

ISOLATION, QUARANTINE AND METAPHORICAL TAKINGS OF THE BODY: PUBLIC HEALTH REACTIONS TO DISEASE OUTBREAKS

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ABSTRACT

Quarantine and isolation are methods employed by public health officials to control the spread of dangerous disease pathogens through physical isolation of those exposed or symptomatic. While use of these methods has declined in the last century through advances in medical knowledge and treatment, emerging disease threats will likely require increased reliance on them. Despite this, quarantine statutes and related regulations fail to provide compensation to those subject to them, and little recourse exists to make those individuals whole for losses incurred, though the pandemic has highlighted a need for work in this area. One means of shifting the burden of such losses back to government actors enacting public health orders may be through recognition of a metaphorical, individually held property interest in an individual's own body. This reconceptualization of individuals' relationships to their bodies should be leveraged in attempts access Constitutional Fifth Amendment takings claims and providing remuneration for losses suffered at the hands of government actors while protecting public health through curbing infectious disease spread. While limited case law exists to support such claims, democratic ideals including justice and fairness require recognition of the harms resultant from quarantine and isolation beyond due process claims alone, and further consideration by policy makers with respect to how, and upon whom, the burdens of such orders fall. Advocating for remuneration itself is one component; in the absence of appropriate state legislation and regulatory action mechanisms such as metaphorical Fifth Amendment takings claims present another means to reach the same ends. Ideal policy solutions in lieu of such claims include creation state and / or federal compensation funds for a subset of individuals subject to such state action, coupled with the creation of statutory or regulatory protections for common concerns that individuals subject to public health orders experience. The article pulls its recommendations from an analysis of press coverage of several quarantines that occurred during the 2015 Ebola crisis, primarily focusing on the narratives of two women: Lousie Troh, quarantined in Dallas, Texas, and Kaci Hickox, quarantined in New Jersey and Maine, respectively. Their stories, and other related narratives this paper notes, should inform the structure of appropriate protections for those subject to public health orders, with a structure focused on direct and indirect economic losses created by their imposition. Such policy solutions should also be dynamic, seeking further insight from the experiences of individuals subject to Orders, and subject to ongoing revision based on

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experience. While metaphorical takings are one means through which to create just outcomes, legislative action may present the most reasonable and appropriate means to create equitable protections and to incentivize compliance by the individuals who bear collective public health burdens in the protection of the broader health.

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INTRODUCTION

In the winter of 2008, San Diego found itself in the midst of a public health crisis. A local family had taken their unvaccinated son to Switzerland and brought home measles. What followed was a mobilization of public health authorities working tirelessly with the community to stop the spread of the disease.¹

Measles is both dangerous and highly contagious.² Being one hundred feet away from the location where an infected person was up to two hours after they were present can lead to infection.³ Infants are especially vulnerable, since it is recommended that they not receive the measles vaccination until they reach the age of one.⁴ During this period, news media in San Diego aided public health efforts by noting locations, dates and times of confirmed cases.⁵ Locations of confirmed cases included doctors' offices, a Hawaii-bound flight to the NFL Pro Bowl, a Chuck E. Cheese restaurant, and local day care centers. During the period of the outbreak, public health officials in San Diego tracked nearly a thousand possible exposures.⁶

Early on, public health officials turned to an old but familiar tool to curb the spread: quarantining dozens of children and, by extension, their families. Hilary Chambers, a local radio DJ, was one of those affected. While attempting to drop her daughter, Finlee, off at day care she was told by a county public health official that her daughter was "not to leave [her] property

1 David E. Sugerman et al., *Measles Outbreak in a Highly Vaccinated Population, San Diego, 2008: Role of the Intentionally Undervaccinated*, 125 PEDIATRICS 747 (2010).

2 See *Transmission of Measles*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/measles/transmission.html> (last reviewed Feb. 5, 2018) (describing the "highly contagious" nature and transmission of the measles virus).

3 *This American Life: Ruining It for the Rest of Us*, CHI, PUB. RADIO (Dec. 19, 2008), <https://www.thisamericanlife.org/370/ruining-it-for-the-rest-of-us/act-one-0> (reporting that you can be at risk of catching measles up to 100 feet away and that it lingers in the air for two hours).

4 See *Measles Vaccination*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/vaccines/vpd/measles/index.html> (last reviewed Mar. 28, 2019) (recommending that children do not receive their first vaccination against measles until they are between twelve and fifteen months of age).

5 *This American Life: Ruining It for the Rest of Us*, *supra* note 3.

6 See *id.* (describing the 980 potential cases under investigation).

for the next three weeks.”⁷ Chambers and her husband fielded daily calls and check-ins from public health officials to monitor Finlee’s movements.⁸

Chambers was, in a sense, lucky; her daughter did not fall ill and she and her husband were able to balance the demands of their jobs with those of the monitored quarantine. Her neighbor Megan Campbell was not so lucky; Campbell’s ten-month-old son fell ill.⁹ Campbell and her husband were required to take a month off work to provide him care during the required period of isolation.¹⁰ The little boy acquired the virus at a doctor’s office.¹¹

For many Americans, a month away from work, or three weeks of childcare at home, would prove more than a family’s finances or careers could bear.¹² Despite this, there is a high likelihood that more and more American families will find themselves in similar circumstances, facing quarantine and isolation orders (“Orders”) from government officials attempting to curb the spread of reemerging and newly discovered infectious diseases. The COVID-19 pandemic has brought that reality to life in the past year.

Considering how and when public health officials invoke and use quarantine and isolation orders is of critical importance. At the same time, the use of quarantine and isolation orders to curb the spread of pathogens feels outdated.

7 *Id.*

8 *Id.*

9 *Id.*

10 *Id.*

11 *Id.* (“[Megan Campbell’s] son was 10 months old when he was exposed to measles in the pediatrician’s office, which he visited on the same day as the Switzerland family . . .”).

12 See Neal Gabler, *The Secret Shame of Middle-Class Americans*, ATLANTIC (May 2016), <https://www.theatlantic.com/magazine/archive/2016/05/my-secret-shame/476415/> (concluding that nearly half of American families are “financially fragile,” based in part on a report from 2015 which indicates that 55% of American households do not have enough liquid savings to replace a month’s worth of lost income).

Between emergences of SARS in 2003,¹³ MERS in 2012,¹⁴ Ebola in 2014,¹⁵ a powerful strain of Zika virus in late 2015,¹⁶ Coronavirus in late 2019 and early 2020, and worries about increasing levels of antibiotic resistance in disease microbes,¹⁷ society may be forced to look to quarantine and isolation more frequently in coming years.¹⁸ These practices are one means of stopping the spread of diseases we are unable to treat and/or control the spread of using normal therapeutic measures. With the additional threat of pathogen-based bioterrorism, which the United States has taken preventative measures against for at least two decades,¹⁹ both the West and the developing world should be concerned about the pressing need to stop the spread of disease.

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- 13 See *Severe Acute Respiratory Syndrome (SARS)*, WORLD HEALTH ORG. (2020), <https://www.who.int/ith/diseases/sars/en/> (last visited Nov. 24, 2020) (stating that SARS was first identified at the end of February 2003); CTRS. FOR DISEASE CONTROL & PREVENTION, FACT SHEET: BASIC INFORMATION ABOUT SARS (Jan. 13, 2004), <https://www.cdc.gov/sars/about/fs-SARS.pdf> (stating that an outbreak of severe acute respiratory syndrome, or SARS, was first reported in 2003 in Asia).
- 14 See *Information About Middle East Respiratory Syndrome (MERS)*, CTRS. FOR DISEASE CONTROL & PREVENTION (Dec. 2015), https://www.cdc.gov/coronavirus/mers/downloads/factsheet-mers_en.pdf (summarizing the 2012 MERS outbreak).
- 15 See *2014–2016 Ebola Outbreak in West Africa*, CTRS. FOR DISEASE CONTROL & PREVENTION <https://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/index.html> (last reviewed Mar. 8, 2019) (summarizing the outbreak, spread, and containment of the Ebola virus between 2014 and 2016).
- 16 See *Zika Virus*, WORLD HEALTH ORG. (July 20, 2018), <https://www.who.int/en/news-room/fact-sheets/detail/zika-virus> (detailing a large outbreak of Zika virus in Brazil in 2015); see also Donald G. McNeil, Jr., *C.D.C. is Monitoring 279 Pregnant Women with Possible Zika Virus Infections*, N.Y. TIMES (May 20, 2016), <https://nyti.ms/255Qzj9> (discussing the spread of Zika virus outbreak from Brazil and island nations in 2015 to pregnant women in the United States and its territories).
- 17 See *Growing Antibiotic Resistance Forces Updates to Recommended Treatment for Sexually Transmitted Infections*, WORLD HEALTH ORG. (Aug. 30, 2016), <http://www.who.int/mediacentre/news/releases/2016/antibiotics-sexual-infections/en/> (announcing changes in World Health Organization guidelines for treating sexually transmitted diseases with antibiotics, due to the rise of antibiotic resistance); see also Dina Fine Maron, *Superbug Explosion Triggers U.N. General Assembly Meeting*, SCI. AM. (Sept. 7, 2016), <https://www.scientificamerican.com/article/superbug-explosion-triggers-u-n-general-assembly-meeting/> (discussing the emergence of drug-resistance bacteria and international concerns about antibiotic resistance, which prompted a United Nations General Assembly meeting in 2016).
- 18 See generally LAURIE GARRETT, *THE COMING PLAGUE: NEWLY EMERGING DISEASES IN A WORLD OUT OF BALANCE* (1994) (documenting the plausible threat of major new worldwide epidemics).
- 19 See Stefan Riedel, *Biological Warfare and Bioterrorism: A Historical Review*, 17 BAYLOR U. MED. CTR. PROC. 400, 404–405 (2004) (discussing preventative efforts by the United States against biological and chemical warfare, such as vaccinating military troops against anthrax and other toxins).

Orders issued during the 2008 San Diego measles outbreak required many to leave work for three weeks.²⁰ Similar orders followed the Disneyland measles outbreak beginning in late 2014.²¹ For the majority of Americans with less than one thousand dollars in savings,²² being subject to an Order for that length of time given limited sick leave protections in most jurisdictions would leave them economically crippled.²³ Notably, in the wake of the COVID-19 pandemic, a small minority of local jurisdictions have begun providing quarantine payments, but these payments—though a laudable and important step forward—are both relatively small and time limited where applicable.²⁴

Measles is an especially tricky disease to control, and the science of the disease is critical to effective efforts. For the protection of the unvaccinated, quarantine of exposed individuals is the most effective tool to curb its spread.²⁵ The disease has long been considered “among the most contagious viral diseases known.”²⁶ In a measles outbreak, Orders may be imposed on unvaccinated persons who have been in contact with confirmed cases on the

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- 20 See Paul A. Gastanaduy et al., *Chapter 7: Measles*, in VPD SURVEILLANCE MANUAL, <http://www.cdc.gov/vaccines/pubs/surv-manual/chpt07-measles.pdf> (last reviewed May 13, 2019); see also Sugerma DE, Barskey AE, Delea MG, et al. *Measles outbreak in a highly vaccinated population, San Diego, 2008: role of the intentionally undervaccinated*. *Pediatrics* 2010;125(4):747–55. doi: 10.1542/peds.2009-1653.
- 21 See Karen Kaplan, *Vaccine Refusal Helped Fuel Disneyland Measles Outbreak, Study Says*, L.A. TIMES (Mar. 16, 2015), <https://www.latimes.com/science/sciencenow/la-sci-sn-disneyland-measles-under-vaccination-20150316-story.html> (stating that a 2014 measles outbreak amongst Disneyland guests eventually spread to seven states and led to 145 confirmed cases in the United States, as well as cases in Canada and Mexico).
- 22 See Gabler, *supra* note 12 (“A 2014 Bankrate survey . . . found that only 38 percent of Americans would cover a \$1,000 emergency-room visit or \$500 car repair with money they’d saved.”).
- 23 See *Paid Sick Leave*, NAT’L CONF. STATE LEGISLATURES (July 21, 2020), <https://www.ncsl.org/research/labor-and-employment/paid-sick-leave.aspx> (outlining paid sick leave coverage and benefits by state).
- 24 Cory Steig, *Could you get paid to quarantine during the Covid-19 pandemic? Some local governments are already doing it*, CNBC, (Sept. 2, 2020), <https://www.cnbc.com/2020/09/02/getting-paid-to-quarantine-during-the-covid-19-pandemic.html>
- 25 See *Questions About Measles*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/measles/about/faqs.html> (last reviewed Nov. 5, 2020).
- 26 Paul A. Gastanaduy & James L. Goodson, *Travel-Related Infectious Diseases: Measles (Rubeola)*, in CDC YELLOW BOOK 2020: HEALTH INFORMATION FOR INTERNATIONAL TRAVEL, <https://wwwnc.cdc.gov/travel/yellowbook/2020/travel-related-infectious-diseases/measles-rubeola> (last reviewed June 24, 2019).

basis of CDC recommendations.²⁷ Often, Orders rely on containing individuals who are unaware of, and had no choice in, engaging in contact with symptomatic individuals. A more recent outbreak of measles in 2017 has only further confirmed the difficulty of containing its spread.²⁸

The 2014 Ebola outbreak in West Africa reverberated in the United States by posing similar threats: though not as contagious as measles, it proved difficult to contain and treat in West Africa, and related fears came stateside when the first cases appeared.²⁹ A more recent outbreak has not reached the United States or Western Europe, but has been outstripped in capturing widespread attention in this country given the recent coronavirus pandemic.

While Orders are necessary to protect public health, they can impose unfair burdens on those subject to them. Individuals deserve remuneration for government-imposed Orders, and shifting economic and other burdens from those subject to Orders to the government creates a structure that more evenly distributes their costs and benefits.

A plethora of scholarship has spoken to the questions of whether individual or derivative property interests exist in the body.³⁰ Few have gone so far as to advocate treating our bodies as property to afford them the protections of property law.³¹ In considering how to equitably share the burdens of Orders, exploring the body as property is again appropriate. Many of the rights embodied in property are similar to rights individuals hold in their

27 *Questions About Measles*, *supra* note 25; *see also Postexposure Prophylaxis, Isolation, and Quarantine To Control an Import-Associated Measles Outbreak -- Iowa, 2004*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm5341a3.htm> (addressing state-issued quarantine orders for those exposed to measles).

28 *See Measles Cases and Outbreaks*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/measles/cases-outbreaks.html> (last reviewed Nov. 5, 2020) (showing an increasing number of measles cases since 2017).

29 Press Release, HARV. T.H. CHAN SCH. PUB. HEALTH, Poll Finds Many in U.S. Lack Knowledge about Ebola and its Transmission (Aug. 21, 2014), <https://www.hsph.harvard.edu/news/press-releases/poll-finds-many-in-us-lack-knowledge-about-ebola/> (reporting that after Ebola outbreaks in several West African countries, poll results indicated that four in ten Americans fear an Ebola outbreak in the United States, and that one in four feared that they or a family member could contract the disease in the subsequent year).

30 *See generally*, *See generally* Radhika Rao, *Genes and Spleens: Property, Contract, or Privacy Rights in the Human Body?*, 35 J.L. MED. & ETHICS 371, (2007) (providing an argument for the treatment of body as property); MARGARET JANE RADIN, *CONTESTED COMMODITIES* (2001) (arguing for a strong regulatory interest in markets that commodify personhood to address inequality); Jessica L. Roberts, *Progressive Genetic Ownership*, 93 NOTRE DAME L. REV. 1105 (2018).

31 Rao, *supra* note 29, at 372.

bodies in discrete areas of law, but not under property law itself.³² Bringing those independent elements together creates space for the use of takings claims related to the seizure of one's body under Orders that statutes fail to account for.

Several means exist to effectively shift this burden. This article explores two. The first means lies in the creation of a limited, or metaphor-based, property interest in our bodies. Doing so creates a meaningful connection aligning with existing takings jurisprudence, entitling individuals to remuneration from the state. Undoubtedly, that appears a long row to hoe. In the alternative, advocacy for, and implementation of, appropriate statutory rights provide substantive rights necessary to demand and guarantee compensation from the state, and can guarantee rights greater than those which impact economic and other important interests during and following imposition of Orders.

Presently, even when states are statutorily required to provide compensation to Order bearers, the dollar amounts are outdated or limited to real property damage.³³ The Fifth Amendment of the Constitution reads, in part, "nor shall private property be taken for public use, without just compensation."³⁴ Most takings jurisprudence of the last three decades focuses on regulatory and other seizures related to real property.³⁵ It is well settled that government seizure of a home to build an interstate requires compensation of individuals, even though they have the right to seize the property through eminent domain.³⁶ Regulatory takings, however, extend beyond this basic idea; they are asserted on a foundational belief that some regulatory actions of the state are far-reaching and onerous enough as to be the metaphorical equivalent of a seizure of private property by the government.

32 *Id.* at 380.

33 *See State Quarantine and Isolation Statutes*, NAT'L CONF. STATE LEGISLATURES (Aug. 7, 2020), <https://www.ncsl.org/research/health/state-quarantine-and-isolation-statutes.aspx> (summarizing quarantine and isolation state laws, including compensation requirements)

34 U.S. CONST. amend. V.

35 *See, e.g., Kelo v. City of New London*, 545 U.S. 469 (2005) (discussing a taking of private property by the government to further economic development); Robert Meltz, *Takings Decisions of the U.S. Supreme Court: A Chronology*, CONG. RSCH. SERV., <https://fas.org/sgp/crs/misc/97-122.pdf>

36 *See Kelo*, 545 U.S., at 496–497 (discussing the compensation requirement).

A quick Google search for “takings” could lead one to believe its application is limited to government seizure of real property, and more so is focused on a regulatorily based construction of the legal phenomena which only roared to life in the last fifty years beginning with *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978).³⁷ This indicates important room with respect to the United States Supreme Court’s expansive interpretation and application of takings-based compensation. In providing relief to the plaintiffs in *Penn Central*, takings jurisprudence moved from compensation based on actual private property seizures, to metaphorical seizures of non-existent property. If the seizure of individual economic rights in one’s body does not rise to this level, serious concerns about justice and fairness are raised.

The Supreme Court ruling in the second part of *Horne v. U.S. Department of Agriculture* reasserts takings application to the physical seizure of private property, holding that the Fifth Amendment requires government actors to provide just compensation when taking personal property, similar to the requirement placed on it when it takes real property.³⁸

Horne illustrates the basic components of a takings claim, and arose from a dispute between the Hornes, raisin producers in California, and the U.S. Department of Agriculture’s Raisin Administrative Committee (“RAC”).³⁹ The RAC requires all raisin producers to reserve a certain portion of the crop on an annual basis in an effort to more tightly control the price of raisins in the market.⁴⁰ The Supreme Court’s decision required that the government

37 See generally Wendie L. Kellington, *New Take on Old Takes: A Takings Law Update*, A.L.I. & A.B.A. 17TH ANN. LAND USE INST., https://landuselaw.wustl.edu/landuselaw/takings_update.htm (last accessed Aug. 30, 2020) (summarizing the role of *Penn Central* and other case law in focusing courts’ analyses of takings claims on situations involves regulatory takings by governments); see also Philip T. Simpson, *Takings Claims: An Introduction*, ROBINSON BROG, <http://www.robinsonbrog.com/publication.cfm?ID=24> (last accessed Aug. 30, 2020) (providing a general discussion of takings claims in the state of New York, and noting that following *Penn Central*, the law concerning takings claims against zoning regulations “is the least well-defined: there are no set formulas for deciding when a regulation has gone too far”); see also Edward J. Sullivan, *A Brief History of the Takings Clause*, http://landuselaw.wustl.edu/articles/brief_hx_taking.htm (last accessed Aug. 30, 2020) (presenting an analysis of takings jurisprudence and tracing its history through case law).

38 135 S. Ct. 2419 (2015).

39 *Id.*

40 *Id.* at 2422-2423.

compensate the family for the physical seizure of their raisins under the RAC program.⁴¹

Given *Horne*, redefining the body of the individual as their private property would mean that when Orders are imposed, Order bearers would have access to remuneration for the seizure of that body in the protection of the public health. But that redefinition is likely a Herculean task. Decisions like *Moore v. Regents of the University of California* make clear that, at a state level, such rights do not exist.⁴² Jurisprudentially, individuals exist through their bodies, through which they take meaningful legal actions, but at the same time do not carry the protection of property rights in them, a meaningful distinction.

Arguably, we hold something like a property interest in our bodies; this is unquestionable, and a basic assumption in law. Examples can be pulled from tort, civil actions for monetary damages where we see allocation of damage awards based on bodily harms resulting from limitations on economic use of our bodies imposed by third parties.⁴³ In criminal law, we place liability on individuals for invasions of the body property of others without consent. However, those rights, even when amalgamated,⁴⁴ do not create the umbrella of protections found in property law.⁴⁵

Because of this, despite how society thinks about our bodies, access to legally structured⁴⁶ proprietary rights in individuals' own bodies do not exist. Despite this, moving toward a property-based set of rights that more broadly protects existing legal rights⁴⁷ does not need to upset the legal structures and cultural norms already in place. In fact, it can further entrench them. When we invest property rights, or some reasonable facsimile thereof, in individuals' closely-held bodies, the least-empowered in society gain access to rights that

41 *Id.* at 2431.

42 793 P.2d 479 (Cal. 1990).

43 *See generally* John G. Fleming, *Tort Damages for Loss of Future Earnings*, 34 AM. JUR. COMP. L. 141 (1986) (addressing tort action for economic losses due to injury).

44 *See Rao, supra* note 32, at 371, 380 (noting “[t]he lack of property protection for tangible parts of the human body,” and concluding that the bodily rights afforded to individuals through contract and privacy law “cannot compete with the powerful property paradigm, which alone affords a complete bundle of rights that are enforceable against the whole world.”).

45 *Id.* at 380.

46 *See generally id.* (discussing the application of property law to the human body).

47 *See id.* (advocating for the extension of property rights to the body).

rebalance power differentials and economic realities based on incursions into the body. Compensating individuals for government action intruding on their bodies is a critical component of socially just and legally realistic policy formulation. Creating a metaphorical set of property rights in one's body helps to create such a structure.

Part I of this Article will provide a basic overview of how Orders operate and their intersection with individual liberties and other rights. Part II explores the limitations of individual action to challenge imposed Orders by examining some recent cases, both challenged and unchallenged. Part III constructs and then applies a metaphorically pragmatic property interest in the body to the reemphasized structure of takings jurisprudence flowing out of *Home* and considering the limitations of that structure. Part IV considers a metaphorical argument for compensation; acknowledging the difference between it and an actual taking, yet also using this as a structure to evaluate what rights should flow to individuals. Part V then provides a statutory model for states to consider. The Article then concludes.

I. ORDERS, CIVIL LIBERTIES, ORDERS, AND LIMITATIONS OF DUE PROCESS PROTECTIONS

For the purposes of this Article, the term Orders is intended to encapsulate both quarantine and isolation, although the two terms do not carry the same meaning. Quarantine is defined as “the period of time during which a person or animal that has a disease or that might have a disease is kept away from others to prevent the disease from spreading.”⁴⁸ Public health definitions tend to limit the use of the term “quarantine” to instances in which individuals appear to be healthy, but are believed to have been exposed to a disease causing pathogen;⁴⁹ in these cases, individuals are separated from others for the established period during which initial symptoms of the disease may

48 *Quarantine*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/quarantine> (last visited Sept. 30, 2020).

49 *Quarantine*, A DICTIONARY OF PUBLIC HEALTH (2d ed. 2018) (“Isolation of an animal or person who is a known contact of a case of a contagious disease for the duration of the period of communicability of the disease in order to prevent transmission of the disease . . .”).

appear or a diagnosis can be confirmed.⁵⁰ Isolation, however, refers to the physical isolation of symptomatic individuals or those testing positively for a pathogen.⁵¹

Orders, whether quarantine or isolation, and whether scientifically valid or otherwise motivated, represent at least a constructive, or metaphorical, physical seizure of individuals' bodies by the government. Those subject to Orders should be entitled to government compensation for the purposes of fairness and in service of the underlying purposes of the takings clause. The government curtailment of individual autonomy differentiates Orders from other actions meant to curtail the spread of disease, such as calls for frequent handwashing or requests to stay home whenever possible. Though encouraged not to, Americans regularly go to work sick; in doing so they risk the health and welfare of their colleagues.⁵² Economic need and other cultural norms almost certainly play into this, but COVID-19 has made it clear that without the imposition of Orders or other restrictive actions, it may be impossible to effectively stop the spread of disease through widespread adoption of behavioral norms and an ethos of communal responsibility alone.⁵³ The American re-opening discourse during the first wave of COVID-

50 *What is the Difference Between Isolation and Quarantine?*, U.S. DEP'T HEALTH & HUM. SERVS., <http://www.hhs.gov/answers/public-health-and-safety/what-is-the-difference-between-isolation-and-quarantine/index.html> (last reviewed July 22, 2020) (describing the broad differences between quarantine and isolation as public health practices); see also *Quarantine and Isolation*, CTRES. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/quarantine/index.html> (last reviewed Sept. 29, 2017) (defining quarantine and isolation in the same fashion).

