bali.html?pagewanted=all&_r=0 (2005 Bali bombings).

[3] The most notable natural disasters of the decade include the December 2004 Indian Ocean Tsunami, Hurricane Katrina in the United States in September 2005, the Haitian and Chilean Earthquakes of early 2010, the Japanese earthquake, tsunami, and radiation release in 2011, and Superstorm Sandy in the United States in 2012. Beyond these events, the United States experienced a number of additional strong hurricanes, floods, and wildfires during this time period. Worldwide, additional devastating earthquakes occurred in Iran in 2006, China in 2008, and New Zealand in 2011. Floods associated with Cyclone Nargis killed thousands in Myanmar, and massive flooding caused substantial destruction in Pakistan, Australia, and Brazil.

[4] *See, e.g.*, DEP'T OF HOMELAND SEC. OFFICE OF INSPECTOR GEN., OIG-06-32, A PERFORMANCE REVIEW OF FEMA'S DISASTER MANAGEMENT ACTIVITIES IN RESPONSE TO HURRICANE KATRINA 18–65 (Mar. 2006), www.oig.dhs.gov/assets/mgmt/oig_06-32_mar06.pdf [hereinafter PERFORMANCE REVIEW OF FEMA] (assessing the successes and failures of the Hurricane Katrina response and providing recommendations for improvement); Thomas Birkland & Sarah Waterman, *Is Federalism the Reason for Policy Failure in Hurricane Katrina?*, 38 PUBLIUS: J. FEDERALISM 692, 705–10 (2008) (concluding that "homeland security" focus reduced federal support for natural disaster preparedness and eroded response capacity during Hurricane Katrina); Erin Ryan, *How the New Federalism Failed Katrina Victims*, *in* LAW AND RECOVERY FROM DISASTER: HURRICANE KATRINA 173, 201–11 (Robin Paul Malloy ed., 2009) (finding that both federal and state government failed in their Hurricane Katrina response). Responsible for over 1,800 deaths, Hurricane Katrina was the deadliest hurricane in seventy-seven years. RICHARD D. KNABB ET AL., NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE KATRINA 11 (2005), http://www.nhc.noaa.gov/pdf/TCR-AL122005_Katrina.pdf (last updated Aug. 2006 & Sept. 2011). The same 2005 hurricane season brought Hurricane Rita, a Category 5 storm causing one of the largest evacuations in U.S. history with a storm surge that destroyed entire coastal communities of Louisiana with an estimated twelve billion dollars in overall damages. RICHARD D. KNABB ET AL., NAT'L HURRICANE CTR., TROPICAL CYCLONE REPORT: HURRICANE RITA 8 (2006), http://www.nhc.noaa.gov/pdf/TCR-AL182005_Rita.pdf (last updated Sept. 2011). It also brought Hurricane Wilma, which caused the "largest disruption to electrical service ever experienced in Florida." RICHARD J. PASCH ET AL., NAT'L HURRICANE CTR., TROPICAL

rapid spread of novel H1N1 influenza around the world in 2009 and 2010 showed that, despite years of planning, many of our institutions remain underprepared to quickly and effectively react to an emerging infectious disease that had been widely anticipated.[5] The 2010 BP *Deepwater Horizon* oil spill in the Gulf of Mexico and the Fukushima radiation release in Japan following its 2011 earthquake and tsunami demonstrated that technological and political limitations can impede the resolution of serious threats to public health.[6]

Events like these remind us of the destructive potential of natural events on human health and well-being. They also highlight the capacity of technology to foster risks of harm to health, whether wielded for beneficial, neutral, or malevolent purposes. Since additional significant health threats from infectious diseases and natural disasters surely will emerge in the future, whether naturally occurring or intentionally instigated, these factors reveal quite starkly the continuing need for effective governance of public health emergencies.

The success or failure of the response to a public health emergency relies on mechanisms and contingencies that are astoundingly complex. Complex systems involved in a multijurisdictional, multisectoral public health emergency response often successfully minimize the harmful impact of health threats.[7] Nevertheless, when these complex systems fail, they often fail in complex ways, eluding easy remedies to diagnose and solve the problems that led to the failure.[8]

CYCLONE REPORT: HURRICANE WILMA 5 (2006), http://www.nhc.noaa.gov/pdf /TCR-AL 252005_Wilma.pdf (last updated Sept. 2006).

[5] *See* Lance Gable et al., *Public Health Legal Responses to H1N1*, 39 J.L. MED. & ETHICS (SPECIAL SUPPLEMENT) 46 (2011) (exploring the public health legal responses to the H1N1 pandemic).

[6] *See* Hari M. Osofsky, *Multidimensional Governance and the BP* Deepwater Horizon *Oil Spill*, 63 FLA. L. REV. 1077, 1105–07 (2011) (discussing how political overlap and fragmentation can impede efficiency in the event of a disaster); Daniel Kaufmann & Veronika Penciakova, Opinion, *Japan's Triple Disaster: Governance and the Earthquake, Tsunami and Nuclear Crises*, BROOKINGS: RESEARCH (Mar. 16, 2011), http://www .brookings.edu/research/opinions/2011/03/16-japan-disaster-kaufmann (discussing how Japan's response to the nuclear power plant crisis was subpar, reflecting shortcomings in leadership and governance).

[7] *See* J.B. Ruhl, *Law's Complexity: A Primer*, 24 GA. ST. U. L. REV. 885, 890–901 (2008).

[8] *Id.* at 907.

Hurricane Katrina, the most obvious and egregious failure of public health emergency response in recent American history, exemplifies this complexity. The breakdown of the Hurricane Katrina response stemmed from multiple factors. Deficiencies in the design of the logistical and legal systems for public health emergency response resulted in poor emergency planning, inadequate clarity of key aspects of applicable law and policy, and political gridlock.[9] Further, operational deficiencies arose in the system stemming from insufficient systemic capacity, poor decision making at multiple levels of government, and lackluster implementation of existing emergency plans.[10]

Improving and strengthening public health emergency response systems in the aftermath of Hurricane Katrina has proved a daunting task that has preoccupied lawmakers, policymakers, health professionals, and scholars alike.[11] Law and policy debates addressing public health emergencies have most often focused on questions of power allocation between government entities or the structural composition of the formal (i.e., legally prescribed,

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[9] *See infra* Part II.C.1.

[10] *See infra* Part II.C.2.

[11] *See generally* COMM. ON HOMELAND SEC. AND GOVERNMENTAL AFFAIRS, HURRICANE KATRINA: A NATION STILL UNPREPARED, S. REP. NO. 109-322, at 585–630 (2005), http://www.gpo.gov/fdsys/search/pagedetails.action?browsePath=109/SRPT/[300%3b]&granuleId=CRPT-109srpt322&packageId=CRPT-109srpt322 [hereinafter HURRICANE KATRINA: A NATION STILL UNPREPARED] (analyzing the Hurricane Katrina response and making recommendations for improvement); PERFORMANCE REVIEW OF FEMA, *supra* note 4, at 18–65 (assessing the successes and failures of the Hurricane Katrina response and providing recommendations for improvement); THE WHITE HOUSE, THE FEDERAL RESPONSE TO HURRICANE KATRINA: LESSONS LEARNED 51–82 (2006), http://georgewbush-whitehouse.archives.gov/reports/katrina-lessons-learned/ [hereinafter LESSONS LEARNED] (providing a list of lessons learned from the Hurricane Katrina response and suggesting improvements to the federal system); THOMAS A. BIRKLAND, LESSONS OF DISASTER: POLICY CHANGE AFTER CATASTROPHIC EVENTS 157–89 (2006) (describing lessons learned and unlearned during the Hurricane Katrina disaster response); Erin Ryan, *Federalism and the Tug of War Within: Seeking Checks and Balance in the Interjurisdictional Gray Area*, 66 MD. L. REV. 503, 522–39 (2007) (describing the impact of federalism on the Hurricane Katrina response). *See generally* LAW AND RECOVERY FROM DISASTER: HURRICANE KATRINA (Robin Paul Malloy ed., 2009) (analysis and recommendations related to improving disaster response); JOHN MCQUAID & MARK SCHLEIFSTEIN, PATH OF DESTRUCTION: THE DEVASTATION OF NEW ORLEANS AND THE COMING AGE OF SUPERSTORMS (2006) (describing the events leading to, and the political and policy aftermath of, Hurricane Katrina); ON RISK AND DISASTER: LESSONS FROM HURRICANE KATRINA (Ronald J. Daniels et al. eds., 2006) (analysis of Hurricane Katrina and recommendations to improve disaster response).

government-led) chain of authority during an emergency response.[12] Questions of how the governance of public health emergencies can be orchestrated more broadly—taking into account the concurrent activities and capacities of multiple governmental and nongovernmental actors—have received much less examination.

The overwhelming emphasis on solidifying and strengthening the government-led aspects of emergency response raises two concerns. First, the presumption that government activities and traditional, centralized "command-and-control" organizational schemes form the only reasonable model for emergency response fails to consider the important contributions of actors outside the formal system to successful emergency response efforts. A successful public health emergency response often involves marshaling a much broader set of inputs and actors to work in concert with the government sphere. Nongovernmental participants in emergency response may include volunteers, nongovernmental organizations, private sector institutions, and community members.[13] Second, this emphasis similarly disregards options for improving the governance of public health emergencies that extend beyond the scope of these formal systems. Overreliance on the operation of formal emergency response systems can leave these systems vulnerable to failure when specific decision

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[12] *See, e.g.*, George J. Annas, *Blinded by Bioterrorism: Public Health and Liberty in the 21st Century*, 13 HEALTH MATRIX 33, 45-54 (2003) (criticizing the use of emergency legal powers by state governments during public health emergencies); Lawrence O. Gostin, *Public Health Law in an Age of Terrorism: Rethinking Individual Rights and Common Goods*, 21 HEALTH AFF. 79, 86–91 (2002) [hereinafter Gostin, *Public Health Law in an Age of Terrorism*] (defending the use of emergency legal powers by state governments during public health emergencies).

[13] *See* JAMES F. MISKEL, DISASTER RESPONSE AND HOMELAND SECURITY: WHAT WORKS, WHAT DOESN'T 17–18 (2006) (describing the integral role of nonprofit volunteer organizations including the Red Cross in disaster response); James G. Hodge, Jr., et al., *The Legal Framework for Meeting Surge Capacity Through the Use of Volunteer Health Professionals During Public Health Emergencies and Other Disasters*, 22 J. CONTEMP. HEALTH L. & POL'Y 5, 13–14 (2005) [hereinafter Hodge, *Legal Framework for Meeting Surge Capacity*] (discussing the importance of volunteers in meeting surge capacity needs during public health emergencies); Sharona Hoffman, *Responders' Responsibility: Liability and Immunity in Public Health Emergencies*, 96 GEO. L.J. 1913, 1918–19 (2008) (describing a range of private-sector professionals, including volunteers, who may be necessary to medical response during public health emergencies); Gabor D. Kelen & Melissa L. McCarthy, *The Science of Surge*, 13 ACAD. EMERGENCY MED. 1089, 1090–91 (2006) (detailing the role of hospitals and the concept of hospital surge capacity during catastrophic events); Monica Schoch-Spana et al., *Community Engagement: Leadership Tool for Catastrophic Health Events*, 5 BIOSECURITY & BIOTERRORISM 8, 11–21 (2007) (highlighting the role of community members in successful emergency response efforts).

makers neglect to make good decisions or execute their discretion ineffectively, as was the case during Hurricane Katrina.

Governance theories are particularly relevant to addressing the challenges posed by public health emergencies because these theories can help to explain and shape outcomes within complex systems. Governance encompasses the activities, functions, and exercises of management, influence, and control that may be applied to achieve designated ends within a system. Nonetheless, a clear understanding of governance of public health emergencies remains elusive and incomplete. This Article delineates and explores three categories of governance models: *traditional governance models*, *New Governance models*, and *diffuse governance models*.[14] Not only do these models provide insight into existing efforts to govern public health emergencies within and outside of formal emergency response systems, they also highlight unexplored avenues for strengthening these systems.

This Article proposes implementing a novel strategy of *integrated pluralistic governance* to improve health outcomes during public health emergencies. Integrated pluralistic governance adopts aspects of all three governance models and encourages the development of a redundant governance infrastructure to foster resiliency and adaptability during public health emergency responses.[15] In other words, the mechanisms in place to respond to public health emergencies should be both pluralistic in that they employ several different governance models simultaneously, and integrated in that these models are coordinated, or at least complementary, to the extent possible. This strategy has two inherent advantages for effective public health emergency response. First, integrated pluralistic governance recognizes the benefits of different governance models and encourages strengthening multiple models concurrently, while

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14 *See* discussion *infra* Part III.

15 While redundancy often is characterized as an inherently negative concept reflecting waste and inefficiency, I hope to deconstruct this understanding. In some circumstances, redundancy across systems can promote innovation, protect rights, and help improve legal and social norms. *See* Robert M. Cover, *The Uses of Jurisdictional Redundancy: Interest, Ideology, and Innovation*, 22 WM. & MARY L. REV. 639, 645–46, 661 (1981) [hereinafter Cover, *Uses of Jurisdictional Redundancy*] (showing that jurisdictional redundancy of parallel legal forums leads to better outcomes by allowing for the creation of new norms and permitting litigants to avoid corrupt judges). *See also* Robert M. Cover & T. Alexander Aleinikoff, *Dialectical Federalism: Habeas Corpus and the Court*, 86 YALE L.J. 1035, 1044–46 (1977) [hereinafter Cover, *Dialectical Federalism*] (discussing the potential benefits of redundancy in the multilayered jurisdiction created by habeas corpus petitions).

providing resiliency to counter the weaknesses of each respective governance model. Second, the strategy creates a redundant infrastructure that can circumvent governance failures when they arise and achieve good health outcomes despite these failures.

The application of concurrent governance models through an integrated pluralistic governance strategy can avoid failures in the public health emergency response system if one governance strategy breaks down or moves too slowly, as the formal chain of command did during Hurricane Katrina. Integration of these governance models could lead to greater effectiveness, transparency, coordination, and synergy of effort in public health emergency response. Deploying varying governance models can also potentially minimize interjurisdictional and interinstitutional conflict during public health emergencies by more completely mapping the relationships between different participants in emergency governance and resolving their respective roles, strategies, and inconsistencies.[16] Care must be exercised to insure that inconsistencies and power struggles across the different governance models do not undermine the resiliency created through the integrated pluralistic governance strategy.

This Article explores and develops models of public health emergency governance in detail, focusing on the response phase of the emergency.[17] Part II of the Article identifies a number of core challenges for public health emergency governance. This discussion underscores the logistical and legal complexity of public health emergencies, the threats that these emergencies pose to population health, and the potential for governance failures within the emergency response system, particularly when the system is faced with a catastrophic emergency like Hurricane Katrina. Part III of the Article provides an extensive overview of three models of governance and

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16 *See* Cass R. Sunstein, *Incompletely Theorized Agreements*, 108 HARV. L. REV. 1733, 1768–69 (1995) (discussing how members of society achieve a level of mutual respect even when they cannot come to a consensus on the content of policy issues); *see also* GRIFFIN TROTTER, THE ETHICS OF COERCION IN MASS CASUALTY MEDICINE 40, 51–52 (2007) (applying modus vivendi theory—the idea that parties will not reach a consensus, but rather work together "in spite of intractable differences"—to decision making during public health emergencies); Jennifer Prah Ruger, *Health, Health Care, and Incompletely Theorized Agreements: A Normative Theory of Health Policy Decision Making*, 32 J. HEALTH POL., POL'Y, & L. 51, 51–52 (2007) (asserting a normative theory for analyzing health policy and observing "that unarticulated values and norms have a critical role to play in health-policy making and reform").

17 The phases of emergency response are typically divided into four categories: preparedness, response, mitigation, and recovery. *See* 6 U.S.C. § 314(a) (2006).

situates public health emergencies within the context of each model. This discussion compares the three governance models and assesses governance of public health emergencies according to metrics of government control and centralization. Part IV synthesizes these concepts and makes the case that public health emergency governance can be improved through the application of the innovative strategy of integrated pluralistic governance. This section considers the strengths and weaknesses of the three governance models and demonstrates that an integrated pluralistic governance approach can use aspects of each model in creating a more robust and resilient public health emergency response system built on notions of concurrency, coordination, and redundancy. This section additionally explores the challenges that redundancy and hierarchy pose to public health emergency governance models, and the contributions and limitations of law in addressing complex challenges inherent to public health emergency governance. Despite these challenges, integrated pluralistic governance strategies are vital to avoiding systemic failures when dangerous public health emergencies arise and threaten health.

I
CHALLENGES OF PUBLIC HEALTH EMERGENCY GOVERNANCE

A. Defining Public Health Emergency Governance

Models of governance describe efforts to influence or exert control over events and outcomes within a system.[18] Several key aspects typify the concept of governance: (1) efforts to manage or control events; (2) participation by a multiplicity of actors and institutions; (3) use of different methods and tools to achieve governance goals; (4) a need to comprehend and navigate multiple intersecting systems and priorities that shape the architecture of governance; and (5) consideration of a range of normative goals, whether political, social, or economic.[19]

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[18] *See* Scott Burris, *Governance, Microgovernance and Health*, 77 TEMP. L. REV. 335, 336 (2004) [hereinafter Burris, *Governance, Microgovernance and Health*] (defining governance as "the management of the course of events in a system"); Orly Lobel, *The Renew Deal: The Fall of Regulation and the Rise of Governance in Contemporary Legal Thought*, 89 MINN. L. REV. 342, 344 (2004) (defining governance as "the range of activities, functions, and exercise of control by both public and private actors in the promotion of social, political, and economic ends").

[19] Definitions of governance abound within the scholarly literature and cover a wide range of variations on the themes outlined in this section. *See generally* John Braithwaite et al., *Can Regulation and Governance Make a Difference?*, 1 REG. & GOVERNANCE 1

Assessing models of "governance," rather than models of "government" or "regulation," may have significant implications for how we understand systems and the effect of law and other factors on outcomes in complex systems. The rise in attention to the concept of governance in academic and policy circles, therefore, has importance since it may represent a paradigm movement toward applying a broader perspective on how actions affect outcomes in complex social systems. In the public health emergency context, governance involves looking at the entirety of the systems and participants relevant to public health emergencies and evaluating them as a complex and interrelated whole rather than as discrete subcomponents.

The semantic distinction between governance and regulation merits attention. Historically, discussions of regulation focused on efforts by the government to authorize or limit events or behavior.[20] The shift to discussing governance rather than regulation coincided with the recognition by scholars and policymakers of a more involved role of external, non-state actors in the management of events or behaviors, essentially expanding the notion of regulation beyond the state.[21] While some commentators continue to use the terms governance and regulation interchangeably, the two concepts may be differentiated by their scope and breadth. Governance is a broader concept than regulation, encompassing all of the actors and tools that may participate in managing events within a system.[22] Regulation comprises a subset of governance, as the set of law-based tools designed to affect "the flow of events and behavior" but not

(2007) (introducing a new journal focusing on regulation and governance, and explaining its priorities and interests); Scott Burris et al., *Changes in Governance: A Cross-Disciplinary Review of Current Scholarship*, 41 AKRON L. REV. 1 (2008) [hereinafter Burris, *Changes in Governance*] (providing detailed discussion and citations for definitions of governance).

20 *See* IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE 7–16 (1992) (discussing contemporary trends and theories in regulation and deregulation).

21 *See* Julia Black, *Constructing and Contesting Legitimacy and Accountability in Polycentric Regulatory Regimes*, 2 REG. & GOVERNANCE 137, 139 (2008) [hereinafter Black, *Polycentric Regulatory Regimes*] (defining regulation as "sustained and focused attempts to change the behavior of others in order to address a collective problem or attain an identified end or ends, usually through a combination of rules or norms and some means for their implementation and enforcement, which can be legal or non-legal").

22 *See* Julia Black, *Critical Reflections on Regulation*, 27 AUSTRALIAN J. LEGAL PHIL. 1, 29–34 (2002) (finding that regulation is a less broad concept than governance).

necessarily providing and distributing activities.[23] Thus, governance of public health emergencies entails all of the activities, functions, and exercises of management, influence, and control that may be applied to achieve designated ends during a public health emergency.

Institutions of government traditionally have been the primary actors in governance generally and in the governance of public health in particular. Indeed, the population-level goals of public health often demand the strong participation of government in order to function, as the private sector takes insufficient interest in the collective health goals necessary to protect and improve public health.[24] Local government officials and institutions have taken a direct role in governing public health throughout the history of the United States.[25] Over time, the governance of public health was transformed from a set of actions within the discrete purview of local governments to a more complex system incorporating substantial state and federal regulatory efforts.[26] State participation in public health was integral to the expansion of public health practice, particularly given the broadly recognized constitutional authority of the states to utilize their police powers to protect the public's health.[27] Federal involvement in public health practices began expanding in the latter half of the twentieth century, mirroring the augmentation of federal powers and proliferation of federal institutions and administrative regulations that accompanied the rise of the administrative state more generally.[28]

The expanding jurisdictional interest in public health governance accompanied a contemporaneous pluralization in the nature of the participants involved in public health activities. As the complexity of health threats increased and the scope of challenges to public health expanded, various nongovernmental actors became involved in efforts to manage and attempt to control outcomes in the face of threats to

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[23] Braithwaite et al., *supra* note 19, at 3 (contrasting the scope of regulation and governance as concepts).

[24] *See* LAWRENCE O. GOSTIN, PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT 6 (2d ed., 2008) (recognizing the primary role of government in protecting the public's health) [hereinafter GOSTIN, POWER, DUTY, RESTRAINT].

[25] *See id.* at 150–51.

[26] *See id.* at 155–65.

