Introduction

In September 2014, as the Ebola epidemic in West Africa worsened, Director of the Centers for Disease Control Thomas Freidan warned Congress that it was “inevitable” that the Ebola virus would enter the U.S., carried unknowingly by a traveler exhibiting no symptoms. The prediction was realized a short time later, when an Ebola patient was admitted for hospital care in Dallas, Texas. The traveler from Liberia had no symptoms of Ebola before or during his international flights. Instead, his illness began four days after his arrival in the U.S.

Ebola Hemorrhagic Fever\(^2\) – a deadly contagious virus originating in western Africa – is spread by contact with an infected patient’s blood or other body fluids. It has a high

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The Dallas case presents a different situation. Before Ebola was definitively diagnosed, family members and others were potentially exposed to the virus for a period of five days, from the time the patient began to display symptoms until he was hospitalized in an isolation unit. This brought the first test of U.S. public health control measures, including legal authority for tracing contacts, quarantine and isolation. Some family members were ordered to be quarantined for up to three weeks as a precaution against spread of the disease, even though they displayed no symptoms of the disease. Approximately 50 others, including health workers, were closely monitored. Two health workers – nurses caring for the Dallas Ebola patient after his hospital admission -- contracted Ebola. Both nurses recovered. These two cases marked the first (and so far only) transmission of the Ebola virus within the United States. The quarantined family members did not develop Ebola.

An important part of preparedness for public health emergencies is “legal” preparedness. As details of the Dallas case emerged, some medical groups warned of a “widespread lack of infectious disease planning.” State governments have issued quarantine and isolation orders, in some instances more stringent than recommended by the CDC.

This paper serves as a guide to the range of laws and regulations relevant to the treatment of communicable diseases such as Ebola. It also briefly addresses several questions: How are quarantine orders issued and enforced? How do we balance the rights of individuals – who may be quarantined for weeks even if they display no symptoms of Ebola -- against public health concerns? What if public health authorities over-react and place large numbers of persons who are not sick into involuntary quarantine? How do airports and immigration officers deal with the threat of Ebola? What role does the CDC play at U.S. entry points?

“Public Health Law” is a general term for the legal structures that apply to the recent outbreak of the Ebola virus in Guinea, Liberia, and Sierra Leone, along with the control measures to deal with an Ebola case in the United States. Health law encompasses a broad array of laws and regulations not traditionally grouped together. Some of these legal issues are internal to the nations involved, and some are external, or a matter of

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international law. The Ebola virus provides an opportunity to canvass the many fields of law responsive to the threat of pandemic disease.

While undeniably catastrophic in parts of West Africa, an Ebola epidemic in the United States remains extremely unlikely. Scientists worry more about new viruses that easily spread through the air, unlike the transmission of Ebola. Such new viruses, or mutations of old ones, could have the global reach and devastation of the Spanish influenza in 1918.

Is Ebola different from other communicable disease, in terms of the legal structures already in place? The short answer is no: public health law both globally and in the U.S. is designed to deal with communicable disease of all varieties. Implementation of these legal structures, however, can be problematic between nations and in any community. Understanding the many aspects of health law, especially as applied to the containment of epidemic disease, can be an important tool to disseminate public information and dispel misperception about health risks. The chaos seen after Liberian military authorities quarantined a poverty-stricken community exemplifies one of the many legal issues that may arise.

*International Law and the World Health Organization*

For any nation, including the United States, the starting point is international law – the laws governing the relationship and interactions of sovereign nations. Global governance of disease is a directive of the World Health Organization, based in Geneva.

The World Health Organization declared the Ebola outbreak in western Africa to be an international public health emergency. This means that the International Health Regulations, adopted in 2007 to address significant contagious disease, apply to political, diplomatic, and trade relationships among 194 countries across the globe, including all the Member States of WHO. The International Health Regulations are designed “to help the international community to prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.” This action is only the third time WHO has declared a global health emergency.

What response is required when the World Health Organization declares a “public health emergency of international concern,” the triggering language for application of the International Health Regulations? Primarily, the IHR provides a framework for global response designed to strengthen international public health security. WHO first issues temporary recommendations to address the emergency. These may include recommended measures for application by the nations most affected by an outbreak, as well as by other

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States and by operators of international transport. Recommended measures could be directed towards persons, cargo, ships, aircraft, road vehicles, and commercial goods.

In past outbreaks, WHO has recommended some travel restrictions, as was the case in 2009 with H1N1 influenza. Although WHO’s current recommendations for the Ebola outbreak do not include international travel restrictions, the declaration urged all nations where the disease is spreading to “declare an emergency, to screen all people leaving at international airports, seaports, and land crossings, and to prevent travel by anyone suspected of having the Ebola virus.” It also appealed to all member countries to devote resources and expertise to aid the most affected countries.

WHO’s recommended guidance includes the following:

Where extraordinary supplemental measures such as quarantine are considered necessary in States with intense and widespread transmission, States should ensure that they are proportionate and evidence-based, and that accurate information, essential services and commodities, including food and water, are provided to the affected populations.

WHO also stated:

Flight cancellations and other travel restrictions continue to isolate affected countries resulting in detrimental economic consequences, and hinder relief and response efforts risking further international spread; the Committee strongly reiterated that there should be no general ban on international travel or trade, except for the restrictions outlined in the previous recommendations regarding the travel of EVD cases and contacts.

