COVID-19 Law Lab:
Building Strong Legal Evidence

Global Health Law

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Abstract: The COVID-19 Law Lab platform enables quantitative representation of epidemic law and policies in a given country for multiple years, enabling governments and researchers to compare countries, and learn about the impacts and drivers of policy choices. The Law Lab initiative is designed to address the urgent need for quality legal information to support the study of how law and policy can be used to effectively manage this, and future, pandemic(s).

About This Column

Lawrence O. Gostin and Benjamin Mason Meier serve as the section editors for Global Health Law. Professor Gostin is University Professor at Georgetown University and the Founding Linda D. & Timothy J. O'Neill Professor of Global Health Law at Georgetown University Law Center and Director of the World Health Organization Collaborating Center on National and Global Health Law. Professor Meier is a Professor of Global Health Policy at the University of North Carolina at Chapel Hill and a Scholar at the O'Neill Institute for National and Global Health Law. This column will feature timely analyses and perspectives on law, policy, and justice in global health.

Law has been at the center of the public health response adopted to address the COVID-19 pandemic, ranging from mandates on individuals, businesses, schools, religious organizations, and government offices; interventions ranging from less intrusive (e.g., social distancing) to more (e.g., vaccination requirements); and empowering a wide range of social actors for enforcement. Law has the potential to be a powerful tool for public health as laws and regulations can regulate and alter the behaviors of large segments of the population. These behavior changes can lead to reduced exposure to risk factors and subsequently to lower transmission rates. Until vaccines received widespread regulatory approval and became widely available (in wealthier countries), law was the only tool to fight for public health. The COVID-19 pandemic has demonstrated a critical need for these legal measures to be evidence driven and shaped by community interests. Throughout the course of the COVID-19 pandemic, however, it has become clear that the global legal and scientific communities lack a robust body of evidence on which to base these kinds of decisions, and ensure effective implementation through law.

The COVID-19 Law Lab initiative, launched in summer 2020, aggregates legal and policy documents from nearly every country in the world. A joint project of the World Health Organization (WHO), United Nations Development Programme (UNDP), the Joint United Nations Programme on HIV/AIDS (UNAIDS), Inter-Parliamentary Union (IPU) the O'Neill Institute for National and Global Health Law, and the Georgetown University, and supported by universities, and individual researchers worldwide, the COVID-19 Law Lab contributes to filling the knowledge gap identified above. The Law Lab provides an open-access

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database that governments, international organizations, practitioners, researchers, policymakers, civil society, and others can use to better understand and evaluate the COVID-19-related legal and policy environment within and across countries.

Building Legal Capacity

When drafted properly laws can provide the foundation that brings clarity to complexity, embrace nuance, and identify gaps of uncertainty, some of the critical aspects of ensuring that epidemic or pandemic diseases do not disproportionately burden racial, ethnic, and religious minorities or that public health measures do not exacerbate exclusion or marginalization. School closures over the course

contact tracing apps and individual surveillance for isolated individuals that other countries did not deploy because of applicable confidentiality and privacy law.[4] Sweden broadly adopted a controlled herd natural immunity approach, but also adopted restrictions on large gatherings and moved secondary schools and universities to online platforms.[5] Japanese authorities at the national level possessed no legal basis to "lockdown" or restrict movement or gatherings but did communicate those requests as a voluntary matter.[6]

When we begin to emerge from the COVID-19 pandemic, it will be critical to provide policymakers with guidance on what laws or policies were effective at responding to dis-

COVID-19 has demonstrated that we also have much to learn from other outbreak responses, such as the HIV/AIDS response around the world. By examining data from policy responses to different disease outbreaks in a cross-cutting and innovative way, we hope to surface common mistakes, lessons learned, and ways in which effective policies can be leveraged across diseases to facilitate more effective and just legal responses.

Need for Stronger Data

Well-designed laws and policies, based on evidence and shaped by individual and community rights, can help build strong health systems, implement necessary measures to

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of COVID-19, for example, have disproportionately affected women workers and the move to virtual education has privileged populations with access to computers and high-speed broadband.[1] Having a solid evidentiary base of legal information can promote the understanding of what works well, when, and where, and it can drive resources and action to where they are needed most.