51 *Isolation*, A DICTIONARY OF PUBLIC HEALTH (2d ed. 2018) ("In communicable disease control, separation or segregation of infected persons or animals from others for the period of communicability of the infectious agent that they harbor, in order to prevent the spread of the agent to other persons who may be susceptible to it or may spread the agent to others.").

52 At least 26% of Americans go to work despite feeling sick. Despite the threat to the health of their colleagues and other members of their community, almost 33% of men and 17% of women reported that they always go to work sick. See *Flu in the Workplace*, NAT'L SCI. FOUND., https://d2evkimvhatqav.cloudfront.net/documents/Flu_in_the_workplace_final.pdf?mtime=20200713162819&focal=none (last visited Sept. 30, 2020) (summarizing the results of a study on flu in the workplace).

53 See Ivan Pereira, *Protestors, Some Armed, Spill into Michigan Capitol Building Demanding End to Stay-at-Home Order*, ABC NEWS (Apr. 30, 2020), <https://abcnews.go.com/US/michigan-rally-shelter-place-order-spills-capitol-building/story?id=70432928> (reporting on the armed protests that occurred at the Michigan Capitol in response to the state's consideration of extending COVID restrictions).

19 infections illustrated this. While social distancing was encouraged, it was not always mandated, and sometimes not followed. This ideological and behavioral divide around adherence to preventative measures related to coronavirus continues,⁵⁴ and is another reason why states may be required to turn to Orders more frequently in the future.

We vest police power in state and federal governments to impose Orders through statutes, regulations and executive orders. At the federal level, Executive Order 13295 (“EO 13295”),⁵⁵ last updated July 31, 2014, lists diseases whose outbreak entitle the federal government to institute Orders.⁵⁶ The list includes eradicated diseases we fear the return of as well as biological weapons, like smallpox; some of which are sufficiently controlled, such as cholera; and emerging diseases, such as hemorrhagic fevers, which includes Ebola.⁵⁷ The 2014 Obama administration revisions to this list through EO 13295 added Severe Acute Respiratory Syndrome, or SARS, albeit over a decade after it emerged as a pandemic threat.⁵⁸ Neither measles nor COVID-19 have been added to this list, and neither the Trump administration nor the incoming Biden administration, as of late March 2021, have taken action to revise or modify the list. That being said, the Trump administration did restrict entry to the country, or threaten to do so, for various groups in connection with the pandemic at various points throughout 2020.⁵⁹ Since taking office, the

54 See Dahlia Lithwick, *Refusing to Wear a Mask Is a Uniquely American Pathology*, SLATE (May 14, 2020, 5:39 PM), <https://slate.com/news-and-politics/2020/05/masks-coronavirus-america.html> (tracing the current ideological divide in the US arising out of mask-wearing requirements).

55 Exec. Order No. 13,295, 70 Fed. Reg. 17,299 (July 31, 2014).

56 *Executive Order -- Revised List of Quarantinable Communicable Diseases*, WHITE HOUSE: OFF. PRESS SEC’Y (July 31, 2014), <https://www.whitehouse.gov/the-press-office/2014/07/31/executive-order-revised-list-quarantinable-communicable-diseases> (amending the list of communicable diseases included in Executive Order 13295).

57 The language of Order 13295 defines hemorrhagic fevers as including “Lassa, Marburg, Ebola, Crimean-Congo, South American” and notably takes the additional policy step of including “others not yet isolated or named,” but fails to provide a structure or any guidance with respect to the scientific or symptomatic characteristics that would identify other pathogens that should be included in this basket. See *id.* While the term “hemorrhagic” would seem to clarify, the World Health Organization’s definition of hemorrhagic virus notes that the diseases are only “sometimes associated with bleeding.” *Haemorrhagic Fevers, Viral*, WORLD HEALTH ORG. http://www.who.int/topics/haemorrhagic_fever_viral/en/ (last visited Sept. 19, 2020).

58 Exec Order No. 13,295, *supra* note 56.

59 See J. Edward Moreno, *Trump Administration Finalizes Indefinite Extension of Coronavirus Border Restrictions*, HILL (May 19, 2020, 6:17 PM), <https://thehill.com/homenews/administration/498625-trump-administration-finalizes-indefinite-extension-of-coronavirus> (reporting on the Trump administration’s indefinite extension of border restrictions).

Biden administration for its part has continued restrictions on travel to a few countries as of this writing, including Canada and Mexico, and Brazil and the United Kingdom, where troubling variants have emerged. In addition, it created qualification for entry into the United States. None of this, however, limit states' abilities to carry out Orders as they act independently of the federal government.

A rulemaking for control of communicable diseases published August 15, 2016 aimed to more effectively codify federal regulation with respect to Orders; the results should lead to additional clarity with respect to outstanding questions around federal Order related power and its limits.⁶⁰ Nearly 16,000 public comments were received by the Centers for Disease Control (the "CDC") in response to the proposed rulemaking; the final rule was published on January 19, 2017 and it became effective February 21, 2017.⁶¹

The publication of the final rule provides additional reasons to consider and address the needs of individuals subject to Orders. Lawyers, epidemiologists and health organizations worry about the implications of the final rule on the rights of individuals, and as such, their rights in their metaphorical body property are necessarily implicated.⁶² At this point in early January, it is highly unlikely that the Trump administration will further revise the rule, despite easily identifiable threats that would be appropriate amendments to EO 13295 in light of the coronavirus pandemic. The Trump presidency has leaned heavily on the use of executive orders and on the unilateral power it believes is enshrined in the executive power of the presidency in multiple spheres of domestic and foreign policy.⁶³

60 See Control of Communicable Diseases, 81 Fed. Reg. 54230 (proposed Aug. 15, 2016) (to be codified at 42 C.F.R. pts. 70-71) (announcing rulemaking intended to clarify key questions regarding the limits of federal Order power).

61 See Control of Communicable Diseases, 82 Fed. Reg. 6890 (July 10, 2017) (to be codified at 42 C.F.R. pts. 70-71) (publishing rulemaking intended to clarify quarantine regulations).

62 Ed Yong, *The CDC's New Quarantine Rule Could Violate Civil Liberties*, ATLANTIC (Dec. 30, 2016), <https://www.theatlantic.com/science/archive/2016/12/cdc-quarantine-rule-violate-civil-liberties/511823/> (exploring the potential civil rights issues raised by the CDC's quarantine rules).

63 Trump's use of Executive Orders in the first month of the presidency indicates a predisposition to utilize executive power whenever possible to consolidate power. See David M. Driesen, *President Trump's Executive Orders and the Rule of Law*, 87 UMKC L. REV. 489, 497-512 (discussing the twenty-four executive orders issued in the first month of Donald Trump's presidency).

Despite the 2017 publication of the final rule, Trump's administration, and other, should have provided for, and engaged in, more frequent review of it. A troubling scenario is one in which review of the rule is linked to an outbreak such as covid or Ebola, during which public fears may lead to acquiescence to stricter limitations on freedoms.⁶⁴ Even absent such a scenario, Trump's administration has sought to expand executive power with respect to public health actions, often turning to individuals outside of public health agency leadership—this is evident in the creation of the coronavirus task force, which included national public health leadership, but was headed by Vice President Mike Pence, who often offered advice that seemed contrary to guidance from public health officials.⁶⁵ The task force's creation, following the disbanding of the White House pandemic task force, points towards the administration's disordered reaction to the public health and economic emergency, which impacted state action and decision making. Appointed officials, through their leadership of federal agencies, hold the power to draft and publish guidance regarding interpretation of final rules outside of the limitations in the Administrative Procedure Act.⁶⁶ The Trump administration has dealt with issues of public health in abnormal ways, and these decisions are intimately connected to how it attempts to control and aggressively circumscribe the power of regulatory agencies and undermine pre-existing norms.

Understanding the limitations of the federal government's police power is structurally and administratively important in understanding how Orders

64 See James C. Thomas, Michael Sage, Jack Dillenberg & V. James Guillory, *A Code of Ethics for Public Health*, 92 AM. J. PUB. HEALTH 1057 (2002) (noting the need for an ethics code for public health workers, given the power that they hold in certain situations).

65 While Dr. Anthony Fauci, Dr. Deborah Birx, and Dr. Jerome Adams also sat on the task force, it is notable that Pence served as Governor of Indiana during one of the worst HIV outbreaks in rural Indiana in the last twenty years. The outbreak was connected to the sharing of heroin needles in the period around the opioid crisis and was tightly connected to user migrating from opioids to heroin to maintain their habits. During that period, Pence refused immediate calls to allow for clean needle distribution, though he would eventually bend to the pressure of advocates calling for use of the program, which is believed to have stemmed the tide of new infections. See Megan Twohey, *Mike Pence's Response to H.I.V. Outbreak: Prayer, Then a Change of Heart*, N.Y. TIMES (Aug. 7, 2016) <https://www.nytimes.com/2016/08/08/us/politics/mike-pence-needle-exchanges-indiana.html> (reporting on Pence's wavering leadership while governor during an HIV outbreak).

66 See generally Administrative Procedure Act, 5 U.S.C. § 551 (1946) (creating parameters around agency action and rulemaking within the federal government); see also Nicholas R. Parrillo, *Federal Agency Guidance and the Power to Bind: An Empirical Study of Agencies and Industries*, 36 YALE J. ON REG. (2019).

operate. It implicates where sources of takings-based compensation should originate, and where burden shifting with respect to the individual costs of Orders, more fully explored in part II of this Article, is appropriate. The United States Department of Health and Human Services', under which the Centers for Disease Control (the "CDC") and related federal agencies sit, power is limited to action (1) at national borders, ports, airports and other border crossings; and (2) with respect to interstate transmissions of disease, a concept couched in constitutional Federalism and its limitations.⁶⁷

The CDC cannot direct action *within* individual states. Instead, it maintains quarantine stations to monitor for signs of disease at national borders.⁶⁸ In more norm adherent periods in the United States, the CDC and related agencies, such as the National Institute of Allergy and Infectious Diseases, also takes a primary role in partnering with international bodies and foreign governments to create guidelines that limit disease spread globally.⁶⁹ These governmental bodies would also partner with state and local public health administrators and agencies to use that information in "the trenches" to limit the spread of disease locally, using epidemiological tools including modeling, contact tracing (as seen in the measles outbreak) and dissemination of research in fast moving outbreaks, which would include recommendations of precautionary measures that should be widely adopted.⁷⁰

In normative practical terms, federal power is more circumscribed, because the federal government rarely imposes Orders itself, and as such it has limited authority around this logistical piece, including local norms related to the process. Instead, a dynamic and iterative relationship between affected

67 See Public Health Service Act § 361, 42 U.S.C. § 264 (2002) (providing HHS and CDC with the authority to apprehend people at ports of entry, or people "reasonably believed to be infected"); see also *U.S. Quarantine Stations*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/quarantine/quarantine-stations-us.html> (last reviewed July 24, 2020) (detailing the CDC's authority to operate quarantine stations).

68 See *U.S. Quarantine Stations*, *supra* note 63 (noting that quarantine stations are located at twenty ports of entry and land-border crossing).

69 *NIAD Role in Global Research*, NAT'L INST. OF ALLERGY AND INFECTIOUS DISEASES, <https://www.niaid.nih.gov/research/global-research-niaid-role> (last reviewed Feb. 20, 2021).

70 See *Public Health Emergency Preparedness (PHEP) Cooperate Agreement*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/cpr/readiness/phep.htm?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2F%2Farchive.htm (last reviewed Feb. 20, 2021) (describing the PHEP's impact on state, local, and territorial public health departments).

states and the federal government is normally observed. Order related police power is exercised at state and local levels by responsible agencies,⁷¹ generally state-level departments of health and human services or public health, and similar agencies responsible for county and similar jurisdictions. That said, states usually look to the CDC for guidance on disease science and in regard to what actions are appropriate and necessary; this mirrors the way the CDC has similarly looked to the World Health Organization (the “WHO”) for guidance.⁷² That has been largely upended with respect to the Trump administrations’ response to the COVID-19 pandemic, ending in Trump’s withdrawal from the WHO in May of 2020.

Thus, the imposition of Orders through the use of *state* police powers is the norm,⁷³ though the majority of information around disease threats and science comes from the CDC and other federal agencies often acquired through consultation and the advice of international agencies like the WHO. For example, during the Disneyland measles outbreaks the CDC acted as lead on analysis of the strain, and collection of information on reported cases from states, while individual states and localities, like San Diego, helmed efforts to curb the spread of disease within their borders. The states gathered epidemiological information and forwarded it on to CDC scientists and epidemiologists.⁷⁴ We also saw this relationship in action during the Ebola crisis as states communicated with CDC scientists to report new and suspected cases, and in most cases followed CDC guidance related to symptomatology.⁷⁵

71 *Legal Authorities for Isolation and Quarantine*, CTRS. FOR DISEASE CONTROL, <https://www.cdc.gov/quarantine/aboutlawsregulationsquarantineisolation.html> (last reviewed Feb. 24, 2020) (“States have police power functions to protect the health, safety, and welfare of persons within their borders. . . . In some states, local health authorities implement state law. In most states, breaking a quarantine order is a criminal misdemeanor.”). Notable federal exceptions include the U.S. Customs and Border Patrol’s use of public health powers during a European outbreak of hoof and mouth disease in 2001 at airports and other points of entry into the country with screening regarding their activities, and the 2020 large scale screening of individuals returning from abroad for signs of infection from the novel coronavirus. *See* 42 U.S.C. § 264 (permitting the Surgeon General to make and enforce regulations to prevent the introduction, transmission, or spread of infectious disease).

72 *See U.S. Quarantine Stations*, *supra* note 67 (noting the CDC’s past collaboration with the World Health Organization).

73 *See State Quarantine and Isolation Statutes*, *supra* note 33 (providing an explanation of states’ use of police power to enforce quarantine and isolation measures).

74 *Measles Cases and Outbreaks*, CTRS. FOR DISEASE CONTROL & PREVENTION (last reviewed Aug. 19, 2020), <https://www.cdc.gov/measles/cases-outbreaks.html>.

75 *See generally*, Chris A. Van Beneden et al., *Early Identification and Prevention of the Spread of Ebola—United States*, 65 MORBIDITY & MORTALITY WKLY. REP. 75–84 (2016).

The formulation, administrative process, and extent of the power to issue Orders varies from state to state; but every state has mechanisms in place to direct the imposition of Orders when deemed necessary.⁷⁶

When Orders are imposed, procedural due process considerations⁷⁷ require that individuals be provided the right to challenge those Orders in court,⁷⁸ and most states provide specified guidance on judicial appeals of such Orders through state pandemic bench books.⁷⁹ In reality, this rarely happens.⁸⁰ These challenges' bases are constitutional in nature—the majority of claims are based on the deprivation of civil liberties and civil rights, not economic or property interests. These cases speak to the tempering of the states' police

76 See *State Quarantine and Isolation Statutes*, *supra* note 33 (displaying the varying powers and processes of the different states to impose Orders). There is some divergence with respect to which diseases each state deems reportable and/or appropriate for the imposition of Orders, which creates some additional rub in smoothly facilitating the efficient and appropriate use of Orders.

77 “Due process of law implies the right of the person affected thereby to be present before the tribunal which pronounces judgment upon the question of life, liberty, or property, in its most comprehensive sense; to be heard, by testimony or otherwise, and to have the right of controverting, by proof, every material fact which bears on the question of right in the matter involved.” *Due Process*, BLACK’S LAW DICTIONARY (7th ed. 1999).

78 See *Jacobson v. Commonwealth of Massachusetts*, 197 U.S. 11, 31 (1905) (explaining the constitutional right for individuals to challenge restrictions on freedom imposed by quarantine measures in court).

79 State bench books are created on a state level and provide guidance to judges and magistrates on the protections available to Orders, the relevant statutes and process related questions. See N.C. ADMIN. OFF. CTS., LEGAL AND LEGISLATIVE AFFAIRS, PANDEMIC EMERGENCY BENCH BOOK FOR TRIAL JUDGES (2009) (illustrating judicial protocols regarding pandemic quarantine, isolation, and “safekeeping” orders).

80 A June 2016 Westlaw search indicated only two reported cases challenging Orders, though these results did not include the 2015 case of Kaci Hickox. North Carolina, Virginia, South Carolina, District of Columbia and Maryland public health officials did not respond to an inquiry regarding the number of Orders created in 2015, and the number of those Orders challenged. More recently a set of cases currently on appeal challenging Connecticut’s orders has been profiled in the New York Times. See *Liberian Cnty. Assoc. v. Malloy*, 2017 WL 4897048 (D. Conn. Mar. 30, 2017) (dismissing complaint seeking damages and injunctive relief after mandatory quarantine after visiting Ebola-affected countries). That case is not the center point of this Article, but its movement through the court system represents an important step towards more aggressively asserting the rights of Orderees.

power “by individual rights and civil liberties, guaranteed by the Due Process Clause of the Constitution.”⁸¹

Order-related access to due process rights is of limited use as a protection measure for those faced with Orders—it does not protect the totality of the interests that are violated by Orders. This Article argues that due process protections are only a single prong of what should be a two-pronged structure for the protection of the rights of citizens subjected to Orders. The second prong of the afforded protections resides either in a property-based claim allowing invocation of constitutional takings claims, or one protected and enforced by state or federal statute that guarantees economic substantive rights where current protections fail to provide compensation. Relying entirely on due process is too narrow a backstop to ensure those suffering the substantial incursion of Orders are made whole.

Because of the relationship between the federal government and the states with respect to Orders, state statutes are a critical consideration in this context. Again, Orders are generally imposed by state actors under the auspices of state police power. State statutes, however, provide little or no economic protection, recourse or remedies to those burdened with Orders to protect the public health.⁸² It is probably safe to assume that almost all individuals subject to Orders have not intentionally acted as a disease vector.⁸³ Despite this, we have vilified individuals for being near individuals carrying a disease,

81 See Sarah Pope, Nisha Sherry, & Elizabeth Webster, *Protecting Civil Liberties During Quarantine and Isolation in Public Health Emergencies*, LAW PRACTICE TODAY, https://www.americanbar.org/publications/law_practice_today_home/law_practice_today_archive/april11/protecting_civil_liberties_during_quarantine_and_isolation_in_public_health_emergencies.html.

82 See *State Quarantine and Isolation Statutes*, *supra* note 33 (showing that in the two states where some protections do exist, they are in place only to correct for the destruction of physical property occurring alongside the imposition of the Order itself and that in the single state that attempts to provide monies for lost wages, the statutory maximum is capped at two dollars per day).

83 There may be some debate regarding this point with respect to individuals who align themselves with anti-vaccination movements claiming that adherence to vaccine schedules or vaccination altogether, may put their children at risk for autism, a claim debunked and repudiated by the scientific community. This Article does not attempt to assign or deny any level of intentionality with respect to the spreading of disease to this subset of the general population. See generally Teri Dobbins Baxter, *Tort Liability for Parents Who Choose Not to Vaccinate Their Children and Whose Unvaccinated Children Infect Others*, 82 U. CIN. L. REV. 103 (2014) (highlighting the important fault lines in this debate).

with or without acquiring or carrying it, even if scientific evidence indicates that they pose no danger to the public.⁸⁴

II. RECENT CASES: EBOLA AND THE INABILITY OF COURTS TO MAKE THOSE SUBJECT TO ORDERS WHOLE

Several recent cases highlight both the dynamic relationship between the state and federal government around Orders,⁸⁵ as well as the limits of due process protections. They also provide a lens through which to consider the likelihood of Orders being challenged more generally.

Police powers invested in public health authorities at federal, state and local levels are unquestionably vital to ensuring adequate protection of public health. Without use of Orders, measles and smallpox likely would never have been eradicated during the twentieth century. At the very least they would have had greater impact on public health. Even when exercised with good faith, however, Orders have far-reaching consequences on individuals that public health authorities should consider and create safeguards against in addition to those already in place.

To examine such consequences, I will explore two highly publicized cases of quarantine arising out of the 2014 Ebola epidemic originating in West Africa: the case of Kaci Hickox, an American nurse; and that of Louise Troh, the estranged wife of the first person on American soil to die of the disease,

84 See Nancy Snyderman, *Nancy Snyderman Breaks Silence on Ebola Nightmare*, *NBC News*: “People Wanted Me Dead”, HOLLYWOOD REP. (Aug. 26, 2015, 9:00 AM), <http://www.hollywoodreporter.com/features/nancy-snyderman-breaks-silence-ebola-817601> (describing how Nancy Snyderman was suspected to have contracted Ebola and was consequently vilified); see also *Ebola (Ebola Virus Disease): Transmission*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/vhf/ebola/transmission/index.html#:~:text=Scientists%20think%20people%20are%20initially,a%20large%20number%20of%20people> (last reviewed Nov. 5, 2019) (“Ebola poses little risk to travelers or the general public who have not cared for or been in close contact [within 3 feet or 1 meter] with someone sick with Ebola.”).

85 One important component of this dynamic relates to the state government’s ability to ignore, expand, or adhere to the guidance related to Orders. Normally, it would be expected that this guidance would be based on the scientific information that the CDC provides, often in consultation with the World Health Organization. *Hickox 1* and *Hickox 2*, discussed *infra* Section II.A, shed some light on the topic as it relates to Orders, but only in the states of Maine and New Jersey, in which the CDC did not participate. A further question arises as to whether, in some discrete instances, non-valid scientific quarantines may be essential to calm public fear and to ensure order.

Thomas Eric Duncan. These cases illustrate the inadequacy of the current legal framework which may or may not purport to make those subject to Orders whole. Second, they illustrate the limited use of challenges on due process grounds with respect to economic consequences.

The cases also highlight the necessity of creating systems that provide support for individuals carrying the weight of ensuring the public health on their backs, and in many cases, wallets. There are no safety nets for these individuals drafted into a war waged for the benefit of the public health, absent the government's hands being forced through litigation. Even when that hand is forced, the courts find the government has limited obligations, if any, to make Order's subjects economically whole through due process challenges. In sum, these cases demonstrate the need for either a new kind of challenge, or, ideally, a new statutory creation to protect against injustices created by public health based protective measures—metaphorical Constitutional takings actions.⁸⁶

A. *Hickox 1 and Hickox 2 Cases*

Kaci Hickox became a public figure after challenging Orders arising out of the 2014 Ebola outbreak. Her first challenge to the quarantine order requested by Maine Governor Paul LePage and instituted by the State Department of Health in October 2014, was successful ("*Hickox 1*"). The Augusta District Court in Maine placed the burden on the State to produce scientific evidence validating the need for the Order, which it failed to meet. But even had it met the standard, Hickox arguably should have been provided compensation for the burdens imposed by the metaphorical taking of her body while the Order was in place. In other words, Hickox won *Hickox 1* in court, but her victory was pyrrhic—she was not made whole.

Hickox is a unique character, and her background may explain why she had the wherewithal to challenge her Orders in court while they were in place. She has a degree in nursing from the University of Texas at Arlington, and a number of other specialized nursing degrees, including a Diploma in Tropical Nursing from the London School of Hygiene and Tropical Nursing, and a Master's of Science in Nursing and Master's in Public Health from Johns

86 This Article refers to metaphorical takings whenever speaking of a claim that would be the basis for a Fifth Amendment takings claim had it been based on a seizure of tangible property.

Hopkins University.⁸⁷ In addition to her formal training, she has extensive experience working with Médecins Sans Frontières, known in the United States as Doctors without Borders, an international medical relief organization she volunteered with during the 2014 outbreak.⁸⁸

As a volunteer in Sierra Leone, Hickox was responsible for establishing protection protocols used in her region of the country. While there, she followed the protocols of the MSF intended to prevent exposure to the disease or the likelihood of her becoming infected.⁸⁹ That extensive knowledge almost certainly played a part in her decision to challenge New Jersey and Maine Orders. Her training and work meant that she had specialized knowledge about her own risk of transmission.⁹⁰ She may have also known what reasonable limits state actors are held to when imposing Orders.