[27] *See* Jacobson v. Massachusetts, 197 U.S. 11, 38–39 (1905) (upholding state police powers to require compulsory smallpox vaccinations).

[28] *See* GOSTIN, POWER, DUTY, RESTRAINT, *supra* note 24, at 147–65 (detailing the historical development of public health governance).

health, oftentimes under the explicit or implicit direction of the government.[29]

This expanded community, together with traditional government actors, has led to the development of a modern, multifaceted public health system. The Institute of Medicine has recognized that the U.S. health system is comprised of numerous sectors and participants, including government agencies, the clinical care delivery system, employers and businesses, the media, the education sector, and members of the public.[30] Moreover, each of these sectors operates within its own legal environment, subject to numerous, distinct legal obligations and standards. Despite the more extensive diversification of actors involved in public health governance, however, government institutions at all levels continue to play an integral role in the governance of public health and take a particularly prominent role in the governance of public health emergencies.

The application of governance as a conceptual model for assessing systemic functioning can generate novel ideas for strengthening public health systems. By contemplating and attempting to understand the complex, multifaceted relationships between actors, institutions, methodologies, and outcomes in the context of public health emergencies, we may glean new insights into the factors that truly affect outcomes under these circumstances. If we can avoid piecemeal, fragmented approaches to assessing public health emergency response and consider instead the larger systemic framework at hand, there is a chance to better comprehend and impact how this system is governed.[31]

B. Complexity and Public Health Emergency Governance

Governance of public health emergencies presents a series of formidable challenges, many of which arise from the complexity of the relevant systems and the effects of public health emergencies. Yet, the application of governance models—which can provide context to

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[29] *See id.* at 155–65.

[30] *See* INSTITUTE OF MEDICINE, FOR THE PUBLIC'S HEALTH: REVITALIZING LAW AND POLICY TO MEET NEW CHALLENGES 27–33 (2011) (describing the structure and participants in the health system in the United States).

[31] There is always some danger in trying to assess whole systems or to believe that we can engineer these systems to produce the outcomes we seek. Burris, *Governance, Microgovernance and Health*, *supra* note 18, at 336–37 (noting that moving health policy towards a governance approach is not a panacea, and urging humility in engaging in the difficult task of trying to manage a complex system toward specific ends).

understand complex systems—to public health emergencies has not been extensively explored and remains undertheorized. In particular, extant legal scholarship in the field often does not address the broader systemic issues raised by governance approaches or apply the ideas being proposed by governance scholars in other disciplines.[32] To the extent that legal scholars have devoted sustained attention to health governance models, most have explored the fields of global health[33] and healthcare.[34] However, the urgency and potential novelty engendered by public health emergencies—particularly during the response phase when rapid actions are required to minimize loss of life—are unlike situations examined in these other areas of health governance, which typically assess governance in less urgent circumstances.[35]

There are several compelling reasons to apply governance theories to public health emergencies. Governance allows for a more sophisticated look at the systemic factors that apply to outcomes during public health emergencies, such as legal systems, allocations of authority, organization and prioritization of resources, logistical challenges, and application of expertise. Governance theories additionally may explain how different actors and actions fit together

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[32] *But see* Nan D. Hunter, *"Public-Private" Health Law: Multiple Directions in Public Health*, 10 J. HEALTH CARE L. & POL'Y 89, 103–09 (2007) [hereinafter Hunter, *"Public Private" Health Law*] (discussing the growing body of new governance trends in public health law and policy).

[33] *See, e.g.*, David P. Fidler, *Global Health Jurisprudence: A Time of Reckoning*, 96 GEO. L.J 393, 394–95 (2008) (describing the rise of global health governance through global health jurisprudence); Lawrence O. Gostin, *Meeting Basic Survival Needs of the World's Least Healthy People: Toward a Framework Convention on Global Health*, 96 GEO. L.J. 331, 383–91 (2008) (recommending the creation of a Framework Convention on Global Health). *See generally* GLOBAL PUBLIC GOODS FOR HEALTH: HEALTH ECONOMIC AND PUBLIC HEALTH PERSPECTIVES (Richard D. Smith et al. eds., 2003) (examining the globalization of health through "public goods" theory).

[34] Scholars have applied governance models to aspects of the health care system and the medical research infrastructure in the United States. *See* Scott Burris, *Regulatory Innovation in the Governance of Human Subjects Research: A Cautionary Tale and Some Modest Proposals*, 2 REG. & GOVERNANCE 65 (2008); Nan D. Hunter, *Risk Governance and Deliberative Democracy in Health Care*, 97 GEO. L.J. 1 (2008); Joseph V. Rees, *The Orderly Use of Experience: Pragmatism and the Development of Hospital Industry Self-Regulation*, 2 REG. & GOVERNANCE 9 (2008).

[35] *See* Fidler, *supra* note 33, at 397–98 (noting the unprecedented cross-sector cooperation necessitated by public health emergencies); *see also* Scott Burris et al., *Nodal Governance*, 30 AUSTLALIAN J. LEGAL PHIL. 30 (2005) [hereinafter Burris, *Nodal Governance*] (proposing a nodal governance approach to improve health in a nonemergency context); Louise G. Trubek, *New Governance and Soft Law in Health Care Reform*, 3 IND. HEALTH L. REV. 139, 146–50 (2006) (assessing new governance approaches to everyday health care systems).

within the entirety of the public health emergency context, as well as the methods, institutions, and legal or normative regimes that may empower or constrain these actions. This insight is vital to improving results during public health emergency responses. The failures of the Hurricane Katrina response, for example, hinged on both systemic problems (poor design of emergency response systems) and operational problems (poor execution of emergency response plans) in the government-led response efforts.[36] Application of governance theories also may provide new ideas for public health emergency preparedness and response or may challenge existing orthodoxies in these areas. In short, broadly assessing how public health emergencies are governed, rather than merely how they are regulated by law or influenced by specific plans or provisions, provides an opportunity to create a more useful, comprehensive, and adaptable framework to address emergency circumstances. Moreover, approaching these problems as governance problems can allow law- and policymakers to reconsider the potential roles that law can play as a component of a system of governance.[37]

1. Logistical Complexity in Public Health Emergency Governance

Public health emergencies are among the most complex situations to govern given the social disruption, impact on health, and extraordinary circumstances that often surround such emergencies. Events that meet the definition of a public health emergency[38]

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[36] *See infra* Part II.C for more discussion of systemic and operational failures generally and during Hurricane Katrina.

[37] On this issue, I concur with Professor Nan Hunter's observation that "public health law offers the opportunity to study the interaction of varying models of governance as they develop, in real time." Hunter, *supra* note 32, at 119.

[38] Legal definitions of "public health emergency" at both the federal and state levels concur with this distinction between emergency and normal circumstances. The federal Public Health Service Act defines a public health emergency as "a disease or disorder . . . including significant outbreaks of infectious diseases or bioterrorist attacks." 42 U.S.C. § 247d(a) (2006). A more descriptive definition, which has been widely used at the state level, is offered by the Model State Emergency Health Powers Act (MSEHPA). It defines a "public health emergency" as:

> [A]n occurrence or imminent threat of an illness or health condition that:
>
> (1) is believed to be caused by any of the following: (i) bioterrorism; (ii) the appearance of a novel or previously controlled or eradicated infectious agent or biological toxin; (iii) [*a natural disaster*;] (iv) [*a chemical attack or accidental release; or*] (v) [*a nuclear attack or accident*]; and (2) poses a high probability of any of the following harms: (i) a large number of deaths in the affected population; (ii) a large number of serious or long-term disabilities in the affected

typically have common characteristics that pose logistically complex governance challenges that differ from the governance of everyday health concerns.

First, public health emergencies are discrete events that present significant threats to health that are distinct from the health challenges endemic to a population. As a result, mechanisms and procedures designed to govern the health system and to protect health in everyday circumstances may not be capable of handling the novel challenges posed by a public health emergency.[39]

Second, another aspect of the discrete nature of public health emergencies is that they normally occur for a limited duration, at least in their most acute phases. The temporary nature of events like an influenza pandemic or a massive hurricane arguably renders them easier to address from a governance perspective compared with other ongoing and persistent governance challenges that arise in everyday circumstances. While the crisis may be sudden and severe, the acute effects (and cost) will resolve in a limited period of time, thereby avoiding long-term, continuous governance complications or obligations.[40] Yet, the severity and magnitude of threats to health

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> population; or (iii) widespread exposure to an infectious or toxic agent that poses a significant risk of substantial future harm to a large number of people in the affected population.

CENTER FOR LAW AND THE PUBLIC'S HEALTH AT GEORGETOWN AND JOHNS HOPKINS UNIVERSITIES, MODEL STATE EMERGENCY HEALTH POWERS ACT art. I, § 104(m) (Dec. 21, 2001) [hereinafter MSEHPA] (alterations in original).

[39] Often health system governance and capacity is not able to handle normal health needs to achieve good health outcomes. There is ample evidence that the health system in New Orleans before Hurricane Katrina was grossly inadequate to handle the health needs of the population, even under nonemergency circumstances. *See* Evangeline (Vangy) Franklin, *A New Kind of Medical Disaster in the United States*, *in* THERE IS NO SUCH THING AS A NATURAL DISASTER: RACE, CLASS, AND HURRICANE KATRINA 185, 185–87 (Chester Hartman & Gregory D. Squires eds., 2006).

[40] The longer-term effects of public health emergencies can also be significant, and raise distinct governance challenges beyond the scope of this discussion. For instance, the long term health effects of public health emergencies like radiation exposure from the Chernobyl nuclear accident, inhalation of toxic materials in the September 11, 2001, recovery efforts in New York, and the exposure to oil and dispersant in the Gulf of Mexico resulting from the 2010 BP *Deepwater Horizon* Oil Spill will not be known for many years. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-04-1068T, HEALTH EFFECTS IN THE AFTERMATH OF THE WORLD TRADE CENTER ATTACK 7–15, 20–23 (2004) (describing the health effects which were observed in the aftermath of the World Trade Center attack and the efforts undertaken by various entities to monitor and understand those health effects); Linda A. McCauley, *Environments and Health: Will the BP Oil Spill Affect Our Health?*, 110 AM. J. NURSING 54, 54–56 (2010) (discussing how experts examine the potential short- and long-term effects of the BP oil spill); *Health Effects of the Chernobyl Accident: An Overview*, WORLD HEALTH ORG. (Apr. 2006), http://www.who

created by these catastrophes and the strenuous impact they place on the health system may, to the contrary, increase the complexity of governance challenges, particularly in the short term. Severe damage to key parts of the governance infrastructure, such as the wholesale destruction of communications capability during Hurricane Katrina[41] or the decimation of physical infrastructure that followed the 2010 earthquake in Port-au-Prince, Haiti,[42] heightens systemic stress until damaged or dysfunctional systems can be repaired or circumvented.

Third, public health emergencies may require rapid and sometimes extraordinary responses based upon the sudden and significant threats to health and well-being, as well as other factors, created by such emergencies.[43] These factors have a particular relevance to questions of governance since the need for expeditious and efficient actions may inform the appropriate governance options under the circumstances.[44]

Fourth, public health emergencies arise at times and in ways that may be difficult or even impossible to predict with specificity, although it is often possible to foresee the general types of public

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.int/ionizing_radiation/chernobyl/backgrounder/en/index.html (reporting, twenty years after the accident, the nature of the long-term health effects); NAT'L INST. ENVTL. HEALTH SCI., GULF STUDY, http://www.niehs.nih.gov/about/od/programs/gulfspill/gulfstudy/index.cfm (last updated Oct. 3, 2012) (ongoing study on the long-term health effects of the BP oil spill).

41 LESSONS LEARNED, *supra* note 11, at 37, 55–56.

42 *See* ELIZABETH FERRIS & DANIEL PETZ, THE BROOKINGS INST. – LONDON SCH. OF ECON., A Year of Living Dangerously: A Review of Natural Disasters in 2010 44–45 (2011) (discussing how the government was almost completely paralyzed in the days immediately following the disaster; "26,000 civil servants are estimated to have perished, government ministries and agency headquarters were destroyed, there were major communications difficulties," and many government employees were too traumatized to fulfill their responsibilities).

43 Indeed, the MSEHPA definition of public health highlights the severity of the health risk as integral to the definition of "public health emergency" in that it must pose

> [A] high probability of any of the following harms: (i) a large number of deaths in the affected population; (ii) a large number of serious or long-term disabilities in the affected population; or (iii) widespread exposure to an infectious or toxic agent that poses a significant risk of substantial future harm to a large number of people in the affected population.

MSEHPA, *supra* note 38, at art. I, § 104(m). *See also* ON RISK AND DISASTER, *supra* note 11, at 8.

44 While the threats to health may indeed be extraordinary during a public health emergency, the question of whether public health emergencies justify extraordinary legal powers has raised considerable debate. *See infra* note 81, on the debate over extraordinary legal powers for public health emergency response.

health emergencies that might arise. Scientists know the locations where hurricanes, floods, and earthquakes are likely to occur, if not the exact timing and magnitude. These variables are quite important, since a disaster that strikes with unanticipated severity or in an unexpected location can overwhelm even well-designed systems.[45] Application of advanced technologies such as disease surveillance, epidemiology, weather tracking, and seismology,[46] have increased the likelihood of anticipating these threats in advance, but this does not alleviate the potential for unexpected threats to materialize. This reality suggests that governance planning should take into account likely public health emergency scenarios and build in adaptability to respond to less likely emergency circumstances.

The terrible destruction wreaked by Hurricane Katrina on Gulf Coast communities exemplifies all four of these characteristics of public health emergencies. The storm itself, one of the strongest on record in the Gulf of Mexico, created a distinct threat to the health of those living in communities in its path. The duration of the storm was brief, but the aftermath of the storm and subsequent flooding in New Orleans interrupted normal functions of government, the health system, and other key infrastructure, resulting in short-term health and governance challenges. A storm of this magnitude, location, and likely consequences was not only predictable, it was effectively predicted in a training exercise held only a year prior to the real storm.[47] Therefore, the inability of the formal emergency response

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[45] *See* Arnold M. Howitt & Herman B. "Dutch" Leonard, *Katrina and the Core Challenges of Disaster Response*, 30 FLETCHER F. WORLD AFF. 215, 216–17 (2006) (noting that Hurricane Katrina was distinct from other "routine" emergencies due to its novelty of scale and location), *available at* http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/katrina_core_challenges.pdf.

[46] *See* Zhengzhang Chen et al., *Discovery of Extreme Events-Related Communities in Contrasting Groups of Physical System Networks*, DATA MINING AND KNOWLEDGE DISCOVERY, Aug. 6, 2012 (outlining a new predictive model for forecasting hurricanes and large rainfalls); L. Knopoff, *Earthquake Prediction: The Scientific Challenge*, 93 PROC. NAT'L ACAD. SCI. U.S. 3719 (1996) (outlining the difficulties facing earthquake prediction efforts).

[47] In 2004, the Federal Emergency Management Agency (FEMA) and Louisiana began a series of meetings to develop a detailed response plan for a catastrophic hurricane. Participating federal, state, and local staff responded to a simulated Category 3 hurricane named Pam in order to develop strategies for predeployment, search and rescue, shelter and temporary housing, commodity distribution, and public information, among other functions. Insufficient funding precluded the completion of the meetings. Although the Hurricane Pam efforts were only partially complete when Hurricane Katrina made landfall, they still had a positive impact. *See* LESSONS LEARNED, *supra* note 11, at 25; *see*

infrastructure to adequately respond was baffling and inexcusable. Finally, Hurricane Katrina did require an extraordinary response, due to the unprecedented impact inflicted by the storm on affected areas. As described below, a number of systemic and operational deficiencies in the governance of the storm undermined the response and had negative health consequences.

A fifth characteristic of public health emergencies is that they come in many varieties, and therefore preparedness and response efforts must be adaptable. Preparing for a myriad of possible threats presents a daunting task and may stress the functioning of relevant legal and practical systems. Public health emergencies can arise from biological or environmental factors and may be instigated by intentional acts, technological failures, or unintentional "natural" events. Biologically-based threats (SARS, H1N1 influenza) may produce substantial mortality, possibly killing millions worldwide.[48] Environmental factors that threaten health, such as hurricanes and floods, have become stronger, more frequent, and more damaging, and have incurred widespread loss of life.[49] The nature of causation

also PERFORMANCE REVIEW OF FEMA, *supra* note 4, at 123–30 (discussing methods for better preparedness).

[48] Estimates of potential influenza pandemic mortality vary. *Compare* Christopher J.L. Murray et al., *Estimation of potential global pandemic influenza mortality on the basis of vital registry data from the 1918–20 pandemic: a quantitative analysis*, 368 LANCET 2211, 2211 (2006) (estimating that an influenza pandemic with similar virulence to the 1918 influenza pandemic could cause sixty-two million deaths worldwide, most in developing countries), *with* PRESIDENT'S COUNCIL OF ADVISORS ON SCIENCE AND TECHNOLOGY, REPORT TO THE PRESIDENT ON U.S. PREPARATIONS FOR 2009-H1N1 INFLUENZA viii (2009) (presenting a model scenario with mortality rates between 30,000 and 90,000 people from the 2009 H1N1 novel influenza in the United States). *See also* Declan Butler, *How severe will the flu outbreak be?*, NATURE, May 2009, at 14, 14–15 (quoting several influenza experts on the inherent uncertainty in the morbidity and mortality caused by a novel influenza strain); *FluView: A Weekly Influenza Surveillance Report*, CENTERS FOR DISEASE CONTROL AND PREVENTION, http://www.cdc.gov/flu/weekly (last updated Oct. 26, 2012) (providing recent H1N1 data and showing that in 2009 and 2010, there were 282 influenza-related pediatric deaths. Compare to 133 deaths in year 2008 and 2009 and 122 deaths in year 2010 and 2011).

[49] *See, e.g.*, ELIZABETH FERRIS, THE BROOKINGS INST., NATURAL DISASTER RESPONSE IN JAPAN AND FIJI 1 (2011) (noting that the Japan earthquake and subsequent tsunami destroyed 120,000 buildings, caused more than $300 billion in economic damages, and left more than 20,000 people dead); Eric Stover & Patrick Vinck, *Cyclone Nargis and the Politics of Relief and Reconstruction Aid in Burma (Myanmar)*, 300 J. AM. MED. ASS'N 729, 729–30 (2008) (discussing how the unwillingness of the government in Myanmar to accept external assistance after Cyclone Nargis exacerbated the toll exacted by the storm); Adam B. Ellick, *Floods Could Have Lasting Impact for Pakistan*, N.Y. TIMES, Aug. 16, 2010, http://www.nytimes.com/2010/08/17/world/asia/17pstan.html

of the public health emergency may affect the governance of both preparedness and response activities. Intentionally caused emergencies may implicate national security and the criminal law system, while technological failures may give rise to tort claims. This variation in causes, causation, risks, and effects of public health emergencies further adds to the complexity of emergency response, since the relevant systems must be sufficiently flexible and adaptable to respond to such a variety of challenges. Table 1 provides examples of public health emergencies.

Table 1. Examples of events within the primary categories of public health emergencies

	Biological Factors	**Environmental Factors**
Intentional Causation	• Smallpox release • Weaponized anthrax release	• Dirty bomb detonation • Sarin Gas attack • Mass casualty terrorist attack • Nuclear detonation
Technological Failure	• Accidental release of infectious agent	• Deep water drilling oil spill • Nuclear release after tsunami flooding
Unintentional Causation	• Pandemic Influenza • SARS	• Natural disasters • Hurricanes • Floods • Earthquakes

2. Legal Complexity in Public Health Emergency Governance

A myriad of legal frameworks potentially apply to public health emergency preparedness and response. This legal complexity intersects with, and often exacerbates, the practical and logistical complexities that permeate public health emergencies. Law plays a vital role in the governance of public health emergencies. It establishes the powers and infrastructures that have had the most influence on how emergencies are governed. It legitimizes actions by

?pagewanted=all&_r=0 (outlining the devastation caused by the 2010 flooding throughout Pakistan).

government officials and also constrains the conduct of these officials. Further, it sets the rules for how nongovernmental entities—from nonprofit organizations, to private corporations, to volunteers—may participate in governance, as well as holding all participants responsible for their conduct.[50]

Public health emergency governance is marked by the confluence of several discrete strands of legal authority, only some of which are directly targeted at resolving emergency circumstances. Emergency responses engender the convergence of legal powers related to public health, emergency response, and national security. Emergency responses further implicate legal concerns as disparate as employment law,[51] environmental law,[52] and the regulation of different areas of healthcare practice.[53] This complicated legal landscape can add complexity and confusion to efforts to respond to emergencies.[54]

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[50] *See, e.g.*, Lawrence O. Gostin, *When Terrorism Threatens Health: How Far are Limitations on Personal and Economic Liberties Justified?*, 55 FLA. L. REV. 1105, 1132–34 (2003) [hereinafter Gostin, *When Terrorism Threatens Health*] (discussing the major legal powers necessary to respond to a public health emergency).

[51] *See* Hunter, *supra* note 32, at 114–17 (urging for job protection, income replacement, and healthcare access for those subjected to mandatory quarantine); Mark A. Rothstein & Meghan K. Talbott, *Job Security and Income Replacement for Individuals in Quarantine: The Need for Legislation*, 10 J. HEALTH CARE L. & POL'Y 239, 251–52, 255–56 (2007) (proposing job security and income replacement for individuals under quarantine orders).