With COVID-19, countries have responded differently to the same threat, creating a wealth of evidence that can be analyzed by adopting a number of variables. For example, New Zealand was one of the last countries to implement a mask mandate (cases per 100,000: 117)[2] whereas Mongolia was one of the first to do so (cases per 100,000: 10,871).[3] Masking has been recommended by the WHO since June of 2020. South Korea adopted an early and comprehensive testing, tracing, and isolation system. It also incorporated

ease outbreaks, and what measures should be put in place to be able to quickly respond to future disease outbreaks. We know that legal mechanisms can enable nations to reduce inequities and prepare for emerging threats, like novel pathogens that result in deadly disease outbreaks or antibiotic resistance.[7] The collection and analysis of data on these legal mechanisms is a critical step towards ensuring that legal interventions and legal landscapes are effectively incorporated into more traditional kinds of health science data analyses. The data housed in the COVID-19 Law Lab is a unique opportunity to collect and analyze this kind of non-traditional data to inform policy using laws and policies from across the globe, and across diseases. This global view is critical to assessing the efficacy of policies in a wide range of cultural, economic, and demographic circumstances.

combat viral transmission, enforce actions that promote public health and safety for everyone, and on the individual level have a direct impact on health outcomes. Poorly designed laws and policies, on the other hand, can fail to achieve the intended results and/or obstruct the realization of fundamental human rights, further disease spread, or cause unintended collateral harm.

For a public health law or policy to be effective, well-designed evidence-based implementation strategies are necessary to ensure that the policies further the intended objectives. In the past, policies have been implemented based upon limited data. For example, school closures adopted after the declaration of the H1N1 pandemic in 2009 were shown to have little basis in evidence and no clear correlation with reduced transmission or individual outcomes.[8] Relatedly, the importance of access to schools for other social determinants of health requires

that the evidentiary basis for restriction and limitation be robust. What evidence has been available has been largely anecdotal and idiosyncratic to country or disease. In other cases, a concerted effort to collect specific data on the efficacy of health policies has demonstrated the specific impacts of these policies, and has helped to inform expansion of those policies, or changes to make them more effective.

Data has been used to show that the following health policy interventions have concretely impacted health outcomes, either negatively or positively. For example, evidence has shown that the support from the polio program infrastructure, particularly the coordination mechanism adopted, the availability of skilled personnel in the polio program, and the lessons learned from managing the polio eradication program greatly contributed to the speedy containment of the 2014 Ebola outbreak in Nigeria.[9] The national emergency response infrastructure in the Democratic Republic of Congo for Ebola has managed to allow it to relatively quickly address outbreaks, especially since 2017.[10] Additionally, in Angola, Nigeria and Ethiopia, many disease epidemics including Marburg Hemorrhagic Fever, Dengue fever, Ebola Virus Disease, Measles, Anthrax and Shigella have been controlled using existing polio eradication initiative resources. Polio staff are deployed on occasions to support outbreak response activities (coordination, surveillance, contact tracing, case investigation, finance, data management). Many polio tools including micro planning, dashboard, guidelines, standard operating procedures (SOPs) on preparedness and response have also benefited other epidemic-prone diseases.[11] A second example of legal interventions having direct impacts on public health can be seen in the case of China. When China relaxed its one-child policy, maternal mortality stemming from illegal pregnancies declined.[12] Thirdly, a decrease in alcohol consumption in Halls Creek, a remote town in Western Australia, was attributed to the restriction on trading hours when "takeaway" alcohol was available.[13] Finally, show-ing a negative health outcome in the US, maternal mortality rates have increased when Planned Parenthood clinics were closed, increasing mortality by 6%-15% across racial/ethnic groups.[14]

These examples show the critical importance of investing in the development of systems for both collecting and analyzing data on health policy, including legal measures. Not only do these kinds of data help law and policymakers to create the most effective policies and monitor their efficacy, but they also allow policymakers to be constantly amending and tailoring these policies in response to emerging evidence. In addition to informing decision-makers, and empowering policymakers to develop evidence-based and effective measures, stronger data can play a critical role in developing public health communication strategies and fostering public trust in institutions. This can be especially helpful when promoting buy-in from citizens if they know that a policy is put in place for a specific purpose. Data on the efficacy of public health measures enables policymakers to indicate to the public which interventions have been successful, and to assure the public that those measures that are ineffective are not being applied indiscriminately or in contradiction of the available evidence. This can lead to increased compliance with public health measures, and increased community buy-in.