Hickox was initially detained on arrival at Newark International Airport in New Jersey.⁹¹ She arrived there from Sierra Leone.⁹² Based on CDC protocols⁹³ she presented no risk of transmission at that time; she was asymptomatic, which, it is widely agreed in epidemiological discourse with

87 *Outstanding Recent Graduate Award 2016*, JOHNS HOPKINS ALUMNI ASS'N, <https://alumni.jhu.edu/recentgrad2016>; see also Ali Finney, *UTA Grad Speaks Out on Her Ebola Quarantine*, D MAG.: FRONTBURNER (Oct. 29, 2014), <https://www.dmagazine.com/frontburner/2014/10/uta-grad-speaks-out-on-her-ebola-quarantine/>

88 Kaci Hickox, *Public Health and Fear: America's response to healthcare workers returning from the Ebola outbreak*, UCI PUBLIC HEALTH SEMINAR SERIES (Nov. 30, 2015), http://publichealth.uci.edu/ph/_news_events/seminar_event/10200.

89 See *Hickox v. Christie*, 205 F. Supp. 3d 579, 585 (D.N.J. 2016) (“During her time in Sierra Leone, Hickox followed MSF protocols, such as the wearing of protective equipment, intended to prevent the spread of Ebola.”).

90 Verified Complaint at 4, *Hickox v. Christie*, 205 F. Supp. 3d 579 (D.N.J. 2016) (No. 2:33-av-00001) [hereinafter Verified Complaint] (describing her educational experience and work history in various medical roles).

91 *Nurse Discharged from Ebola Quarantine in New Jersey*, NBC N.Y., <https://www.nbcnewyork.com/news/local/This-Is-Governments-Job-Christie-Defends-Quarantine-After-Nurse-Blasts-Treatment/864192/> (Oct. 27, 2014, 10:04 PM).

92 *Id.*

93 See generally *Infection Prevention and Control Recommendations for Hospitalized Patients Under Investigation (PUIs) for Ebola Virus Disease (EVD) in U.S. Hospitals*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/vhf/ebola/clinicians/evd/infection-control.html> (last reviewed Aug. 30, 2018) (describing infection control precautions in U.S. hospitals).

respect to Ebola meant that there was no possibility of transmission.⁹⁴ Ebola is a viral hemorrhagic fever transmitted through contact with contaminated bodily fluids. The most infectious of those fluids are blood, vomit, and feces, but the 2014 outbreak also provided evidence of sexual transmission. The virus can incubate in the body of those infected for up to twenty-one days, but does not become contagious until an individual has begun to show signs of a fever after exposure.⁹⁵

Again, for clarity, *Hickox 1* refers to the Maine suit, the subsequent New Jersey case will be referred to as *Hickox 2*. Both cases illustrate the tension arising when Orders are intended to be, on one hand, informed by scientific standards of a federal authority such as the CDC; and on the other hand, implemented by states (in these cases, Maine and New Jersey) exercising their police powers with no statutory or regulatory necessity that their actions be linked to a reliable scientific basis or federal guidance based on such. *Hickox* was compliant with federal guidance and standards. She adhered to CDC active monitoring protocols⁹⁶ while in Sierra Leone, during transit to the United States, and upon her arrival. This did not prevent New Jersey officials from moving to detain her upon arrival, without giving her an opportunity to demonstrate compliance with CDC protocols upon return.⁹⁷

94 *Id.*; see generally Judith R. Glynn et al., *Asymptomatic Infection and Unrecognised Ebola Virus Disease in Ebola-Affected Households in Sierra Leone: A Cross-Sectional Study Using a New Non-Invasive Assay for Antibodies to Ebola Virus*, 17 LANCET 645 (2017) (describing the few known cases of Ebola infection resulting from asymptomatic spread).

95 See Snyderman, *supra* note 84 (describing Ebola transmission).

96 CDC active monitoring protocols were stipulated in full in “Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure”. That guidance was retired on February 19, 2016 and is no longer available via the CDC website, however, “Notes on the Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure” is available at <http://www.cdc.gov/vhf/ebola/exposure/monitoring-and-movement-of-persons-with-exposure.html> though it does not provide the recommended protocols themselves. For those protocols, which *Hickox* was in full compliance with, see Hyacinthe Julien Kabore et al., *Monitoring of Persons with Risk for Exposure to Ebola Virus—United States, November 3, 2014–December 27, 2015*, 65 MORBIDITY & MORTALITY WKLY. REP. 1401, 1401 (2016).

97 CDC guidelines for individuals returning from areas affected by the Ebola pandemic required that they be in ongoing contact with the federal agency with their body temperature twice a day. Should she or any others have developed a fever in the twenty-one-day period following their return home, they would be directed to immediately present themselves for isolation. See *MSF Protocols for Staff Returning from Ebola-Affected Countries*, RELIEFWEB, (Oct. 24, 2014), <https://reliefweb.int/report/world/msf-protocols-staff-returning-ebola-affected-countries>. This was

When Hickox arrived at Newark Airport after serving as a volunteer nurse in Sierra Leone during the outbreak she was not greeted with a hero's welcome. She was well aware of the CDC monitoring standards, noted previously, which required reporting possible exposure such as a needle stick through personal protective gear. While abroad, she complied with MSF's strict infection protocols. Upon her arrival in Newark, her compliance with CDC-based standards was disregarded by transportation and state officials with control over her movements. Hickox was detained in the airport and had her temperature taken repeatedly; officials claim she eventually showed a reading of 101 degrees.⁹⁸ She was then placed in a tent in a parking lot adjoining a Newark hospital where she remained until granted permission to return home to Maine.⁹⁹ These events are the basis of her civil suit against the state of New Jersey, *Hickox 2*, which challenges the Order, but does not seek the injunctive relief the Maine court provided her.¹⁰⁰

While *Hickox 1* and *Hickox 2* both represent individual challenges to Orders, they do so differently. It is unclear why challenges like that in *Hickox 1* occur so rarely or exactly how rare they are; it likely has to do with the time, energy and resources required, juxtaposed against the limited time window during which they can prove useful in curtailing Orders. In the case of Ebola, an appropriate Order is lifted no more than three weeks after it has been imposed. Unlike *Hickox 1*, the claims raised in *Hickox 2* do not have the same organic time limitations. The ways in which plaintiffs are limited in bringing these claims leads one to believe that *Hickox* was guided by principles

informed by data indicating that Ebola virus does not become transmissible even if one is infected until after they show signs of a fever. See *Ebola (Ebola Virus Disease): Transmission*, CTRS. FOR DISEASE CONTROL & PREVENTION <http://www.cdc.gov/vhf/ebola/exposure/implementing-home-monitoring-for-people-being-evaluated.html> (last reviewed Nov. 5, 2019) ("A person can only spread Ebola to other people after they develop signs and symptoms of Ebola.").

98 Hickox disputes this claim; a forehead scanner showed her temperature to be 101, "but that came after four hours during which she had not been allowed to leave. 'My cheeks were flushed, I was upset at being held with no explanation The female officer looked smug. 'You have a fever now,' she said.'" Anemona Hartocollis & Emma G. Fitzsimmons, *Tested Negative for Ebola, Nurse Criticizes Her Quarantine*, N.Y. TIMES (Oct. 25, 2014), <https://www.nytimes.com/2014/10/26/nyregion/nurse-in-newark-tests-negative-for-ebola.html>.

99 Verified Complaint, *supra* note 90, at 14.

100 See *Hickox v. Christie*, 205 F. Supp. 3d at 584–85 (discussing the viability of Hickox's claims for monetary damages against New Jersey officials "involved in her quarantine").

larger than the challenge to the immediate Order in availing herself to the courts.

Hickox I claimed that the Order imposed by Secretary of Maine’s Department of Health and Human Services placed an undue, unnecessary burden on the free movement of Hickox; however, *Hickox I* contained no claim for damages. The case was decided quickly—within a few weeks—and resulted in the lifting of six of the original Order’s restrictions, namely those that: (1) prohibited and restricted her appearance at public gatherings, in public settings, and in workplaces;¹⁰¹ (2) required maintenance of a three-foot perimeter when she found herself near others;¹⁰² (3) required that she seek permission to engage in activities not considered under the Order itself “as needs and circumstances change to determine” if they are appropriate;¹⁰³ and (4) required her to stay in her home county, Fort Kent, for the duration of the quarantine period ending November 10th, 2014, or approximately seven days.¹⁰⁴ This left in place only the reasonable requirements that she: (1) engage in Direct Active Monitoring;¹⁰⁵ (2) immediately notify public health authorities if symptoms appeared; and (3) coordinate her travel with public health authorities in her county of residence for which a strong argument exists that they, on a scientific basis, should have been the only restrictions imposed in the first place.¹⁰⁶

To this point, the final order of Judge LaVerdiere relied heavily on scientific evidence, going so far as to excerpt specific portions of state public health officials’ initial filing seeking the Order to debunk their necessity.¹⁰⁷ The decision was a victory for Hickox, and perhaps for science in political and judicial arenas, insofar as the court deferred to validated CDC science in reaching its decision; but the veracity of that statement will rely on other courts

101 Verified Petition for Public Health Order at 5, *Mayhew v. Hickox*, No. CV-14-36 (Me. Dist. Ct., Fort Kent, Oct. 30, 2014).

102 The order specifically notes that Hickox must maintain the three feet of distance even when “walking or jogging in a park” to illustrate the point. *Id.* at 6.

103 Future unenumerated activities are also specified in the initial judicial order, leaving room for any number of actions on the part of the state based upon an unclear set of criteria. *Id.*

104 *Id.*

105 Direct Active Monitoring refers to the ongoing symptom monitoring that CDC guidance called for in its guidance. Notes on the Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure, *supra* note 95.

106 Order Pending Hearing at 3, *Mayhew v. Hickox*, No. CV-2014-36 (Me. Dist. Ct., Fort Kent, Oct. 31, 2014).

107 *Id.*

making similar decisions in similar cases. The victory for scientific evidence, however, resulted in no remuneration for Hickox's economic losses if any, nor any punitive damages related to the imposition of an invalid Order, either of which might have led the state to behave more rationally in the future. The decision amounted to a slap on the wrist for the state actors involved. Hickox has not sought additional compensation through a civil action in Maine, but *Hickox 2* does so in New Jersey on the basis of the state's behavior following her arrival at the Newark airport.¹⁰⁸

Though Hickox's experience began in New Jersey, the nomenclature used here and order of the cases is actually reversed; *Hickox 2* was not filed until October 2015.¹⁰⁹ It was brought by the American Civil Liberties Union of New Jersey in New Jersey District Court.¹¹⁰ Like *Hickox 1*, its claims rely on the failure of the state to provide due process protections.¹¹¹ In the New Jersey case, those due process protections were related to the Orders imposed by then-Governor Chris Christie and Secretary of Health Mary O'Dowd.¹¹²

In what may or may not be coincidental, Christie unveiled New Jersey Executive Order 164, his "Ebola Preparedness Plan," on the day Hickox departed Sierra Leone.¹¹³ The timing of her detention and that Order are uncanny, raising questions as to whether the quarantine order was politically motivated. One possible political motivation could have been the opportunity the Order granted for Christie to show political strength and to garner public opinion in his corner at a time when Ebola fears were running high. In September of 2016, Hickox said that the interim decision from District Court Judge Kevin McNulty in *Hickox 2* (outlined below) will help to unravel that mystery, stating it "vindicates [her] rights by giving [her] the opportunity to find

108 Associated Press, *Nurse Kaci Hickox Sues N.J. Gov. Chris Christie Over Ebola Quarantine*, PORTLAND PRESS HERALD (Oct. 22, 2015), <http://www.pressherald.com/2015/10/22/aclu-to-sue-over-new-jerseys-quarantine-of-nurse-kaci-hickox-over-ebola-fears/>.

109 Verified Complaint, *supra* note 90, at 34 (listing filing date of October 22, 2015).

110 *Id.* at 1.

111 *Id.* at 28–30.

112 *See id.* (describing the impact of the state orders on plaintiff).

113 *Id.* at 5, 8.

out from Governor Christie directly whether the decision to detain [her] was motivated by science or by politics.”¹¹⁴

The interim decision from the New Jersey District Court came in response to the state’s motion to dismiss the suit. Judge McNulty, like Judge LaVerdiere in Maine, looked to scientific facts in his ruling, noting that “[b]ad science and irrational fear often amplify the public’s reaction to reports of infectious disease. Ebola, although it has inspired great fear, is a virus, not a malevolent magic spell.”¹¹⁵ He also noted that “[t]he State is entitled to some latitude . . . in its prophylactic efforts to contain what is, at present, an incurable and often fatal disease.”¹¹⁶

Judge McNulty threw out Hickox’s federal civil rights § 1983 claims¹¹⁷ based on the defense of qualified immunity, which runs in favor of the state.¹¹⁸ The qualified immunity defense, closely linked to the concept of sovereign immunity, is based on the old English concept that the king cannot be sued, and is a protection provided to government actors on the federal level. The state law corollary of that protection, qualified immunity provides the state with protection from certain civil actions “as long ‘as their [the state actor’s] conduct does not violate *clearly established statutory or constitutional rights of which a reasonable person would have known.*”¹¹⁹

To understand its operation, the language needs to be unpacked. A case of free speech brought against a state would most likely meet the standard here, so it would not likely be thrown out based on a defense raised by that state on a qualified immunity ground because (1) the right of free speech is clearly established going back to the founding of our country and the writing of the Bill of Rights; (2) it is a constitutional right (though it could also be statutory); and (3) it is one that most *reasonable* people would know exists.

Qualified immunity will gut plaintiffs’ claims for remuneration for Orders on § 1983 grounds and other bases absent either a shift in how the courts view

114 Associated Press, *Judge Tosses Civil Rights Claims of Kaci Hickox, the Ebola-Quarantined Nurse*, PORTLAND PRESS HERALD (Sept. 8, 2016), <http://www.pressherald.com/2016/09/08/judge-tosses-the-civil-rights-claims-of-kaci-hickox-the-ebola-quarantined-nurse/>.

115 *Hickox v. Christie*, 205 F. Supp. 3d 579, 584 (D.N.J. 2016).

116 *Id.*

117 A § 1983 claim is a civil action related to the deprivation of an individual’s rights. See 42 U.S.C. § 1983.

118 *Hickox v. Christie*, 205 F. Supp. 3d at 589–604.

119 *Hickox v. Christie*, 205 F. Supp. 3d at 589. (D.N.J. 2016) (quoting *McGreevy v. Stroup*, 413 F.3d 359, 364 (3d Cir. 2005)).

a reasonable person's assessment of constitutional rights with respect to Orders, or creation of a more level playing field in which to assert their claims. The District Court decision in *Hickox 2* states "unless the plaintiff's allegations state a claim of violation of clearly established law, a defendant pleading qualified immunity is entitled to dismissal before the commencement of discovery."¹²⁰ A defense of qualified immunity is the default response of a state government to claims like Hickox's, fair or not. It is unclear whether a finding that a state actor's failure to observe scientific standards in decisions like *Hickox 1* will ever be notable enough to challenge state claims of qualified immunity, but it is certainly unlikely given the standard put forth.¹²¹

Judge McNulty, for his part, determined that no "clearly" constitutional right was violated during the course of Hickox's detention in Newark, even given that her detention continued following receipt of a negative Ebola virus blood test result.¹²² In any case, his decision resulted in the dismissal of Hickox's § 1983 claims.¹²³ His finding was based in large part on a turn-of-the-twentieth-century Supreme Court precedent.¹²⁴ That case rejected use of overly broad Orders; however, its application to the instant case was not appropriate because a reasonable person would not be aware of its protections.¹²⁵ Hickox's claims met the first two prongs needed to overcome a qualified immunity claim, being (1) long held, and (2) statutory or constitutional right. Her claims, however, would likely fail on the third leading to dismissal because (3) it would be unlikely that a reasonable person would

120 *Id.* at 589 (quoting *Thomas v. Independence Twp.*, 463 F.3d 285, 291 (3d Cir. 2006)).

121 *See id.* (explaining that the application of a qualified immunity defense determination requires the court to consider two questions: first, whether or not a clear constitutional right was violated by the defendant government actor; and second, whether or not the right violated is well established and one which a reasonable person would have known).

122 *Id.* at 594.

123 *Id.* at 585 (granting motion to dismiss § 1983 claims due to plaintiff's qualified immunity).

124 *See generally Jacobson v. Massachusetts*, 197 U.S. 11 (1905) (validating statute making vaccination mandatory).

125 *See Jew Ho v. Williamson*, 103 F. 10 (C.C.N.D. Cal. 1900) (holding that a San Francisco quarantine Order that applied to an entire district was unnecessary); *In re Smith*, 40 N.E. 497 (N.Y. 1895) (holding that a Brooklyn quarantine Order requiring anyone refusing to get a smallpox vaccine to quarantine was overly broad given that the order deprived persons of liberty). *But see Reynolds v. McNichols*, 488 F.2d 1378, 1383 (10th Cir. 1973) (asserting that imprisonment for a limited duration is not unreasonable to identify the presence of venereal diseases in those "reasonably suspected" to have them).

recognize constitutional limits on the government's exercise of overly broad power with respect to Orders. Since qualified immunity requires that a plaintiff show all three prongs of the test are met to move forward with claims, McNulty's decision seems correct in both its assertions and the final decision with respect to Hickox's § 1983 claims.

The Hickox cases may help to move the judiciary toward a changing view of what surpasses the challenges of qualified immunity defenses with respect to Orders. Meanwhile, an emphasis on understanding the impropriety of Orders absent scientific basis, which both McNulty and LaVerdiere note, may help to move courts in the direction of honoring the rights of citizens detained without basis. But these cases alone will likely not provide the required momentum. Qualified immunity limits plaintiffs' recourse; metaphorical body property takings claims might remedy this, though they may prove difficult to put forward as winning claims. It would necessitate an assertion that our bodies, when quarantined, have been made subject to a metaphorical taking based on the conscription of one's quasi, or special, property interest in their body.

The Hickox cases highlight the difficulties that valid claims regarding misuse of Orders encounter in courts. In addition to these substantive challenges, Orders are rarely challenged. The Hickox cases are unique because the plaintiff challenged her Orders (*Hickox 2* especially since it was not limited to due process challenges) in the first place, but also because the Orders were not based on scientific standards, which raised substantive questions regarding their imposition. No court would have likely entertained Hickox's challenges if there were reason to suspect she had Ebola.

If Hickox's Maine Order was supported by scientific evidence, *Hickox 1* would not have had the same outcome; a credible threat to public health would exist and the Order would have remained in place in full. That danger would override the due process claims Hickox raised. In a similar recreation of the facts in *Hickox 2*, the dismissal of the civil rights claims would still have occurred, because the qualified immunity defense would still attach. But, in addition, other state law claims in *Hickox 2* would also be dismissed if there was a finding that the claims of the state were based on reasonable grounds, which the New Jersey District Court did in the remainder of its interim decision.

Only two of Hickox's claims survived the state's motion for summary judgment.¹²⁶ The surviving claims were based on state law—false imprisonment, which asserted that she was held by the state with no legal authority, and false light, which, boiled down, amounted to a violation of an individual's right to privacy.¹²⁷ These state law claims, and creation of further rights under state law, create meaningful avenues for creation and acknowledgement of important substantive rights and claims for those subject to Orders in the future.

That being said, neither false light nor false imprisonment claims help those quarantined when their Orders are based on a legitimate, scientifically valid rationale. In New Jersey, the statutory definition of the crime of false imprisonment carves out claims based on quarantine orders.¹²⁸ This claim was permitted to proceed in *Hickox 2* because the statutory safe harbor requires good faith on the part of the state,¹²⁹ and Hickox's claims challenged that assertion on reasonable grounds pointing to a political rationale of then Governor Christie. The false light claim requires a jury to determine if the defendant, here the state of New Jersey, made untrue statements regarding the plaintiff.¹³⁰

In situations in which the plaintiff had in fact acquired the pathogen, the surviving state law claims would also likely have been thrown out in a motion for summary judgment. In the case of Hickox, both federal and state due

126 *Hickox v. Christie*, *supra* note 81, at 585 (“As to the state causes of action, however, I will deny the motions to dismiss.”).

127 See *Leang v. Jersey City Bd. of Educ.*, 969 A.2d 1097, 1117 (N.J. 2009) (describing the two elements required for the tort of false imprisonment); RESTATEMENT (SECOND) OF TORTS § 652E (AM. L. INST. 1977) (outlining the elements of the tort of false light).

128 The comment accompanying New Jersey's quarantine statute notes that the statute “declares a specific rule of discretionary immunity for acts or omissions relating to quarantine” N.J. STAT. ANN. § 59:6-3 (West 2020).

129 Black's Law Dictionary defines good faith as “[a] state of mind consisting in (1) honesty in belief or purpose, (2) faithfulness to one's duty or obligation, (3) observance of reasonable commercial standards of fair dealing in a given trade or business, or (4) absence of intent to defraud or to seek unconscionable advantage.” *Good Faith*, BLACK'S LAW DICTIONARY (7th ed. 1999).

130 *Hickox v. Christie*, *supra* note 81, at 605 (“The false light tort has two essential elements: ‘(1) the false light in which the other was placed would be highly offensive to a reasonable person,’ and (2) ‘the actor had knowledge of or acted in reckless disregard as to the falsity of the publicized matter and the false light in which the other would be placed.’”) (quoting *Leang v. Jersey City Bd. of Educ.*, 969 A.2d at 1116).

process and civil actions fail to make individuals whole when Orders are necessary to protect the public health. The possibility of a provable political motivation underlying the New Jersey quarantine order sets *Hickox 2* apart from most cases; the anomaly provides the possibility of some remuneration for Hickox herself, but in being an anomaly signals limitations with respect to other Orderees. Equitable concerns, far more than constitutional ones, should motivate us to ensure remuneration to those subject to Orders. Yet the current legal landscape provides limited access to justice for Orderees, whether victims of political grandstanding based on junk science, like Hickox, or happenstance through no fault of one's own reasonably requiring action. Creation of such protections are especially critical when considering how Orders impact individuals living on the margins of society.

B. Louise Troh

The case of Louise Troh also arose out of the 2014 Ebola epidemic, but received less mainstream press coverage than did Hickox's, and represented a factually different case from Hickox's. Troh took no legal action. She represents the social, economic, and educational position and capital that far more Americans occupy when juxtaposed with Hickox. Because of this, her case is important in creating a snapshot of the burdens that Orders can produce for a larger swath of the population. Troh was the fiancée of Thomas Eric Duncan, who would become the first person to die of Ebola on American soil.¹³¹ Troh's case likely represents how most individuals respond to Orders, i.e., by never challenging them. In most cases individuals receive no remuneration from state or local governments after Orders, whether crippled by them economically or not.

Duncan likely contracted the Ebola virus while in Liberia, when he assisted a severely ill young woman. Though asymptomatic upon his arrival in Dallas, he subsequently developed a fever—the first sign of infection and contagiousness of the virus. After an initial visit to Texas Presbyterian

131 Troh and Duncan had been married previously and were parents of a college aged son. Manny Fernandez & Dave Phillips, *Death of Thomas Eric Duncan in Dallas Fuels Alarm Over Ebola*, N.Y. TIMES (Oct. 8, 2014), <http://www.nytimes.com/2014/10/09/us/ebola-us-thomas-eric-duncan.html>. At some point prior to his return to the United States the couple had reinitiated their relationship, leading to their engagement just prior to his death. Harry R. Weber, *Ebola Fears Stymie Home Quest for Quarantined in Dallas*, BLOOMBERG (Oct. 18, 2014, 2:48 PM), <https://www.bloomberg.com/news/articles/2014-10-18/ebola-fears-stymie-home-quest-for-quarantined-in-dallas>.