[52] *See, e.g.*, William C. Nicholson, *Legal Issues in Emergency Response to Terrorism Incidents Involving Hazardous Materials: The Hazardous Waste Operations and Emergency Response* ("HAZWOPER") *Standard, Standard Operating Procedures, Mutual Aid and the Incident Management System*, 9 WIDENER L. SYMP. J. 295, 331–36 (2003) (analyzing the legal implications of emergency response involving hazardous materials); Victoria Sutton, *Environment and Public Health in a Time of Plague*, 30 AM. J.L. & MED. 217, 224–33 (2004) (examining public health law and environmental law in a post-September 11 environment); Julia C. Webb, *Responsible Response: Do the Emergency and Major Disaster Exceptions to Federal Environmental Laws Make Sense from a Restoration and Mitigation Perspective?*, 31 WM. & MARY ENVTL. L. POL'Y REV. 529, 555–66 (2007) (noting the environmental laws implicated by emergency response to hurricanes and the effectiveness of those laws).

[53] *See* James G. Hodge, Jr. et al., *Risk Management in the Wake of Hurricanes and Other Disasters: Hospital Civil Liability Arising from the Use of Volunteer Health Professionals During Emergencies*, 10 MICH. ST. UNIV. J. MED. & L. 57 (2006) (noting the necessity and effects of volunteer health professionals, and how hospitals must make adjustments to accommodate them).

[54] Another metric of the extent of this legal complexity is that the Department of Homeland Security's list of "legal authorities that guide the structure, development, and implementation of the *National Response Framework*," which is the key federal emergency response plan, includes sixty-three statutes and regulations, seventeen presidential executive orders, and twenty other presidential directives. DEP'T OF

Even a cursory review of the statutes, regulations, and other legal materials that form the legal framework for public health emergency response reveals the tangled architecture of relevant laws, which exist at federal, state, and local levels, and often overlap in their application and interpretation. Existing legal infrastructure places the nexus of emergency response at the local and state level, with federal officials only intervening once the state requests assistance or the circumstances reach a sufficient level of severity.

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act) represents the cornerstone of federal law related to emergency management,[55] and epitomizes this local-first approach. Primarily a funding mechanism, the Stafford Act authorizes the President to declare an "emergency" or "major disaster" at the request of state officials or, in rare cases, without such a request. Once one of these declarations has been made, the federal government may provide resources including financial, material, and logistical support through the Federal Emergency Management Agency (FEMA).[56]

Federal law provides for several other mechanisms to enact emergency response efforts. The National Emergencies Act[57] provides the President with authority to declare a "national emergency" without a specific state request.[58] This declaration activates any special or extraordinary powers that Congress has previously authorized the President to use.[59] The Posse Comitatus Act, by contrast, prohibits federal troops from being deployed for domestic law enforcement purposes, which limits their role during emergencies.[60] Efforts initiated after Hurricane Katrina to expand the role of military personnel during emergencies have been unsuccessful.[61]

HOMELAND SECURITY, NATIONAL RESPONSE FRAMEWORK: LIST OF AUTHORITIES AND REFERENCES (2008), http://www.fema.gov/pdf/emergency/nrf/nrf-authorities.pdf.

[55] Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121–5207 (2006).

[56] 42 U.S.C. §§ 5170, 5191.

[57] National Emergencies Act, 50 U.S.C. §§ 1601–1651 (2006).

[58] 50 U.S.C. § 1621.

[59] *Id.*

[60] Posse Comitatus Act, 18 U.S.C. § 1385 (2006). *See also* Michael Greenberger, *Did the Founding Fathers Do "A Heckuva Job"? Constitutional Authorization for the Use of Federal Troops to Prevent the Loss of a Major American City*, 87 B.U. L. REV. 397, 406–14 (2007) (discussing the scope and application of the Posse Comitatus Act).

[61] A short-lived amendment to the Insurrection Act, would have explicitly authorized the use of military personnel during a "natural disaster, epidemic, or other serious public health emergency." Insurrection Act, 10 U.S.C. § 333 (1956), *amended by* John Warner

Federal law further divides emergency preparedness and response efforts across multiple agencies. The Department of Homeland Security (DHS) has become the primary federal agency for emergency management, housing FEMA and overseeing the National Response Framework (NRF) and National Incident Management System (NIMS).[62] The NRF and NIMS are detailed emergency response plans designed to coordinate planning for emergency preparedness and response, although these documents do not themselves have the authority of law.[63]

Emergency powers more focused on the health aspects of emergencies are found elsewhere in federal law. The Public Health Service Act provides for the Secretary of the Department of Health and Human Services (HHS) to declare a public health emergency.[64] This provision, which focuses on financial support but could be used to justify more direct government intervention, has been invoked most recently in response to the outbreak of novel H1N1 influenza in 2009.[65] The Pandemic and All-Hazards Preparedness Act of 2006 expands the role of HHS in responding to and providing oversight for public health emergencies.[66] Recognizing that expertise in health can

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National Defense Authorization Act for Fiscal Year 2007, Pub. L. No. 109-364, § 1076(a)(1), 120 Stat. 2404 (2006). This provision was repealed in 2008. Pub. L. No. 110-181, § 1068(a)(1), 122 Stat. 325 (2008).

62 Homeland Security Presidential Directive 5 (HSPD-5), issued by the President in 2003, required DHS to develop the NRF and NIMS. COMM. ON HOMELAND SEC., 110TH CONG., COMPILATION OF HOMELAND SEC. PRESIDENTIAL DIRECTIVES 23, 26 (Comm. Print 2008).

63 *See* DEP'T OF HOMELAND SEC., NATIONAL INCIDENT MANAGEMENT SYSTEM (2008), http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf [hereinafter NIMS]; DEP'T OF HOMELAND SEC., NATIONAL RESPONSE FRAMEWORK (2008), http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf [hereinafter NRF].

64 "Public health emergency" is defined as follows:

> If the Secretary determines, after consultation with such public health officials as may be necessary, that
>
> (1) a disease or disorder presents a public health emergency; or
>
> (2) a public health emergency, including significant outbreaks of infectious diseases or bioterrorist attacks, otherwise exists.

42 U.S.C. § 247d(a) (2006).

65 *Determination that a Public Health Emergency Exists*, U.S. DEP'T HEALTH HUM. SERVICES (Mar. 22, 2010), http://www.hhs.gov/secretary/phe_swh1n1.html.

66 Pandemic and All-Hazards Preparedness Act of 2006, Pub. L. No. 109-417, 120 Stat. 2831 (codified as amended in scattered sections of 42 U.S.C.); *see also* James G. Hodge, Jr. et al., *The Pandemic and All-Hazards Preparedness Act: Improving Public Health Emergency Response*, 297 J. AM. MED. ASS'N 1708, 1708–10 (2007) [hereinafter Hodge, *Pandemic and All-Hazards Preparedness Act*] (analyzing the major legal changes

be vital to certain types of emergencies, the Act designates the Secretary of HHS as the lead federal official under the NRF for public health emergencies.[67] The Public Readiness and Emergency Preparedness Act (PREP Act) provides targeted liability protections for anyone involved in designing, manufacturing, distributing, or selling a medical countermeasure that has been designated by the Secretary of HHS to be vital to public health.[68] This Act provides widespread immunity to those involved with these countermeasures in order to incentivize their production.[69]

State emergency health powers coexist with this federal legal infrastructure, and in many ways are more substantial than federal powers since state powers are grounded in the state's inherent police powers.[70] All states have enacted legislation that permits state government, and in many cases local government as well, to act in response to emergencies.[71] States permit the declaration of an "emergency" or "disaster," or in some cases both, which changes the legal landscape relevant to emergency response and permits greater authority to respond rapidly.[72] State level legislation or executive orders may enact emergency preparedness plans, authorize the deployment of state resources, and waive licensing requirements and other regulations.[73] These legal provisions also may empower state officials to evacuate affected areas, shutter schools or public events, and restrict movement of individuals, consistent with constitutional due process limitations.[74] Emergency management officials at the state or local level implement these powers on behalf of the

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implemented in the Act). The role of the Secretary of HHS under these circumstances is further delineated in Emergency Support Function #8 (ESF-8), an annex to the NRF. *See generally* DEP'T OF HEALTH & HUM. SERVICES SECURITY, EMERGENCY SUPPORT FUNCTION #8–PUBLIC HEALTH AND MEDICAL SERVICES ANNEX (2008), http://www.fema.gov/pdf/emergency/nrf/nrf-esf-08.pdf.

67 42 U.S.C. § 300hh.

68 42 U.S.C. § 247d-6d(a).

69 *Id.*

70 Gibbons v. Ogden, 22 U.S. 1, 203 (1824); *see* GOSTIN, Power, Duty, Restraint, *supra* note 24, at 94.

71 *See* Hodge et al., *supra* note 13, at 26–28 (describing the scope of state emergency powers).

72 James G. Hodge, Jr. & Evan D. Anderson, *Principles and Practice of Legal Triage During Public Health Emergencies*, 64 N.Y.U. ANN. SURV. AM. L. 249, 263–65 (2008).

73 Lawrence O. Gostin et al., *The Model State Emergency Health Powers Act: Planning for and Response to Bioterrorism and Naturally Occurring Infectious Diseases*, 288 J. AM. MED. ASS'N 622, 623–25 (2002) [hereinafter Gostin, *MSEHPA*] (describing state emergency powers).

74 *Id.* at 626–27.

governor.[75] While state law varies considerably across the country, many states have enacted additional legislation that specifically authorizes public health officials to respond to public health emergencies. The Model State Emergency Health Powers Act (MSEHPA), drafted in 2001, has had a strong influence on the legal regimes in many of these states.[76] Finally, the Emergency Management Assistance Compact (EMAC) has been enacted by all fifty states, and allows for resource sharing between states during times of declared emergencies.[77]

In sum, many of the most relevant legislative and policy reform efforts related to public health emergency preparedness, such as the MSEHPA at the state level, modifications to the NRF and NIMS at the national level, and the International Health Regulations at the international level, were premised on creating better systemic frameworks for public health emergency governance through more detailed processes and more competent and responsive infrastructures.[78]

The influence of law on the governance of public health emergencies goes beyond the structural framework it provides. It also presents a venue for articulating and legitimizing the normative aspects of emergency preparedness and response. Laws may establish and codify norms of conduct and cooperation, as well as setting the overall goals to be sought through public health emergency

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[75] *See* Hodge et al., *supra* note 13, at 26–29 (describing the effects of state emergency powers declarations).

[76] A recent assessment concluded that forty-one states and Washington, D.C. have enacted some components of this model act into their state laws. NETWORK FOR PUB. HEALTH LAW, THE MODEL STATE EMERGENCY HEALTH POWERS ACT: SUMMARY MATRIX (June 2012) (on file with author).

[77] Emergency Management Assistance Compact, H.R.J. Res. 193, 104th Cong. (1996).

[78] *See* Gostin, *MSEHPA*, *supra* note 73, at 625–26 (describing the MSEHPA and the impetus behind the CDC's request to draft these model state programs); Naim Kapucu, *Interorganizational Coordination in Complex Environments of Disasters: The Evolution of Intergovernmental Disaster Response Systems*, 6 J. HOMELAND SECURITY & EMERGENCY MGMT. (2009) (evaluating the changes from the Federal Response Plan to the NRF); Rebecca Katz, *Use of Revised International Health Regulations during Influenza A (H1N1) Epidemic, 2009*, 15 EMERGING INFECTIOUS DISEASES 1165, 1165 (2009) (concluding that there is "the need for sound international health agreements and . . . all nations [need] to implement these agreements to the best of their abilities"); Benjamin Mason Meier et al., *Modernizing State Public Health Enabling Statutes to Reflect the Mission and Essential Services of Public Health*, 15 J. PUB. HEALTH MGMT. PRAC. 112 (2009) (study measuring the effectiveness of the Turning Point Model State Public Health Act in assisting states to develop their individual state plans).

preparedness and response efforts.[79] To the extent that these established norms differ across different aspects of the applicable law, confusion, inconsistency, and injustice may result.

The impact of law on the enterprise of governance, however, must be viewed in the larger context of the entire system involved in public health emergency response. Many other factors and actors are involved in emergency governance outside those formally established by the legal infrastructure. Nongovernmental actors, such as nonprofit organizations, private corporations, including hospitals and pharmaceutical companies, and volunteers, may play key roles in providing services and support during a public health emergency, yet these roles may not be formally recognized by the emergency response infrastructure.[80] Complicating this calculus, these actors are regulated and influenced by a wider set of laws, social traditions, and economic factors that exert control and pressure on their actions. Thus, while it can be said that law is the most influential factor in governing a public health emergency, numerous other factors measurably affect governance as well.

Using a governance paradigm is useful given the increasing complexity of public health emergencies, the unusually high risk to health, and the need for sudden response efforts. Yet many of the contentious debates surrounding reform of public health emergency powers have adopted a narrower focus, mostly gravitating toward discussions about the appropriate level of authority and discretion that the government should wield in its emergency response efforts.[81] One

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[79] *See generally* Lance Gable, *The Proliferation of Human Rights in Global Health Governance*, 35 J.L. MED. & ETHICS 534 (2007) (explaining the relationship between structural and normative aspects of human rights law).

[80] *See* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 10.

[81] A vehement debate has swirled around the issue of whether the law should allow extraordinary public health emergency powers at all. *Compare* Gostin, *Public Health Law in an Age of Terrorism*, *supra* note 12, 86–91 (defending the use of emergency legal powers in the Model State Emergency Health Powers Act), *with* George J. Annas, *Blinded by Bioterrorism: Public Health and Liberty in the 21st Century*, 13 HEALTH MATRIX 33, 45–54 (2003) (criticizing the Model Act for providing insufficient legal protections for due process). On the related question of whether limited public health resources should be used for public health emergency preparedness, see CENTURY FOUND., ARE BIOTERRORISM DOLLARS MAKING US SAFER? (Jan. 12, 2005), http://tcf.org /media-center/2005/pr44 (Recommendation 6 states, "[a] balance must be struck between preparing for a biological attack and maintaining and expanding other vital functions of the public health system."). Secondarily, if the law does allow such powers, there is a debate over what their normative content should be, and to what extent these powers need to be constrained to avoid mistakes, abuse, or other negative consequences. *See* Gostin, *When Terrorism Threatens Health*, *supra* note 50, at 1159–69 (setting out detailed philosophical arguments supporting

advantage of the governance paradigm is that it moves beyond that debate; not because it is unimportant, but because it has crowded out other timely and consequential discussions about the effects of law within broader governance models and how these laws influence outcomes during a public health emergency response.

C. Governance Failures During Public Health Emergencies

History suggests that governance failures can undermine efforts to respond to public health emergencies and indeed exacerbate the severity of these emergencies and their impacts on health. Emergency responses prone to governance failure commonly exhibit traits of novelty, magnitude, or surprise, such as the outbreak of a novel disease, an earthquake in an area not known for seismic activity, or a hurricane of unusual strength, like Hurricane Katrina. The significant consequences of governance failure during public health emergencies necessitate that these failures be taken seriously and their causes addressed.

It is important to note that governance failures during emergency responses are the exception rather than the norm. Despite the logistical and legal complexity of public health emergency governance, responses to many events that qualify as public health emergencies occur without significant negative impacts on the health of the population. A few recent examples demonstrate this point. When severe flooding threatened several cities in North Dakota in 2009, and again in 2011, rapid response efforts by federal, state, and local governments and members of the affected communities avoided a more serious catastrophe.[82] Hurricane responses to less serious storms than Hurricane Katrina have been executed extremely well with support from all levels of government and private sector

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extraordinary emergency health powers and discussing the normative content of these powers); *see, e.g.*, James F. Childress & Ruth Gaare Bernheim, *Beyond the Liberal and Communitarian Impasse: A Framework and Vision for Public Health*, 55 FLA. L. REV. 1191 (2003) (critiquing the MSEHPA); Wendy E. Parmet, *Liberalism, Communitarianism, and Public Health: Comments on Lawrence O. Gostin's Lecture*, 55 FLA. L. REV. 1221 (2003) (same); Bruce Jennings, *On Authority and Justification in Public Health*, 55 FLA. L. REV. 1241 (2003) (same); TROTTER, *supra* note 16, at 51–52 (same).

[82] The response efforts to these two floods used a variety of governmental and nongovernmental resources from FEMA, applied NIMS and Incident Command Structure, state National Guard, Medical Reserve Corps, Red Cross, and other nonprofit and volunteer assistance. *See* N.D. Nat'l Guard, *North Dakota Flood 2011 Fact Sheet*, NAT'L GUARD (Apr. 11, 2011), http://www.nationalguard.com/news/2011/apr/11/north-dakota-flood-2011-fact-sheet.

partners.[83] The opening of the Morganza Spillway locks on the Mississippi River during 2011 floods prevented large-scale flooding in several major cities.[84] The rapid efforts to forestall a major influenza pandemic in 2009 and 2010 were arguably helpful in minimizing the spread of the disease and reducing morbidity and mortality.[85] These emergency response efforts and many others suggest that, in many cases, the emergency response system functions relatively effectively. Determining good governance outcomes presents a different challenge. It is often quite difficult to set goals ex ante given the prevalence of uncertainty and to assess whether the best outcome has indeed occurred ex post.

Nevertheless, logistical and legal complexity raises the potential for system failure when factors coalesce in ways that strain the design and operation of the response system. When such failures occur, the results can be catastrophic. System failure in this context refers to the inability of the system to adequately function as designed and to achieve its goals, namely to respond efficiently and mitigate harms to health and property, among other concerns. Hurricane Katrina provides the emblematic example of such a system-wide failure. The problems encountered with the Hurricane Katrina response were myriad, but can be grouped according to two types of system failure: (1) systemic design deficiencies built into the emergency response infrastructure and (2) operational deficiencies in the implementation of emergency response plans and tools. Improving governance of public health emergency response requires addressing both types of system failure.

1. Systemic Design Deficiencies

Systemic design deficiencies in emergency response governance occur as a byproduct of poorly designed or inflexible preparedness and response systems. Inadequate design in the emergency preparedness and response system arises from the logistical and legal

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[83] *See* MITCHELL L. MOSS & CHARLES SHELHAMER, CENTER FOR CATASTROPHE PREPARATION & RESPONSE, THE STAFFORD ACT: PRIORITIES FOR REFORM 8 (2007) (noting that for the ten-year period between 1996 and 2006, FEMA responded to 151 emergencies and 597 major disasters); *see also* DEP'T OF HOMELAND SEC. OFF. OF INSPECTOR GEN., OIG-09-78, Management Advisory Report: FEMA's Response to Hurricane Ike 1–6 (June 2009) (finding that FEMA and its federal and state partners responded effectively to the disaster).

[84] Campbell Robertson, *Louisiana Spillway Opened to Relieve Flooding*, N.Y. TIMES, May 14, 2011, http://www.nytimes.com/2011/05/15/us/15spillway.html?_r=0.

[85] *See* Gable et al., *supra* note 5.

complexity of the system, as well as the historical, piecemeal development of different components of the system. As the previous section suggests, applicable law creates a veritable morass of intersecting authorities relevant to emergency response, cutting across jurisdictional boundaries, multiple agencies, and both public and private entities. Coupled with the need to address emergencies of unexpected scope and composition, this multivariate emergency response system raises concerns in several areas, including federalism-based confusion over which jurisdictional entity is in charge, overlapping authority between different government agencies, legal uncertainty for nongovernment responders, and reliance on a government-controlled, linear response system.

Federalism and perceived systemic constraints. A significant concern with the design of the emergency response system stems from the division of legal powers across federal, state, and local governments.[86] Generally speaking, the emergency response system creates a hierarchical framework that places responsibility for emergency response in the hands of local officials. Depending on the severity of the circumstances and the capabilities of the local jurisdiction, mechanisms exist to enlist the support of state government and then the federal government at the request of state officials.[87] This aptly named "'pull' system of intergovernmental relief" allows the local government to "pull" resources from the state and federal governments when their own supplies have been extinguished or overwhelmed.[88] The converse approach, which allows the federal government to "push" resources on the local governments in a time of national crisis or catastrophe, is only

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[86] Debates about federalism have advanced the persistent question of whether public health emergency powers should be situated at the federal, state, or local levels. Some scholars have supported maintaining legal powers at the state and local levels of government during a public health emergency. *See* Gostin, *Public Health Law in an Age of Terrorism*, *supra* note 12, at 86–87 (addressing the federalism debate and supporting state-based emergency powers). This approach promotes consistency with the normal jurisdictional arrangement for public health powers, recognizes the importance of local knowledge regarding public health needs, and ensures that responders and decision makers alike are personally invested in the outcome in the community. *See* James G. Hodge, Jr., *The Role of New Federalism and Public Health Law*, 12 J.L. & HEALTH 309, 338–57 (1997–98). Further, this model mirrors the infrastructure set forward in emergency management statutes, which also begin with state-centered decision making.

[87] Saundra Schneider, *Who's to Blame? (Mis) Perceptions of the Intergovernmental Response to Disasters*, 38 PUBLIUS: J. FEDERALISM 715, 716–18 (2008) (discussing the intergovernmental disaster response infrastructure).

[88] *Id.* at 718–19.

permitted under very limited circumstances.[89] The roots of such a model for emergency response grow from the federalist tradition that seeks to balance state and federal powers.[90]

The federal Stafford Act leaves much decision-making authority with the state government, introducing federalism-based constraints that can deter rapid action by the federal government without state sanction.[91] Indeed, during Hurricane Katrina, federalism concerns slowed federal action for several days, as federal, state, and local officials debated the appropriate roles and authorities of each government entity to respond, resulting in delayed response and rescue efforts and increased suffering and loss of life.[92]

Dual declarations and parallel lines of authority. A second potential concern arises from the distribution of emergency response powers across different government agencies within a particular jurisdiction. The presence of overlapping legal provisions can lead to the "dual declaration" problem.[93] Many state governments have distinct departments responsible for public health and emergency management functions.[94] States also often have distinct legislation dealing with disaster response, raising the concern that multiple concurrent declarations may be enacted during an emergency. During public heath emergencies, these agencies may have conflicting mandates and overlapping legal authority to engage in response efforts.[95] States have worked to harmonize and resolve these potential conflicts, but many aspects of state infrastructure remain distinct despite their interconnected roles.[96] The responsibilities and authority allocated to each department may not be sufficiently clear, which could lead to power struggles, blame shifting, hesitation, or difficulty in cross-agency coordination.