Law must not be static, particularly in times of crisis. Strong and reliable data can allow policies to be both responsive and dynamic, to become more refined, less restrictive on businesses and individuals, and more narrowly tailored to focus on the components of the policy with the most beneficial impact. While it's not practical or plausible for governments to respond to every new byte of data; more accessible and reliable information can help them to respond to both existing public health crises and emerging crises such as the spread of novel pathogens.

The Database
In response to a pandemic, governments devote considerable resources to developing and/or procuring medical countermeasures including vaccines and therapeutics. Despite these clinical efforts, medical interventions may be insufficient to impede the spread of infection. At times vaccines and medical treatments may be ineffective or unavailable, and medical supplies may become scarce. Even with the development and deployment of medical countermeasures, they still need other public health interventions that are grounded in law and policy. During such unavailability or inadequacy of pharmaceutical interventions, governments adopted public health interventions that are particularly important in the response to infectious disease emergencies: isolation of persons known to be infectious; quarantine of asymptomatic persons who have been exposed (or potentially exposed); specific measures to protect vulnerable groups; surveillance and contact tracing; international and domestic travel restrictions; lockdowns and stay-home orders; and social distancing measures. National response during a public health emergency is often contingent on specific legal declarations such as the state of emergency declaration.

Based on these public health emergency response strategies, the COVID-19 Law Lab has identified seven categories of laws and policies as the key areas in the COVID-19 response [Table 1]. These seven types of laws and policies represent the core legal public health response strategies, and raise vital social, political, cultural, and constitutional questions as they implicate several other fundamental rights and freedoms, including association, travel[15], privacy[16], education[17], freedom from violence[18], and access to courts and tribunals.[19] These measures are tagged [Table 2] by keyword so that users can see which laws and policies implicate certain measures.

The Law Lab has identified number of objectives with respect to facilitating stakeholder use and analysis of evidence-based legal interventions. The first goal of the Lab is to gather as complete a set of legal texts and policies as possible across jurisdictions

and key areas. To date, the COVID-19 Law Lab has collected over 7,000 legal and policy documents issued by governments or their public health authorities. This new and evolving effort harnesses efforts by academic, civil society, and international organization networks including UNDP, UNAIDS, WHO and IPU, and universities to collect legal and policy documents. If these primary sources are not available, official government press releases are gathered.

The text of laws and policies are categorized and tagged in using a 'directed content analysis' approach and using native speakers as the primary coders for the majority of texts.[20] The focus while categorizing and tagging is on the content of the law and policy in a country — not on how, or to what degree, that policy has been implemented, or enforced. The dataset is publicly available and encourages public participation. The Lab invites stakeholders, users, and supporters around the world to contribute legal and policy documents. All data on the site are available to search, filter, and download.

Conclusion
The COVID-19 Law Lab is not just a collection of legal and policy texts relating to the COVID-19 pandemic; it is a dataset of concise and actionable legal information that can be used by health researchers, social scientists, academics, human rights advocates, lawyers, and policymakers, governments, and others for cross-disciplinary quantitative and qualitative analysis to identify best practices from this outbreak, and previous ones, to be better prepared for potential future public health events. It presents evidence for a more effective public health response for future outbreaks.

Note
The authors have no conflicts of interest to disclose.

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Supplementary Materials

Table 1
COVID Law Lab Categories

1.	State of Emergency/ Public Health Emergency (including national emergency committees)
2.	Movement & Distance Restrictions
3.	Isolation and Quarantine Measures (including lockdowns, curfews, mask laws, exceptions)
4.	Disease Surveillance and Technology (including contact tracing, mandatory testing upon country arrival)
5.	Access to Medicines and Intellectual Property (specifically related to COVID: drugs, testing, vaccines)
6.	HIV and COVID-19
7.	Vaccine

Table 2
COVID Law Lab Tags

Access to health services	HIV COVID-specific guidelines	Physical distance
Administrative penalties	HIV-treatment dispending	PPE/Personal Protective Equipment
Contact tracing	Human rights	Prisons/Prisoners/Detainees
Criminal penalties	Information/misinformation	Procurement of medical supplies
Curfew	Intellectual properties	Prophylaxis
Essential services/workers	International travel/borders	Restrictions on police powers
Exposure/transmission/non-disclosure	Judicial oversight	Surveillance app/software
Extraordinary powers	Lockdown/Stay-home	Telecommuting
Face coverings/masks	Medicines & Access	Vaccine
Gender	Migrants/Asylum Seekers/ Refugees	
HIV	Non-discrimination	