Hospital's emergency room with flu-like symptoms, and notifying staff of his recent arrival from an Ebola affected region, he was told to return to Troh's home where he was living with her and two boys she had taken into her home.¹³² Three days later, on September 28th, 2014, he returned to Texas Presbyterian's emergency room.¹³³ This time, Duncan was admitted to the hospital and placed in isolation.¹³⁴ He would never see his fiance again, and would never reunite with the son he had not seen in at least a decade.¹³⁵

Troh and others exposed to Duncan upon the onset of his symptomatology would eventually be made subject to Orders. After confirming the diagnosis with a blood test, the Texas Department of Health placed Troh and the children under quarantine. On October 6th, the Dallas County Chief Executive and Troh's pastor visited the home to bring word of Duncan's death the previous day.¹³⁶ They did not touch family members, maintaining a three-foot radius from them at all times. They did not sit on furniture.¹³⁷

The Troh family was fully compliant after initially breaking the Order, which was based on the scientifically validated point that Duncan could have infected any one he was in close contact with after showing signs of fever.¹³⁸ The Order was for a medically appropriate twenty-one-day period. Despite subsequent ongoing compliance, "[l]aw enforcement officers stood outside the door blocking the family's exit,"¹³⁹ making a public spectacle of their situation, while they mourned the loss of a partner and father.

132 In addition to her son, Troh also provided a home to two other boys who shared her home at the time of her quarantine and they were also subject to the Orders imposed on the household. Fernandez & Phillips, *supra* note 131.

133 *Id.*

134 *Id.*

135 *Id.*

136 Wayne Carter, *Ebola patient Thomas Eric Duncan dies at Dallas hospital*, DALLAS NEWS (Oct. 8, 2014, 10:20 AM), <https://www.dallasnews.com/news/2014/10/08/ebola-patient-thomas-eric-duncan-dies-at-dallas-hospital/>.

137 *Id.*

138 Associated Press, *After the quarantine: 'I want to breathe'*, POLITICO (OCT. 19, 2014, 02:21 PM), <https://www-politico-com/story/2014/10/ebola-thomas-duncan-girlfriend-louise-troh-112013>.

139 Denver Nicks, *This Texas Judge is Fighting Fear and Ebola in Dallas*, TIME (Oct. 6, 2014, 10:50 AM), <http://time.com/3474650/ebola-dallas-judge-jenkins/>.

The costs of the family's compliance were not minor: most notable and difficult to quantify the fact that they were not able to be with a loved one at the end of life;¹⁴⁰ they lost income; and they lost most of their personal property (non-body property). The state also bore the cost of stationing armed guards at their door, despite the fact that the family made no attempt to escape, which has been documented in other cases.¹⁴¹ Troh and the family were forced to relocate during the Order and afterward.¹⁴² Widespread fear of Ebola made finding suitable accommodation almost impossible, eventually requiring concerted efforts on the part of Dallas County Judge Clay Jenkins, the highest-ranking elected official in the jurisdiction, to secure it.¹⁴³ The Order was lifted October 20, 2014.

A few days prior to the end of the quarantine period the same publication reported that:

A new-apartment deal busted up after Troh had already made a deposit, and Dallas's top county official and Troh's pastor say people are reluctant to rent to someone who was so close to Ebola.

Securing a home, maintaining a job and re-entering society will be challenges. Details of the Troh household's quarantine and transition preparations were described to Bloomberg by the county official and the pastor, who visit them frequently.

"It's a pretty dramatic time, considering someone has died and they can't really see their family," [said] Dallas County Judge Clay Jenkins¹⁴⁴

Troh said the Ebola scare and related Orders "destroyed [her] whole life," leaving her with almost nothing after her apartment's interior and the family's

140 This is not an outlier. In most cases requiring isolation, hospital and public health policies will limit access to individuals infected with pathogens who appear at hospitals seeking care, though that policy may vary by institution and jurisdiction. For many individuals in West Africa during the Ebola outbreak, that was a deciding factor in whether or not they would bring family members and loved ones to isolation facilities throughout the country, and the experience of the Trohs if more widely known about would likely lead to the same types of reservations here in the United States. These practices are in place for important reasons—they aim to curtail the spread of disease in localities, but they come with substantial human costs that, while not calculable, are important to note in these conversations on a human level.

141 Clifford Lo, *The not so great escape: Korean visitor recaptured after trying to flee coronavirus quarantine in Hong Kong for third time*, SOUTH CHINA MORNING POST (July 13, 2020, 3:39 PM), <https://www.scmp.com/news/hong-kong/health-environment/article/3092946/not-so-great-escape-korean-visitor-recaptured>.

142 Nicks, *supra* note 139.

143 *Id.*

144 Weber, *supra* note 131.

possessions were destroyed.¹⁴⁵ Texas statutes provide no recourse or compensation for the loss of physical property from Orders and related actions, which is the case in most states.¹⁴⁶

C. The Sum of the Parts and the Limits of Civil Liberty Protections

Hickox and Troh's cases represent somewhat different reactions to, and perhaps reasons for, states to utilize Orders, but also speak to the same basic point: those subject to Orders have little or no access to remuneration for the burdens those Orders impose. *Hickox 2's* federal civil rights claims might lead to recovery of money damages but are likely easily defended with qualified immunity defenses. Relevant state law claims are subject to carve-outs and safe harbors that, at least in New Jersey, limit their application to bad faith Orders. Even when challenged successfully, as in *Hickox 1*, remuneration is not guaranteed. Important injunctive relief is provided, however, limiting the scope of police powers.¹⁴⁷ But even if it does, this structure falls well short of making individuals whole for the losses they have suffered.

Troh's narrative provides an honest portrait of individual Orders' costs for those living on the economic margins. Physical property, save some photos, was destroyed. Lives were uprooted and rendered functionally homeless for months. Orders may become increasingly important as a tool for the protection of the public health. What appear to be good faith standards in state courts should help to limit the damage of ill-intended government actors, or at least provide those subjects to the whims of bad actors with recourse. But what about everyone else?

145 Emily Schmall, *Ebola Victim's Fiancée Struggles to Rebuild Life*, SEATTLE TIMES (Oct. 31, 2014, 5:01 AM), <https://www.seattletimes.com/nation-world/ebola-victims-fiance-struggles-to-rebuild-life-1/>.

146 See *State Quarantine and Isolation Statutes*, *supra* note 33 (describing every state's quarantine and isolation statutes, few of which contain provisions providing for compensation for loss and/or destruction of property).

147 Verified Complaint, *supra* note 90, at 4.

D. Stigmatization Arising Out of Orders

In addition to the initial burden, Orders, at least anecdotally, appear to carry a high risk of stigmatization for those subject to them, even after they are lifted or nullified. The Troh and Hickox cases illustrate that individuals, once Orders are lifted, can remain isolated within their communities.¹⁴⁸ Hickox eventually left Maine, in part because of the stigma associated with the Orders she battled in court,¹⁴⁹ and despite the final court order highlighting the minimal threat she posed based on agreed-upon scientific evidence.¹⁵⁰ Ted Wilbur, her boyfriend, withdrew from the nursing program at the University of Maine at Fort Kent because “university officials—who told him there had been threats against him—refused to communicate to students that any harassment, threats or demonstrations against Wilbur would not be tolerated.”¹⁵¹ While there is a legitimate question as to whether or not Wilbur’s expectations are too high, with no protections in place at all, there is no basis to make an appropriate assessment against an agreed-upon standard. The stigma emerging out of controversy effectively “upended the couple’s plans.”¹⁵² As of 2020, Hickox lives in Alaska.¹⁵³

Troh’s post-quarantine trials raise similar questions. The stigmatization that followed the Orders left her homeless, and a dispute with her current landlord may or may not have links to her quarantine.¹⁵⁴ Her church and community came forward in attempts to allay her needs, but there are many

148 *Hickox 2* may deliver remuneration on this count, given its false light claim which the summary judgment decision allowed to go forward to trial.

149 See Scott Neuman, *Maine Nurse To Move Out Of State Following Ebola Quarantine Row*, NPR (Nov. 9, 2014, 11:09 AM), <https://www.npr.org/sections/thetwo-way/2014/11/09/362770821/maine-nurse-to-move-out-of-state-following-ebola-quarantine-row> (noting that treatment in Maine influence Hickox and Wilbur to leave the state).

150 See Order Pending Hearing, *supra* note 106, at 3 (“Respondent currently does not show any symptoms of Ebola and is therefore *not* infectious.”).

151 Edward D. Murphy, *Kaci Hickox, Boyfriend Leaving Fort Kent After Ebola Quarantine Fight*, PORTLAND PRESS HERALD (Nov. 11, 2014), <http://www.pressherald.com/2014/11/07/kaci-hickox-boyfriend-leaving-maine-after-ebola-quarantine/>.

152 *Id.*

153 Judy Harrison, *Kaci Hickox Lawyers Argue Lawsuit Over Quarantine Should Go Forward*, BANGOR DAILY NEWS (Mar. 15, 2016), <https://bangordailynews.com/2016/03/15/news/kaci-hickox-lawyers-argue-lawsuit-over-ebola-quarantine-should-go-forward/> (stating that by 2016, Harrison had moved to from Maine to Springfield, Oregon).

154 Schmall, *supra* note 145. Troh’s landlord at the time of the Order insisted that her refusal to allow for a new lease was based upon the fact that she owed a \$1,900 debt, but this seems dubious as it is reported that she accepted a deposit for the new lease prior to the imposition of the Order. *Id.*

Americans who are not connected to such communities of faith, and their numbers are growing.¹⁵⁵ It is unclear who will bear the brunt of providing support in these instances, but in both Ebola cases, the government imposing the burdens should be responsible, at the very least, for their immediate wellbeing.

Governments should and must play a role in creating a safety net for “Order bearers,” not limited to simple economic safety nets, but that accounts for a full consideration of the burdens connected with Orders based on evidence. Public health officials at the state level are asked to impose and enforce Orders. The public protected through their imposition reaps the benefits while Order bearers bear all of the injury. The burden of mitigating repercussions of Order should be publicly borne and government-sponsored.

III. METAPHORICAL PROPERTY RIGHTS IN THE BODY OF THE INDIVIDUAL AND RELATED TAKINGS CLAIMS

A. *Quarantine Economics*

An unchecked outbreak of a highly contagious, highly pathogenic disease threatens the economic stability and function of the country and the global economic order.¹⁵⁶ This predates the economic fallout brought about by COVID-19. Narratives and actions aggravating public fears are part of this, and those same fears may lead government actors to act more aggressively than necessary, or may even act with bad faith, a possibility raised by both *Hickox 1* and *2*.¹⁵⁷ This may be in part because those fears alone can affect the economic viability of a state or region, but also because elected officials are tasked with allaying the fears of concerns of the general public, and most

155 See *U.S. Public Becoming Less Religious*, PEW RSCH. CTR. (Nov. 3, 2015), <http://www.pewforum.org/2015/11/03/u-s-public-becoming-less-religious/> (stating that recently, the number of Americans who regularly attend church or other religious services has decreased).

156 See also Nelson D. Schwartz, *Coronavirus Recession Looms, Its Course 'Unrecognizable'*, N.Y. TIMES, Mar. 22, 2020, at A1 (detailing troubling economic outlooks for the country on the heels of the coronavirus pandemic and highlighting the exaggeration of disruptions to the market due to shelter-in-place mandates in several states, including New York and California).

157 See *supra* Section II.A (discussing the *Hickox* cases).

are concerned with re-election.¹⁵⁸ As Ebola became a major component of the news cycle in 2014, the Harvard T.H. Chan School of Public Health reported that over half of Americans feared an outbreak stateside.¹⁵⁹ These poll numbers were released on October 15, 2014¹⁶⁰—just two weeks before Hickox’s Orders, and just a week after the death of Thomas Eric Duncan, which prompted the quarantine of Louise Troh and her family.¹⁶¹

In 2016, a Pew survey revealed that a majority of Americans believed Zika virus posed a threat—86% were “paying attention” to its spread.¹⁶² A majority agreed that the general threat of infectious disease is growing.¹⁶³ Numbers like this indicate public acceptance of, if not enthusiasm for, use of Order in appropriate circumstances—but probably only so long as the person subject to Orders is not the respondent themselves.

Every state in the country has statutes in place with respect to Orders and enforcement. They sometimes provide for compensation of individuals subject to Orders—but do so rarely.¹⁶⁴ These statutory attempts at providing Orders-related compensation fail on two points: (1) most are outdated, sometimes by almost a century, which may be a nod to our limited experience with quarantinable disease in recent history; and (2) when they do provide for compensation, it is focused on property lost due to government seizure and

158 The fears and economic impact that the spread of infectious disease can result in politicians spending extra money to take action against these diseases. See Bruce Y. Lee et al., *The Potential Economic Burden of Zika in the Continental United States*, 11 PLOS NEGLECTED TROPICAL DISEASES (2017), <https://doi.org/10.1371/journal.pntd.0005531> (estimating the potential economic burden of Zika virus to over one billion dollars).

159 See Press Release, HARV. T.H. CHAN SCH. PUB. HEALTH, Poll: Most Believe Ebola Likely Spread by Multiple Routes, Including Sneezing, Coughing (Oct. 15, 2014), <https://www.hsph.harvard.edu/news/press-releases/poll-finds-most-believe-ebola-spread-by-multiple-routes/> (finding that 52% of adults are concerned there will be an Ebola outbreak inside the United States).

160 See *id.* (publishing the poll on October 15, 2014).

161 It is intriguing to consider the timing and possible political nature of the action of Christie with respect to both Hickox’s quarantine at Newark airport based on this timing, and his calls for quarantining of Zika patients that would follow in subsequent years. Limited literature exists on the political nature of Orders.

162 *Half of Americans Say Threats from Infectious Disease are Growing*, PEW RSCH. CTR. (July 8, 2016), <https://www.pewresearch.org/science/2016/07/08/half-of-americans-say-threats-from-infectious-diseases-are-growing/>.

163 See *id.* (finding that 51% of American adults say that there are more infectious disease threats today than twenty years ago).

164 For a description of each state’s laws regarding quarantine orders, see *State Quarantine and Isolation Statutes*, *supra* note 33.

not the metaphorical ones this paper is largely focused on. These damages are similar to those Louise Troh was burdened with when her apartment was destroyed in efforts to eradicate any last reservoirs of the Ebola in her Dallas home.¹⁶⁵ The second fault is also seen in more recently proffered statutory protections, but likely takes its cues from gaps in many of the statutes that came before it.

The Massachusetts statute imposes a two dollars per day ceiling for individual compensation.¹⁶⁶ It is unclear why only five states recognize a need for economic remuneration for those subject to Orders, but even those that do offer compensation are woefully out of step with the times and utterly disconnected from the realities of the hardships that Orders bring about, even post-SARS, post-MERS, post-Ebola, and post-H1N1.

B. New Disease Threats

For Ebola virus and measles, incubation periods are well known, which should limit the valid imposition of Orders temporally without reducing efficacy.¹⁶⁷ For a newly emergent disease, or a rapidly mutating virus, important information gaps exist. Because of these gaps, government actors may, and perhaps should, impose greater restrictions on individual rights to protect public health until scientifically accepted standards emerge for quelling transmission. These standards will likely, and appropriately, shift over time with additional research and knowledge acquisition and with changes to the context of the outbreak.

By their very nature, Orders require serious incursions on individual liberty and unrecognized property-esque rights individuals hold in their bodies that underlie the conceptualization of metaphorical takings. Despite being a last resort for disease suppression, no firm limits on these incursions exist

165 See Schmall, *supra* note 145 (describing the damage and Troh's struggle to find housing subsequent her association with the disease).

166 MASS. GEN. LAWS ANN. ch. 111, § 95 (West 2020).

167 See Jing Qin et al., *Estimation of Incubation Period Distribution of COVID-19 Using Disease Onset Forward Time: A Novel Cross-Sectional and Forward Follow-up Study*, 6 SCI. ADVANCES 2 (2020), <https://advances.sciencemag.org/content/6/33/eabc1202/tab-pdf> ("Precise knowledge of the incubation period would help to provide an optimal length of quarantine period or disease control purpose . . .").

outside of “protecting the public health.” That being said, many states produce bench books that help to guide the judiciary and the courts through decision making with respect to appeals on public health Orders.¹⁶⁸ In addition, scientific knowledge on outbreaks can provide strong parameters for the use of Orders, but only rarely is use of these scientific standards written into laws and guidance with respect to Orders.¹⁶⁹ Even if these protections were firmly in place, and appropriately used, there would still not be limits on the ability of public health officials to extend Orders for additional statutory periods if deemed reasonable.¹⁷⁰ Their reasonableness, however, does not solve for the individual incursions they create.

When Zika emerged, questions also remained regarding the scientific certainty of what scientists believed they understood—very similar to the spring of 2020. One case of infection by person-to-person contact was eventually confirmed.¹⁷¹ Over the summer of 2016, discoveries with respect to sexual transmission were also revealed.¹⁷² Chris Christie, then still governor of New Jersey, true to form, began calling for use of Orders to curb spread of the disease as early as February 2016.¹⁷³

It is possible that physical isolation of individuals who tested positive for Zika may have even been reasonable given what was understood in early 2017. Even without person to person transmission, an infected person can pass the virus to any number of *aegypti* mosquitoes they are bitten by while

168 See *Public Health Law Bench Books*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/phlp/publications/topic/benchbooks.html> (last reviewed Apr. 2, 2020) (providing access to several state public health law bench books).

169 See *Pandemic Influenza Bench Book* (failing to mention incubation period in Oklahoma’s bench book); but see Florida Court Education Council’s Publications Committee, *Pandemic Influenza Benchguide: Legal Issues Concerning Quarantine and Isolation*, 27 (“[Quarantine] is designed to isolate a person who has been exposed to the disease until an incubation period has passed and the exposed person has not developed symptoms of the disease.”).

170 N.C. Bench Book, *supra* note 77, at 14.

171 Melissa Healy, *A Mysterious Case of Zika Raises New Fears of Person-to-Person Transmission*, L.A. TIMES (July 18, 2016, 4:35 PM), <https://www.latimes.com/science/sciencenow/la-sci-sn-zika-mystery-utah-20160718-snap-story.html> (describing a case of Zika transmission from the patient to a caregiver).

172 Hercules Sakkas, Petros Bozidis, Xenofon Giannakopoulos, Nikolaos Sofikitis, & Chrissanthy Papadopoulou, *An Update on Sexual Transmission of Zika Virus*, PATHOGENS (2018).

173 See Eric Boodman, *Christie Calls for Quarantining People Returning from Zika-Stricken Brazil*, STAT (Feb. 6, 2016), <https://www.statnews.com/2016/02/06/christie-quarantine-zika-patients/> (reporting that then-Governor Christie said he would be willing to quarantine Americans returning from the Olympics in Brazil to prevent the spread of Zika in America).

infected.¹⁷⁴ Those mosquitoes can pass the infection on to its offspring, and on to further humans in the area, thus Orders could have been deemed reasonable early on in the outbreak.¹⁷⁵ The virus has been linked to Guillain-Barré syndrome in adults,¹⁷⁶ and affected fetal development in a majority of pregnancies where it presented.¹⁷⁷ In the early stages of the emergence of any new pathogen the unknowns outweigh known risks—because of that, Orders may be appropriate in early stages, and required to control spread of new disease threat. Such early-stage Orders should be reasonably limited based on scientific knowledge. Ideally, these Orders can appease public fears, and ensure public safety, but they may inadvertently engender the opposite reaction in the public, which Hickox’s story illuminates.

Regions of the United States where *aegypti* is endemic include large swaths of the southwestern and southeastern United States, including the highly populated northeast corridor; the range is estimated by the CDC to include Los Angeles, New York, Washington, Miami, Philadelphia and Houston.¹⁷⁸ This means that many hundreds of thousands could be affected by an outbreak; use of Orders, in theory, could limit the disease spread.

In 2016, efforts to curb the spread of Zika were taken swiftly¹⁷⁹ and a push for research funding came from many quarters.¹⁸⁰ In the meantime, public

174 See Fact Sheet: *Zika Virus*, WORLD HEALTH ORG. (July 20, 2018), <https://www.who.int/news-room/fact-sheets/detail/zika-virus> (explaining that Zika is primarily transmitted by bites from infected *Aedes aegypti* mosquitos).

175 *Id.*; see also Alexander T. Ciota, Sean M. Bialosuknia, Dylan J. Ehrbar, and Laura D. Kramer, *Vertical Transmission of Zika Virus by Aedes aegypti and Ae. albopictus Mosquitoes* (2017), available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5403030/>.

176 See *Zika and Guillain-Barré Syndrome*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/zika/healtheffects/gbs-qa.html> (last reviewed May 14, 2019) (noting a strong association between Guillan-Barré syndrome and Zika).

177 See Fact Sheet: *Zika Virus*, *supra* note 174 (describing Zika complications such as microcephaly, fetal loss, still birth, preterm birth, and other congenital abnormalities).

178 See *Zika Virus: Potential Range in the US*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/zika/vector/range.html> (last reviewed Feb. 23, 2018) (providing an estimated potential range of *aegypti* in 2017 based on their ability to live and reproduce).

179 See Cameron McWhirter & Jennifer Calfas, *Efforts to Prevent Zika Infections Intensify*, WALL ST. J. (Aug. 12, 2016, 7:04 PM), <https://www.wsj.com/articles/efforts-to-prevent-zika-infections-intensify-1471043093> (describing state and federal governments’ efforts to contain the Zika virus).

180 Sheila Kaplan, *Congress Approves \$1.1 Billion in Zika Funding*, SCI. AMER. (Sept. 29, 2016), <https://www.scientificamerican-com.proxy.library.upenn.edu/article/congress-approves-1-1-billion-in-zika-funding/>.

health systems must make efforts to confront the gap between current public health actions and scientific knowledge, which may require Orders. But even absent a threat from new diseases like Zika, there is reason to act.

Zika is not an outlier. Disease threats come from many directions, with varying biological characteristics, vectors, symptomatology, and disease progressions. On August 30, 2016, STAT News and Scientific American reported on a strain of *E. coli* resistant to two last-resort antibiotics.¹⁸¹ A little over a month later, the United Nations held the second special session related to health-related global threats—this one aimed at the threat of antimicrobial resistance on a global level.¹⁸² In 2019, the U.K. reported the first case of completely resistant gonorrhea infection, though it eventually was cured after the use of front line antibiotics.¹⁸³ At some point we will encounter a pathogen for which our only protections will be the isolation of those afflicted. When this happens, notions of justice and fairness require that we prepare ourselves to treat those individuals in a reasonable way as we limit their rights and freedoms.

C. *The Metaphorical Bodily Bundle*

Property rights provide greater protection than other areas of law by virtue of their characterization as property and for a central component of takings claims.¹⁸⁴ Property rights amalgamate singular rights in Blackstone's

181 Lindzi Wessel, *Superbug Resistant to Two Last-Resort Antibiotics Found in US for First Time*, STAT (Aug. 29, 2016), <https://www.statnews.com/2016/08/29/superbug-last-resort-antibiotics/>.

182 *United Nations Meeting on Antimicrobial Resistance*, 94 BULL. WORLD HEALTH ORG. 638, 638 (2016), <https://www.who.int/bulletin/volumes/94/9/16-020916.pdf>.

183 For a discussion of the UK's first case of antibiotic-resistant gonorrhea, see Merrit Kennedy, *Gonorrhea Strain Thwarts 2 Main Drugs, Raising Concerns It's Becoming Untreatable*, NPR (Mar. 29, 2018, 1:48 PM), <https://www.npr.org/sections/thetwo-way/2018/03/29/597906009/gonorrhea-strain-thwarts-two-main-drugs-raising-concerns-its-becoming-untreatable>; Jeremy Knox, *Opinion: Super Gonorrhoea is Here—That Means the Antibiotic Crisis is Too*, GUARDIAN (Mar. 30, 2018, 5:54 PM), <https://www.theguardian.com/commentisfree/2018/mar/30/super-gonorrhoea-antibiotic-crisis-drug-resistant-bugs>; *UK Man Has World-First Case of Super-Strength Gonorrhoea*, GUARDIAN (Mar. 28, 2018, 5:09 PM), <https://www.theguardian.com/society/2018/mar/28/uk-man-super-strength-gonorrhoea>. See also Rachael Rettner, *UK Man with 'Worst Ever' Drug-Resistant Gonorrhea is Now Cured*, LIVE SCI. (Apr. 20, 2018), <https://www.livescience.com/62372-worst-ever-resistant-gonorrhea-cured.html> (reporting on the eventual cure of the same individual following multiple rounds of further antibiotic treatment).