Legal deterrents for nongovernmental entities to participate in response efforts. The role of nongovernmental actors, such as private sector health care providers, nonprofit organizations, suppliers, and

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89 Joe Whitley et al., *Homeland Security After Hurricane Katrina: Where Do We Go From Here?*, 20 NAT. RESOURCES & ENV'T 3, 4 (2006).

90 Elizabeth F. Kent, *"Where's the Calvary?" Federal Response to 21st Century Disasters*, 40 SUFFOLK U. L. REV. 181, 185–86 (2006).

91 Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121–5207, 5191–5192 (2006).

92 *See* Ryan, *supra* note 11, at 522.

93 *See* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 28–29.

94 *Id.* at 22–29.

95 *Id.* at 28–29.

96 *Id.*

volunteers, is integral to an effective emergency response. Often these participants provide valuable assistance to those affected by the emergency. Numerous state and federal legal provisions apply to these potential participants, and the law may encourage or limit the activities of these nongovernmental actors in their response efforts.[97] Law can be structured to facilitate participation of these actors, for example, by allowing license reciprocity for healthcare volunteers from other states or extending workers' compensation coverage to these volunteers, as is provided by EMAC and some state emergency laws.[98] However, where these provisions are not in place, the legal landscape may deter participation by some of these actors who may be concerned about liability and other legal consequences of their participation.

Reliance on a government-controlled, linear response system. Most emergency response and public health emergency powers take a linear approach to emergency response with government ensconced as the central actor.[99] Actions in the system are predicated on government decisions and are largely driven by government efforts. This approach envisions a strong government role in conducting and coordinating efforts to implement emergency preparedness and response. Linear models of governance often take on the characteristics of stringent, hierarchical infrastructures, with chains of command and exercise of control by those at the top of the command structure. This type of model is not limited to a specific level of government or a specific type of agency within the government. Rather, top-down, command-and-control approaches to governance can exist at any level of government.

2. Operational Deficiencies

Operational deficiencies present an altogether different set of governance concerns during public health emergencies. Instead of the system design itself being the problem, operational deficiencies arise when different components or participants in the system fail to execute the system as designed, leading to negative results. Operational deficiencies typically occur in two types of circumstances: when the nature of the emergency overwhelms the

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97 *See id.* at 20–21, 46–58.

98 *Id.* at 48–52.

99 *See infra* Part III.A for a more detailed description of this traditional governance approach.

capacity of the system to operate, or when key individuals make poor decisions that undermine the functioning of the system.

Overwhelming or unexpected impact. If the emergency circumstances are catastrophic and overwhelm the capacity of the system to respond or even function, operational failure can result. For example, during Hurricane Katrina, when local governments had their capability to formally request state and federal assistance destroyed by the wrath of the storm, the rigid formal request mechanism impeded the functioning of the system and delayed needed assistance.[100] National planning has recognized that supply or personnel shortages during a severe pandemic could create scarcity that would affect the standards of care available to those seeking health services.[101] Indeed, specific medicine shortages and inability to evacuate led to the deaths of many hospitalized patients in the days after Hurricane Katrina.[102] The 2010 earthquake in Haiti presents yet another compelling example. The magnitude of the earthquake and its location, together with the weak physical infrastructure of buildings in Port-au-Prince, undermined the operation of virtually every aspect of society and necessitated substantial external assistance.[103]

Poor decision making. The infrastructure of emergency response relies primarily on a limited number of individual decision makers to make key assessments and control the government response effort. In most emergency preparedness and response systems, the decisions of individuals have a great impact on health and other outcomes. Often legal provisions complicate this decision-making process. In early emergency preparedness tabletop exercises, the most glaring failure was the poor performance of integral decision makers.[104] Legal powers were insufficient, or sufficiently vague, in ways that

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100 *See* Ryan, *supra* note 11, at 522–23.

101 INST. OF MED., GUIDANCE FOR ESTABLISHING CRISIS STANDARDS OF CARE FOR USE IN DISASTER SITUATIONS: A LETTER REPORT 13–15 (2009), http://www.iom.edu/~/media/Files/Report Files/2009/DisasterCareStandards/Standards of Care report brief FINAL.pdf.

102 *See* BRADFORD H. GRAY & KATHY HEBERT, THE URBAN INST., HOSPITALS IN HURRICANE KATRINA: CHALLENGES FACING CUSTODIAL INSTITUTIONS IN A DISASTER 3–4, 7 (2006), http://www.urban.org/UploadedPDF/411348_katrinahospitals.pdf.

103 *See* FERRIS & PETZ, *supra* note 42, at 5 (noting that the Haiti earthquake killed over 316,000 Haitians, injured over 300,000 people, displaced more than 1.8 million people, and caused some $8 billion in damages).

104 *See* Thomas V. Inglesby et al., *A Plague on Your City: Observations from TOPOFF*, 32 CLINICAL INFECTIOUS DISEASES 436, 439–43 (2001); Tara O'Toole et al., *Shining Light on "Dark Winter,"* 34 CLINICAL INFECTIOUS DISEASES 972, 979–82 (2002).

complicated understandings of law and undermined rapid response.[105] Poor performance by decision makers resulted in negative outcomes, and in some cases, the entire emergency response systems were derailed.[106]

This problem has been effectuated in real emergency responses as well, most notably Hurricane Katrina, in which many of the designated decision makers performed poorly. The slow response and poor decisions made at all levels of government during Hurricane Katrina greatly exacerbated the toll of the storm on life and health.[107] Resources from the federal level were delayed for days while officials waited to deploy assets through FEMA and Disaster Medical Assistance Teams.[108] Political considerations also affected decision making, with Louisiana Governor Blanco refusing to release state-based National Guard members to participate in the federal response.[109] Whether poor decision making emanates from ineptitude, maliciousness, fear, or merely a wrong guess about consequences, the concentration of powers granted to specific individuals under existing emergency response laws and policies is a potential problem during any emergency response.

3. Interconnected Deficiencies in Public Health Emergency Governance

The above examples raise significant systemic design and operational concerns. When both systemic design and operational deficiencies arise within the emergency response system, they are often intertwined and inextricable. If the emergency response system cannot function when its linear and centralized structure is disrupted, then it can easily fail during large or unexpected disasters, as indeed it did during Hurricane Katrina. Thus, even where logistical and legal

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105 In the TOPOFF exercises the decision-making officials were uninformed, often acting in ways that defied scientific understandings of disease epidemiology and constitutional powers. Inglesby et al., *supra* note 104, at 439–43; O'Toole et al., *supra* note 104, at 979–82.

106 *See* Inglesby et al., *supra* note 104, at 443–44.

107 *See* Kim Elliott, *Public Health Preparedness in the 21st Century*, 58 ADMIN. L. REV. 595, 604 (2006) (describing the command-and-control approach as one of the downfalls to Hurricane Katrina's inadequate response).

108 *See* MCQUAID & SCHLEIFSTEIN, *supra* note 11, at 231–36 (detailing delay in the deployment of Disaster Medical Assistance Teams after Hurricane Katrina).

109 Ryan, *supra* note 11, at 528–32.

infrastructures are well designed, the translation of legal powers to good governance is not assured.

Legal approaches to public health emergencies presuppose a linear relationship between legal powers granted to the government, the proper execution of those powers, and the resultant beneficial effect on health, which occurs as a consequence of this competent execution. This causal presumption does not accurately reflect the reality of how law is used in practice, especially in the often-convoluted setting of a public health emergency. The linear flow of this narrative may be disrupted by the complexity of the situation, the multitude of participants who have influence over the potential outcome of the situation, and the inherent limitations on the ability of a legal infrastructure to adequately address—and govern—all of these variables.

The Hurricane Katrina response again illustrates this problem explicitly: while legal powers and emergency response frameworks to enact more rapid response efforts existed on the books, they were not used effectively.[110] The National Response Plan (NRP) enacted by the federal government in 2004 to coordinate responses to "Incidents of National Significance" did not provide sufficient guidance for determining whether an event qualified as an Incident of National Significance, neglected to include procedures for invoking the NRP, and failed to detail the actions to be taken under the NRP.[111]

The disconnect between legal powers and implementation is not limited to Hurricane Katrina. Poorly designed systems are a commonly cited problem within assessments of emergency governance. For example, early public health emergency tabletop exercises identified numerous systemic deficiencies in emergency response governance.[112] These failures revealed that systems that are not resilient enough to survive a bad decision maker should be redesigned to enhance their resilience and to have the capacity to respond to predictable failures.

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110 *See* PERFORMANCE REVIEW OF FEMA , *supra* note 11, at 23 (noting that during the Katrina response, there were several significant departures from the NRP protocols).

111 *See* LESSONS LEARNED, *supra* note 11, at 13–15.

112 The first bioterrorism "table top" exercises, known as "TOPOFF" and "Dark Winter," preceded the September 11, 2001, terrorist attacks. These exercises challenged actual government officials playing roles with hypothetical emergency scenarios of a plague outbreak and smallpox outbreak, and confirmed that emergency preparedness infrastructure was insufficiently developed. *See* Inglesby et al., *supra* note 104, at 437–43; O'Toole et al., *supra* note 104, at 976–83.

II
MODELS OF GOVERNANCE: APPLYING CONCEPTIONS OF GOVERNANCE TO PUBLIC HEALTH EMERGENCIES

The discussion above identifies numerous significant governance problems in the current emergency response system in the United States. Applying governance theory to public health emergencies can help resolve these problems and develop a better system. Governance theory seeks to explain shifting approaches and innovations in law, policy, and regulation. Discussions of governance theory also have fostered the process of developing alternative governance models to account for increasingly complex societal conditions.[113]

Alternative governance models may provide a means to circumvent components of traditional governance models that render them ineffective, susceptible to breakdown, myopic, or otherwise suboptimal in practical applications. Indeed, the response to Hurricane Katrina epitomized each of these problems with traditional governance models. Therefore, the field of public health emergency preparedness and response, with its inherent complexity and recent history of systemic failures, presents a ripe target for the application of alternative approaches to governance.

Theories of governance have benefitted from the influx and cross-fertilization of ideas from a variety of disciplines, bringing together insights from law, political science, history, philosophy, systems theory, and other social sciences. The resulting scholarship is an interesting, but often impenetrable, array of ideas that challenge—or in some cases defend—the regulatory status quo and commonly held understandings of how events and behavior are managed and influenced within complex systems.[114]

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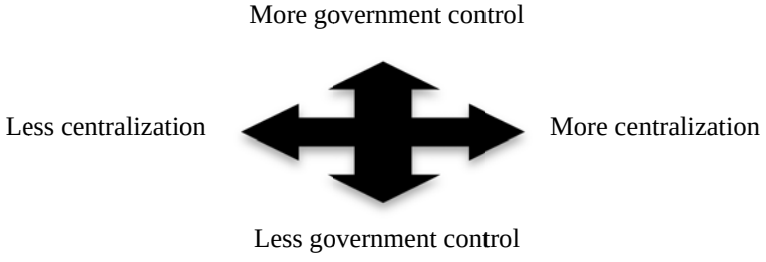
[113] Governance theory has captured the interest of scholars and policy makers in recent years, yielding a robust scholarly literature on governance that has proliferated to explore a wide range of approaches. *See generally* Chris Ansell & Alison Gash, *Collaborative Governance in Theory and Practice*, 18 J. PUB. ADMIN. RES. & THEORY 543 (2007); Burris, *Governance, Microgovernance and Health*, *supra* note 18 (reviewing the development of governance scholarship); Hunter, *supra* note 32, at 91 (discussing three types of governance theory in relation to public health: dominant state authority, public/private administrative governance models, and governmentality). In addition, a specialized journal has been created to examine the interplay between regulation and governance, appropriately titled REGULATION & GOVERNANCE. *See* Braithwaite et al., *supra* note 18, at 1 (introducing the new journal and explaining its priorities and interests).

[114] Critiques of government regulation and the rigidity of top-down governance approaches have a long intellectual history, but the level of interest in this topic has expanded over the past two decades. *See* Burris, *Changes in Governance*, *supra* note 19, at

The landscape of governance theory in the early twenty-first century is best navigated by dividing theories of governance into three primary categories: (1) traditional governance models, (2) New Governance models, and (3) diffuse governance models. The models described in these three categories, in turn, can be differentiated according to the extent of government control and centralization present in the structure and the mechanisms of governance in each model. As described below, traditional governance models tend to exhibit a high degree of hierarchy through strong government control and more centralized approaches to governing. New Governance models, by comparison, bring together governmental and nongovernmental actors to work together to govern. The resulting governance schemes, therefore, contain less government control and centralization relative to traditional governance models. Finally, diffuse governance models operate with minimal direct government control and less centralization. Figure 1 depicts the two continua of government control and centralization.

Figure 1: Governance models can be mapped across two continua of government control and centralization



The sections that follow first define each of the three models of governance and then compare them according to criteria of government control and centralization. These models can be used to explain different aspects of current public health emergency response infrastructure. Indeed, it is notable that existing components of the emergency response system in the United States fall within each of these governance models. Further, these governance models can be applied to develop recommendations for improving governance of

44–60 (discussing a range of theories of governance); Lobel, *supra* note 18, at 371–403 (identifying key aspects of new governance theory); Jason M. Solomon, Book Review Essay, *Law and Governance in the 21st Century Regulatory State*, 86 TEX. L. REV. 819, 821–37 (2008) (reviewing the new governance literature).

public health emergencies through law and policy reform. Most importantly, the governance approaches used under these models are not inherently contradictory; rather, they can coexist and complement each other since each model has distinct strengths and weaknesses in the context of public health emergency response. This realization supports the development of an integrated pluralistic governance approach, outlined in Part IV of the Article, which supports and applies these governance models simultaneously. Integrated pluralistic governance allows governance models to reinforce each other and create a more resilient, redundant, and adaptable public health emergency response system that is more likely to avoid systemic design or operational failures.

A. Traditional Governance Models

1. Understanding Traditional Governance Models

Traditional governance models typically involve government actors using direct legal authority to control events or actions. These models are grounded on the centralized, command-and-control governance systems that have evolved and predominated since the rise of the regulatory state in the United States.[115] As such, traditional models of governance employ a hierarchical structure with formal rules and regulatory authority vested in government agencies and officials.[116] The "traditional" label for this model reflects not only its widespread adoption, but also its well-established position as the default approach for governance.

Under traditional governance models for public health emergencies, legislation and regulations dictate the amount of control and specific substantive authority granted to the government, the method by which emergency powers are allocated, and the inherent and explicit limitations placed upon these powers by the law.[117] Emergency response laws at the federal level (e.g., Stafford Act, Pandemic and All-Hazards Preparedness Act) and the state level (e.g., state emergency response laws, EMAC) fit within traditional models of governance, since they prioritize government control of response

115 *See* Christopher K. Leman, *Direct Government*, *in* THE TOOLS OF GOVERNMENT: A GUIDE TO THE NEW GOVERNANCE 48, 49–53 (Lester M. Salamon ed., 2002).

116 *Id.*

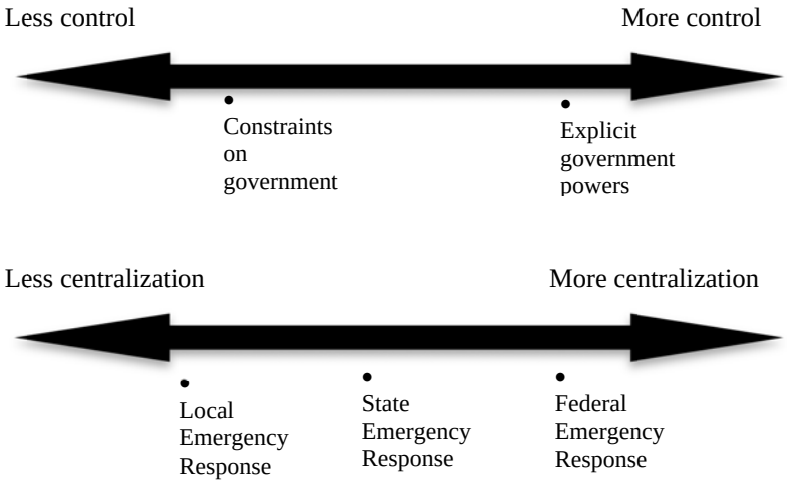
117 *See* MSEHPA, *supra* note 38, arts. IV–VI, §§ 401–608 (outlining state emergency public health powers in legislative language).

efforts and centralize coordination of response activities. Emergency response plans such as the NRF and NIMS similarly outline the government role in response efforts through the traditional governance model. The Incident Command System, which forms the backbone of these response plans, adopts a prototypical command-and-control governance model.

The level of centralization found in traditional governance models will vary somewhat depending on whether the legal framework that outlines the emergency governance structure consolidates authority within a single government agency or whether authority is distributed across governmental institutions. Likewise, the amount of centralization will differ based on whether legal authority exists at the federal, state, or local level, with federally-based legal authority being the most centralized and locally-based authority the least centralized under typical circumstances. The level of control and centralization may be affected by whether the governance policies were developed at a single moment or piecemeal over a long period of time. Nevertheless, traditional governance models exhibit high levels of both government control and centralization, regardless of these specific variations.[118] Figure 2 depicts traditional governance models along the continua of government control and centralization.

[118] State and local governments can exhibit high centralization since the emergency response efforts being coordinated by that government entity will be centralized at the state or local level. By contrast, alternative governance models would adopt more decentralized approaches with nongovernmental actors more actively involved in governance.

Figure 2: Traditional governance models



Despite the status quo nature of these models, traditional governance is hardly an ossified or obsolete construct. Indeed, in addition to their ongoing prominence in law and policy, one subset of academic theorists looks at improving and diversifying governance within the context of traditional government actors and infrastructure under the heading of democratic experimentalism.[119] Although these scholars discuss modifying bureaucracy, adopting new technologies, and restructuring institutions, they primarily embrace the continuing centrality of government institutions as the lynchpin of governance.[120]

2. Traditional Governance Models and Public Health Emergencies

Traditional governance models pervade the existing approaches to preparing for and responding to public health emergencies. In the context of public health emergencies, a government-centered, command-and-control approach is exemplified by the authorization of coercive governmental powers to abate the spread of disease—quarantine, isolation, vaccination, and medical intervention.[121] Even

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[119] *See, e.g.*, Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267, 314–23 (1998) (developing a theory of democratic experimentalism based on decentralization of government and the development of information pooling, public/private coordination, and mutual learning).

[120] *See id.* at 469–73.

[121] *See* MSEHPA, *supra* note 38, arts. V-VI, §§ 501-608 (outlining state emergency powers). These public health powers are available in many cases where infectious disease

where public health powers generally and emergency powers specifically have been jurisdictionally or structurally decentralized, the command-and-control model remains the favored approach. Thus, state and local officials frequently follow a strict internal hierarchy when engaged in emergency preparedness and response efforts.[122]

The role of the federal government in the governance of public health emergencies has gradually increased over the past sixty years,[123] but the state-centric model has been retained through the Stafford Act.[124] The Stafford Act reinforces the primary role of state and local resources and the supplementary nature of federal support.[125] This form of federalism in disaster response has been and continues to be the preferred model. Functionally, since state and local governments take the lead in emergency response, this approach decentralizes decision making and authority to the local levels. However, conflicts over control and coordination can occur in systems that distribute emergency response powers across different government agencies within a particular jurisdiction. States have worked to harmonize and resolve these potential conflicts, but many aspects of state infrastructure remain decentralized to an extent.[126] While federal and state disaster response plans have consistently been civilian programs, many of their structural aspects build upon well-established military regulations and practices, including the Incident Command System.[127] These systems take a relatively rigid hierarchical approach to organizing and coordinating an emergency response.

The passage of several pieces of legislation has solidified a more active and responsive federal role in public health emergency

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threatens public health, not just in circumstances that meet the criteria for public health emergencies. *See* GOSTIN, POWER, DUTY, RESTRAINT, *supra* note 24, at 371–76, 437–45 (describing public health powers for infectious disease control).

122 *See* NIMS, *supra* note 63, at 45–63 (detailing the Incident Command System for state and local governments to apply during emergency responses).

123 *See* MOSS & SHELHAMER, *supra* note 83, at 10–13 (providing a detailed description of the history and gradual evolution of federal law and policy related to disaster response).

124 Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121–5207 (2006) (building on prior emergency management legislation beginning with the Civil Defense Act of 1950).

125 42 U.S.C. § 5195.

126 *See* Hodge & Anderson, *supra* note 72, at 269–71 (discussing state efforts to adapt to changing legal environments through coordination during public health emergencies).

127 *See* MISKEL, *supra* note 13, at 8–10 (describing the key military operational features that have been incorporated into federal emergency response systems); NIMS, *supra* note 63, at 45–63 (describing the Incident Command System).

governance. The creation of DHS by the Homeland Security Act of 2002 represented an effort to centralize and strengthen federal government authority in emergency response systems.[128] The most important components of federal response infrastructure—FEMA, NRF, and NIMS—are controlled by DHS.[129] The NRF and NIMS seek to establish a comprehensive and consistent national plan that is intended to affect public health emergency governance at all jurisdictional levels, and therefore represent a significant expansion in coordinated planning for emergency preparedness and response.[130] The NRF and NIMS comprise, in some ways, the most hierarchical components of the emergency response system in the United States.[131] They reiterate a command-and-control approach and a preference for local-level control.[132] Two of the six intended goals of the NRP (the predecessor of the NRF that was in place during Hurricane Katrina) and NIMS, to "incorporate emergency management and law enforcement into a single structure" and "provide one way of operating for all events," exemplify the limiting one-size-fits-all mentality engrained in a command-and-control structure.[133]

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128 Homeland Security Act of 2002, Pub. L. No. 107-296, 116 Stat. 2135 (codified as amended at 6 U.S.C. §§ 101–613).

129 Homeland Security Presidential Directive 5 (HSPD-5) issued by the President in 2003, required DHS to develop the NRF and NIMS. *See* COMM. ON HOMELAND SEC., *supra* note 60, at 23, 26; NIMS, *supra* note 63, at 8; NRF, *supra* note 63, at 6.

130 NIMS, *supra* note 63, at 11–16; NRF, *supra* note 63, at 7–12. Notably, the Stafford Act, National Emergencies Act, DHS, FEMA, NRF, and NIMS adopt the all-hazards approach. In theory, this approach covers all types of emergencies including public health emergencies. Yet most declarations made under the Stafford Act arise from emergencies or disasters caused by environmental factors. According to FEMA's disaster search engine, only four incidents have ever warranted an emergency or disaster declaration on the basis of a "virus threat." *See Disaster Declarations*, FEMA, http://www.fema.gov/news/disasters.fema (last visited Nov. 2, 2012). The search engine allows targeted research for declarations of major disaster and emergency by state, region, or disaster type. *Id.*

131 Although, in other respects, they adopt New Governance models. *See* discussion *infra* Part III.B.

132 NRF, *supra* note 63, at 10 ("Incidents must be managed at the lowest possible jurisdictional level . . . ."); *see also* NIMS, *supra* note 63, at 12 ("A basic premise of both NIMS and the NRF is that incidents typically be managed at the local level first.").

133 John R. Harrald, *Agility and Discipline: Critical Success Factors for Disaster Response*, 604 ANNALS AMER. ACAD. POLITICAL AND SOCIAL SCI. 256, 267 (2006); *see also* Lobel, *supra* note 18, at 379 ("A central critique of the old regulatory model is its one-size-fits-all approach.").

The Pandemic and All-Hazards Preparedness Act of 2006 established an expanded role for HHS in responding to public health emergencies.[134] The Act extends federal oversight over the public health emergency response system in several ways. First, the Act designates the Secretary of HHS as the lead federal official under the NRP for public health emergencies.[135] This approach breaks with the typical practice of having DHS officials fill this role, and thus the provision recognizes the importance of having health professionals guide response efforts during a public health emergency.[136] The Act asserts federal control over a number of emergency response programs that had previously been under state and local control.[137] Further, the Act requires the coordination of the National Disaster Medical System,[138] compels measurement of emergency preparedness benchmarks at the state and local levels,[139] and provides incentives and infrastructure for the development of medical countermeasures to combat biological threats.[140] Taken together, these provisions represent a transition to much more extensive federal involvement in the governance of public health emergencies, although it remains to be seen what practical effects will come from this legislation.

State governments retain most of the legal authority to conduct public health activities through their inherent police powers. Police powers also authorize emergency management efforts. Yet in most states, as in the federal government, the agencies responsible for public health and emergency management are separate.[141] Until recently, the public health community, including state and local government health officials, was not involved in public health emergency preparedness or response efforts coordinated by government emergency managers. The legal landscape did not

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134 Pandemic and All-Hazards Preparedness Act of 2006, Pub. L. No. 109-417, 120 Stat. 2831 (codified as amended in scattered sections of 42 U.S.C.); *see also* Hodge, *Pandemic and All-Hazards Preparedness Act*, *supra* note 66, at 1708–10 (analyzing the major legal changes implemented in this Act).

135 42 U.S.C. § 300hh.

136 *See* Hodge, *Pandemic and All-Hazards Preparedness Act*, *supra* note 66, at 1708.

137 42 U.S.C. §§ 300hh-2, 300hh-15.

138 42 U.S.C. § 300hh-10.

139 42 U.S.C. § 247d-3a.

140 42 U.S.C. § 247d-7e.

141 *See* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 28–29.

habitually recognize a public health emergency, and where such provisions did exist, they were often inadequate.[142]

Law reform efforts related to state-level public health emergency powers began in earnest in the aftermath of the September 11, 2001 terrorist attacks and the release of anthrax spores via mail in October 2001. The Center for Law and the Public's Health spearheaded the initiative to draft a model state law that would clarify, modernize, and enhance the public health emergency powers available to state officials. The resulting model law, the Model State Emergency Health Powers Act (MSEHPA), offered a state-centered model, which augmented the existing powers of state officials in their efforts to prepare for and respond to public health emergencies.[143]

The MSEHPA provides a powerful state-level example of traditional governance, although one that incorporates some New Governance ideas in various places.[144] The MSEHPA preconditions a declaration of public health emergency and the subsequent augmentation of legal powers on the declaration of the state governor.[145] The declaration authorizes a number of specific powers to be used as appropriate by government officials and places authority in the hands of government public health officials.[146] Although it represents prototypical top-down governance, the approach taken by the MSEHPA has been justified as an effort to efficiently respond to urgent and extraordinary threats.[147] Additionally, by placing public health officials in the position of governing authority, the MSEHPA recognizes the importance of public health expertise in governing officials. The federal Pandemic and All-Hazards Preparedness Act later adopted the same approach, designating the Secretary of HHS as the lead official under the NRP during a declared public health emergency.[148] In practice, the MSEHPA had a significant effect on the legal landscape across the country. Many states have introduced and passed bills incorporating sections of the MSEHPA, and its

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142 *See* Gostin, *MSEHPA*, *supra* note 73, at 623–24 (describing the deficiencies of existing state emergency laws).

143 *See* MSEHPA, *supra* note 38; *see also* Gostin, *MSEHPA*, *supra* note 73, at 625–26 (outlining the major provisions of the MSEHPA).

144 *See* discussion *infra* Part III.A.2.

145 MSEHPA, *supra* note 38, art. IV, § 401.

146 *Id.*

147 *See* Gostin, *When Terrorism Threatens Health*, *supra* note 50, at 1161–68; *see also infra* Part IV.A.3 (discussing public health emergency governance complexities).

148 42 U.S.C. § 300hh(a) (2006).

widespread adoption has brought more consistency to state-level public health emergency powers in the United States.[149]

The MSEHPA immediately generated a substantial amount of commentary and controversy, much of it grounded in the archetypical concerns usually raised over traditional governance models. Even though the drafters of the Act strenuously made the case that procedural protections and limitations had been included to check the power of government,[150] critics were wary of the Act due to its perceived expansion of government power.[151] Critics of public health emergency law reform initiatives additionally cited the increasing connection of public health emergencies with national security efforts as particularly troubling.[152] However, the interaction of public health and emergency management has to occur at some level in order to respond effectively to the health threats raised in a public health emergency, despite the clash of cultures and legal authorities.[153]

EMAC, the interstate agreement that permits states to share and request assistance during emergencies, also adopts some aspects of traditional governance models. States are the primary actors under the compact, and the liability and workers' compensation protections

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149 *See* MSEHPA, *supra* note 38; CENTER FOR LAW AND THE PUBLIC'S HEALTH AT GEORGETOWN AND JOHNS HOPKINS UNIVERSITIES, MODEL STATE EMERGENCY HEALTH POWERS ACT: STATE LEGISLATIVE ACTIVITY (2006), http://www.publichealthlaw.net/MSEHPA/MSEHPA%20Leg%20Activity.pdf (containing the list of states that have passed the MSEHPA legislation along with legislation numbers and differences).

150 *See* Gostin, *When Terrorism Threatens Health*, *supra* note 50, at 1161–68.

151 *See supra* note 81 (providing a detailed description of this debate).

152 *See, e.g.*, Hunter, *supra* note 32, at 96 (suggesting that "the conceptual model for public health emergency response situations is also moving in subtle ways toward a national security or quasi-military norm"). *But see* MISKEL, *supra* note 13, at 39–56 (detailing the history of military involvement in emergency response and outlining the positive contributions of this model).

153 Some organizations have been eager to push the linkage between emergency management and public health at the state level. *See State Strategies for Fully Integrating Public Health into Homeland Security*, NGA CTR. FOR BEST PRACTICES (Nov. 27, 2005) (advocating incorporation of public health into the state homeland security governance structure). On the issue of collaboration between public health and law enforcement, see Jay C. Butler et al., *Collaboration Between Public Health and Law Enforcement: New Paradigms and Partnerships for Bioterrorism Planning and Response*, 8 EMERGING INFECTIOUS DISEASES 1152, 1154–55 (2002) (detailing collaboration issues that arose during the anthrax investigation in 2001); Victor W. Sidel et al., *Good Intentions and the Road to Bioterrorism Preparedness*, 91 AM. J. PUB. HEALTH 716, 717 (2001) (finding such cooperation to be "destructive to public health efforts").

provided to incentivize resource and personnel sharing only apply to government officials.[154]

B. "New Governance" Models

1. Understanding New Governance Models

A second category of governance theories explicitly recontextualizes governance as a multiparticipant endeavor, with governmental and nongovernmental actors sharing responsibility and influence.[155] These theories, collectively referred to as "New Governance" models, identify more decentralized approaches to governance that are more participatory, adaptable, and reflexive.[156] New Governance models emphasize ideas based on flexible, collaborative partnerships rather than established top-down, rights-based strategies integral to traditional governance models.[157] "New" does not mean contemporary; rather it refers to the "widespread and explicit use of nonconventional forms of governing."[158] New Governance models have been applied in practice primarily to areas of administrative and environmental law and have had a strong influence on understanding modern regulation in both the United States[159] and the European Union.[160]

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154 *See* Emergency Management Assistance Compact, H.R.J. Res. 193, 104th Cong. (1996).

155 *See, e.g.*, Black, *Polycentric Regulatory Regimes*, *supra* note 21, at 140 (identifying five central notions of decentered regulation: complexity, fragmentation, interdependencies, ungovernability, and rejection of a clear public/private distinction); Jody Freeman, *Collaborative Governance in the Administrative State*, 45 UCLA L. REV. 1, 4–7 (1997); Christine Parker, *The Pluralization of Regulation*, 9 THEORETICAL INQUIRIES L. 349, 352–55 (2008) (examining the normative argument for legal pluralism in regulation).

156 *See* Lester M. Salamon, *The New Governance and the Tools of Public Action: An Introduction*, *in* THE TOOLS OF GOVERNMENT: A GUIDE TO THE NEW GOVERNANCE 1, 1–14 (Lester M. Salamon ed., 2002); Lobel, *supra* note 18, at 344.

157 Douglas NeJaime, *When New Governance Fails*, 70 OHIO ST. L.J. 323, 324–25 (2009).

158 Trubek, *supra* note 34, at 147–48.

159 *See, e.g.*, Lobel, *supra* note 18, at 344 (summarizing New Governance approaches in the United States); Salamon, *supra* note 156, at 1–14 (defining the New Governance paradigm).

160 *See* David M. Trubek & Louise G. Trubek, *New Governance & Legal Regulation: Complementarity, Rivalry, and Transformation*, 13 COLUM. J. EUR. L. 539, 544–48 (2006). New Governance theories have been influential in the European Union. For example, under the terms of the EU Treaty there are "common objectives to 'ensure sustained convergence of the economic performances of Member States.'" Caroline de la

Conceptually, New Governance incorporates and overlaps with strands of other legal theories including negotiated governance, legal pragmatism, and democratic experimentalism.[161] New Governance models encompass a wide range of methods and policy alternatives.[162] Some of these models focus primarily on distributing control to entities other than the government, through methods such as public/private partnerships, negotiated rulemaking, audited self-regulation, and performance-based rules.[163] Other approaches under these models hinge on moving governance away from the centralized government decision maker through decentralized and dynamic problem solving.[164] Still other models seek to expand participation and transparency through disclosure regimes and coordinated information collection.[165] New Governance scholarship further emphasizes such tenets as the collaborative process and a "flexible policy [of] formation, implementation, and monitoring."[166] The common characteristics of these methods center on their intent to bring nongovernmental actors into the governance process to encourage power sharing, broader dialogue, and ultimately better

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Porte & Philippe Pochet, *Social Benchmarking, Policy Making and New Governance in the EU*, 11 J. EUR. SOC. POL'Y 291, 295 (2001). The Open Method of Communication ("OMC") is intended to include all relevant stakeholders, such as the Union, the member states, and social partners. *Id.* at 292–93. The OMC is a form of New Governance because it relies on peer pressure as a means of enforcement: benchmarking to compare "how an organization is doing *relative* to its peers." *Id.* at 292; *see also* Graínne De Búrca & Joanne Scott, *Introduction: New Governance, Law and Constitutionalism*, *in* LAW AND NEW GOVERNANCE IN THE EU AND THE US 1, 1–14 (Graínne De Búrca & Joanne Scott, eds., 2006) (assessing the expansion of New Governance theories).

161 *See, e.g.*, Dorf & Sabel, *A Constitution of Democratic Experimentalism*, *supra* note 119, at 314–23 (1998) (developing a theory of democratic experimentalism based on decentralization of government and the development of information pooling, public/private coordination, and mutual learning); Solomon, *supra* note 114, at 821–37 (reviewing the New Governance literature); Brian Z. Tamanaha, *A Non-Essentialist Version of Legal Pluralism*, 27 J.L. & SOC'Y 296, 312–20 (2000) (outlining a non-essentialist theory of legal pluralism).

162 Some commentators view New Governance as a cohesive paradigm, which incorporates emerging trends in legal thinking about constitutional and administrative law, jurisprudence, and democratic theory. *See* Lobel, *supra* note 18, at 345–48. Others have described New Governance as a collection of disparate approaches with a similar conceptual grounding. *See, e.g.*, Bradley C. Karkkainen, Reply, *"New Governance" in Legal Thought and in the World: Some Splitting as Antidote to Overzealous Lumping*, 89 MINN. L. REV. 471, 478–79 (2004).

163 *See* Lobel, *supra* note 18, at 345.

164 *Id.*

165 *Id.*

166 NeJaime, *supra* note 157, at 332 (the author outlines five general tenets of New Governance theory by referencing work by other scholars).

governance outcomes. Supporters of these approaches hail their democratizing effects,[167] but critics have noted that New Governance models may actually permit more consolidation of influence by sophisticated participants in the process.[168]

New Governance models vary in scope and content, but they generally are more decentralized than traditional conceptions of governance and may involve numerous disparate actors from the public and private sectors in collaborative engagement and discourse.[169] Thus, these models exist conceptually between traditional command-and-control models and models that support more radical deregulation and privatization of governance functions. As a consequence, the available methods and tools of governance under this approach are more varied and the possibilities for innovation more plentiful. New Governance models also tend to be less oriented towards government control. By distributing authority within the governance structure, these models change the power dynamics in the relationship between public and private actors. New Governance offers the potential, therefore, for the pluralization of laws and systems, governance methodologies, and the actors and institutions involved in governance.

Much of the recent interest in New Governance models is framed as a critique of so-called "traditional" models of governance.[170] Key to these critiques is an underlying assumption that government has failed to deliver on its regulatory promises either because of poor execution or because the complexity of modern society has made successful regulation impossible.[171] These persistent critiques have provided fertile ground for alternative governance theories that feature less governmental control and less centralization in governance design. But these variables can be configured in many

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167 *See* Lobel, *supra* note 18, at 405–06 (Table 2 notes the beneficial adjustments of moving from regulation to New Governance models).

168 *See* Karkkainen, *supra* note 162, at 486 (challenging Table 2 of Lobel directly); *id.* at 480 (noting the broad debates among scholars as to the nature of New Governance and its successes).

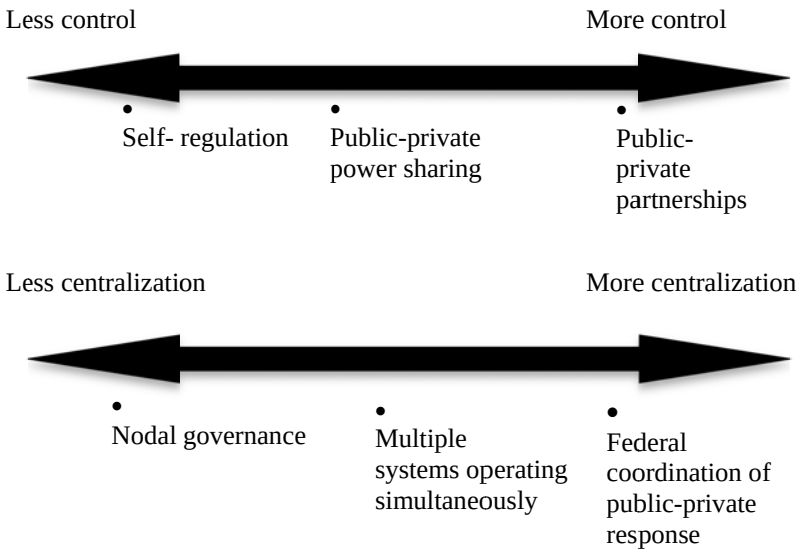
169 *See, e.g.*, Lobel, *supra* note 18, at 372–76 (describing partnership and participation in New Governance theory); Salamon, *supra* note 156, at 14–15 (noting changes in governance participants).

170 Lobel, *supra* note 18, at 377 ("[T]he regulatory model promotes adversarial relations, mutual distrust, and conflict.").

171 Salamon, *supra* note 156, at 6–9 (outlining the need for a New Governance paradigm).

ways. Strongly decentralized governance may still be within the control of government power, and models with substantial power-sharing between government and nongovernment entities may still operate in a centralized infrastructure. The ability to apply these variables with such variety and flexibility demonstrates the opportunities available when considering New Governance approaches to a specific system. Figure 3 depicts New Governance models along the continua of government control and centralization.

Figure 3: New Governance models



2. New Governance Models and Public Health Emergencies

An examination of New Governance methodologies reveals that principles associated with New Governance have been incorporated into various aspects of existing public health emergency response systems. New Governance approaches often coexist with traditional governance approaches. Nevertheless, these developments often go unrecognized as alternative approaches for fostering systemic resiliency during public health emergencies.

New Governance models have been used in limited, but important, ways within the emergency preparedness and response system. Emergency response plans, such as NRF and NIMS at the federal level, have incorporated some New Governance models into their frameworks, consequently giving nongovernmental entities a greater

voice in emergency planning and response.[172] Moreover, the use of New Governance models in public health emergency response has expanded in recent years, often in reaction to the inflexibility and inconsistency of traditional governance models. For example, in the aftermath of the Hurricane Katrina debacle, commentators criticized both the command-and-control structure of the NRP and the implementation of the plan.[173] Federal authorities subsequently revised the NRF and NIMS to provide a more flexible infrastructure.[174] Interestingly, despite its claim to address criticism that its previous iteration was "insufficiently *national* in its focus," the revised NRF explicitly reduces hierarchy in its system, eliminating the need for a federal level declaration of an "Incident of National Significance" to trigger the framework.[175] The revised NRF further includes information about the role of nongovernmental organizations and private sector entities in emergency response efforts.[176]

A number of New Governance principles have been utilized in efforts to govern public health emergencies.[177] Fostering inclusive partnerships, participation, and collaboration are central to the New Governance model. These ideas have a long informal history in emergency preparedness and response. New Governance emphasizes the power of "non-governmental stakeholders to formulate . . . [new] goals and directives that [will] shape regulatory reform."[178] More specifically, this means structuring systems to allow for greater collaboration between public and private entities in the planning, response, mitigation, and recovery phases of emergency response.

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172 *See* NIMS, *supra* note 63, at 6–7; NRF, *supra* note 63, at 8–12.

173 *See* LESSONS LEARNED, *supra* note 11, at 52–54; *see generally* Ryan, *supra* note 11 (critiquing the federalism constraints that undermined the Hurricane Katrina response).

174 *See* NIMS, *supra* note 63, at 6–7; NRF, *supra* note 63, at 8–12.

175 NRF, *supra* note 63, at 2, 8.

176 NRF, *supra* note 63, at 6–7, 18–21.

177 Professor Orly Lobel, in her detailed theoretical discussion of New Governance theory, identifies eight organizing principles of New Governance: (1) participation and partnership; (2) collaboration; (3) diversity and competition; (4) decentralization and subsidiarity; (5) integration of policy domains; (6) flexibility and noncoerciveness; (7) fallibility, adaptability, and dynamic learning; and (8) law as competence and orchestration. Lobel, *supra* note 18, at 371–404 (discussing these principles of New Governance in detail).

178 Lisa T. Alexander, *Stakeholder Participation in New Governance: Lessons From Chicago's Public Housing Reform Experiment*, 16 GEO. J. ON POVERTY L. & POL'Y 117, 120 (2009) (analyzing New Governance literature in the context of Chicago's urban housing reform process).

While "[t]raditional governance has been skeptical of collaborations between private and public entities," New Governance models tout several advantages of public/private collaboration.[179] Collaboration goes a step beyond participation and seeks to include individuals as "norm-generating subjects" within the governance infrastructure.[180] In other words, this approach allows nongovernmental entities like private health institutions, volunteers, nonprofit organizations, and civil society groups to have direct and indirect input into planning, goal setting, and even perhaps the functional response efforts in a coordinated way.

The principles of diversity, competition, decentralization, and subsidiarity[181] have relevance to public health emergencies as well. Concepts of diversity and competition have a minor role in the contracting process for certain emergency services, but when it comes to emergency response, government plans specifically avoid competing efforts.[182] Yet it is clear from the results of some recent emergency responses (in particular the Hurricane Katrina response due to its large impact) that a diverse contingent of responders, including medical volunteers in some cases, is needed.[183] Finding appropriate personnel requires drawing on available expertise from across a variety of communities and from members of the private sector.