184 See Rao, *supra* note 32 (describing how property rights are stronger than contract or privacy rights).

metaphorical “bundle”: possession, control, exclusion, and alienability.¹⁸⁵ For the courts to validate a bodily-based takings claims, they would have to acknowledge and or create property rights in bodies. For the purposes of this quarantine centered here such claims should likely be limited to individually interests held only in their own bodies; it does not contemplate a formulation of such rights ascribable to ancestral claims or those based on takings of offspring or other descendants body property. Note, however, that statutes or regulations may be constructed by state or federal actions to provide for such claims such in a takings structure should those actors see those as fit. This idea of an individually held right in the body removes the argument from the context of slavery, where external dominion over the closely held real, and not metaphorical, body property of others was exercised along racial lines.¹⁸⁶ When those rights were eventually extinguished following the Civil War in the United States, many of those slaveholders sought, and received, remunerations from the United States government for losses resulting from the freeing of their human chattel. The metaphorical property rights proffered in this Article are even further circumscribed, however, so as to limit the purposes of its use to obtaining remuneration where government actors commit incursions against the metaphorical property rights of individuals through Orders.

It is reasonably appropriate to take for granted that individuals assume that they hold property or quasi-property rights in and to their bodies, whether or not stipulated in statutes, case law or regulations. With respect to possession of real property, a landowner has the right to possess the land purchased. Possession is defined by Black’s Law Dictionary as “1. The fact of having or holding property in one’s power; the exercise of dominion over property. 2.

185 See Jane B. Baron, *Rescuing the Bundle-of-Rights Metaphor in Property Law*, 82 U. CIN. L. REV. 57, 58–59 (2014) (providing a description of the basic components of the bundle of rights metaphor).

186 In fact, we can agree slavery placed property rights in individual bodies in a way that was in no way metaphorical, and prior to the Emancipation Proclamation and the adoption of the 13th Amendment ending slavery in 1865, Americans of African descent and living in bondage made legal arguments based on or connected to their status as property to advocate for freedom in the courts, which in some cases led to remuneration for their labor up to that point. See, e.g., Abigail Higgins, *Meet Elizabeth Freeman, the First Enslaved Woman to Sue for Her Freedom—and Win*, HISTORY (Mar. 22, 2019), <https://www.history.com/news/elizabeth-freeman-slavery-case-dred-scott-freedom> (“A jury of twelve local farmers . . . ruled in favor of Freeman in 1781, giving her freedom and awarding her 30 shillings in damages.”).

The right under which one may exercise control over something to the exclusion of all others; the continuing exercise of a claim to the exclusive use of a material object . . .”¹⁸⁷ No one else can hold our bodies in this way (barring technologies we have not yet seen that could create complicated questions around it, or questions of religious and other possessions alluded to previously).

The right of possession in our own bodies is basic to the concept of self, but possession is also a central component of the metaphorical bundle of rights held in legal property. Possession is a straightforward concept: legal ownership requires possession of the thing professed to be owned. Possession of one’s body, accordingly, is the equivalent of it *being* one’s body. In cases where religious individuals fear possession of a body is undermined by either demonic or supernatural forces, whether believed by the reader or not; language of possession is used with respect to such occurrence and its connection to the afflicted person’s body. This use of language, while seemingly outlandish, is indicative of the default regime we believe exists with respect to the relationship between and individual’s consciousness and their physicality. In other cases, they possess their bodies, but do not control them, and we seek medical care to bring them back into possession of the hardware of their bodies. When the possessory interest in one’s body is limited by the behavior of others, otherwise stated as when rights to exclude are overrun or otherwise ignored, the court system allows individuals to seek compensation in tort, or for criminal charges to be brought against a wrongdoer, which may lead the state to take control over the wrongdoer’s body—it is a serious trespass between individuals. Questions of possession of bodies is, at some basic level, why serious questions arise for individuals suffering from dementia with advanced directives. Possession is a basic of right in property—a person may live in the house they have purchased, for example. This possessory right parallels individuals’ relationships to their bodies in practice.

Black’s Law Dictionary goes on to link a “. . . present right to control property” as “including the right to exclude others, by a person who is not necessarily the owner” and a “present or future right to the exclusive use and possession of property” that we might refer to as a “possessory interest” in a metaphorical bundle of rights.¹⁸⁸ It is a right to deny others

187 *Possession*, BLACK’S LAW DICTIONARY (7th ed. 1999).

188 *Possessory Interest*, BLACK’S LAW DICTIONARY (7th ed. 1999).

access. Returning to our real property example, modern legal doctrine allows an individual who owns real property the right to limit access or to prohibit other individuals' use of it outside of a limited set of circumstances, including takings of real property, which requires compensation; but also leases, controversial castle doctrine laws, and restraining orders and injunctions. Our legal structures delineate the same set of rights with respect to individuals' bodies. We see this metaphorical right to exclude others from our bodies in tort,¹⁸⁹ criminal law,¹⁹⁰ and contracts¹⁹¹ doctrine.

The inverse of exclusion is the right to allow access to the real property without limitation or scope.¹⁹² We see this in gifts, leases, and easements, a tool that provides parties limited rights in property for specific purposes.¹⁹³ These rights are generally granted through contract or deed.

In the same way, our legal system allows individuals to provide access to bodies through various formulations of consent, but also limits the extent to which individuals may do so.¹⁹⁴ Informed consent, like a metaphorical bodily easement, documents consent on the part of a patient or study participant to access or use their bodies for a specific purpose and is legally required. On the other hand, failure to obtain it is legally punishable. The requirement arose out of problematic research practices and moved us towards informed consent as a standard means of validating access to bodies for purposes

189 For example, in tort law, the embodiment of rights to exclude from one's own body include claims of battery, which North Carolina defines as "the offensive touching of another without his/her consent." *City of Greenville v. Haywood*, 502 S.E.2d 430, 433 (N.C. App. 1998).

190 As an example, consider the language of the state of Maryland with respect to first degree rape defining it as engaging in sexual "by force, or the threat of force, without the consent of the other." The language here is based upon the right to exclude another person from the dominion of their body without explicit consent—all of this points towards a bodily property interest implicating concepts of control, possession, and exclusion in its formulation. MD. CODE ANN., CRIM. LAW § 3-303 (West 2020), available at http://mgaleg.maryland.gov/2020RS/Statute_Web/gcr/3-303.pdf.

191 See generally Olubukunola Mary Tawose, *The Legal Boundaries of Informed Consent*, 10 AM. MED. ASS'N. J. OF ETHICS 521 (describing the physician-patient relationship as that of an informed contract).

192 See Felix S. Cohen, *Dialogue on Private Property: The Pragmatic Meaning of Private Property*, 9 RUTGERS L. REV. 357, 369-70 (1954) (outlining the conversation amongst scholars considering the basic attributes and characteristics of private property).

193 See Alfred F. Conard, *Words Which Will Create an Easement*, 6 MO. L. REV. 245 (1941) (outlining the creation process of easements).

194 Examples of this include the parental rights to consent to medical treatment of their children so long as they are not mature minors, and the rights of a health care proxy.

of clinical research, which even the court in *Moore* considers a vitally important structure to protect individual rights in one's own body, while at the same time disregarding any notion of property rights in his body, which is ironic.¹⁹⁵ More general consent to necessary or advised medical care relies on the same right to exclude.

Closely linked to right to exclude is the right to control; the third stick in the metaphorical bundle of property rights. The concept of control with respect to bodies as property aligns most closely with rights of free movement that Orders most heavily constrain. In the COVID-19 era rights aligning with control over bodies have been the focus of intense political debate.¹⁹⁶ Again referencing our real property metaphor, a landowner has the right to do as they please with their land within the limits laws impose. For example, they may lease it, gift it, sell it, invest money in it, or use it to secure debt; it runs alongside exclusion and access, but it can be thought of as broader. Exclusion and access are singular; control grants broad agency to a property owner. In the same way, citizens have the right to take risks and make positive or detrimental investments in the property of their bodies. Options with respect to health care decisions, care and treatment of our bodies themselves, our education, and where we live are all situated under assumptions of individual control to make decisions with respect to how we live. Control is the overarching power to make decisions about how property may or may not be used.

Alienability is the most difficult to work with within in drawing parallels to metaphorical bodily property ownership rights. BLACK'S LAW DICTIONARY defines alienable as "[c]apable of being transferred to the ownership of another; transferable."¹⁹⁷ Unlike possession, control, and exclusion, alienability is not a right in bodies widely adopted through other channels. Aside from Nevada, no state provides citizens the right to legally buy and sell

195 In almost all cases where consent is required, it arises from either a property interest in the thing being controlled or a guardianship structure, as is the case with children receiving medical care or objects held in trust.

196 Perhaps the most pervasive political disagreement over the government's right to control the bodies of citizens during COVID-19 is the debate over masks. See Patrick Van Kessel & Dennis Quinn, *Both Republicans and Democrats cite masks as negative effect of COVID-19, but for very different reasons*, PEW RSCH. (Oct. 29, 2020), <https://www.pewresearch.org/fact-tank/2020/10/29/both-republicans-and-democrats-cite-masks-as-a-negative-effect-of-covid-19-but-for-very-different-reasons/>.

197 *Alienable*, BLACK'S LAW DICTIONARY (7th ed. 1999).

their bodies through sex work. Other legal markets in bodies and bodily usage, such as surrogacy, egg donation, and sperm donation have been legally sanctioned in many states, it is perhaps notable that they are most often associated with assisted reproductive technologies.¹⁹⁸ In addition, our legal regimes providing for bodily or related markets (hair, stool, sperm, etc.) often use rely on both donative language and construct agreements and transactions with respect to services rather than purchase and sale of the quasi-property itself.

Outright buying and selling of organs is prohibited in most of the world. However, when a transaction looks like a purchase, sale, or lease of a body, its parts and/or its derivatives, donative, altruistic language is often used – for example, egg donation – this is likely in part because donation, especially of the body, is upheld as the greatest of altruistic sacrifices by an individual. Despite such widely held notions and language, the language used in contracts related to egg and sperm donorship, and gestational surrogacy use language around payments for services rather than that of purchase and sale of quasi-property. This refashioning provides room for these transaction under the law, and allows for such practices to toe the line of bodily alienability pragmatically.¹⁹⁹ The split amongst the states is indicative of divided thinking around whether allowing it, at least in part, undermines important public policy goals that prohibit treating bodies as tradeable, even with fully informed parties.²⁰⁰

Contractual agreements that provide for the temporary use of women’s bodies as surrogates for bearing children go to great lengths to define the

198 See, e.g., *In re Baby M*, 537 A.2d 1227, 1234 (N.J. 1988) (invalidating a *surrogacy* contract based on public policy concerns).

199 Contracts are drafted to stipulate that surrogacy is a contract for services and not a purchase and sale or lease of a woman’s body, and the same is true for contracts for egg donation—doing otherwise would likely leave them void for public policy reasons as was seen in *In re Baby M*. See *id.*; see also *Perez v. Commissioner of Internal Revenue*, 144 T.C. 51, 51 (T.C. 2015) (holding that “compensation for pain and suffering resulting from the consensual performance of a service contract is not damages” under the Internal Revenue Code in a decision requiring such payments to be considered income).

200 See, e.g., Tamar Lewin, *Surrogates and Couples Face a Maze of Laws, State by State*, N.Y. TIMES (Sept. 17, 2014) https://www.nytimes.com/2014/09/18/us/surrogates-and-couples-face-a-maze-of-laws-state-by-state.html?_r=0 (describing the breadth and variation of laws for surrogacy in the United States).

agreement as service based rather than property based, much like an independent contractor agreement, with the services defined as the act of surrogacy itself.²⁰¹ Though legal contracts for both surrogacy and purchase and sale of eggs and/or sperm have received scrutiny,²⁰² they remain legal in many states and largely unregulated.²⁰³ Limiting the purpose of any payment to provision of “services” furthers a well-constructed legal fiction that distances the transaction from the body upon which the weight of its legal obligations is tethered.

Rather than grappling with an inflexible system, an alternate assessment of proprietary interests in special types of property may be useful in this space.²⁰⁴ By *unbundling* “sticks” of property rights, a workable solution emerges, largely around limits to alienability.²⁰⁵ That being said the problematic legal fiction in place still provides for treating bodies as property in a multitude of ways, and this solution does not erase that, though it may make courts more comfortable using the structure to provide more equitable solutions for those deprived of economic justice arising from Orders.

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- 201 Independent contractor agreements are generally built around accomplishment of certain services. Consider an alternative legally problematic construction of such contracts as rental for a specific purpose.
- 202 See John M. Smoot, *Why Sperm Donation is Bad for Dads and Kids*, PUB. DISCOURSE (Feb. 12, 2013) (discussing how sperm donation objectifies and degrades men while harming the children it produces). See also Robert Klitzman, *Buying and Selling Human Eggs: Infertility Providers’ Ethical and Other Concerns Regarding Egg Donor Agencies*, 17 BMC MED. ETHICS 1 (2016) (assessing providers’ views and interactions with egg donor agencies and concluding stronger regulation is needed); Radhika Rao, *Coercion, Commercialization, and Commodification: The Ethics of Compensation for Egg Donors in Stem Cell Research*, 21 BERKELEY TECH. L.J. 1055, 1056 (2006) (discussing how current US guidelines prohibit payment to egg donors involved in stem cell research).
- 203 See Lucy Frith & Eric Blyth, *Assisted Reproductive Technology in the USA: Is More Regulation Needed?*, 29 REPROD. BIOMEDICINE Online 516 (2014) (arguing that the “laissez-faire” system for regulating assisted reproductive technology in the U.S. is inadequate to protect medical ethics and safety). See also Ellie Kincaid, *A Booming Medical Industry in the US Is Almost Totally Unregulated*, BUS. INSIDER (July 7, 2015, 3:50 PM), <https://www.businessinsider.com/assisted-reproduction-ivf-industry-regulation-2015-6> (relating how most in vitro fertilization procedures are unregulated); Michael Ollove, *States Not Eager to Regulate Fertility Industry*, PEW CHARITABLE TRS. (Mar. 18, 2015), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2015/3/18/states-not-eager-to-regulate-fertility-industry> (detailing how lawmakers are “wary” to regulate assisted reproduction).
- 204 See, e.g., I. Glenn Cohen, *The Right Not to Be a Genetic Parent?*, 81 S. CAL. L. REV. 1115 (2008) (creating a framework for considering the legal rights of objecting parents to control the disposition of pre-created embryos in courts when conflict arises).
- 205 See, e.g., *id.* at 1121–24 (advocating for the recognition of a “bundle of rights having multiple possible sticks, consisting of a right not to be a gestational, legal, and genetic parent”).

Failure to invest some sort of property-based rights in one's own bodies leads to unjust legal decisions, like that of *Moore v. Regents of the University of California*.²⁰⁶ Analysis of *Moore* highlights problems that arise with a failure to recognize individually held, at the very least metaphorical, property interests in an individual's body. The outcome of the case, simply put, denies the economic realities in decision making, and the necessity of body property to achieve scientific progress.²⁰⁷ While different in kind, the inequitable structure and outcome of *Moore*, which flowed from the failure of the state to acknowledge a property-based interest in his body,²⁰⁸ is mirrored in the disparate treatment of those subject to Orders. The states of Texas, New Jersey, and Maine each in turn failed to acknowledge the cost of Orders imposed on Troh and Hickox, arguably in part because they refused to acknowledge the inherent property interest each woman held in her own body.

Application of a more just, if only metaphorical, property right in one's body provides appropriate legal pragmatism to cases like *Moore's* and provides access to remuneration for individuals like Louise Troh and Kaci

206 793 P.2d 479 (Cal. 1990). Moore was a patient at UCLA medical center in 1976, where he was treated for hairy cell leukemia, a rare blood cancer. *Id.* at 481. At the time of diagnosis, his physicians were aware of significant commercial possibilities if they could create a cell line from Moore's cancerous spleen. *Id.* This was never shared with Moore. He did know that removal of his spleen was necessary to save his life—just not that they had explicit plans to use portions of the organ for their research with a corollary profit goal. *Id.* Moore's spleen was removed, but it did not end his involvement in UCLA's research. He was told his treatment regimen would require several visits from his home in Seattle to Los Angeles, with the understanding that the trips were necessary. *Id.* During that time, the researchers created a cell line using Moore's T-lymphocytes and patented it. *Id.* at 481-82. Moore's counsel estimated the value of those patents at over three billion dollars. *Id.* at 516 (Mosk, J., dissenting).

Moore made a conversion claim, a property-based tort that is the equivalent of a claim of theft. The claim relied on the assumption that Moore's spleen was his property and that its use for research purposes by his physicians without his consent was theft. *Moore*, 793 P.2d at 487. The court limited his recourse to claims related to violations of informed consent—holding that his physicians fell short of legal requirements to disclose the purpose of their research and dismissed his conversion claim. *Id.* at 497. Informed consent rights are in fact tightly linked to property rights and conceptions of bodily autonomy and rights of control. It is one way tort law creates and enforces a metaphoric property right in one's body, legally operationalizing rights to exclude others from one's body and to control it in the context of non-emergency medical care and clinical research. Property rights in Moore's spleen were not held by Moore pre-surgery according to both courts and legal scholars.

207 *Moore*, 793 P.2d at 480.

208 *Id.* at 488.

Hickox. The use of Orders creates burdens, plain and simple. Statutes and case law do not properly acknowledge this in their current construction. A more realistic portrait of the economic rights individuals hold in their bodies is required to restore balance for losses incurred by individuals on the losing end of the social contract in these instances. Allowing for metaphorical takings-based claims moves systems closer to equity, absent legislative action to protect these interests.

In deconstructing and contextualizing *Moore*, we see the confusing and piecemeal structure of the defining of the body dependent on the circumstances. *Moore* illustrates the structural and substantive challenges plaintiffs can expect to face in attempting to bring property-based claims in their bodies against state actors in court—a refusal to acknowledge such a metaphorical bundle in their own bodies. Ironically, these claims are based on losses at least as real as those claimed in cases of regulatory takings like those seen in *Penn Central*. That being said, there is good reason to believe that courts will be hesitant to hear such claims, let alone find for plaintiffs in similar situations.

Despite the likelihood that such claims will fail, they can at least provide a last resort strategy for those burdened with the costs of Orders when federal, state and local governments fail to adequately provide them with compensation for their losses and the associated costs. At worst, bringing such claims would clearly focus public attention on the losses sustained by plaintiffs in these circumstances.

In the alternative, lawyers and policy makers concerned with the structural, social, and equitable issues that follow from Orders should concern themselves with long term legislative efforts focused on the creation of modern, empirically informed public health statutes at both the federal and state level. This is without question the most adequate and sure-fire way to create more equitable outcomes related to necessary state action to protect the public health.

1. *Takings*

The thrust of this Article's argument is that there is a right each of us holds in our body that is unrecognized under the law, but that nevertheless government institutions, including courts, should treat bodies as a type of quasi-metaphorical property for three reasons: (1) to ensure equitable, reasonable, and appropriate treatment of individuals at the hands of government actors, (2) to name existing legal fictions allowing for the treatment

of bodies in markets, often found in contractual language; and (3) to reclaim actionable individual interests in individuals' own bodies, separate and apart from ideas of ownership interests in others' bodies. This acts as a counterbalance to historical ownership of others through American slavery. Recognition of this interest is of paramount importance in developing appropriately equitable systems—especially as it relates to the use, or prohibition of, those bodies in the public domain both with respect to Orders and more generally. This argument does not require a radical reshaping of how we think about the body but creates structure that treats the body as having a reasonable and redeemable proprietary component where certain types of government incursions are placed on it. Absent this, old and new conflicts around ownership of bodies leave those marginalized, economically and otherwise, hamstrung, which metaphorical property interests help to alleviate.

Takings claims require a plaintiff to show (1) that a seizure of private property took place, (2) that the seizure was for a public purpose, and (3) that a government actor did so.²⁰⁹ Over time, case law has expanded application of the takings claim while paying little attention to actual government seizure of private property until recently.²¹⁰ The past three decades have seen takings jurisprudence directing its attention at seizure of real property, often in coastal settings, and regulatory takings claims, which center on state action's devaluation of property interests that arise out of regulatory limitations on the use of property.²¹¹ There too, as here, the taking is metaphorical, but that in no way limits the state's obligations.

Taking it further, the Supreme Court's *Horne* decision might buoy a takings claim where orders result in actual physical seizure of individuals to protect the public health, but this is questionable at best.²¹² Despite this, the

209 *Knick v. Twp. of Scott, Pennsylvania*, 139 S. Ct. 2162, 2170–73 (2019) (summarizing U.S. takings jurisprudence).

210 *See, e.g., id.* at 2170 (“Contrary to *Williamson County*, a property owner has a claim for a violation of the Takings Clause as soon as a government takes his property for public use without paying for it.”).

211 *Id.*

212 The cited source gives details into the well-publicized story of Andrew Speaker who, despite knowing he had a diagnosis of multi-drug resistant tuberculosis, boarded a plane and traveled throughout

allocation of the costs and benefits resulting from Orders mirrors the language of the takings clause itself, which stipulates that remunerations flow in instances when private property is seized “for public use.”²¹³ Individuals quarantined for purposes of controlling the spread of the novel coronavirus in Hong Kong has raised similar questions, as do required quarantines for diseases such as antibiotic-resistant tuberculosis, though the most well-known of these cases of detainment was a result of continued and flagrant violation of Orders restricting his movement.²¹⁴

The first step is providing proof that the courts should consider individuals’ bodies, like those of Kaci Hickox and Louise Troh, as metaphorical private property, a requisite component of takings claims. This threshold question requires courts to characterize Orders as a metaphor for a taking in the line of cases stipulating the limits of the doctrine, including *Yancey*²¹⁵ and *Horne*, but also *Penn Central*. Even when a takings claims might prove helpful, the long timeline of litigation will make it a difficult strategic claim for individuals living on the economic margins and in need of immediate restitution.

IV. *YANCEY V. UNITED STATES DEPARTMENT OF AGRICULTURE* (1990)

The decision in *Yancey* provides further dimension to the question of appropriateness of takings-based compensation schema following Orders, though its context differs widely from the structure of cases emerging from the 2012 Ebola outbreak in western Africa. Like *Horne*, the 1990 decision also emerges from a challenge to the United States Department of Agriculture’s (the “USDA”) actions raising a Fifth Amendment takings claim, but it also provides further color to understand why a takings claim on an Order might

Europe on a honeymoon despite orders to not do so. Upon returning home, he was physically held in a federal quarantine site pending the completion of his treatment. This type of isolation order might be the only type that could reasonably be believed to meet the standard of an actual physical taking of the body under *Horne*, but the failure of Speaker to comply with his Order prior to being detained likely should limit recourse even in a system in which Orders mandate compensation. *See Lawyer Infected with Tuberculosis Apologizes to Airline Passengers*, N.Y. TIMES (Jun. 1, 2007), <https://www.nytimes.com/2007/06/01/world/americas/01iht-health.3.5960013.html> (relating the story of Andrew Speaker).

213 U.S. CONST. amend. V.

214 *See, e.g.*, Wendy E. Parmet, *Legal Power and Legal Rights—Isolation and Quarantine in the Case of Drug-Resistant Tuberculosis*, 357 NEW ENG. J. MED. 433 (2007).

215 *Yancey v. United States*, 915 F.2d 1534 (Fed. Cir. 1990).

fail, though its litigants did not make a concurrent claim of a metaphorical taking through which to access relief.

The intergovernmental infrastructure that leads to imposition of Orders discussed previously—which finds its scientific basis, at least in part, in the CDC’s guidance given to states and local authorities—creates a basis for takings claims due to governmental action. At a minimum, such claims raise an important constitutional question—whether or not takings doctrine has the room to accommodate actions that correct for government intrusions on individuals severely limiting individuals’ access to fulfillment of their economic interests for the benefit of the public. *Yancey* begins to fill this gap, but by no means assures it.

The decision is pulled from a 1990 United States Department of Agriculture appeal from a decision awarding losses that resulted from a regional poultry quarantine of two Virginia turkey farmers. That case affirmed the plaintiff’s claims that the economic damages they, the Yanceys, suffered were compensable takings under the Fifth Amendment.²¹⁶ In doing so, the court reaffirmed the three-part analysis derived from *Penn Central*.²¹⁷ The case affirms that the government need not seize property to designate a government action as a compensable taking.