Until recently, explicit efforts to include nongovernmental actors in planning efforts were rare.[184] The Stafford Act does not incorporate nongovernmental entities into emergency response activities despite the fact that much of the health infrastructure in the United States is privately owned and operated.[185] Under current federal and state law,

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179 Trubek, *supra* note 34, at 148; *see also* Lester M. Salamon, *The New Governance and the Tools of Public Action: An Introduction*, 28 FORDHAM URB. L.J. 1611, 1633–34 (2001).

180 Lobel, *supra* note 18, at 377.

181 *See* Lobel, *supra* note 18, at 379–82. Subsidiarity is the concept that governance should take place at the lowest jurisdictional level possible before higher-level mechanisms are involved. *See id.* at 382.

182 The MSEHPA adopts language that would allow states to use emergency powers to suspend regulations for conducting state business that would delay necessary action, including requirements for competitive bidding for state purchases. *See* MSEHPA, *supra* note 36, art. IV, § 402.

183 Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 13–14.

184 *But see* Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5134, 5143, 5152, 5170(b) (2006) (showing the inclusion of American Red Cross's role in emergency response).

185 *See* DANIEL A. FARBER ET AL., DISASTER LAW AND POLICY 173 (2010).

governments are permitted to contract with nongovernmental entities to provide services during an emergency.[186] This approach allows for participation, but is rooted in traditional governance since the government is merely delegating a responsibility to the contractee. More meaningful examples of participation, partnership, and collaboration are found in the NRF and NIMS, as well as in some state emergency legislation. These documents encourage outside actors to participate directly in planning and preparedness,[187] which can allow for meaningful input into governance decisions. Partnership and participation by nongovernmental actors is more limited, however, during the course of an actual emergency, when formal government response predominates.[188]

The role of the American Red Cross during emergencies represents the most well-established public/private partnership in the United States emergency response system. Although the American Red Cross is a nonprofit, nongovernmental organization that does not receive regular federal funding, it nevertheless is designated as a primary organization to coordinate mass care resources under Emergency Support Function (ESF) #6 of the NRF.[189] The close relationship between FEMA and the American Red Cross in carrying out this component of the NRF provides a strong example of a New Governance approach. FEMA is authorized to coordinate with other nonprofit entities under ESF #6, but these efforts have progressed more slowly than many had hoped after the coordination and capacity shortfall during the Hurricane Katrina response.[190]

Efforts to expand the health workforce have generated three notable examples of public/private coordination during the response phase of public health emergencies: the Emergency System for

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186 *See, e.g.*, Michigan Emergency Management Act, MICH. COMP. LAWS ANN. § 30.401–.421 (West, Westlaw through 2012 Legis. Sess.) (allowing for any action to be taken that is necessary to cope with an emergency); MSEHPA, *supra* note 38, art. II, §§ 201–202 (containing no provision limiting the ability of states to contract with nongovernment service providers); NRF, *supra* note 63, at 30 (noting the importance and necessity of nongovernment contracting).

187 MSEHPA, *supra* note 38, art. II, § 201.

188 *See* MSEHPA, *supra* note 38, art. IV, § 403 (implementing emergency powers that give the state public health authority primary jurisdiction for planning and coordination of response activities).

189 NRF, *supra* note 63, at 20.

190 Tony Pipa, THE ASPEN INSTITUTE, WEATHERING THE STORM: THE ROLE OF LOCAL NONPROFITS IN THE HURRICANE KATRINA RELIEF EFFORT 10 (2006), http://www.ncg.org/s_ncg/assets/dpri/NSPPNonprofitsAndKatrina.pdf.

Advance Registration of Volunteer Health Professionals (ESAR-VHP); the Medical Reserve Corps (MRC); and the Emergency Management Assistance Compact (EMAC). In effect, all three of these examples take a hybrid approach that combines the efforts of public and private actors, as well as coupling decentralized governance with centralized coordination—and legal support—during an emergency.[191]

The ESAR-VHP initiative was established by state and federal governments to explicitly recruit potential medical volunteers for deployment during public health emergencies in order to fill the need for additional qualified medical personnel.[192] ESAR-VHP directly reaches out to private sector volunteers and uses a variety of legal mechanisms to protect deployed volunteers from the legal ramifications of their service, including liability protection and workers compensation coverage.[193] This system effectively marshals New Governance principles of collaboration, diversity, and decentralization to construct a useful response methodology within the larger infrastructure of the government response. Initially conceived at the state level, these systems have now been incorporated into the federal system. While both federal and state governments have made efforts to coordinate volunteer health professionals through the ESAR-VHP system, the participants in the system remain diverse in their training, skills, and employment.[194] Moreover, volunteers are decentralized in their location and professional affiliation, and their participation is voluntary.[195]

The MRC began as a local volunteer medical services corps, also designed to assist during an emergency.[196] This program exhibits an unusual combination of hierarchical and decentralized traits. Each MRC unit is based in a local community, draws its members from that community, and recruits whatever variety of experts and skills local

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191 Interestingly, the latest version of NIMS attempts this hybrid approach as well, citing its two key concepts as flexibility and standardization. *See* NIMS, *supra* note 63, at 6–7.

192 *See* HEALTH RES. & SERVICES ADMIN., DEP'T OF HEALTH & HUMAN SERVICES, EMERGENCY SYSTEM FOR ADVANCE REGISTRATION OF VOLUNTEER HEALTH PROFESSIONALS–LEGAL AND REGULATORY ISSUES 9–10 (2006).

193 *Id.* at 44, 53–54.

194 *Id.* at 14.

195 *Id.*

196 OFFICE OF THE CIVILIAN VOLUNTEER MED. RESERVE CORP., REPORT ON THE MEDICAL RESERVE CORPS RESPONSE TO THE H1N1 INFLUENZA PANDEMIC 1 (2009) [hereinafter MRC].

participants deem relevant.[197] Unlike the ESAR-VHP program, however, participants in the MRC are expected to undergo training exercises.[198] In the event of an emergency, the MRC units can be deployed and coordinated by the federal government and receive federal legal protections.[199] Therefore, the MRC combines aspects of traditional governance (a military-like hierarchy and federal coordination) and New Governance (decentralized recruitment, community-based and initiated organization, and diversity of personnel). MRC units performed successfully in many jurisdictions during the 2009 and 2010 influenza outbreak, coordinating mass vaccination clinics and other outreach programs in several jurisdictions.[200]

In limited circumstances, New Governance models can emanate from the infrastructure of traditional governance models, creatively improvising new pathways to achieve public/private collaboration in governance. During Hurricane Katrina, several states were frustrated by the limitations of EMAC in facilitating resource sharing.[201] Numerous private sector healthcare personnel sought to volunteer by assisting in the hardest hit areas in Louisiana.[202] States trying to coordinate assistance through EMAC were prevented by the design of the Compact from including volunteers that were not state employees because EMAC follows a traditional governance model that only permits sharing of state resources and personnel, and only applies legal protections to state officials.[203] Maryland ingeniously circumvented this limitation in its delegation to Louisiana by temporarily deputizing private health care volunteers as members of the state guard, thereby granting them the status of state officials for the duration of their assistance.[204] These ad hoc expansions of EMAC, while effective, may not provide a good governance model

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197 *Id.* at 5.

198 *Id.* at 6.

199 *About the Medical Reserve Corps*, *MED. RES. CORPS* (Aug. 8, 2012, 9:12 AM), https://medicalreservecorps.gov/pageViewFldr/About.

200 MRC, *supra* note 196, at 7.

201 William L. Waugh, Jr., *EMAC, Katrina, and the Governors of Louisiana and Mississippi*, 67 PUB. ADMIN. REV. (ISSUE SUPP.) 107, 108 (2007).

202 *Id.*

203 Emergency Management Assistance Compact, H.R.J. Res. 193, 104th Cong. (1996).

204 Richard Colgan et al., *Operation Lifeline: Health Care Professionals from Maryland Respond to Hurricane Katrina*, ST. DEF. FORCE J., Spring 2006, at 9, 9–12, *available at* www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA496627.

going forward, since this approach creates uncertainty and could deter volunteer preparation.

C. Diffuse Governance Models

1. Understanding Diffuse Governance Models

A third category of governance theories, grouped together as *diffuse governance models*, share the impetus with New Governance to move away from the hierarchy of traditional governance and conceptualize governance as a multiparty endeavor. However, these theories go even further from the government-centered status quo and suggest models of governance that radically devolve and decentralize governance authority and activity. These models may flatten power differentials and democratize participation in governance through the rejection of hierarchy, centralization, and power concentration. Diffuse governance models encompass several different theoretical understandings of how governance occurs or could occur. The most promising of these models has applied network theory to develop the concept of nodal governance, which recognizes multiple "nodes" throughout society as capable, although often uncoordinated, agents of governance.[205] Other scholars have adapted Michel Foucault's theory of governmentality to apply to governance.[206] Governmentality posits that governance is achieved through the exercise of power by any number of participants in society, and not necessarily constrained to the actions of sovereign government actors.[207] This idea eliminates government hierarchy as the essential nexus of power for governance, and thereby presents a complex social model of interconnected power relationships. A third model of diffuse governance envisions anarchic governance, with multiple actors engaged in governance without coordination or predictability.[208]

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[205] *See* Burris, *Nodal Governance*, *supra* note 35, at 33.

[206] *See* Gunther Teubner, *Introduction to Autopoietic Law*, *in* AUTOPOIETIC LAW: A NEW APPROACH TO LAW AND SOCIETY 1, 1 (Gunther Teubner ed., 1988) (describing a model of reflexive law that accounts for other social institutions); Burris, *Changes in Governance*, *supra* note 19, at 8 n.10 (providing background on the evolution of conception of governance); *Hunter*, *supra* note 32, at 118–20 (applying governmentality theory to public health).

[207] *See* Michel Foucault, *Governmentality*, *in* THE FOUCAULT EFFECT: STUDIES IN GOVERNMENTALITY 87, 87–104 (Graham Burchell et al. eds., 1991) [hereinafter THE FOUCAULT EFFECT].

[208] David Fidler, *A Theory of Open-Source Anarchy*, 15 IND. J. GLOBAL LEGAL STUD. 259, 282 (2008).

Diffuse governance models propose a more radical break from traditional governance models, decoupling the inherent connection between governance and formal government. Given their embrace of innovative methodologies and reflexive understandings of legal and social systems, these governance approaches might legitimately be categorized as a subset of the New Governance theories. However, unlike New Governance models, which attempt to coordinate and systematize the relationships between public and private actors, diffuse governance models allow a greater degree of independence among participants in governance. Even where some amount of coordination among governance participants does occur, it may not use formal systems or government-moderated mechanisms. Thus, these conceptions of governance exhibit even less direct government control, hierarchy, and centralization.

Networks and nodes. Nodal governance is a version of network theory where governance occurs at different points, or nodes, in a network.[209] Building on the twin foundations of network theory and governmentality, nodal governance recognizes that a plethora of independent actors across government and civil society participate in governance, from government officials, to nonprofit organizations, to private health care facilities, to religious organizations. This model further situates the nexus of governance at a localized level. The "nodes" of governance have four characteristics: 1) an institutional structure, 2) mentalities or ways of thinking about governance, 3) technologies or methods of influencing events, and 4) resources to support the node and exert influence.[210] These nodes interact with each other to form a network and to share information. Nodal governance emphasizes the way in which governance is directed towards a community.[211] Information networks within a community produce an Outcome Generating System (OGS). This OGS is influenced by factors both within the "collectivity's control" and by factors at a higher level of social organization.[212] By focusing on the localized context of nodes, new and innovative efforts at governance can be tried, "fostering institutions of microgovernance."[213]

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209 *See* Burris, *Nodal Governance*, *supra* note 35, at 33.

210 Burris, *Governance, Microgovernance and Health*, *supra* note 18, at 341.

211 *See* Burris, *Nodal Governance*, *supra* note 35, at 40.

212 *Id.* at 36.

213 Burris, *Governance, Microgovernance and Health*, *supra* note 18, at 348.

Governmentality. Many methods of diffuse governance are informed by Michel Foucault's theory of governmentality. The idea of governmentality proposes a much different conception of the social understanding of governance.[214] Rather than gaining legitimacy based on the hierarchical position of sovereign government, Foucault sees governance as a process that occurs throughout all levels of society and that pervades the actions of individuals and institutions alike.[215] This broadens the concept of governance and delinks it from government actors. In essence, governmentality theory goes further in pluralizing governance than some of the New Governance theories, since rather than gaining the ability to govern through an act of government-instigated inclusion or deregulation, nongovernmental actors under Foucault's model already participate in governance. Likewise, the methods of governance under this approach are more indirect, with the norms and rules established by various governing entities translated into outcomes.[216] Government actors certainly still participate in governance under this model, but they are joined by a multiplicity of other potential participants in governance from throughout society.[217]

Anarchic governance. Within a complex social system, diffuse governance can also be characterized as anarchic, with multiple actors and systems intersecting in unpredictable and uncontrollable ways. In many settings, the command-and-control model of governance is being challenged by the fact that other nongovernmental institutions and organizations, and new entities in the arena, are more successfully wielding power and influencing health policy than the traditional players.[218] Anarchic governance can have the effect of weakening formal governance institutions. For instance, some global health scholars have observed that the World Health Organization is "waning" in the shadow of the wealthier Gates Foundation in the arena of global health.[219]

The tensions caused under anarchic governance conditions may threaten the coherency of governance and preclude some actors in the system from achieving their governance goals, as these goals are co-opted and undermined by other actors. Professor David Fidler has

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214 *See* THE FOUCAULT EFFECT, *supra* note 207, at 103.

215 *See id.*

216 *See* Hunter, *supra* note 32, at 103.

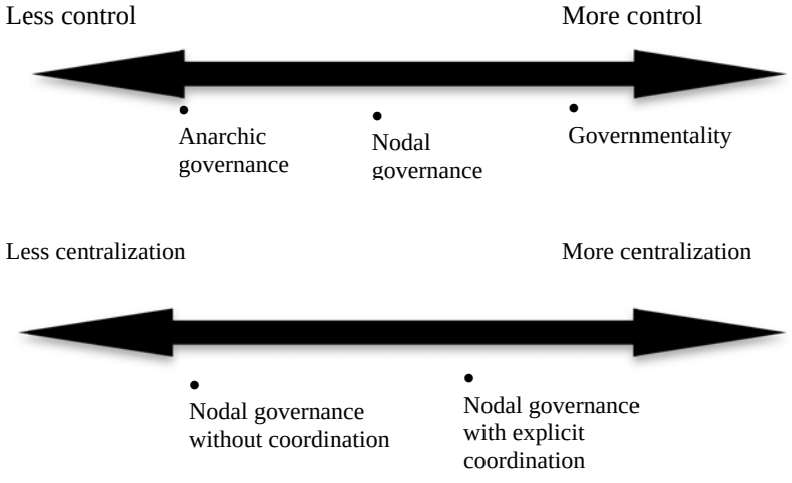
217 *See* THE FOUCAULT EFFECT, *supra* note 207, at 102–03.

218 *See* Burris, *Changes in Governance*, *supra* note 19, at 37.

219 *Id.*

coined the phrase "open-source anarchy" to describe a version of this problem where there is "an elastic relationship between power and ideas in which non-State actors directly participate, thus affecting, in various ways, how anarchy operates."[220] Focusing on the rapidly evolving global health system governed in part by multiple international institutions, governments, nongovernmental organizations, and funders, Professor Fidler suggests that open-source governance may not work in centralized and rationalized global governance systems due to the elasticity of power and ideas.[221] States and nongovernmental organizations are sensitive to the changes in power relations, which would possibly produce "heighten[ed] suspicions of the machinations behind proposals and fears of the consequences of significant change."[222] Figure 4 depicts diffuse governance models along the continua of government control and centralization.

Figure 4: Diffuse governance models



220 Fidler, *supra* note 208, at 282.

221 *Id.* at 283.

222 *Id.* (Fidler goes on to state that open-source anarchy might not work in a global governance system as such, and "[t]herefore, serious motivation to accept bold governance innovations may be lacking").

2. Diffuse Governance Models and Public Health Emergencies

The nodal governance approach can help explain some of the disparate actions and interactions by actors and institutions involved in emergency response. Since nodes are broadly defined, they may be government officials or institutions operating at the local level (e.g., local health officers or FEMA representatives working on-site); nongovernmental organizations (e.g., the American Red Cross, religious organizations, volunteers); or private businesses (e.g., hospitals, pharmacies, supermarkets). The flexibility and complexity of this model incorporates many actors that influence circumstances during public health emergencies but may not fit within the more formal understandings of governance. The exertion of influence on the system by respective nodes may be complementary or contradictory. For instance, both the federal government and BP were important nodes of governance during the *Deepwater Horizon* oil spill in the Gulf of Mexico, but their interests in how to respond sometimes clashed, leading to a protracted period of response and cleanup where the lines of authority were blurred.[223] Further, nodes can exert influence through formal mechanisms such as legal powers or through less formal means. For example, the issuance of a press release by the World Health Organization imposing a travel ban on Toronto during the SARS outbreak in 2003 had a strong governance effect on perceptions and behaviors of the population in ways that may have affected health outcomes.[224]

Nodal governance models help to explain the governance contribution during the Hurricane Katrina response of independent actors whose actions greatly impacted health. When a number of hospitals in Louisiana flooded and lost power in the immediate aftermath of the storm and flooding, patients and caregivers were stranded without sufficient resources.[225] Evacuations proceeded slowly, however, as many boats and helicopters were engaged elsewhere.[226] The two hospitals that had success in achieving rapid evacuations were the Veterans Affairs Medical Center and Tulane

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223 *See* Osofsky, *supra* note 6, at 1105–06 (discussing the many fragmented and overlapping legal regimes involved in the BP oil spill and in the various aspects of the recovery process).

224 *See* Burris, *Governance, Microgovernance and Health*, *supra* note 18, at 339.

225 James G. Hodge, Jr. & Erin Fuse Brown, *Assessing Liability for Health Care Entities that Insufficiently Prepare for Catastrophic Emergencies*, 306 J. AM. MED. ASS'N 308, 308 (2011).

226 *Id.*

University Hospital.[227] The VA Medical Center received assistance from the National Guard, while Tulane was evacuated using helicopters rented by its parent company, HCA.[228] Other public and private hospitals had even more difficulty evacuating patients and many died.[229] The difference between those who received help quickly and those who did not was a function of the governance actions of these distinct nodes. In addition, other private companies such as Wal-Mart, Home Depot, and several national chain pharmacies, were integral in providing supplies to members of the affected populations.[230]

Governmentality theory and anarchic governance also can help to explain some aspects of public health emergency response. Governmentality theory can be applied to the governance of public health emergencies to explain certain types of policy options. Efforts to implement "modern quarantine"—a series of proposals that seek to implement voluntary self-quarantine and other social distancing measures—exhibit aspects of governmentality since these proposals rely on social norms and obligations rather than formal legal orders to enforce quarantine requests.[231] This type of analysis could conceivably be applied to a wider set of public health emergency

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227 *See* Ian L. Taylor, *Hurricane Katrina's Impact on Tulane's Teaching Hospitals*, 118 TRANSACTIONS AM. CLINICAL & CLIMATOLOGICAL ASS'N 69, 72–75 (2007) (describing the evacuation of patients at Tulane Hospital and VA Medical Center).

228 *Id.*

229 Memorial Medical Center, a hospital run by Tenet Health System, faced liability for their failure to prepare for a foreseeable emergency. *See* Susanne Pagano, *Tenet Reaches Settlement Over Deaths at New Orleans Hospital Following Hurricane*, BLOOMBERG LAW: HEALTH PLANS (Apr. 8, 2011) (discussing *Preston v. Tenet Health System Memorial Medical Center Inc.*); Hodge & Brown, *supra* note 225, at 309.

230 *See* STEVEN HORWITZ, MERCATUS CTR.: GEORGE MASON UNIV., MAKING HURRICANE RESPONSE MORE EFFECTIVE: LESSONS FROM THE PRIVATE SECTOR AND THE COAST GUARD DURING KATRINA 2–7 (2008) (describing the contributions of private sector entities in response to Hurricane Katrina); Michael D. Hogue et al., *The Nontraditional Role of Pharmacists After Hurricane Katrina: Process Description and Lessons Learned*, PUB. HEALTH REP., Mar.–Apr. 2009, at 218–21 (discussing the novel roles taken on by pharmacists in response to Hurricane Katrina).

231 *See* Hunter, *supra* note 32, at 106–09. This approach was widely employed by the Canadian government during the SARS outbreak in 2003, and social distancing proposals figure heavily in plans for pandemic influenza. *See* Lawrence O. Gostin et al., *Ethical and Legal Challenges Posed by Severe Acute Respiratory Syndrome: Implications for the Control of Severe Infectious Disease Threats*, 290 J. AM. MED. ASS'N 3229, 3231 (2003) (SARS); Lawrence O. Gostin & Benjamin E. Berkman, *Pandemic Influenza: Ethics, Law, and the Public's Health*, 59 ADMIN. L. REV. 121, 164–68 (2007) (social distancing during pandemic influenza).

proposals, including a range of other voluntary agreements and relationships that exist between government officials and members of the community.

The perspective offered on pluralism in governance by the anarchic governance model highlights an important limitation on efforts to expand notions of governance in the public health emergency setting. If the multiplicity of actors, methodologies, and intersecting systems becomes too complex and convoluted, entities with greater power, influence, resources, or sophistication will reap disproportionate influence over governance. This may benefit their parochial interests, rather than the good of society overall. In the context of a public health emergency, when tensions are already high, care must be taken to avoid the undue influence of actors who would seek to undermine the public's health to enrich themselves economically or politically.

III
INTEGRATED PLURALISTIC GOVERNANCE AND PUBLIC HEALTH EMERGENCY RESPONSE

The trio of governance models described above, and their respective strengths and weaknesses, present an interesting conundrum for policymakers seeking to improve the effectiveness and reliability of public health emergency response. Which of these models is best suited to effective emergency governance? Which of these models should be used, strengthened, and prioritized to reliably achieve good health outcomes during public health emergency responses? These questions are difficult to answer because public health emergencies vary significantly in scope, causes, and effects. The overwhelming consensus among most policymakers and scholars who have tried to answer these questions, not surprisingly, gravitates to traditional command-and-control governance models.[232] Indeed, emergency planners and lawmakers should not forsake the obvious efficiencies of a centralized system when responding to a public health emergency, nor should they jettison a model that has been

232 *See* PERFORMANCE REVIEW OF FEMA, *supra* note 11, at 18–65 (assessing the successes and failures of the Hurricane Katrina response and providing recommendations for improvement); LESSONS LEARNED, *supra* note 11, at 51–82 (providing a list of lessons learned from the Hurricane Katrina response and suggesting improvements to the federal system); Ryan, *supra* note 11, at 522–39 (describing the impact of federalism on the Hurricane Katrina response).

effective in responding to many recent public health emergencies.[233] However, the success of emergency response efforts should not rely too extensively on the proper functioning of a system so reliant on chains of command and official decision making. When emergency response mechanisms fail or degenerate into bureaucratic limbo, as occurred during Hurricane Katrina, there ought to be alternative governance choices to ensure that public health emergency responses do not falter.

The sections that follow offer an innovative proposal to address this problem in the form of an integrated pluralistic governance strategy. Integrated pluralistic governance combines all three governance models; identifies and supports their most useful attributes; and uses strategies of concurrency, coordination, and redundancy between the models to create a more effective and resilient public health emergency response system.

A. Understanding Integrated Pluralistic Governance

Integrated pluralistic governance is grounded on the idea that the development and application of parallel and concurrently functional governance models is essential for maintaining an effective public health emergency response. Necessarily, and by design, an integrated pluralistic governance strategy incorporates redundant legal, structural, and operational capacities, as well as mechanisms to foster coordination, participation, and adaption. If successfully applied, integrated pluralistic governance approaches may improve the resilience and functioning of the public health emergency response system and advance the goal of achieving better health outcomes during public health emergencies.

An integrated pluralistic governance strategy has three key advantages in this context compared with relying on a single governance strategy: structural adaptability, enhanced capacity, and redundancy.

First, integrated pluralistic governance approaches allow for strategic modification of the public health emergency response system to select the most effectual aspects of each model of governance. All

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233 *See* DEP'T OF HOMELAND SEC. OFFICE OF INSPECTOR GEN., OIG-06-32, FEMA'S PREPAREDNESS FOR THE NEXT CATASTROPHIC DISASTER–AN UPDATE 4–6 (Sept. 2010), www.oig.dhs.gov/assets/Mgmt/OIG_10-123_Sep10.pdf (detailing the many annual disasters and emergencies that involve FEMA responses).

three governance models outlined in this Article offer workable approaches to governance in the context of public health emergencies. Current approaches to public health emergency response coexist across all three models of governance, as the examples provided above amply demonstrate.[234] Additionally, the three models have identifiable—and distinct—strengths and weaknesses in their application to public health emergencies. Traditional governance models may be preferable to achieve efficiency, operational clarity, and coordination, while New Governance models or diffuse governance models may better advance notions of participation, flexibility, and adaptation. An integrated pluralistic governance strategy can prioritize the strengths and compensate for the weaknesses of each model by implementing the models concurrently.[235]

Second, the implementation of an integrated pluralistic governance strategy can enhance the capacity of the overall system to respond by providing additional support for multisectoral development of expertise and accrual of skills and resources. Different governance models focus on the functioning of different aspects of public health emergency response and can be used to bolster capacity building across the spectrum of governance participants. For example, traditional governance models can strengthen and refine the actions of governmental officials at all jurisdictional levels. Numerous emergency preparedness initiatives over the past decade have pursued this goal, with mixed success.[236] New Governance models and diffuse governance models, by contrast, have potential for expanding system response capacity in the nongovernmental sector. Establishing an emergency response system that has functional capacity at all levels of government and across both the public and private sectors would provide a more robust infrastructure at all of these levels, and increase the possibility that all areas and populations receive needed assistance in a timely and effective manner. Evidence suggests that substantial progress has been made in expanding response capacity at the federal and state government levels, but these gains are subject to political

234 *See discussion supra* Part III.

235 *See infra* Part IV.B. (providing a detailed examination of this issue).

236 *See* Pandemic and All-Hazards Preparedness Act of 2006, Pub. L. No. 109-417, 120 Stat. 2831 (codified as amended in scattered sections of 42 U.S.C.); Post-Katrina Emergency Management Reform Act, 6 U.S.C. §§ 701–811 (2006); MSEHPA, *supra* note 38; NRF, *supra* note 63.

and economic factors that could endanger these advances.[237] To the extent that better response capacity can be developed according to this approach, it can also more easily be shared through the coordination and cooperation of multiple actors.

A third benefit of integrated pluralistic governance involves the potential of using parallel governance models to create redundancy, which will allow for emergency response efforts to continue even when governance failures have occurred within one or more parts of the system. Thus, the establishment of redundant, parallel governance infrastructure provides a mechanism to avoid some of the systemic design and operational failures that have plagued past response efforts.[238]

This third argument for integrated pluralistic governance is fraught with complications, because advocating for additional systemic redundancy in an already complex—and expensive—system can be difficult to justify and politically contentious.[239] Nevertheless, the crux of the integrated pluralistic governance strategy is to find ways to increase resilience in the public health emergency response system. Resilience is defined as "[t]he response[s] to stress at individual, institutional, and societal levels categorized as the characteristics that promote successful adaptation to adversity."[240] Most discussions of resilience within the emergency preparedness literature are framed in the context of enhancing community-level resilience, i.e., the ability of the community and its institutions to withstand the impact of the emergency and continue to function.[241] However, in the broader

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237 *See* FEMA'S PREPAREDNESS FOR THE NEXT CATASTROPHIC DISASTER–AN UPDATE, *supra* note 233, at 55 (concluding that FEMA's preparedness has improved across many parameters).

238 *See* discussion *supra* Part II.C.

239 Even funding the existing system can be politically contentious as some members in Congress have stated their refusal to fund FEMA recovery efforts for Hurricane Irene, which caused significant damage on the East Coast of the United States in August 2011, without corresponding budget cuts to offset these expenditures. Carl Hulse, *Federal Austerity Changes Disaster Relief*, N.Y. TIMES, Aug. 30, 2011, http://www.nytimes.com/2011/08/31/us/politics/31disaster.html?_r=0.

240 SAMMANTHA L. MAGSINO, NAT'L RESEARCH COUNCIL, APPLICATIONS OF SOCIAL NETWORK ANALYSIS FOR BUILDING COMMUNITY DISASTER RESILIENCE: WORKSHOP SUMMARY 2 (2009).

241 *See, e.g.*, TRUST FOR AMERICA'S HEALTH, READY OR NOT?: PROTECTING THE PUBLIC'S HEALTH FROM DISEASES, DISASTERS, AND BIOTERRORISM 80, 96–97 (2008) [hereinafter TRUST FOR AMERICA'S HEALTH] (discussing the importance of community resilience during public health emergencies and making recommendations to bolster community resilience).

context of public health emergency governance, the concept of resilience can be applied to the systems—legal, medical, and social—that participate in public health emergency responses themselves. Resilient systems are adaptable and persist in the face of severe challenges and can function despite governance failures within the systems. Redundancy in the application and implementation of governance models is a tool to achieve this systemic resilience.

B. Assessing, Comparing, and Improving Governance Models

The development of an integrated pluralistic governance strategy requires that pluralistic governance models be integrated in a way that maximizes the strengths and minimizes the weaknesses of each governance model. Public health emergency response systems already use many mechanisms and tools drawn from the three governance models previously explained. The discussion that follows assesses the respective strengths and weaknesses of these models in achieving successful public health emergency responses and in avoiding systemic design and operational deficiencies. Furthermore, several explicit recommendations for strengthening public health emergency governance are proposed for each model. Importantly, the systemic design and operational governance deficiencies that led to system failures during Hurricane Katrina have only been partly addressed, and therefore, these governance deficiencies still threaten to undermine future emergency response efforts and must be resolved.

1. Improving Traditional Governance Models

Traditional governance models prioritize government control and centralization of governance. The government is the primary—and in some cases the sole—actor effectuating governance, with other entities only incidentally involved in governance, if at all. This model can still be quite complex, due to multiple jurisdictional levels in our federalist system, multiple relevant actors and agencies, the need to comply with many applicable legal requirements, and the implementation of detailed, bureaucratic systems through legal and policy development. Yet the key parameter in traditional governance models remains the actions of government. The preponderance of recommendations coming out of the massively ineffectual Hurricane Katrina response, focused on changing organization or operations

within government systems, or shifting the authority or responsibility from one government official or department to another.[242]

Traditional governance models comprise the clear consensus for governing public health emergencies, building upon a wide range of legal and policy provisions. Despite the widely acknowledged failures of this model during Hurricane Katrina, many reform proposals urged law- and policymakers to reinforce or refine traditional models of governance. For example, commentators proposed strengthening national powers to enhance federal control through an expanded set of federal powers available during large-scale emergencies or allocation of greater authority to military over civilian agencies.[243] Many proposals that sought to preserve state and local preeminence in emergency response governance nevertheless advanced traditional governance models to buttress the powers of state and local governments to exert control over emergency response.[244]

The strengths of traditional governance models seem to support this consensus, at least during the response phase of the emergency. The hierarchy and control inherent in traditional governance models fits well with the urgent and complex challenges posed by a public health emergency. Government-centered responses should be more efficient, coordinated, and predictable, particularly if a substantial government emergency preparedness infrastructure has been developed. Government should possess superior expertise and resources compared with other entities, although in the case of the supply chain, private entities may have superior capability in some circumstances.[245] Further, government actions are arguably more

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242 *See* LESSONS LEARNED, *supra* note 11, at 51–82; HURRICANE KATRINA: A NATION STILL UNPREPARED, *supra* note 11, at 585–630; PERFORMANCE REVIEW OF FEMA, *supra* note 4, at 18–65.

243 *See, e.g.*, Harrald, *supra* note 133, at 261–62, 269–70 (2006) (listing critical success factors and proposing a balance between organization and structure on one hand and agility and flexibility on the other); Jason Mazzone, *The Commandeerer In Chief*, 83 NOTRE DAME L. REV. 265, 295 (2007) (recommending emergency federal commandeering of supplies and personnel to bypass local and state governance); Kent, *supra* note 90, at 209–10 ("In times of danger and crisis, citizens need reassurance that someone is in charge. Citizens take comfort in trained forces leading rescue efforts. . . . Federalized management of catastrophes would provide a unified command structure prior to an event's occurrence."); Whitley, *supra* note 89, at 7 ("Under such a catastrophic scenario, the federal government, without being asked, must intervene more promptly in the immediate aftermath of an event.").

244 *See* MSEHPA, *supra* note 38; MISKEL, *supra* note 13, at 123–36 (raising a skeptical view of increased federal involvement in emergency response governance).

245 *See* Horwitz, *supra* note 230, at 2–7.

accountable than corresponding private sector actions.[246] Predictability and consistency factor into this equation as well. Government control and hierarchical infrastructure are likely more predictable in operation than less centralized response systems, and the established infrastructure of traditional models forms a determined status quo for emergency response. Finally, law can control and shape government actions more readily than nongovernmental actions, therefore giving the law more control over the operation of traditional governance models.

The traditional model has clear weaknesses as well. Proposals to strengthen hierarchy, augment government control, and increase centralization in public health emergency governance will not necessarily resolve the systemic design and operational failures that undermined the Hurricane Katrina response, and could even worsen these problems.[247] Linear and centralized systems can be more susceptible to operational deficiencies, particularly those related to poor decision making. Government-centric traditional governance models may be vulnerable to political pressure during an emergency and political neglect between emergencies, which can lead to the empowerment of underqualified agency leaders, the degradation of operational capacity that prevents agencies from mounting an adequate response, or a misguided focus on the wrong threats.[248] Formal governance structures can have difficulties incorporating external resources and expertise, as was made frustratingly clear during the BP *Deepwater Horizon* Gulf of Mexico oil spill in 2010.[249] A final concern about traditional governance approaches is their ubiquity. If society is to rely on this governance model to respond to challenging and potentially deadly emergencies in a timely way, the

246 Transparency requirements and democratic oversight mechanisms would support this argument. However, government actors often receive liability protections through sovereign immunity provisions that do not apply to private sector actors, which may render government less accountable in some instances.

247 *See* MISKEL, *supra* note 13, at 134–36.

248 *See* PERFORMANCE REVIEW OF FEMA, *supra* note 4, at 22 (discussing how NRCC, RRCC, and Emergency Response Teams all responded simultaneously to the Katrina disaster, rather than waiting for direction from the local level, thus causing confusion and inefficiency); Howitt & Leonard, *supra* note 45, at 220 (noting that "[i]n a crisis, as actions scales up and becomes more complex, leadership or certain responsibilities may need to be transferred from those initially in charge to others with different skills and more resources").

249 *See* Osofsky, *supra* note 6, at 1086–87 (noting how local government and sublocal communities engaged in their own clean-up efforts which at times conflicted with the NCP efforts).

system must be able to function even if parts of the system are overwhelmed or poor decisions are being made within the system that undermine its functionality.

A few key recommendations may help to resolve some of the ongoing problems that face traditional governance models in the context of public health emergency response. Traditional governance models are best situated to resolve systemic design concerns about federalism and overlapping authority between agencies. The uncertainty surrounding roles and authority, which was so debilitating during Hurricane Katrina, could be addressed through more detailed planning and greater delineation of hierarchy through clarification of authorities under the Stafford Act, Pandemic Preparedness and All-Hazards Response Act, and the NRF. Further, the development of more sophisticated understandings of federalism could help resolve confusion.[250] To some extent the revisions to the NRF since 2005 have taken good steps to address these issues in delineating more specific roles for federal and state agencies, designating lead agencies for specific types of emergencies, and creating a unified command structure for consistent coordination across multiple jurisdictions.[251]

Had these proposals been in place during Hurricane Katrina, they could have eliminated some of the delays and uncertainty among government decision makers. Ultimately though, the impetus toward greater hierarchy reflected in these proposals is somewhat unsatisfactory because it fails to resolve operational problems instigated by inadequate resources or unsatisfactory decision makers. Even with clearer understandings in place outlining the allocation of authority between governments and specific agencies and better developed planning and hierarchy within the government emergency response infrastructure, the operation of the system can still fail if resources are not available or key decision makers perform poorly.

2. Improving New Governance Models

New Governance models move away from the notion that all governance must be done by government. Rather, multiple participants from the public and private sectors can and should participate in governance, both in the planning and development of

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[250] *See* Ryan, *supra* note 11, at 662–65 (proposing better understandings of federalism in the context of emergency response).

[251] NRF, *supra* note 63, at 15–26.

governance systems and in the implementation and actualization of these systems. These models promote a vision of governance that explicitly brings these multiple parties together and shares power and responsibility amongst them. Efforts to bring nongovernmental actors into public health emergency governance, such as the NRF, ESAR-VHP, and MRC, reflect this approach and expand the governance possibilities with increased variation in structure and strategy.[252]

New Governance models have several strengths in the context of responding to public health emergencies. First and foremost these models recognize that both governmental and nongovernmental entities play important roles in response efforts, and coordination of their respective efforts and capacities can improve outcomes and mitigate harm to health.[253] The inclusion of external perspectives also may have a democratizing effect on emergency preparedness, allowing for more entities to play meaningful roles and simultaneously enhancing the legitimacy of response efforts.

The tendency toward decentralization and sharing of authority and responsibility found in New Governance models may provide some advantages in the context of public health emergencies as well. The local-first orientation of the NRF for example is predicated on the idea that the local community is able to prioritize and apply local knowledge.[254] According to New Governance theories, local individuals and institutions, including the local government, hypothetically would be the best prepared to handle the safety and health crises that arise during a public health emergency because they are the most familiar with the community. The residents would also rely on knowledge from a variety of local individuals instead of only national experts. Because New Governance deemphasizes expert knowledge, health officials might not be given as much respect as well-established members of the community.[255]

Two additional strengths of New Governance models may be linked with decentralization, collaboration, and participation: experimentation and ability to adapt.[256] Experimentation is tied in with the concept of devolution because the more local the actor or

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252 *See* discussion *supra* Part III.B.

253 *See* Hunter, *supra* note 32, at 116–18 (discussing the application of New Governance approaches to broaden participation in administrative governance of public health).

254 *See* NeJaime, *supra* note 157, at 334.

255 Lobel, *supra* note 18, at 453–57.

256 Trubek, *supra* note 34, at 148.

entity the easier it is to experiment with new projects or policies.[257] The goal of experimentation in the New Governance context is to constantly provide the best result.[258] By experimenting with problem solving at both the state and local levels, and in both public and private settings, information can be conveyed to stakeholder networks.[259] These networks include both public entities, such as government officials, and private parties, such as business purchasers.[260] In planning for a public health emergency, experimentation would also be key, as new policies, drills, and backup plans could be tested and put in place in anticipation of an emergency.

Ability to adapt will be necessary when the emergency is unforeseen or so extensive that it creates catastrophic consequences. The capacity of a public health emergency system to adapt and respond to a new disease or a unique natural disaster that overwhelms conventional response efforts may be advanced through the collective efforts of multiple entities working together to put together an innovative response under the circumstances. The scalability and flexibility built into NRF and NIMS supports this adaptive capacity,[261] but additional explicit capacity building outside of government agencies should be strongly supported and incentivized with financial and technical assistance. State budget cuts have endangered existing emergency preparedness funding and economic support should be increased when possible as resources become more available.[262]

Some of these same aspects of New Governance models can be viewed as weaknesses in the context of responding to public health emergencies. Expanding the relevant participants in governance may complicate efforts to achieve a coordinated and efficient response. Additionally, decentralization during a public health emergency may create a serious impediment to effectuating an effective and

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257 *Id.*

258 *Id.* ("Experimentation can also be seen as continuous quality improvement—organizations should be constantly experimenting to see what works and what does not.") (citing Louise G. Trubek, *Public Interest Lawyers and New Governance: Advocating for Health Care*, 2002 WIS. L. REV. 575, 587 (2002)).

259 *Id.*

260 *Id.*

261 NIMS, *supra* note 63, at 6–7; NRF, *supra* note 63, at 10.

262 Thirty-three states and Washington, D.C. cut their public health budgets in 2009 and 2010. *See* TRUST FOR AMERICA'S HEALTH, *supra* note 241, at 48.

coordinated response. Decentralized response efforts may face operational failures if the ability of the local jurisdictions or entities to handle the emergency response is compromised given the severity of the circumstances, the limited resources of the community, and the deleterious effect that the emergency may have already had on resources and health at the local level. Each of these factors played a role in undermining the Hurricane Katrina response.[263] The ability of a higher level of government, or a nongovernmental response from outside the locality, to respond and support the local efforts would have been necessary to supplement response efforts under these circumstances.

New Governance critics have suggested that New Governance models are too idealistic and fail to take into account the reality of social and political circumstances. New Governance theory is often stated in vague language that fails to deal with questions of implementation.[264] Because New Governance theory purports to be an overarching regulatory theory it may not always be desirable or feasible in every situation.[265] Another concern is that New Governance theory does not adequately account for inclusion of outside groups, particularly those that are already marginalized in society.[266] Commentators have also raised practical questions about how to achieve consistency and shared values with a disparate set of actors involved in governance.[267] These concerns are particularly relevant in the context of public health emergency responses, given the high risk to the health of the population at stake and the need for urgency and consistency in response efforts.

Despite these concerns, the potential for additional initiatives using New Governance models is ripe for exploration. The most significant impact of New Governance models is most likely to be felt in the planning stages for public health emergencies, because this planning

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263 *See* Ryan, *supra* note 11, at 532–36.

264 *See* Susan Sturm, *Gender Equity Regimes and the Architecture of Learning*, *in* LAW AND NEW GOVERNANCE IN THE EU AND THE US 323, 323–24 (Graínne De Búrca & Joanne Scott, eds., 2006).

265 Sturm, *supra* note 264, at 360 (recognizing that while "[g]overnance techniques as a strategic response to a particular situation might be uncontroversial, New Governance presents itself as 'an overarching regulatory theory,' which begs difficult questions about desirability and feasibility").

266 *Id.* at 349–50.

267 *See* NeJaime, *supra* note 157, at 357 (explaining that most of the New Governance scholarship fails to address those commitments that "featur[e] diametrically opposed views and constituencies").

process can incorporate a more dynamic and intersectoral consultation process. This consultation process should explicitly include local perspectives and reach out to underrepresented groups who may be more vulnerable during public health emergencies.[268]

Additionally, despite adopting a national focus and unified command structure, the trajectory of changes to NRF and NIMS suggests a move towards less centralization in response planning, a development consistent with New Governance models.[269] With the implementation of NRF and NIMS continuing, private sector and NGO participants will have additional opportunities to become involved in planning.[270] FEMA should expand and promote this process, as it likely will yield benefits in participation, training, capacity building, and acceptance of the norms advanced by NRF. The National Health Security Strategy (NHSS), a health-focused preparedness document prepared by the HHS, supports this initiative as well, with a focus on developing a strong health workforce, coordinated communication, and collaboration between public and private sectors on the issue of health during emergencies.[271] Similar efforts should occur at the state and local levels. These partnerships, once in place, can form the foundation for more extensive collaboration in public health emergency response efforts.