In November of 1983, Andrew and Elizabeth Yancey purchased 3,000 turkey breeder hens and 295 turkey toms as stock with the intention of breeding and selling turkeys outside of Virginia.²¹⁸ Their timing could not have been worse. Just a few weeks prior to their purchase, the USDA had identified an outbreak of pathogenic avian influenza which started in Lancaster County, Pennsylvania.²¹⁹ Due to the outbreak and the related USDA imposed quarantine, the Yanceys were prohibited from “interstate shipment of live poultry, manure from poultry, litter used by poultry, carcasses, eggs and certain equipment.”²²⁰

216 *Id.* at 1543 (“[T]he Yanceys suffered severe economic impact and had no way of anticipating the interference with their investment backed interest. . . . [J]ust compensation is warranted in this case.”).

217 *Id.* at 1539.

218 *Yancey*, 915 F.2d at 1536 (“In November, 1983, the Yanceys acquired a flock of 3,000 turkey breeder hens and 295 turkey toms for purposes of selling the turkey hatching eggs produced on their farm in Rockingham County, Virginia to customers outside the State.”).

219 *Id.*

220 *Id.*

The USDA created a difficult economic bind for the Yanceys: they could not sell their stock across state lines, which led them to make the decision to sell their ostensibly healthy breeder stock for slaughter at a greatly reduced price.²²¹ In ways, this echoes the outcome of the case of Thomas Eric Duncan’s estranged wife—she was not able to sell her belongings at fair market value due to state action related to her quarantine Order. Local officials also destroyed most of her personal belongings while she was at a separate location.²²²

Pathogenic avian influenza outbreaks are not a new occurrence; the first is believed to have emerged at the tail end of the nineteenth century.²²³ Pathogenic avian flus spread quickly through domesticated bird populations, decimating them.²²⁴ Like human influenza viruses, avian flu is caused by viral infection of birds and most commonly affects domesticated chickens, turkeys, and ducks.²²⁵ Once a single chicken is infected, entire flocks are often killed to ensure that more animals are not subsequently infected, or passed on to other farms in the same area or networks.²²⁶

In addition to decimating poultry populations, there are other reasons to be concerned about bird flu outbreaks warranting the culling of large flocks;

221 *Id.*

222 Cammy Clark, *In Cleansing Ebola, Hospital is Disinfected But Homes are Purged*, FORT WORTH STAR-TELEGRAM, (Oct. 23, 2014) (“Curtains, couches, carpet and everyone’s clothing and other worldly possessions were dumped into about 155 barrels. Only passports, a family Bible and a few other sentimental items were spared.”).

223 See D.J. Alexander & I.H. Brown, *History of Highly Pathogenic Avian Influenza*, 28 REVUE SCIENTIFIQUE ET TECHNIQUE 20 (2009) (asserting that the earliest known case of influenza being differentiated to have emerged from birds, deemed “fowl plague” at the time, and now known as highly pathogenic avian flu occurred, in 1878); see also Blanca Lupiani & Sanjay M. Reddy, *The History of Avian Influenza*, 32 COMPAR. IMMUNOLOGY, MICROBIOLOGY & INFECTIOUS DISEASES 311–323 (2009) (discussing the origin story and the basic science of bird flu, as well as tracing major outbreaks from 1878 forward).

224 Like humans, influenza infected birds shed virus, but when domesticated animals come into contact with the viral agent, it becomes pathogenic. See *Bird Flu Basics*, CTRS. FOR DISEASE CONTROL & PREVENTION, <https://www.cdc.gov/flu/avianflu/bird-flu-basics.htm> (last reviewed Apr. 10, 2017) (stating that avian influenza typically infects various bird species). In *Yancey*, the court cites a 90% mortality rate in the 1983 pathogenic virus outbreak. *Yancey*, 915 F.2d at 1536.

225 See *Questions and Answers on Avian Flu (“Bird Flu”)*, NAT’L CHICKEN COUNCIL, <https://www.nationalchickencouncil.org/bird-flu-its-not-in-your-food/questions-and-answers-on-avian-influenza/> (last visited Nov. 25, 2020) (stating that avian influenza is a viral infection that typically affects birds).

226 Dan Charles, *Millions of Chickens to Be Killed as Bird Flu Outbreak Puzzles Industry*, NPR (Apr. 21, 2015) <https://www.npr.org/sections/thesalt/2015/04/21/401319019/5-million-chickens-to-be-killed-as-bird-flu-outbreak-puzzles-industry>.

most notably, the virus has a history of jumping from bird to human populations.²²⁷ In recent years, the incidence of bird to human transmission seems to be spiking.²²⁸ In 2003, the H5N1 bird flu jumped from birds to humans.²²⁹ It killed approximately 60% of the humans it infected, and there were widespread fears at the time of its emergence that it would precipitate an outbreak similar to the 1918 Spanish influenza.²³⁰ More recently, another pathogenic avian influenza variant made headlines, H7N9.²³¹ In both cases, human transmission of the disease petered out. Despite these denouements, scientists fear changes to the structure of bird flu will eventually produce a human pathogen that matches or outdoes the virulence of the Spanish influenza, which is estimated to have killed between fifty and one hundred million people between 1918 and 1919.²³²

227 See, e.g., Eric C.J. Claas et al., *Human Influenza A H5N1 Virus Related to a Highly Pathogenic Avian Influenza Virus*, 351 LANCET 472, 472 (1998) (suggesting transmission of influenza A H5N1 virus from chickens to humans).

228 See J. S. Malik Peiris et al., *Avian Influenza Virus (H5N1): A Threat to Human Health*, 20 CLINICAL MICROBIOLOGY REV. 243, 245 (2007) (“In the 31 years from 1959 to 1990, there were nine HPAI virus outbreaks recorded in Europe, North America, and Australia, and these outbreaks were contained by the ‘stamping out’ of infected flocks. In the 11 years since 1990, there have been 10 further HPAI virus outbreaks, including in Asia. The current HPAI H5N1 virus outbreak (from 2003 onwards) is, however, unprecedented in scale and geographic distribution.”).

229 Yang Yang et al., *Detecting Human-to-Human Transmission of Avian Influenza A (H5N1)*, 13 EMERGING INFECTIOUS DISEASES 1348, 1348 (2007) (“Highly pathogenic avian influenza A (HPAI) subtype H5N1 is repeatedly crossing the species barrier to humans. Since December 2003, a total of 291 cases of HPAI (H5N1) have been reported in humans . . .”).

230 See John G. Bartlett & Frederick G. Hayden, *Influenza A (H5N1): Will It Be the Next Pandemic Influenza? Are We Ready?*, 143 ANNALS INTERNAL MED. 460 (2006) (noting that avian influenza has the potential to become like the Spanish flu of 1918 to 1919); Alison Abbott & Helen Pearson, *Fear of Human Pandemic Grows as Bird Flu Sweeps Through Asia*, 427 NATURE 472 (2004) (describing fear of human pandemic and preparation measures in response to H5N1 virus).

231 See Helen Branswell, *Human Cases of Bird flu Are Surging, Alarming Public Health Officials*, STAT (Feb. 28, 2017), <https://www.statnews.com/2017/02/28/bird-flu-surge/> (detailing that the first human case of H7N9 hospitalized occurred in 2013 with the human death toll being approximately one-third of those infected).

232 Estimates of the death toll vary widely, with some estimates as low as forty million. See Jeffery K. Taubenberger, *The Origin and Virulence of the 1918 “Spanish” Influenza Virus*, 150 PROC. AM. PHIL. SOC’Y 86 (2006) (stating that the virus caused illness in between 25% to 30% of the world population, resulting in the death of up to forty million people). Other estimates begin at fifty million deaths and point towards upwards numbers of one hundred million. See JOHN M. BARRY, *THE GREAT INFLUENZA* 4 (2018) (stating that some estimates of the death toll from the 1918 influenza pandemic are close to 100 million).

Given the much lower mortality numbers associated with COVID-19 at the time of this writing, its large scale, and widely felt impacts, there may be reason to worry about emergence of a more virulent and aggressive form of the disease. Responsible consideration of this possibility requires proactive consideration of how to best protect public health on a much larger scale. The USDA's action in *Yancey* was a reasonable attempt to do something similar, though they were not deeply concerned with mortality rates, they were deeply concerned about the possibility of economic collapse in the poultry industry.²³³ While there is disagreement on the value of a chicken's life versus that of a human's, there is likely little disagreement now that economic collapse can follow closely at the heels of the introduction of a virulent pathogen. Yet, even if we only worry about collapsing economic systems and not human mortality, which is a vital concern with respect to human disease, the differential treatment that exists between human and animals raises questions. A point for us to consider is why the economic losses arising from bird flu outbreaks are not also insured when human beings suffer such losses for similar, if not far more important reasons. Shouldn't Louise Troh's expectations for her and her family's treatment from the government at least equal the interests of poultry farmers subject to similar treatment and prohibitions?

2017 USDA data on the poultry industry indicated almost one and a half billion poultry were hatched on around 42,000 farms in the United States.²³⁴ The year before, the National Chicken Council, an industry-based policy shop, estimated the economic value of the industry in the U.S. at 441 billion

233 B. Ganesh Kumar et al., *An Assessment of Economic Losses Due to Avian Flu in Manipur State*, 21 AGRIC. ECON. RSCH. REV. 37, 42 (2008) ("The HPAI epidemic had affected traders (in both urban and rural areas), particularly due to the prohibitions on selling live poultry in cities, the general collapse of poultry production/demand and the consequent decline in market sales.").

234 See *Poultry—Inventory and Number Sold: 2017 and 2012*, U.S. DEP'T AGRIC., https://www.nass.usda.gov/Publications/AgCensus/2017/Full_Report/Volume_1,_Chapter_1_US/st99_1_0030_0031.pdf (indicating that 1.6 billion broilers and other meat-type chickens were born on 42,858 farms). These numbers also point to serious issues of crowding that may also be relevant for purposes of amplification of the impact of bird flu transmission which has been raised by at least some authors as relevant. See, e.g., Roberto A. Saenz et al., *Confined Animal Feeding Operations as Amplifiers of Influenza*, 6 VECTOR BORNE & ZOONOTIC DISEASES 338 (2006) (stating that confined keeping of poultry increases the chances of virus spread).

dollars.²³⁵ The US Poultry & Egg Association, another lobbying organization,²³⁶ provided more recent numbers valuing the industry at over 469 billion dollars.²³⁷

All this is to say that poultry is an important component of the economy—this is likely part of the reason the Yanceys shifted to turkey breeding on their Rockingham County farm.²³⁸ The economic importance of the industry was also likely an important driver for the USDA’s election at the start of the outbreak to cull and/or otherwise restrict sales large swaths of animals in the period immediately following the outbreaks.²³⁹ The Yanceys, interestingly, did not base their claim on the loss of animals due to a large-scale cull.²⁴⁰ Instead, they pointed to a lesser reduction in their property rights and the diminution in value of the animals that flowed from the culls and related material restrictions;²⁴¹ the USDA, not the CDC,²⁴² placed on allowing poultry from the areas affected being allowed into the stream of commerce which greatly

235 *U.S. Poultry Industry Provides 1.6 Million Jobs; Economic Output of \$441 Billion*, NAT’L CHICKEN COUNCIL (Dec. 20, 2016), <https://www.nationalchickencouncil.org/u-s-poultry-industry-provides-1-6-million-jobs-economic-output-441-billion/>.

236 According to its website “The U.S. Poultry & Egg Association is the world’s largest and most active poultry organization. Membership includes producers and processors of broilers, turkeys, ducks, eggs, and breeding stock, as well as allied companies. Formed in 1947, the association has affiliations in 26 states and member companies worldwide.” See U.S. POULTRY & EGG ASS’N, uspoultry.org.

237 This number is based upon a 2018 economic impact report and accounts for jobs, sales, tax, payments, and other factors of overall economic impact. See *The Poultry Industry Creates Jobs in the United States*, U.S. POULTRY & EGG ASS’N (2018), https://www.uspoultry.org/economic_data (stating that the U.S. poultry industry was responsible for 495.15 billion in economic activity).

238 *Yancey*, 915 F.2d at 1536.

239 *Id.*

240 While it did not exist at the time that the Yanceys brought suit against the USDA, in 2014 the agency statutorily created the Livestock Indemnity Program via the 2014 Farm Bill, which provides compensation through the Livestock Indemnity Program (LIP) to eligible livestock owners or contract growers for livestock deaths in excess of normal mortality caused by eligible loss conditions, including eligible adverse weather, eligible disease and eligible attacks on the part of the government. See *Disaster Assistance: Livestock Indemnity Program Fact Sheet*, U.S. DEPT. OF AGRIC. (Feb. 2021), available at https://www.fsa.usda.gov/Assets/USDA-FSA-Public/usdfiles/FactSheets/livestock_indemnity_program_lip-fact_sheet.pdf.

241 *Yancey*, 915 F.2d at 1539.

242 It is perhaps notable that human disease-based transmission, or jumps, were not the basis of the USDA decision, especially given the timing of the decision in the early 1990s. It is unclear whether the CDC has the power to take similar action when current avian flu outbreaks occur, or whether the two entities work in concert to address such problems with each of their available administrative and regulatory tools in the current era.

reduced the value of the Yanceys' stock.²⁴³ Because the limitation on procurement and sales imposed on the Yanceys, the market value of the stock was linked to the regulatory action of the USDA, and its powers under the Tucker Act, thus the court held that a compensable taking had occurred.²⁴⁴

What strongly sets *Yancey* apart is that compensation was required based upon a regulatory structure that required compensation for losses arising from Orders.²⁴⁵ No such basis to argue for compensatory substantive rights exists in the case of Ebola or other communicable diseases, either regulatorily or statutorily, in most states or the federal government.²⁴⁶ The court cites *United States v. Mitchell*²⁴⁷ asserting that where no contractual obligation against the government exists, that plaintiffs must assert "that some substantive provision of law, regulation, or the Constitution can be fairly construed as mandating compensation" in order to validly state a claim.²⁴⁸ This is instructive, mandating either a takings based claim under the Constitution or a legislative action be undertaken in order to create and ensure viability of claims on grounds more substantial than the constitutional takings alone.

Troh, from Dallas, lacks any regulatory or statutory tool to hang her claim on outside of the Texas quarantine statute. While the 1989 Communicable Disease and Prevention Act empowers the state's Commissioner of Health to "adopt rules necessary for the effective administration and implementation of this chapter" it does not speak to or invoke the necessity of compensation to rise to this call.²⁴⁹ Despite this, in the aftermath of the Duncan matter, no action has been taken by the legislature to protect the economic interests of citizens of the state that would allow them to find meaningful recourse against

243 The Yanceys sold the totality of their turkey flock for \$20,887 on February 13, 1984. Up to that point, they had spent approximately eighteen hundred dollars a week for costs associated with veterinary care and feeding the breeder stock which they purchased. The claim they filed with the USDA for indemnity was for a total amount of \$63,556. *Yancey*, 915 F.2d at 1540.

244 *Id.* at 1537, 1539 ("We agree with the Yanceys that denying compensation for their healthy flock is contrary to Congress' clear intent to promote cooperation with quarantine provisions. It is clear from the legislative history that the purpose of 21 U.S.C. § 114a is to control and prevent the spread of animal diseases and that the indemnity provisions are an integral part of this disease control scheme.").

245 *Id.*

246 This argument sets aside the small minority of states that provide for statutory compensation following the imposition of Orders.

247 445 U.S. 535 (1980).

248 *Yancey*, 915 F.2d at 1537 (outlining what the plaintiffs must assert in order to state a claim).

249 Communicable Disease Prevention and Control Act, TEX. HEALTH & SAFETY CODE § 81.004 (2020).

harsh actions with sometimes dire economic and personal consequences, regardless of whether they are infected with a disease-causing pathogen, such as Ebola or a pathogenic avian influenza.

In overturning the Claims Court in its deference to the USDA's arguments, the appeals court looks to two separate elements in the argument in consideration of whether the agency's action was arbitrary and capricious.²⁵⁰ First, they undermined the agency's claim that because the animals were not infected with the disease made subject to quarantine, they did not have a right to compensation on that basis.²⁵¹ But quarantine orders are explicitly related to the confinement of those who *may* have been exposed to a disease agent to ensure prevention of spread; they did not need to have the disease to be subject to them. Instead they point out the obvious fact that whether they were infected was an immaterial line of inquiry—instead focusing on the larger reason for the restriction on their use in trade; fears that they may have carried the disease and passed it on given their farm's location in the region within the scope of the USDA order.²⁵²

This is reminiscent, but not directly parallel, to problems regarding the scientific validity of Orders based on unfounded grounds, such as that of Kaci Hickox, discussed previously with respect to takings-based compensation, it additionally mirrors cases where we see Orders put in place but there is no actual infection. The point of these Orders is to prevent spread in the case there is infection; doing so should at least require the state to provide compensation for doing so in the public interest. The lower court states that the Yanceys were not required to dispose of the poultry, despite the government action that tightly circumscribed their rights with respect to the animals and this amounted to a taking, again a metaphorical one since the poultry was not seized like the Horne's raisins were by the USDA. Second, the lower court agreed with the USDA that the claims were invalid on the

250 *Yancey*, 915 F.2d at 1539. With respect to the review of administrative decisions of federal agencies in federal courts, the decision in *Chevron* and other cases, requires the courts to defer to agency decisions whenever possible, unless they find that the agency's decision is arbitrary and capricious with respect to the interpretation of law and regulations.

251 *Id.* at 1538

252 *Id.* at 1538-39 ("the Government's interpretation, as well as the Claims Court's ruling, provide those in the Yanceys' position with a perverse incentive to allow infection of their flocks in order to receive indemnities.")

technicality that the Yanceys disposed of the poultry in a manner that was not consistent with the regulation, which the appeals court overturned.²⁵³ The failure to find a scientific basis for Hickox's detention should be considered similarly, a technicality, as should Orders that are later discovered to be scientifically invalid. If a state statute provided for compensation similar thinking would underlie a just outcome in the event an individual subject to Orders fails to follow orders to the "T" but does not meaningfully violate them. In all of these instances, the state has a burden to make the citizen whole.

Yancey is important not because it provides rights for individuals subject to Orders, but because it provides an excellent proscription for the structure and elements needed to be present, ideally on the federal and state levels, to adequately protect the interests of prospective claimants.²⁵⁴ *Yancey* requires crafting statutes and/or regulations that outlay substantive rights in a more concrete way than a basic Fifth Amendment takings claim for individuals subject to Orders—this is the most important element of its analysis, pulling from *United States v. Mitchell*. Second, it does not limit an Orders takings analysis to only those who end up in isolation. It also encompasses those quarantined. Essentially, *Yancey*'s expands application of compensation for Orders, based on the structure and purpose of related regulations, case law, and invocation proven approaches to disease prevention. The internal inconsistency of the government's behavior vis a vis the goals of the policy led to the *Yancey*'s success.²⁵⁵ Based on this analysis, codifying Orderes rights in regulation or statute is critical to insuring economic rights. Doing so not only ensures government responsibility for economic damages arising from Orders, but also ensures straight forward application of those regulations and / or related statutes.

As the COVID-19 outbreak continues to make headlines, years after Ebola, and perhaps months or years before the next unknown pandemic to reach American soil, justice demands advocating for strong statutory and regulatory protections for individuals to ensure it for those burdened with

253 See 9 C.F.R. § 53.4(a) ("[A]nimals infected by or exposed to disease shall be killed promptly after appraisal and disposed of by burial or burning, unless otherwise specifically provided by the Administrator, at his or her discretion."); see also 9 C.F.R. § 53.10(a) (listing claims not allowed); *Yancey*, 915 F.2d at 1538.

254 See *id.* at 1537 (addressing claimant's need to establish substantive law mandates compensation in order to state a claim).

255 *Id.*

protecting the public health. Litigating successful, Order-based takings claims will be a challenge, due to the multiple layers of difficulty that a solely constitutional argument would be encumbered by—such as the requirement that the rights to compensation be a well-known right, rather than the simpler task of asking courts to enforce an existing set of regulations or laws.

Despite the difficulties related to use of a takings rubric to ensure these rights, *Yancey*, and the takings construction more generally, provides a foundation policymakers can use in addressing the injustices Orders can produce through enforceable statutory compensatory and other protections. While the cases presented are specific to Ebola, the trends of stigmatization remain relevant in more recent examples including COVID-19. Daniel Wethli, an American student studying abroad in Wuhan is one example—though the stigmatization in his community pales in relation to that of Hickox or Troh.²⁵⁶ It is likely that this is due at least in part to the lack of political rhetoric surrounding his return home. Like Hickox, he has never tested positive and emerged from a fourteen-day quarantine symptom-free.²⁵⁷ The Fulbright scholar had been in Wuhan for a month when the outbreak led to the imposition of a regional lockdown, and was later evacuated by the United States government and held in isolation at March Air Reserve Base in California, where the disease evacuees were surveilled for the emergence of COVID-19 symptoms.²⁵⁸ Flying home, he was careful to not mention his reasons for travelling.²⁵⁹ Upon arriving, he received mostly warm welcomes, but also encountered concern from those who knew he was in Wuhan at the start of the outbreak.²⁶⁰ He has also been on the receiving end of online vitriol.²⁶¹

256 Patti Neighmond, *Evacuated for COVID-19 Scare, Pennsylvania Man Reflects On Life After Quarantine*, NPR (Feb. 20, 2020), <https://www.npr.org/sections/health-shots/2020/02/20/807867022/evacuated-for-covid-19-scare-pennsylvania-man-reflects-on-life-after-quarantine>.

257 *Id.*

258 *Id.*

259 *See id.* (describing Wethli's conversation with a fellow passenger where he was cautious not to reveal his reasons for traveling.)

260 *See id.* (noting some in Wethli's inner circle are nervous around him).

261 *See id.* (describing comments on Facebook calling for Wethli to leave).

These cases taken together make it clear that Orders, while not necessarily actual in and of themselves, the takings of private property in the bodies of individuals by the government in most cases, is a metaphorical taking of individuals—the taking of their time, energy, and primary means of production (their bodies); and the taking of their status in the communities in which they live—as metaphorical a taking as it is a regulatory one. At its very core, Orders ask citizens to give up their rights and interests in the most precious of what some may deem property, and what others deem a far more precious and unnamable thing, the interests held in individual bodies, in an effort to create the public good of disease control. For doing so, legislatures must ensure adequate protections for those that bear public costs on their individual, or familial, shoulders, whether due to bad luck, or because they have served in a front-line capacity. This includes front line medical workers, including paramedics, physicians, and those who deliver essential, previously overlooked services—grocery store workers, Amazon warehouse employees, and municipal transit workers are a few. The current lack of protections for these citizens becomes increasingly problematic when we consider long existing inequities which have been magnified by COVID-19's heavy impact in minority and low socioeconomic status communities.

A. Creating Effective Legislative and Regulatory Justice Mechanisms for Orderees

Because quarantine orders and decisions are carried out at the state and local level, and because that power is largely executed at the state level, justice requires states take an active role in creating statutory protections for those who find themselves subject to Orders. But model codes created for adoption by states fail to account for this problem even while accounting for losses of corporate entities.

The Model State Emergency Health Powers Act (the “MSEHPA”) was reworked in 2001 and has since been adopted by more than 30 states.²⁶² While the MSEHPA provides for some compensatory damages, it does not provide for losses unrelated to non-body or quasi-property—leaving individuals

262 See THE MODEL STATE EMERGENCY HEALTH POWERS ACT §§ 506, 507, 806 (CTR. FOR L. & PUB.'S HEALTH GEO. & JOHNS HOPKINS UNIVS., Draft 2001), <https://www.aapsonline.org/legis/msehpa.pdf> (permitting destruction of property but not for compensation for “facilities or materials” destroyed if there is reason to believe it may endanger the public health).

continually subject to damages arising from their confinement itself, and to related stigma that may occur in the hands of politically motivated players like Governors Chris Christie and Paul LePage.²⁶³ At the same time the MSEHPA strengthens the ability of state public health agencies to impede on the lives of ordinary citizens by taking possession of their property.²⁶⁴ It further limits access to compensation where seizure is not related to the state's "use" of the property and/or where the property is destroyed, both of which would aggressively limit the claims of individuals like Troh.