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[268] Lawrence O. Gostin, *The value of public deliberation in public health preparedness*, AM. J. BIOETHICS, Nov. 2009, at 20, 20; J. Eline Garrett et al., *Listen! The Value of Public Engagement in Pandemic Ethics*, AM. J. BIOETHICS, Nov. 2009, 17, 17.

[269] Note that one of the key changes in the NRF is the switch from calling it the "National Response Plan" to the "National Response Framework." NRF, *supra* note 63, at 2–3. The NRF explains that in its earlier iteration "it was evident that the *NRP* and its supporting documents did not constitute a true operational *plan* in the sense understood by emergency managers. Its content was inconsistent with the promise of its title." *Id.* at 2. The term framework "is now more accurately aligned with its intended purpose" to guide governmental response at all levels in partnership with the private sector, nongovernmental organizations, and individual citizens. *Id.* at 3.

[270] FEMA'S PREPAREDNESS FOR THE NEXT CATASTROPHIC DISASTER–AN UPDATE, *supra* note 233, at 4–6.

[271] U.S. DEP'T OF HEALTH AND HUMAN SERV., NATIONAL HEALTH SECURITY STRATEGY OF THE UNITED STATES OF AMERICA 5–17 (2009), http://www.phe.gov/preparedness/planning/authority/nhss/Pages/default.aspx [hereinafter NHSS]; BARAK OBAMA, PRESIDENTIAL POLICY DIRECTIVE 8: NATIONAL PREPAREDNESS (Mar. 30, 2011), http://www.dhs.gov/presidential-policy-directive-8-national-preparedness; U.S. DEP'T OF HEALTH AND HUMAN SERV., BIENNIAL IMPLEMENTATION PLAN FOR THE NATIONAL HEALTH SECURITY STRATEGY OF THE UNITED STATES OF AMERICA 12–53 (2010), www.phe.gov/Preparedness/planning/. . ./nhssbip-draft-100719.pdf [hereinafter Biennial Plan].

3. Improving Diffuse Governance Models

Diffuse governance models also seek to expand the number of participants in governance and reduce the reliance on government-centered hierarchy and control of governance. The main distinction with diffuse governance models compared with New Governance models is the extent of coordination and explicit connection involved between entities involved in governance. Where a New Governance approach would bring together public and private actors to figure out a common strategy to respond to a public health emergency (e.g., the approach taken with the NRF), diffuse governance presumes that these public and private actors will take steps to govern, but not necessarily as part of a cohesive plan or coordinated process.[272] Hence, diffuse governance models often lack explicit cohesion, but may still be complementary in their effects and outcomes and consistent with the norms advanced by governmental actors.

Critics of diffuse governance models further claim that decentralization lacks accountability. In addition, decentralized or regional governance may fail "in the absence of a regional identity."[273] On the other hand, even when there is state or federal legislation "forcing top-down regional approaches, . . . resistance to regionalism can undermine their effectiveness and long-term viability."[274]

The legal and economic deterrents that limit participation of some nongovernmental entities during public health emergencies can best be addressed through New Governance or diffuse governance models, supported by changes to the law to minimize those deterrents. More state governments could achieve this goal by enacting emergency response laws or otherwise introducing incentives that allow for licensure reciprocity for out-of-state health workers, immunity from liability, coverage of costs, direct compensation, workers'

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[272] There is another way to frame the NRF within the rubric of diffuse governance models. Under this approach the NRF is engaged, in part, in an exercise of coordinated nodal governance, with many governance participants agreeing to apply specific structural strategies and normative values to emergency response. There is a distinction between explicit coordination of nodes, in which the public and private actors agree to adhere to designated strategies and values, and aspirational coordination of nodes, in which the plan is available for all to follow—and perhaps even incentivized through legal, social, or economic means—but not mandatory or directly coordinated.

[273] Janice C. Griffith, *Regional Governance Reconsidered*, 21 J.L. & POL. 505, 544 (2005).

[274] *Id.* at 544–45.

compensation, or favorable access to grants or tax incentives.[275] Expansions of training programs for multiple participants can also empower disparate nodes in their governance efforts, while simultaneously advancing standardization and consistency in response as envisioned by NIMS.[276]

The development of NHSS takes the community-based approach even further, stating that "[n]ational health security is built on a foundation of community resilience" and seeks to enhance links between community organizations and individuals to educate, inform, and incentivize preparedness.[277] These types of efforts, based on diffuse governance models, could greatly increase response capacity and improve health during a public health emergency. Because their implementation has just begun, additional development and support will be vital to the success of these initiatives.

C. Enhancing Resiliency Through Concurrency, Coordination, and Redundancy

Integrated pluralistic governance offers an additional promising insight into addressing the problematic issue of operational governance failures during public health emergency responses. The recommendations offered in the previous section identify a series of proposals for enhancing governance of public health emergency response through each of the three governance models. What these recommendations do not resolve, however, are the most difficult questions of how to structure a public health emergency response system that functions well and reliably avoids systemic design and operational deficiencies that may lead to governance failures. Trying to balance efficient and effective response mechanisms, which are usually tethered to hierarchical traditional governance models, with systemic resiliency, adaptability, and innovation, which more closely align with New Governance models and diffuse governance models, creates vexing challenges. Developing a system that functions when faced with predictable operational governance failures—an overwhelmed system stretched past its capacity or a key decision-maker not performing well—presents a difficult task. The linear

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275 *See* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 65–70 (outlining a number of proposals to incentivize legal protections for volunteer health professionals during public health emergencies).

276 *See* NIMS, *supra* note 63, at 7.

277 BIENNIAL PLAN, *supra* note 271, at 7, 11–17.

decision-making infrastructures in place during the Hurricane Katrina response did not function well when presented with these two types of governance failures, and none of the three governance models alone will resolve these problems without endangering the ability of the system to effectively coordinate an efficient response.

Integrated pluralistic governance, through its combination of these three distinct governance models, confronts the problem of operational governance failures by applying principles of concurrency, coordination, and redundancy. These are overlapping concepts, but each is integral to bolstering resiliency under an integrated pluralistic governance strategy.

Concurrency—the simultaneous use of multiple governance models—does more than increase functional capacity of the emergency response system. Through the deployment of disparate parallel models, concurrency empowers a variety of governance actors to participate in and have complementary effects on a response effort. Local hospital capacity, for example, forms an important resource for protecting health during a public health emergency response.[278] In governance terminology, a private hospital would form a node of governance under the diffuse governance model. A concurrent governance structure could utilize the capabilities of the hospital in tandem with government and other responders with different, but corresponding, capabilities.[279] The NHSS adopts two objectives consistent with this notion, fostering integrated, scalable health systems, and developing and maintaining the health workforce.[280]

Coordination transcends individual governance models in two respects. Efforts to coordinate different participants involved in public health emergency governance occur within and across all of the governance models. Additionally, the process of coordination allows for participants in different models to work together effectively. Coordination has particular relevance to New Governance models, which include coordination as a key principle undergirding

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[278] Significant effort has been put into hospital preparedness across the country. The Hospital Preparedness Program, funded by HHS, has provided resources and guidance to hospitals to prepare for and respond to public health emergencies. *See* CTR. FOR BIOSECURITY OF UPMC, HOSPITALS RISING TO THE CHALLENGE: THE FIRST FIVE YEARS OF THE U.S. HOSPITAL PREPAREDNESS PROGRAM AND PRIORITIES GOING FORWARD 57–62 (2009), http://www.upmc-biosecurity.org/website/resources/publications/2009/2009-04-16-hppreport.html.

[279] NHSS, *supra* note 271, at 11–12.

[280] *Id.* at 8–12.

public/private cooperation.[281] Coordination can take many forms with various levels of cohesion and standardization. One coordination strategy that has been pursued by NIMS and NHSS is to encourage all governance participants to adhere to standard norms and plans.[282] Through standardization of practices, methods, and standards, different participants in governance may work efficiently and predictably together even when not directly in communication with each other. Coordination, however, need not be standardized to have beneficial impact. The implementation of nonstandardized approaches by diffuse localized governance participants could be quite useful and might even be essential in an emergency that defies established planning or requires creative innovation.[283]

Redundancy plays an important role in integrated pluralistic governance as well. Redundancy ensures that the public health emergency response does not disintegrate if formal government systems or the hierarchical emergency response infrastructure fail. Redundancy is actually a form of concurrency. Whereas concurrent governance models coexist and include multiple participants with distinct roles and capabilities, redundancy strives to create coexisting capacity that explicitly does overlap, in order to ensure that extra response capacity is available if the typical response strategies do not succeed. Public health emergency governance plans usually refer to redundancy in relation to specific logistical systems, like communications infrastructure, but the pretext of redundancy is found in many structural aspects of the existing system, including the local-first orientation of the Stafford Act and the federalism-based reluctance of the federal government to more assertively manage emergencies. The redundancy envisioned by integrated pluralistic governance, however, takes a more extensive approach, by seeking to establish redundancy across concurrent systems in anticipation that some components of these systems will fail, especially during catastrophic events.

The term "redundancy" exudes negative connotations of bureaucratic inefficiency, wastefulness, and operational confusion. Often, redundancy has been correctly criticized for complicating and

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281 *See* Lobel, *supra* note 18, at 385–87 (discussing the use of coordination in the integration of policy domains).

282 NIMS, *supra* note 63, at 7; NHSS, *supra* note 271, at 1, 11.

283 *See* Howitt & Leonard, *supra* note 45, at 218 (noting that some types of emergencies are so enormous that they necessitate adaptation and creativity in response).

confusing governance systems, including when redundant legal powers between public health and emergency response agencies provide conflicting mandates for who is in charge of the response effort.[284] Nevertheless, redundancy should not be understood this way, as it is not inherently a negative concept. Professor Robert Cover argues persuasively that redundancy in some contexts can lead to innovation, protect rights, and help improve legal and social norms.[285] While Professor Cover addresses redundancy in the legal system, his conception of "good redundancy" can be applied to a multivariate emergency response system. Achieving good redundancy in the public health emergency response system requires affirmative efforts to link disparate actors across systems and to foster harmonization and normative convergence. Harmonization can be cultivated through the New Governance techniques of coordination, communication, and participation. Diffuse governance models can advance good redundancy by providing multiple nodes to act as participants in governance, either in coordination with formal government processes, or in lieu of these processes if the system falters. Combined with concurrency and coordination, redundancy in this context provides a powerful path to a more resilient public health emergency response system.

An integrated pluralistic governance strategy for public health emergencies would not necessarily be a panacea for dealing with failures of public health emergency responses. This strategy carries with it corresponding disadvantages of redundancy, inefficiency, and lack of coordination.[286] Yet with careful consideration and significant effort, these problems too can be minimized.

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[284] *See* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 65–70 (discussing complications with dual declarations of emergency powers and conflicting agency responsibility for emergency response at the state level); Ryan, *supra* note 11, at 522–28.

[285] *See* Cover, *Uses of Jurisdictional Redundancy*, *supra* note 15, at 642–43 (showing that jurisdictional redundancy of parallel legal forums leads to better outcomes by allowing for the creation of new norms and permitting litigants to avoid corrupt judges); *see also* Cover, *Dialectical Federalism*, *supra* note 15, at 1045–65 (discussing the potential benefits of redundancy in the multilayered jurisdiction created by habeas corpus petitions).

[286] Burris, *Governance, Microgovernance and Health*, *supra* note 18, at 355 ("Problems are also a means and a product of the distribution of governance jurisdiction. Artificial, if not arbitrary, lines of responsibility lead to duplicative, incomplete, and counterproductive interventions, and sometimes to strange allocational results as resources are deployed within rationalities bounded by jurisdictional lines.").

One troubling concern is the potential tension between different actors within an integrated pluralistic governance strategy. Conflict between parties within a system has been identified as a tool of New Governance, but in the context of an emergency response, competition, and therefore inefficiency and rivalry, are not welcome developments.[287] Conflicts in this context ultimately may be unavoidable in some situations, but they can be forestalled by planning and transparency, ongoing open communication between different actors, additional research into the dynamics of the system to more clearly identify participants in governance and their potential roles, formal and informal planning sessions and debriefing sessions, pilot studies of different policy approaches, and development of expertise at all levels. Having all participants in governance—local to national, public to private to volunteer—agree on standardized procedures and norms, as recommended in NIMS and NHSS,[288] will eliminate some areas of conflict and help with trust, predictability, and coordination. An integrated pluralistic governance strategy may need to impose default rules backed by law that resolve these tensions. This approach promotes clarity in situations where there is a disagreement between actors engaged in different aspects of public health emergency response, but should be circumscribed to avoid undermining the advantages of the pluralistic governance strategies, such as reimposing too much rigidity could weaken and undercut the value of concurrency. A good model for the default approach would be to adopt the allocations of authority currently outlined in the NRF and NIMS.[289]

An equally challenging issue stems from redundancy within the integrated pluralistic governance strategy. The existence of redundant capacity—especially capacity developed for a catastrophic emergency that is likely to be a rare, but devastating, type of event—must be evaluated in light of the opportunity costs incurred by precluding other important uses of resources. Critics of emergency preparedness have challenged the need to expend resources on emergency-specific systems and instead suggest expenditures for more widely applicable

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287 *See* Lobel, *supra* note 18, at 379–81.

288 NIMS, *supra* note 63, at 7; NHSS, *supra* note 273, at 5–13 (describing the roles, relationships, and approaches of various participants in the NHSS).

289 *See* NIMS, *supra* note 63, at 5–7, 45–74; NRF, *supra* note 63, at 15–26.

public health projects or other interests altogether.[290] Therefore, policymakers should align emergency preparedness infrastructure with other useful projects in a synergistic manner. Supplementing public health and healthcare capacity in local communities, for example, has population health benefits both during emergencies and generally.

Successful coordination also will pose a challenge for an integrated pluralistic governance strategy. Public health emergencies, by definition, require a rapid, efficient response. A legitimate concern regarding this governance approach is that it may destroy the efficiency needed to successfully respond, needlessly complicate response efforts, and create problematic and unfair allocations of resources. Achieving coordination in the midst of an emergency will be challenging indeed. For this approach to succeed, significant planning and consensus on response strategies must be developed in advance to obviate the need for contemporaneous coordination of some components of the response. For example, if private sector entities or local government organizations know that they have the capacity and obligation to provide certain services, or that they will be compensated if they do so, they may be empowered to act without explicit permission by centralized decision makers. Admittedly, this solution is not completely satisfying, as there will be some aspects of a response, such as how to divide and allocate limited resources that will require contemporaneous coordination and real time judgment calls.

Several specific approaches can be pursued to build redundancy into the public health emergency response system and thereby augment resilience in this system. First, the emergency response system should anticipate the possibility of failures at various points in the system hierarchy and plan for how alternative governance mechanisms will allow the system to function despite these failings. Using concurrent governance models, based on participation of private sector actors and the diffusion of responsibility across these many nodes of governance, can strengthen systemic resilience. The NRF, NIMS, and NHSS already support this type of governance stratification to a limited extent. Changes to the NRF to explicitly account for response efforts when the unified command structure is

290 *See* CENTURY FOUND., *supra* note 81 (recommending a balance between emergency preparedness funding and other public health necessities).

not operable would further enable this strategy, perhaps in the form of a specific annex that addresses this issue in detail.

The successful application of this strategy may require changes to the law to facilitate more extensive participation of nongovernmental actors. Precedents such as the ESAR-VHP volunteer program could provide lessons to emulate in this area, both in terms of organization and legal reform.[291] Additionally, efforts at public education, social support, and media cooperation could improve individual and community resilience in the face of a serious public health emergency.[292] Across all of these efforts, it will be important that public health emergency preparedness receives sufficient resources to maintain systemic resilience.

Integrated pluralistic governance should also be utilized to protect against political favoritism in the allocation of resources or the prioritization of response activities. Communities with already strong resources and sophisticated planning and training will have inherent advantages during a catastrophic emergency. Communities without a strong resource base, which also may face challenges with health, education, housing, and transportation infrastructure on an everyday basis, will likely face even larger risks from a public health emergency. The devastation of the Lower Ninth Ward in New Orleans during Hurricane Katrina was the byproduct of numerous intersecting facets of vulnerability, among them the location of poor residents in the most at-risk sections of the city for flooding, lack of information available to residents about flooding risks, and limitations on the ability of residents to evacuate due to transportation and economic impediments.[293] Beyond these factors, response decisions often reflect the direct and indirect biases that lead policymakers to target resources first to more politically powerful or organized constituencies. Michael Brown, the head of FEMA during the Hurricane Katrina response, famously said that it took so long to send federal support to residents sheltering at the New Orleans Superdome

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291 *See generally* Hodge, *Legal Framework for Meeting Surge Capacity*, *supra* note 13, at 65–70.

292 *See* Monica Schoch-Spana et al., Meeting Report, *Community Resilience Roundtable on the Implementation of Homeland Security Presidential Directive 21 (HSPD-21);* 6 BIOSECURITY AND BIOTERRORISM: BIODEFENSE STRATEGY, PRAC. & SCI., 269, 274 (2008); Fran H. Norris et al., *Community Resilience as a Metaphor, Theory, Set of Capacities, and Strategy for Disaster Readiness*, 41 AM. J. COMMUNITY PSYCHOL.127, 142–46 (2008).

293 *See* MCQUAID & SCHLEIFSTEIN, *supra* note 11, at 187–232.

because they did not know the people were there.[294] In this context, redundant and parallel governance systems, in conjunction with legal protections, can counterbalance political favoritism in resource prioritization if alternative mechanisms of support can reach communities that may be ignored by formal decision makers.[295]

Plans to invest additional resources in emergency preparedness and response activities likely will face political opposition from opponents who abhor expenditures on what they see as redundant or unnecessary projects, as well as those who are wary of public/private collaboration potentially benefiting private interests at the expense of the public good. The complicated politics of redundancy may limit the appeal of the integrated pluralistic governance strategy as a broader national endeavor.[296] But the ongoing development of NRF and NHSS suggest a modest level of support for these general concepts and provide a framework upon which to build toward systemic resiliency for public health emergency response systems. Ultimately, the widespread, systematic adoption of integrated pluralistic governance is constrained by political and economic factors. However, less comprehensive adoption of this approach by selected localities, and through the expansion of already successful initiatives like ESAR-VHP and MRC across the country, could move toward a more integrated and pluralistic governance framework for public health emergencies.

The integrated pluralistic governance strategy thus retains the best features of traditional governance models—efficiency, adaptability, and accountability—and enhances these attributes with a robust network infrastructure. This approach would be more adaptable and flexible in its ability to function even if the decisional structure fails. Most importantly, this approach avoids system failure

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294 *See* Ryan, *supra* note 11, at 535 (citing Michael Brown's statements on *NBC Nightly News*).

295 This notion tracks somewhat Professor Cover's observation that jurisdictional redundancy in the judicial system can help achieve justice, despite the presence of judges who explicitly or implicitly exert political favoritism in their rulings. *See* Cover, *Uses of Jurisdictional Redundancy*, *supra* note 15, at 660–62.

296 Care must be exercised from a political perspective as well. Ideological opposition to federal support of emergency response (and to federal government activity in general) could seize upon this redundant strategy as a pretext for not engaging in government response efforts, in effect leaving the response to the private sector. This approach would be ill-advised, inefficient, and beset with conflicts of interest. The protocols for the system should prioritize levels of response and the roles of different participants, but should prevent government resources from being withdrawn in favor of private resources unless those private resources will be more effective in achieving good outcomes.

disproportionately contingent on the actions of decision makers. Had an integrated pluralistic governance strategy been in place during Hurricane Katrina, the dual governance failures at the root of the unsuccessful response efforts may have been averted as redundancy and coordination provided alternative mechanisms to facilitate response. Thus, an integrated pluralistic governance system, through a combination of notions of concurrency, coordination, and redundancy, can foster a more resilient public health emergency response system.

CONCLUSION

An integrated pluralistic governance strategy allows for the embrace of complex systems and recognizes that multiple governance models may coexist within these systems. Complex systems do not afford the luxury of a one-size-fits-all approach to governance, regulation, or application of law. This realization may seem a bit disconcerting especially in the context of a public health emergency, where certainty brings comfort and where propriety demands rapid reaction and results that are consistent, efficient, and competent. But the advantages of understanding governance as a complex process—linked to a series of interlocking systems—are in the ability of an integrated pluralistic governance strategy to greatly enhance the resiliency and flexibility of public health emergency response systems.

Efforts to strengthen and apply governance models concurrently through integrated pluralistic governance during public health emergencies could lead to a superior emergency response system that relies less on impeccable government implementation, clear chains of command, and centralized control. Supporting a mixture of concurrent, coordinated, and purposefully redundant governance strategies can enhance the capacity of the public health emergency response system to effectively function even when pushed past normal capacity.

Public health emergency governance should be reimagined to meet current and future needs effectively. This will not be an easy exercise. Emergency preparedness is an inherently complex problem, needing plans and strategies to avert emergencies from both natural and man-made threats. Effective preparedness entails the integration of scientific and medical expertise, good logistical planning, and clear laws and policies. Coordinating these interdisciplinary considerations

requires more than just strategic planning; it demands thoughtful approaches to emergency governance. The governance function has particular import for public health emergencies because pandemics and other disasters can have profoundly divisive social and political consequences.

The response to Hurricane Katrina revealed many concerns about governance failure during public health emergency responses and reaffirmed the fact that the laws and plans on the books do not always translate well to practical implementation. Understanding the governance aspects of this system may help resolve this nefarious disconnect. As we contemplate future public health emergency governance, continued reliance on a model that concentrates authority and presumes top-down governance should be reassessed. By reimagining public health emergency governance, we can better understand the likely outcomes of our legal frameworks and policies in addressing health, and also devise and construct new systems that better comport with our goals and values.