Orders in practice mimic the structure of the concerns of the founders that underlie Fifth Amendment takings and its related jurisprudence—compensation for taking of individual rights in advancement of public benefit. Because of this tight link between the two, imposition of Orders should be treated as a taking when they occur during health emergencies. The language of MSEHPA regarding compensation is evidence of it.²⁶⁵ Since Orders are, in practice, created and enforced by state and local actors, often only in consultation with the federal government,²⁶⁶ the responsibility falls upon state legislatures, and public health agencies and related regulatory bodies on the state and local level to begin to shift public understanding and create mechanisms to ensure that Orders do not violate shared notions of justice when required to preserve the public health. The idea that the states hold power and direct this action is often overlooked in the national context but also means they can create mechanisms to incentivize adherence to ensure public safety and stem disease spread.²⁶⁷

That being said, legislative action to achieve Ordered justice is aided by properly understanding cases like *Yancey*, and the creation of substantive rights it clarifies; if fully embraced, the nuances of the decision form a

263 *Id.*

264 *See generally* Lawrence O Gostin, Jason W Sapsin, Stephen P Teret, Scott Burris, Julie Samia Mair, James G Hodge Jr., & Jon S Vernick, *The Model State Emergency Health Powers Act: planning for and response to bioterrorism and naturally occurring infectious diseases*, JAMA (2002) (describing the need for the MSEHPA to balance the "common good" with respect for individual rights).

265 *Id.*

266 *See State Quarantine and Isolation Statutes*, *supra* note 33

267 During the Democratic presidential debate on February 24, 2020, the candidates discussed the corona virus at length, and during that discussion no single candidate mentioned the importance of state and local governments and agencies and the need for effective engagement with those organizations.

foundation in creation of a robust legislative and regulatory architecture that creates strong substantive compensatory rights for individuals subject to Orders.

Yancey, and the chain of constitutional cases leading up and informing it, are not the only elements a robust set of state protections to create equitable and just quarantine and isolation policies. Creating a grounds for valid legal claims when states fail to properly compensate individuals is but one avenue to pursue. Creation of state-funded coffers that are available and ready for the use of individuals when these events occur is also necessary.

Obama's Presidential Commission for the Study of Bioethical Issues used a metaphorical takings-like basis to inform the creation of compensation funds for use in cases where individual harm occurs in an effort to create a public benefit in the realm of health care.²⁶⁸ In their 2016 report on compensation for research-related injury in clinical trials they make clear the basis of creating such a structure:

The goal of compensation for research-related injury is to ensure that individuals who are injured as a result of participating are left no worse off as a result of their participation than they would have been had they not participated. People can be injured in various activities—for example, playing sports, driving cars, receiving medical care—and there is typically no guarantee or expectation that they will receive free medical care or compensation for their injuries. Unlike individuals in these other situations, those injured as a result of participating in research have an ethical claim to compensation for at least two reasons. First, in most cases the benefits of research accrue to society more broadly rather than to individual participants. Many elements of research (e.g., randomizing controls, double blinding, adherence to strict protocols) are designed specifically to collect information that will benefit society as a whole, rather than any individual research participant. And research participants might undergo procedures (e.g., blood draws, biopsies, or radiologic scans), or participate in tests or games (e.g., those that reveal something distasteful to the participant about himself or herself), that incur burdens or risk without providing any prospect of direct benefit to the participant.²⁶⁹

Similar rationales have been used to create systems of compensation in situations where public benefit comes at the heels of personal sacrifice. One

268 PRESIDENTIAL COMM'N FOR STUDY BIOETHICAL ISSUES, COMP. BACKGROUND 4 (2016) (on file with the Georgetown Bioethics Archive), <https://bioethicsarchive.georgetown.edu/pcsbi/sites/default/files/1%20Compensation%20background%209.30.16.pdf>.

269 *Id.* at 4.

example of such a program is the Department of Health and Human Services Health Resources and Services Administration's National Vaccine Injury Compensation Program.²⁷⁰ In creating these funds, the primary questions for legislatures to consider are (1) who bears the risk; and (2) in each context in which they are implemented for whom do they bear the risk? When the answer to the first is individuals, and public benefit to the second, these funds create systems that relieve financial burdens relatively quickly when valid claims arise, alleviating the need for legal battles for individuals who may have limited access to legal assistance.

V. STATE AND FEDERAL LEGISLATIVE RECOMMENDATIONS

Accounting for limits on Orderees being made whole through court systems requires well-understood facts of narratives like those of the Campbells, Troh, Hickox, and Wilbur, and should underlie policy advocacy for substantive rights to protect individuals like them. Leaning on these stories, and better understanding wider trends for Orderees by gathering information and feedback from them to better under the whole is a necessity. This information should help to create properly-articulated and well-structured state and federal programs that successfully accomplish the goals of properly compensating them for their losses, while easing public health burdens. Providing basic equitable protections to Orderees in outbreaks is one means to do so. Depending on structural details and components of new laws and regulations, these tools can incentivize behavior that limits disease spread even among the working poor.

An important first step is making clear the purpose of the statutory protections envisioned. As the world watches and waits to understand the true impact of the novel coronavirus, questions of scope and coverage of Order protections are important—a pandemic differs from the isolation of limited cases. That being said, an appropriate system needs to be flexible enough to respond to both a pandemic level event, and a more circumscribed outbreak, whether avian flu, a novel coronavirus or an easily transmissible antibiotics resistant infection. The government, as a whole, but state governments

270 42 U.S.C. §§ 300aa-1 to 300aa-34

especially, have limited coffers to provide for outbreaks like coronavirus.²⁷¹ Most states are also statutorily required to balance their budgets each year. This creates tension between their abilities to engage in preventative public health spending, especially given the knowledge the failure to do so may leave them unable to function since outbreaks are proven threats to our economic foundations, and the revenue streams of states themselves.²⁷² But with quick, well thought-out, and scientifically informed action when initial cases appear, statutory protections can achieve both limiting economic impact of disease through containment, and provide incentive based structures that can aid in “flattening the curve,” even in pandemic situations. Well-publicized statutory and regulatory protections can also create a strong foundation of public engagement when epidemics arise. These actions should be viewed as important as creating economic protections for individuals, but as we have seen during the COVID-19 pandemic, are also critical protections for larger economic systems during outbreaks. Stomping out new pathogens before true outbreaks can occur has proven effective in a number of countries as the U.S. struggles both economically and on public health fronts with disease spread; this offers a glimpse of what culturally appropriate response mechanisms can broadly help to incentivize.²⁷³

Legislatures should be clear with respect to the application and purpose of statutes and should pay equal attention to clarifying the limitations of these protections. This emphasis should carry enormous weight in crafting related regulations.

271 See James W. Douglas & Ringa Raudla, *What Is the Remedy for State and Local Fiscal Squeeze During the COVID-19 Recession? More Debt, and That Is Okay*, 50 (6-7) AM. REV. PUB. ADMIN. 584 (2020) (noting the tremendous fiscal squeeze of the COVID-19 pandemic on local and state governments).

272 The widespread job losses and limited economic activity that followed the novel coronavirus outbreak in most states coupled with state level responsibility to provide for unemployment and other social safety net allocations provide an example of this. Job losses limit the tax basis of the states, while state sales tax revenue is also harshly limited.

273 Vietnam and New Zealand both offer examples of countries that acted quickly and effectively which limited the economic and public health impacts the United States has seen during the coronavirus pandemic as of late June 2020. For information regarding New Zealand’s COVID-19 response, see Michael G. Baker, Amanda Kvalsvig, & Ayesha J. Verrall, *New Zealand’s COVID-19 elimination strategy*, MED. J. AUST. 1 (2020). For information regarding Vietnam’s response, see Todd Pollack et al., *Emerging COVID-19 success story: Vietnam’s commitment to containment*, OUR WORLD IN DATA (Mar. 5, 2021), available at <https://ourworldindata.org/covid-exemplar-vietnam>.

A. *Compensation Funds*

Certain elements are critical to creating an effective statutory regime. Investment of state resources into funds for compensation arising out of claims before they are needed is critical in statutory construction. A quarantine compensation fund needs to do two things: (1) signal the importance of the effort, through long-standing fiscal commitment; and (2) incentivize public engagement in curbing disease spread through individual behavior. For individuals who believe they may be ill or have come into contact with individuals who are, such systems may incentivize coming forward since it will ensure government protections—economic and otherwise. In any case, the federal government should stand ready to assist states in appropriate ways, including through emergency budgetary measures like the multiple 2020 economic rescue packages implemented during coronavirus pandemic, which as of March 2021 were worth more than five trillion dollars.²⁷⁴ Incentivizing early detection and isolation, of course, has to be weighed against over-incentivization leading to false claims, and the model provided here attempts to provide some counterbalance. Part of that counterbalance must be reflected in more rigid, but appropriately flexible, standards as a scientific basis for putting Orders in place when worrisome pathogens appear.

Compensation funds are not a new concept. The highest profile of these in the last few decades is likely the 9/11 Compensation Fund, which was established in the aftermath in of the attacks of September 11th, 2001, in New York and Washington.²⁷⁵ But that is only one example. A more appropriate, forward-looking, model to consider for these purposes is the vaccine compensation fund considered by the Presidential Commission on Bioethical

274 *HERE'S EVERYTHING THE FEDERAL GOVERNMENT HAS DONE TO RESPOND TO THE CORONAVIRUS SO FAR*, PETER G. PETERSON FOUND. (Mar. 15, 2021), available at <https://www.pgpf.org/blog/2021/03/heres-everything-congress-has-done-to-respond-to-the-coronavirus-so-far> (asserting the federal relief bills have added up to about \$5.3 trillion).

275 *See generally* KENNETH R. FEINBERG, *WHAT IS LIFE WORTH?: THE UNPRECEDENTED EFFORT TO COMPENSATE THE VICTIMS OF 9/11* (2005) (providing a basic understanding and structure of the structure of payments for wrongful death); *see also* 1 KENNETH R. FEINBERG ET AL., *FINAL REPORT OF THE SPECIAL MASTER FOR THE SEPTEMBER 11TH VICTIM COMPENSATION FUND OF 2001*, (providing a breakdown of the structural elements and considerations of the Special Master in determining awards to victims' families in the years after the attacks on New York and Washington on September 11, 2001).

Issues during the Obama Administration.²⁷⁶ Like the metaphorical takings considered by this piece, that compensation fund was focused on attempting to make whole individuals who suffered in efforts to protect the larger public health. In this case, the compensation sought to provide appropriate remuneration to individuals who take part in vaccine research. The Commission recommended the creation of a fund, and it provides an important model to build on in important attempts to incentivize individual behavior that creates huge positive impacts on the broader public health and can ensure greater economic stability in future outbreaks. The model endorsed by the commission, stop short of creating punishments for failing to opt-in to incentivized structures.

Structuring compensation itself, though important, is not a simple exercise. Important decisions need to be made with respect to who receives compensation, the timeline during which it is provided, and the inclusions in any calculations. Creation of statutory structures for compensation based on relatively simple formulas is not new or unusual. Formulaic constructions are familiar to family courts, where child support and/or alimony or other support is often structured based on a review of comparative income and assets but also through use of an actual worksheet.²⁷⁷ What may be the easiest component to account for is lost wages based upon previous work-related income. In most cases this could be accounted for with the provision of income statements and/or W-2s. This will be more difficult to ascertain for Americans who own and run certain types of small businesses, those who make their income as independent contractors, whose work and labor is unpaid—such as stay at home parents, and for those who work in situations in

276 PRES. COMM'N FOR THE STUDY OF BIOETHICAL ISSUES, MORAL SCIENCE: PROTECTING PARTICIPANTS IN HUMAN SUBJECTS RESEARCH 56 (2011), available at <https://bioethicsarchive.georgetown.edu/pcsbi/sites/default/files/Moral%20Science%20June%202012.pdf>.

277 See *North Carolina Child Support Worksheet A (Primary Custody)*, N.C. DEP'T HEALTH & HUM. SERVS.: DIV. SOC. SERVS., <https://www.ncchildsupport.com/ecoa/workSheetA.htm> (last visited Nov. 25, 2020) (demonstrating the type of information used in calculating child support payment awards in North Carolina); see also Debrina Washington, *How Child Support Payments Are Calculated*, BALANCE, <https://www.thebalance.com/how-child-support-payments-are-calculated-2997973> (last updated Oct. 14, 2019) (describing the methods by which court systems create and apply formulas to determine compensation requirements, focusing on the most widely used method, the income shares model, while also providing a landscape of other considerations courts may take into account). But see Stacy Brustin, *Child Support: Shifting the Financial Burden in Low-Income Families*, 20 GEO. J. ON POVERTY L. & POL'Y 1 (2012) (criticizing existing systems and the dangers formulations can produce based on preexisting inequity).

which they are paid under the table or are otherwise avoiding regulatory scrutiny. That being said, each of these should be considered to properly implement an effective system when individuals in these groups are made subject to Orders.

Income alone will not properly account for the economic losses of Orderees, but it is important piece that, in most cases, can be fairly easily calculated, although states will likely differ in their approaches. In order to effectively curb disease spread, this is the piece that is most important to incentivizing early reporting to effectively employ disease mitigation strategies engaging Orders. To do so, states should consider a few options that will optimize that incentivization strategy.

In Iceland, when new parental leave policies were being created in the early 2000s, the question of incentivization was important. Individuals laying the groundwork were especially interested in encouraging and normalizing paternal leave. Their solution was effective—parents would be provided with 80% of their income for the duration of their parental leave which was extended and made available to both.²⁷⁸ While there were still reasons parents might not take leave—concerns around career advancement perhaps—there were also tangible reasons to take leave. A similar infrastructure can create appropriate incentives to engage with state or federal public health authorities at early onset of symptoms, and perhaps even make it more attractive for Americans to take leave. The appropriate compensation calculation for this public health need may be 105% of income, but it may also be smaller. In either case, this is an important infrastructural component states and the federal government ought to consider in setting economic parameters.

In addition, given modern technology, compensation funds should attempt to limit payouts in certain situations, but this requires careful balancing. For some Americans, isolation and quarantine do not carry the same onerous impacts on economic productivity. Many middle- and high-income earners have access to generous paid sick leave policies if isolated or quarantined, and more importantly, if not sick, can work remotely, while manual laborers and direct service providers subject to Orders cannot and are

278 See Svala Jonsdottir, *National Report on the Icelandic Experience of Parental Leave Provision*, THE PARENTAL LEAVE SYSTEM IN ICELAND 8 (2008) (describing the provisions of The Icelandic Act on Maternity/Paternity and Parental Leave).

less likely to have paid leave policies;²⁷⁹ states must address inequities like this. Economic productivity alone should not be the only consideration in calculating compensation and support awards either—consider high- or middle-income solo parents without supports, also tasked with caring for aging parents.²⁸⁰ Each of these has tangible costs that require inclusion in a scheme that makes Orderees whole. Thus, compensation should include (1) the value of an individual’s unpaid labor, (2) compensation based on either a statutory base line with mandated increases, or (3) actual income estimates with minimum floors. For those subject to Orders whose work and income are not disturbed, no such compensation should be required, but that should not limit their access to compensation or protection under other components of such laws.

This point leads to a more general set of challenges in policy making—how to create limited flexibility within an intended framework to meet its goals. An Order compensation scheme will have to provide for reasonable flexibility based on disease science, changing information and technological advances that will inform the process of monitoring, and increasing engagement in working towards a better understanding of the experiences of Orderees. The problem relevant to states’ compensation for Orders through public health statutes is not just that they are outdated; it is also that they did not create mechanisms that would allow their compensation structure change over time. A number of ways exist to avoid this; the first to consider is to move away from a dollar amount standard, whether as a floor or maximum. Another option may be to connect the compensation to actual income, or some other objective measure subject to ongoing periodic review and revision of compensation standards and structure. This would ideally be accomplished through a state or federal regulatory body with a focused authority to adjust rates without

279 *See generally* COUNCIL ECON. ADVISERS, THE ECONOMICS OF PAID AND UNPAID LEAVE (2014), https://obamawhitehouse.archives.gov/sites/default/files/docs/leave_report_final.pdf (examining the composition of workers with access to paid and unpaid leave).

280 The economic costs of single parenthood or caring for aging family members are profound. *See* Robert I. Lerman, *How Do Marriage, Cohabitation, and Single Parenthood Affect the Material Hardships of Families with Children?* 10, URBAN INSTITUTE (2002), http://webarchive.urban.org/UploadedPDF/410539_SippPaper.pdf (noting that single parent households were more likely to face food insecurity, poor housing conditions, and issues with utilities than a married household). *See also generally* Comm. on Family Caregiving for Older Adults, *Families Caring for an Aging America*, 130, NAT’L ACAD. PRESS (“The analysis found that income-related losses sustained by family caregivers ages 50 and older who leave the workforce to care for a parent are \$303,880, on average, in lost income and benefits over a caregiver’s lifetime.”).

revisiting the long, now often politically charged, and seasonal legislative process²⁸¹ in each of the states and the federal government. A third option would include an integrated modification tool for use, such as the consumer price index or one connected to standard of living with respect to flat award denominations. Each of these has costs and benefits, but in each case necessary flexibility is provided for outside of arduous legislative processes.

The compensation structure must also consider the administrative process of payouts. This includes what evidence is required to seek compensation, and the standards upon which that evidence is reviewed—for instance, a state standard might look to (1) a qualified positive test result combined with (2) an Order from a public health authority, and (3) ongoing proof of compliance with symptom monitoring and contact tracing efforts, and (4) compliance with state rules governing behavior of Orderees during the period of isolation or quarantine. In addition, the statute must make it clear what public health entities are covered by the compensation structure—if county or parish Orders are not compensable, it should be clear; the same is true if counties require authority from the state to create compensable Orders, or if the state alone is permitted to create them.²⁸²

In addition to compensation for lost wages and salaries, states also need to compensate individuals for takings like those we see in the *Horne* cases. Seizures of real property such as furniture, personal effects, clothing, and other things found in homes, represent seizures that the government actors are required to compensate individuals for under the Fifth Amendment, per

281 Depending on the state, there are either professional state legislatures which meet multiple times per year, such as those in California or New York, which can be contrasted with those states whose legislative bodies meet once a year for a period of months, such as Maryland. *See generally* 2020 *Legislative Session Calendar*, NAT'L CONFERENCE OF STATE LEG. (updated Dec. 22, 2020), available at https://www.ncsl.org/portals/1/Documents/ncsl/2020_session_calendar.pdf (describing the legislative meetings, including general and special sessions, of all fifty states and territories).

282 Following the North Carolina legislature's adoption of a sterilization settlement in 2015, the state's administration of the funds was riddled with problems of process, including the failure to create clear guidelines with respect to who was to be provided access to funds. In at least some cases, applications were rejected on the basis of administrative technicalities with respect to the jurisdiction of administrative bodies creating the order for surgery. *See* Jim Morrill, *N.C. Eugenics Victims Shut Out of Settlements by Law's Wording*, CHARLOTTE OBSERVER, (Dec. 5, 2014, 6:46 PM) <https://www.charlotteobserver.com/news/politics-government/article9241226.html> (discussing how the wording of the North Carolina bill impacted compensation of victims of forced sterilization).

Horne.²⁸³ Orderees should not be required to spend their own time and money litigating the question against the state.

Finally, the question of funding sources is critical, especially at the state level.²⁸⁴ Isolating streams of revenue for these purposes of building out funds is difficult to do, and at the same time critical to incentivizing individual behavior that promotes overall public health goals. Noted previously, states are hamstrung on the funding component in ways that the federal government is not.²⁸⁵ If an outbreak in an individual state is identified late and is larger than planned for by policy makers and regulators, there will likely be instances where despite planning and fully funded compensation mechanisms, individual states will be in positions where they require critical assistance in order to attempt to ensure the containment of an outbreak. Balanced budget requirements create further tensions around spending limits in the vast majority of states.²⁸⁶ In the current environment, universities, school systems, infrastructure concerns, and myriad stakeholders are constantly vying for increasingly limited resources at all levels of government.²⁸⁷ Some consideration should be given to earmarking portions of public health related court settlements and regulatory fines to these efforts; good examples include those flowing from tobacco and opioids litigation.²⁸⁸ New streams of revenue considered by states such as legalized marijuana might also create viable sources for initial investment into these funds.

States will have to answer important questions with respect to compensation for those subject to Orders who pass away during the course of illness. This Article is centered on the rights which should be provided to

283 See *supra* Section III.C (discussing the metaphorical takings of the body and the need for compensation structures in these cases).

284 *Supra* Section I (noting the independence of states in acting in public health matters).

285 *Id.*

286 Anna M. Costello et al., *The Impact of Balanced Budget Restrictions on States' Fiscal Actions*, 92 ACCT. REV. 51 (2017) (“[B]alanced budget restrictions lead politicians to be more likely to sell public assets and engage in inter-fund transfers to address the deficits.”)

287 Anna M. Costello, et al., *The Impact of Balanced Budget Restrictions on States' Fiscal Actions*, 92 ACCOUNTING REVIEW 51, (2017) (“[B]alanced budget restrictions lead politicians to be more likely to sell public assets and engage in inter-fund transfers to address the deficits.”).

288 See *KT & G. Corp. v. Att’y Gen. of State of Okla.*, 535 F.3d 1114, 1119–20 (10th Cir. 2008) (addressing payments made to Kansas and Oklahoma from tobacco companies); see also *Feds say \$225M Sackler Fine To Go To Medicare, Medicaid*, LAW360 (Nov. 16, 2020), available at <https://www.law360.com/lifesciences/articles/1328980/feds-say-225m-sackler-fine-to-go-to-medicare-medicaid> (stating that nearly all of the settlement money from federal opioid litigation will go into general Medicaid and Medicare budget).

Orderees and pulls from narratives of those who survived their Orders. Many of the protections discussed further below assume survival and are focused on long term well-being following the lifting of Orders. In some cases, however, individuals will die. Lawmakers will need to consider whether any, all or some subset of the protections provided within the structure outlined here should also be conferred on their survivors.

B. Additional Protections

Basic compensation for losses incurred in efforts to protect public health will likely be considered the most important protection for Orderees, and if properly structured, should encourage them to come forward when identified new disease threats start to spread. Incentivizing individual citizens to shoulder necessary public health burdens to protect the whole, however, should not be limited to simple economic protections. The narratives examined here provide a starting point for wider examination of the experience of Orderees, which should inform policies targeted at insuring protections for them.

C. Technology Access

Technology access is an important consideration. Orders usually require physical isolation from families, friends, and community.²⁸⁹ The coronavirus pandemic has provided a disturbing vision of this reality thousands of individuals dying alone in hospitals without being to see loved ones in their final hours.²⁹⁰ In other spheres, the pandemic has made clear the sheer necessity of technology—in the spring of 2020 it was critical to access education

289 See, e.g., *supra* Section II.B. (discussing Troh's isolation).

290 See Jason Horowitz & Emma Bubola, *Italy's Coronavirus Victims Face Death Alone, With Funerals Postponed*, N.Y. TIMES (Mar. 19, 2020), <https://www.nytimes.com/2020/03/16/world/europe/italy-coronavirus-funerals.html> ("Family members are spirited away and, because of the danger of contagion, often die in the hospital isolation without any family or friends around."); Paul Berger, *Coronavirus Victims are Dying Alone*, WALL ST. J. (Apr. 5, 2020), <https://www.wsj.com/articles/coronavirus-victims-are-dying-alone-11586088001> (noting that hospital and government restrictions meant to slow the virus's spread are preventing people from comforting their infected loved ones).

and to enable work.²⁹¹ But there are many ways technology has served as the basis for recontextualized ways of living during the shelter-in-place orders across the United States during this period—technology provided a means of accessing the most basic of necessities, including ordering groceries for those in high risk groups, accessing unemployment resources for the suddenly unemployed or furloughed, and having vital medications delivered.²⁹² It is conceivable that many held to Orders may be like Troh, or the millions of Americans whom found themselves sheltering-in-place at home in 2020 with school-aged children. Education for those children should not be limited by the happenstance leading to the restrictions on their movement, and the government should ensure their continued access to learning, as it should ensure Orderees access to basic necessities, including food and medication. For Orderees with ready access and continued work and income, this is a non-issue, but for the surprising number of Americans living on the far side of the digital divide it is a critical point of access, requiring the attention of policy makers moving forward.

The access issues noted are exacerbated by social isolation, which heightens the need for broadening technology access. Psychological and physiological effects of the COVID-19 pandemic, including trauma from loss, or anxiety associated with the fear of having a serious illness may be mitigated by doing so. Providing easily accessible technology and connectivity can keep Orderees connected to those they care about should be deemed essential and directly connected to public well-being.

D. Stigmatization, Privacy, and Related Protections

The inequities flowing from the stigma of novel pathogen Orders should also be limited in meaningful ways whenever possible through statutory and

291 See Robin Lake & Alvin Makori, *The Digital Divide Among Students During COVID-19: Who Has Access? Who Doesn't?*, LENS (June 16, 2020), <https://www.crpe.org/thelens/digital-divide-among-students-during-covid-19-who-has-access-who-doesnt> (“One critical driver of . . . disparities between school systems is the digital divide: the inability of students to do schoolwork at home due to lack of internet or device access.”).

292 See Rahul De', Neena Pandey & Abhpisa Pal, *Impact of Digital Surge During Covid-19 Pandemic: A Viewpoint on Research and Practice*, 55 Int'l J. Info. Mgmt. (2020) (discussing the impact of the digital surge due to COVID-19 on the workplace); Yan Xiao & Ziyang Fang, *10 Technology Trends to Watch in the COVID-19 Pandemic*, WORLD ECON. F. (Apr. 27, 2020), <https://www.weforum.org/agenda/2020/04/10-technology-trends-coronavirus-covid19-pandemic-robotics-telehealth/> (describing innovations such as robot deliveries, telemedicine, and other necessities).

regulatory protections. Stigma, while not economic in and of itself, creates a domino effect for Orderees, exhibited in each of Troh, Hickox and Wilbur's cases. The results of stigma appear primarily in two areas in their stories: denial of housing and harassment in educational settings. Antecedent privacy protection to avoid stigma altogether is the ideal, but may be difficult to ensure for many reasons. In addition, employment protections are a necessity. Work protections for Orderees follow from the economic necessity of work, especially for those in low wage professions. More general compensation for government facilitation of actions that lead to stigmatization within the community, like that experienced by Kaci Hickox in her small Maine town,²⁹³ should also be available to Orderees. This is especially true when that stigmatization leads individuals to relocate or otherwise change their lives in substantial ways following an Order, but also for the pain and suffering that it may cause in and of itself.

An antecedent privacy protection is the most effective option to pursue; if properly instituted it can eliminate need for additional statutory and regulatory protections. If created, these Order status protective measures must carry meaningful fines and criminal penalties—more so than other violations of such an all-encompassing statute because of its threshold level importance.²⁹⁴ Failure to protect privacy of Orderees importantly disincentivizes coming forward with symptoms, creating additional unnecessary obstacles to public health efforts to mitigate spread. At the same time, narrow disclosure is necessary for those same efforts, like contact tracing.²⁹⁵ Importantly, privacy protections will likely face serious legal hurdles in the form of First

293 See *supra* note 151 (discussing the treatment of Hickox and her boyfriend in Maine that resulted in them leaving the state).

294 See Uri Gneezy, Stephan Meier & Pedro Rey-Biel, *When and Why Incentives (Don't) Work to Modify Behavior*, 25 J. ECON. PERSPS. 191 (proposing that the use of monetary-based incentives can provide policy makers with a short-term structure for behavior modification based on economic modeling).

295 See Benjamin Armbruster & Margaret L. Brandeau, *Contract Tracing to Control Infectious Disease: When Enough Is Enough*, 10 HEALTH CARE MGMT. SCI. 341 (2007) (providing a general understanding of contract tracing which places an emphasis on the cost-benefit assessment of the practice to determine reasonable limits); see also M. Faccini et al., *Tuberculosis-related Stigma Leading to an Incomplete Contact Investigation in a Low-Incidence Country*, 143 EPIDEMIOLOGY & INFECTION 2841, 2846 (2015) (“Failure to be identified as a contact was identified as the primary reason for disease development in 54% of case patients in one US study.”).

Amendment constitutional challenges.²⁹⁶ In addition, contact tracing efforts may make it easy to uncover the source of possible infection.²⁹⁷

Orderees should also be guaranteed access to housing. Cases like Troh's, where landlords attempt to back out of executed contracts, may be easiest to protect against. Others will undoubtedly be more complicated—involving not just the choices of landlords but of other individuals living in communities. Regulation and law should prohibit such behavior, putting in place meaningful but flexible fines in place as a response, with appropriate notice provisions to warn landlords and communities of standards when disease threats emerge. Again, this needs to be balanced, and to account for foreseeable realities such as cases where landlords are pressured by neighbors to evict tenants they expect to have a disease, or where tenants move out en masse without basis outside of an Orderee's presumed or known presence, leaving a landlord economically crippled. This complexity illustrates these as complicated, fact-based questions making it difficult to create bright line rules. This differs from violations of Order-based privacy rights.

Despite the complexity, limited protections for lessees is a reasonable place to start since Orderees will be stigmatized in attempts to secure housing following eviction. If this responsibility is not borne by a landlord, who has power relative to tenants, what mechanisms to turn to and who holds responsibility are difficult to ascertain. That being said, in cases where there is documentation of longstanding rule or policy violation of an Orderee tenant, and where policies allow for eviction on that basis, landlords should be given deference. State actors also need to think through and be prepared to provide protection to landlords in cases where they suffer serious economic harms for guaranteeing the housing of an Orderee; doing so ensures both adequate sources of rental housing on a local or state level, and for actual tenants, ensures that they will be protected in the unfortunate circumstances that would

296 See Daniel J. Solove, *The Virtues of Knowing Less: Justifying Privacy Protections Against Disclosure* 53 DUKE L.J. 967 (2003) (positing that some materials should be protected from public disclosure without requiring the prohibition as a violation of the First Amendment of the Constitution); see also Karen Kasler, *Does HIV Disclosure Requirement Violate Free Speech?*, WOSU PUB. MEDIA (May 19, 2017), <https://radio.wosu.org/post/does-hiv-disclosure-requirement-violate-free-speech#stream/0> (discussing the constitutionally volatile nature of HIV disclosure requirements).

297 See Laura Lin & Brian A. Liang, *HIV and Health Law: Striking the Balance Between Legal Mandates and Medical Ethics*, 7 AMA J. ETHICS (2005) (focusing special attention on the ethical conundrum and pragmatic difficulties with respect to the risk of HIV status disclosure in public health efforts based upon legal requirements to report cases and inform possible contacts of their possible exposure).

lead to their own reliance on such housing protections. Well-fashioned safe harbor provisions for landlords can help balance these interests.²⁹⁸

Similar protection should be in place in educational settings to avoid problems like those experienced by Ted Wilbur, who was closely associated with an Orderee.²⁹⁹ This would be in place for individuals cleared for return to work by public health authorities. Within workplaces, the protections should at least include returning to work following: (1) the conclusion of the immediate Orders and (2) clearance on the basis of the scientifically valid standards. In addition, these individuals should be provided with protections from workplace harassment. The structure of these rights should be bolstered wherever possible. Existing legal structures should be considered, such as burden shifting with respect to proof of failure to prevent a hostile work environment. Whenever possible, requirements to provide for remote work pending clearance from public health authorities can help to stay the need for other damage awards.

In education, similar protections are important, and can eliminate confusion regarding the responsibility educational institutions owe to students with respect to return, especially given that, as of yet, no federal laws or regulation creates such standards. Like landlords, administrators and staff in educational settings are in positions enabling them to create meaningful protections for students like Wilbur. Action should set basic protections for students, but also ensure balance with protections for educational professionals, including limited safe harbor provisions. Questions of liability are more difficult to assess, especially in the context of public educational institutions like those at the University of Maine Fort Kent, where Weber went to school. Creating enormous penalties for these institutions limits their ability to serve students. However, injunctive relief coupled with further penalties for

298 See Susan C. Morse, *Safe Harbors, Sure Shipwrecks*, 49 U.C. DAVIS L. REV. 1385 (2016) (providing more information on safe harbors, including their construction and application, and the problems that arise with their use).

299 See *supra*, note 151. Wilbur himself was not subject to an Order but did live in close proximity for Hickox. His story raises separate questions about the level of protection owed to those living in close proximity to Orderees—examples include roommates, spouses and long-term partners, and children. In this instance extending protection to those intimately connected to Orderees seems appropriate since the related stigma has produced the result, but individual state governments have to be the drivers of these decisions, or provide room for inclusion as necessary based on their own standards.

inaction, up to and including removal of staff and administrators or their oversight, may be a more reasonable option.

E. Scientific Validity Requirements

Other protection lies outside of these but necessarily follow the imposition of individual Orders and should appropriately limit their use in addition to the financial burdens created by the previous recommendations. States and the federal government should also integrate scientific validity, whenever possible, into standards for Order creation. Doing so can help to eliminate politicization, which may have been involved in the decisions to detain and isolate Kaci Hickox in Maine and New Jersey.³⁰⁰ Imbedding such standards comes with important limits, and the appearance of coronavirus is instructive in this regard. Scientific certainty, at least with respect to the emergence of novel or evolving pathogens, will often change. Public health authorities in some situations will need to be permitted the benefit of the doubt in their attempts to avoid the spread of a disease we have extremely limited knowledge about, and limited testing availability with regards to. However, in Hickox's detention, there was evidence of a complete lack of deference to established scientific standards prior to involvement of the courts—an avenue most Orderees will not have the time, resources, and energy to engage for numerous reasons.

Creating these protections in states and on the federal level creates substantive rights like those relied on in *Yancey* for individuals, which we currently lack. Creating these rights and protections may also create important incentivizing mechanisms that will assist in stemming the tide of outbreaks early through providing protections for those that come forward with early symptoms. In larger outbreaks, these tools will become less useful, but if they can stave those situations off, the burdens of government should be demonstrably reduced.

Considerable thought should be provided regarding when statutory protections should attach and for whom. In widespread pandemic instances, like the Spanish flu and the more recent coronavirus, this structure may not work if fully implemented once spread is out of control. The economic damage may be too widespread to correct for with a takings-based metaphor providing for individual damages across the board; sacrifices will be required

300. See Section II.A (discussing Hickox's Orders and detention).

of most if not all Americans. Cases where infection will be widespread, stigma will be greatly mitigated but not eliminated.³⁰¹ Because of this, the triggers for these protections should be well thought out. Some factors to consider for policy makers with respect to appropriate triggers, or prohibitions, providing for the invocation of such programs and statutory protections might include the following: national and state declarations of emergency or other disease related executive action at the state or federal level, including travel restrictions; outbreak data from neighboring states; the presence of a high mortality pathogen, such as Ebola or SARS; or requiring specific legislative, judicial, or executive action.

Individuals who enjoy protections should be held to high conduct standards. Failure to meet such standards should eliminate access to protections, regardless of whether or not this failure would trigger other penalties. The creation of these rights is leveraged upon the importance of state actions to protect the larger public—public benefit in exchange for the curtailing of individual rights. Because of this, anyone subject to Orders in a state with these protections, and with appropriate social support components in place to complement them, should face stiff penalties and limitation of some protections upon violation of Orders or discovery of attempts to evade Orders, including failure to report symptoms, which could lead to further disease spread.

Like any well-crafted policy, statutes, or regulations created in an effort to aid public health during times of impending crisis aimed at lessening individual burden along these lines should include provisions requiring ongoing data gathering³⁰² and reevaluation metrics. Policy makers, agency heads, and

301 *But see* Ivan Pereira, *Maine Sheriff Investigating Claim that Armed Men Cut Down Tree to Force Neighbor's Quarantine*, ABC NEWS (Mar. 29, 2020, 9:15 PM), <https://abcnews.go.com/US/maine-sheriff-investigating-claim-armed-men-cut-tree/story?id=69865519> (noting that despite the widespread nature of coronavirus, stigma from the virus allegedly causes a group to attempt to back a man inside in order to quarantine him and his roommates).

302 Systems of review should provide for a wide array of data gathering to better inform regulation; this should include not only inquiry into the experiences of individuals in quarantine or isolation, but also perceived impacts and problems with respect to the framing and structure of statutory protections, agency related guidance, and rules promulgated on its basis. Additional information and data should be gathered from stakeholders directly implicated and/or impacted based on the structure or externalities of the policy, including, as appropriate, educational administrators, landlords, tenants, employers, unions, and other affected groups.

experts should revisit recommendations, their substance and ideally public opinion, on a regular basis and following use of the provisions. In this case specifically, legislative bodies and agencies should strongly consider creation of robust regulatory and statutory systems that incentivize citizen engagement in public health mitigation strategies.

F. Interstate Travel, Disease Prevention, and Authority

While the individual protections encapsulated in the framework here are important, they do not exist and operate in a vacuum. And while this article has focused on individual narratives in the crosshairs of Ebola, the COVID-19 pandemic and Yancey are critical lenses through which to assess the realities. All of these cases require consideration of the relationships between the states and state action and individuals' ability to travel across state lines. Because of this, pragmatic implementation of robust protections for Orderes and the closely related incentivization of public health should account disease spread enabled by domestic interstate travel.³⁰³ On one hand individual protections are just that – individual economic protections from government intrusion, but if considered holistically, they also may incentivize individual behavior and acquiescence to individual engagement with public health authorities in a more preventative construct. That incentivization component could be radically undermined on a national level by patchwork creation of state policies.

Conversations around border protection and permeability are highly politicized in the current political moment in the United States.³⁰⁴ That being said, strong border policies were likely major contributors to the ability of nations like New Zealand, China and Vietnam to contain widespread COVID-19 outbreaks domestically.³⁰⁵ The Trump administration also created tight restrictions with respect to entry into the United States in the early months of

303 See *Travel During COVID-19*, CTRS. FOR DISEASE CONT. AND PREVENTION (last visited March 1, 2021), available at <https://www.cdc.gov/coronavirus/2019-ncov/travelers/travel-during-covid19.html>.

304 Timothy Gravelle, *Politics, Time, Space, and Attitudes towards US-Mexico Border Security*, 65 POL. GEOGRAPHY, 107, 109 (2018).

305 Kanupriya Kapoor & Khanh Vu, *With coronavirus under control, Vietnam and New Zealand see different travel trends*, REUTERS (June 25, 2020).

the domestic shut down,³⁰⁶ but they proved largely ineffective in containing the spread of COVID.³⁰⁷ The administration has not taken specific effort to shut down interstate travel to curb the spread of the pandemic, instead pushing for opening of markets and economies that would likely create greater flow of individuals between and among the states.³⁰⁸ This contextual reality is important for policy advocates and government officials to take into account, especially given the blessing, now momentary curse, that the country's robust interstate transportation infrastructure creates—allowing for ease of travel among the many states and jurisdictional territories that make up the country, with the exceptions of Alaska and Hawai'i.³⁰⁹

The Trump administration's actions at international borders were mirrored by a minority of state governors following the initial COVID outbreak in Washington state and through the fall. Some of the most memorable and media covered were instituted in the northeast corridor as states in New England tried to curb the spread of COVID from New York City in the spring and summer.³¹⁰ These included actions by the governor of Rhode Island, Gina Raimondo, requiring proof of a negative test result or a

306 Julian Aguilar, *Trump administration announces extension of border-restricted travel*, TEX. TRIB. (May 19, 2020) available at <https://www.texastribune.org/2020/05/19/texas-mexico-border-trump-administration-coronavirus/> (noting that the US border would be closed for non-essential travel to prevent transmission of COVID-19).

307 Thomas J. Bollyky & Jennifer B. Nuzzo, *Trump's 'early' travel 'bans' weren't early, weren't bans, and didn't work*, WASH. POST (Oct. 1, 2020), available at <https://www.washingtonpost.com/outlook/2020/10/01/debate-early-travel-bans-china/ok/2020/10/01/debate-early-travel-bans-china/> (opining that the bans were not strict enough to be effective).

308 Philip Rucker, Josh Dawsey, Yasmeen Abutaleb, Robert Costa, & Lena H. Sun, *34 days of pandemic: Inside Trump's desperate attempts to reopen America*, WASH. POST (May 2, 2020), available at https://www.washingtonpost.com/politics/34-days-of-pandemic-inside-trumps-desperate-attempts-to-reopen-america/2020/05/02/ics/34-days-of-pandemic-inside-trumps-desperate-attempts-to-reopen-america/2020/05/02/e99911f4-8b54-11ea-9dfd-990f9dcc71fc_story.html.

309 See Richard F. Weingroff, *Original Intent: Purpose of the Interstate System*, FED. HIGHWAY ADMIN. (last updated June 27, 2017), available at <https://www.fhwa.dot.gov/infrastructure/originalintent.cfm>.

310 Nicholas Bogel-Burroughs, *Rhode Island Pulls Over New Yorkers to Keep the Virus at Bay*, N.Y. TIMES (Mar. 28, 2020), available at <https://www.nytimes.com/2020/03/28/us/coronavirus-rhode-island-checkpoint.html>.

fourteen-day quarantine upon arrival,³¹¹ similar actions were eventually taken in various states.³¹²

There are many reasons that federal action with respect the policy structure proposed, carried out through and following a “re-norming” of entities like the CDC and other structural components of federal infectious disease management structure, would be the gold standard for creation of adequate individual protections. Though not the primary motivation, these policy actions may also incentivize individual behavior limiting the size of outbreaks novel and familiar expected in the future. Notably, federal action avoids the problem faced by thirty-seven states requiring balanced budget that which will likely severely limit their ability to implement and fund these proposals.³¹³ Additionally, even if states create mechanisms to fund these policies, preventative capacity of those actions could be undermined by residents of neighboring or far away states where policy makers choose not to, or politically cannot implement them, or where there is markedly different policy adoption that leads to differential ability to curb spread.³¹⁴

Connecticut, Delaware, New York, New Jersey, Pennsylvania, and Rhode Island were among the first group of states to establish a regional approach to limiting the spread of disease in the region; California, Oregon, and Washington also worked quickly to create a similar network announced the

311 Marina Villeneuve, Pat Eaton-Robb, & Shannon Larson, *Rhode Islanders who travel to nearby states, including Mass., now have to quarantine*, BOSTON GLOBE (Aug. 5, 2020), available at <https://www.bostonglobe.com/2020/08/04/metro/what-goes-around-rhode-islanders-who-go-ny-nj-conn-will-have-quarantine-there/>.

312 See Geoff Whitmore, *What U.S. States Are Open For Travel?*, FORBES (May 21, 2020), available at <https://www.forbes.com/sites/geoffwhitmore/2020/05/21/what-us-states-are-open-for-travel/?sh=b81e0e129235> (noting that Maine requires a 14-day quarantine for visitors); see also *Governor Murphy, Governor Cuomo and Governor Lamont Announce Joint Incoming Travel Advisory That All Individuals Traveling From States With Significant Community Spread of COVID-19 Quarantine For 14 Days*, NEW JERSEY GOV. (June 24, 2020), available at <https://nj.gov/governor/news/news/562020/approved/20200624a.shtml> (describing the same for New Jersey, New York, and Connecticut).

313 Anna M. Costello et al., *supra* note 278.

314 Kevin Breuminger, Will Feuer, & Noah Higgens-Dunn, *New York, New Jersey, and other Northeastern states form coronavirus working group to decide when to ease restrictions*, CNBC (Apr. 13, 2020), available at <https://www.cnbc.com/2020/04/13/new-york-new-jersey-and-other-northeastern-states-form-coronavirus-working-group-to-decide-when-to-ease-restrictions.html> (describing a “Covid corridor” working group of the northeastern states to coordinate reopening plans).

same day.³¹⁵ That approach, however, and those of other states who took similar actions are likely to be subject to scrutiny, academically and otherwise, in the not-so-distant future, due to the discriminatory nature of the structure of those disease spread protections. Absent a preferred federally initiated action to implement measures to ensure individual protections early on, however, states may find themselves in positions where it is both politically and pragmatically appropriate to push the adoption of such compacts and shared policy platforms, especially on balance with the threats of outbreaks, which have proven themselves a serious threat, both economically and with respect to the protection of the public health.

VI. CONCLUSION

Systems in place around quarantine and isolation to ensure the public health fail to provide necessary supports for individuals subject to Orders, and the stories of Louise Troh and Kaci Hickox help to illustrate their individual costs. Both were suspected of harboring Ebola, whether validly or not, a pathogen that could unleash damaging public health and economic consequences. There is growing evidence that we will face a steadily increasing number of deadly, contagious, and novel pathogens medical science will struggle to identify and treat.³¹⁶ Should those unfortunate events come to pass, public health authorities will most likely be forced to rely upon Orders to curb the spread of diseases for which they have no cure and / or no means to slow the spread.

While due process claims structures provide some basic protections with respect to Order use or misuse, they do not ensure equitable sharing of Orders' burdens. Due process claims are simply not focused on economic and related harms that accrue and are suffered under Orders. Statutes and regulations provide either limited, outdated, or no means through which Order bearers can achieve remuneration from the government for losses, be it for physical property, and liberty based economic or other interests. These

315 *California, Oregon & Washington Announce Western States Pact*, CA. GOV. (Apr. 13, 2020), available at <https://www.gov.ca.gov/2020/04/13/california-oregon-washington-announce-western-states-pact/> (announcing shared vision of California, Oregon, and Washington for reopening).

316 Maron, *Superbug Explosion Triggers U.N. General Assembly Meeting*, *supra* note 17.

metaphorical takings of individuals' bodies by the government public health authorities for the purpose of public benefit are types of seizures that merit use of Fifth Amendment takings claims, but which may fail to blossom into actionable claims because of the ways that individuals' relationships to their bodies are legally characterized.

Characterization of the relationship between the individual and the body, whether a creature of legal fiction, differentials in power, or other dynamics, limits the ability of individuals to appreciate the economic interests held in their bodies when under Orders. The reticence to label bodies as property, at least in the United States and in Europe, is linked to a designation of property rights that stripped certain individuals of power and, in many cases, their very humanity. Modern repugnance with respect to purchase and sale of bodies, however, however, may go too far in disavowing the concrete economic realities tied to the use of our bodies in American life.

While *Horne 2* reaffirms application of takings jurisprudence to physical seizure, most Orders are not characterized as physical seizures. A history of slavery, in addition to a gendered division of who we treat as property, and our religious roots as a society, and cases like *Moore* have cast a long shadow over the prospect of finding individually held property interests in our bodies. That said, distinct areas of law—criminal law, tort, even procedural questions—treat bodies as at least metaphorical property, granting individuals property-like rights in them, even if not brought under the umbrella of property law and the related rights that bestows.

Disparate approaches can be reconciled in some small part by creating creating a metaphorical right in the body itself recognized by courts, though they would be better protected through the creation of substantive statutory protections that individuals can avail themselves of in court following imposition of Orders. Notably, this article limits application of such a right to Orders themselves, in an effort to create equity for those who suffer losses through compliance with state actions that limit their ability to engage in economic life, both literally and through stigma that also carries economic costs.

Creating substantive rights for individuals that protect their economic interests at the state and federal level, with a strong preference for a unified federal action, creates a more equitable basis in which to ground Orders. Doing so may also serve to incentivize individual behavior that acknowledges the importance of Orders in protecting the public health and acquiesces to them when implemented. Metaphorical rights individuals may also force the

hands of government actors can further incentivize good faith use of Orders on the part of elected officials. This is the most appropriate and just way to engage in use of Orders; acknowledging their necessity, and readying institutional and social structures and norms for their use with greater frequency in coming years.

Public health statutes and regulations, though currently outdated, can be updated and recalibrated to prepare us for that; their structure should lean heavily on the lived experiences of Orderees, during the period in which they are actively in place, and those that follows. To that end, academics, and federal, state and local public health officials should be working together to better understand the experiences and needs to those subject to Orders to inform systems structured to protect them.

Absent better statutory protections, while takings jurisprudence of the past thirty years has focused on regulatory seizures, claims based on this portion of the Fifth Amendment of the United States Constitution at least provide an avenue through which to advocate for the making whole of Orderees. Regulatory takings which are also effectively metaphorical, not based on physical seizure, but on the effect government action has on plaintiff's economic rights.

Horne case opens the door to, and reaffirms, a more pragmatic reading of the Fifth Amendment takings clause. Claiming an economically metaphorical seizure of the body may be a difficult claim to argue, but it is necessary absent clearly articulated protections for Orderees. Indeed, *Yancey* makes clear that substantive rights are required to protect Orderees provide a substantive basis upon which to seek remuneration.

Creating substantive economic rights for Orderees, in combination with compensation funds to guarantee them is critical for the next Louise Troh. Individuals like Troh and Hickox are public health heroes, and we can expect to call on more of them. Guaranteeing their rights helps to protect the public health. Before we find ourselves in yet another new circumstance, states, the federal government, and the public health infrastructure must push for reasonable protections for individuals that also create incentives for us each to play our part in curtailing disease outbreaks.