WHO declared that there should be no international travel of Ebola cases or persons in close contact with them, unless the travel is part of an “appropriate medical evacuation.” Nations experiencing Ebola transmission “should consider postponing mass gatherings until EVD transmission is interrupted.”

WHO Member States agreed upon the International Health Regulations by consensus as a balance between their sovereign rights and a shared commitment to prevent the international spread of disease. Although the Regulations do not include an enforcement mechanism for States which fail to comply with WHO recommendations, the potential consequences of non-compliance are themselves a powerful tool. These consequences

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9 Cowling and Cumming-Bruce, supra note 6.
11 Id.
may include a tarnished international image, increased morbidity/mortality in affected populations, unilateral travel and trade restrictions by other nations, and economic and social disruption. Working with WHO to control a public health event such as Ebola can help prevent reflexive, unnecessary, and counter-productive border closings and economic disruption.

Thus, “law” as we traditionally view it does not control how nations deal with each other in the event of a pandemic health threat. The International Health Regulations, however, are binding on member states, even as they emphasize coordination and voluntary cooperation. The aim is to avoid over-reactions that could have severe humanitarian consequences. How the United States and other nations treat arriving passengers from the areas worst-hit by the Ebola virus begins with this framework.

Public Health Laws within a Nation: The United States

Control of Ebola and other contagious disease is, first of all, a matter of each nation’s quarantine and isolation laws as well as its public health infrastructure and capability. U.S. health officials have emphasized the need to control the epidemic in West Africa as the best defense against further spread to other nations. Experts agree that low isolation and treatment capability in the most affected nations has slowed containment of the disease.12

The United States, by contrast, has well-developed (if largely untested) laws enabling health professionals to respond quickly to potential epidemics. Isolation and quarantine are public health practices used to stop or limit the spread of disease. These legal tools protect the public by preventing exposure to infected persons or to persons who may be infected. In addition to serving medical functions for the benefit of the patient, isolation and quarantine authority is derived from the right of the State to take action affecting individuals for the benefit of society.

All U.S. states provide for isolation or quarantine by statute.13 The two terms have different technical definitions:

- **Isolation** separates *ill* persons who have a communicable disease from those who are healthy. Isolation restricts the movement of ill persons to help stop the spread of certain diseases. For example, hospitals use isolation for patients with infectious tuberculosis, and patients may be requested to observe in-home isolation.

- **Quarantine** separates and restricts the movement of *well* persons who may have been exposed to a communicable disease to see if they become ill. These people

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may not be aware of exposure to a disease, or they may have the disease but do not show symptoms.

Quarantine of persons without symptoms can take a variety of forms, ranging from confinement at home or in a facility, to less onerous travel and social restrictions with self-reported symptoms.\(^\text{14}\)

In the U.S., patients have substantial due process protections because the use of quarantine or isolation can severely restrict civil liberties. Individuals have rights to due process of law, and generally, isolation or quarantine must be carried out in the least restrictive setting necessary to maintain public health. On the other hand, societal rights are also significant – namely, a right to be protected from individuals who pose public health threats. Courts weigh these interests all the time, in many different contexts, when conflicts between individuals and government authority occur. Public health, however, is a different matter for the judiciary, and the judicial role here is quite limited.

Legal recourse to challenge a public health order, if available at all, comes much later in the process, usually after an isolation or quarantine order already has been implemented. Public health officials have extensive legal authority to respond quickly. Judges have very limited jurisdiction, and are also inclined to defer to medical experts on the need for emergency measures. The likelihood in most states is that judges would postpone review of individual claims until well after the need for such actions has passed.

Isolating patients thought to be contagious is a routine process in the U.S. for diseases such as tuberculosis, and that process illustrates the limited judicial role.

Although the U.S. legal system has substantial experience with isolation orders for tuberculosis, quarantine orders for those who may have been exposed are not used.\(^\text{15}\) Instead, public health officials trace contacts of anyone diagnosed with active tuberculosis, offering but not mandating screening for those persons.

The Ebola virus is different in at least two key respects: there is as yet no test to determine whether someone who has been exposed will develop the disease, and the length of time from exposure to disease development is as long as three weeks. This means that monitoring persons with potential exposure but who have no symptoms is necessary to prevent spread of the disease – for up to 21 days. Familiarity with

\(^{14}\) A CDC guide to state Ebola protocols provides examples of the range of state responses to quarantine and monitoring of persons who may have been exposed to Ebola but show no symptoms. See Interim Table of State Ebola Screening and Monitoring Policies for Asymptomatic Individuals, http://www.cdc.gov/phlp/publications/topic/ebola.html.

\(^{15}\) A recent example from Georgia illustrates the typical legal enforcement when needed for a tuberculosis patient who refuses to comply with a public health order. Local public health officials documented the failure of a TB patient to comply with an agency order for isolation and directly observed therapy. The public health agency presented evidence of his non-compliance to a county court, which then issued an arrest order. The patient was held in a negative pressure cell in the county’s prison until he was no longer contagious. See Sarah Fay Campbell, TB Patient Won’t Be Coming To Coveta County, THE NEWNAN TIMES-HERALD, Dec. 18, 2014, http://www.times-herald.com/local/20141218-TB-patient-update-21-inch
tuberculosis public health practices is less relevant, even though the government’s legal authority with respect to tuberculosis and Ebola is the same.

Isolation facilities and medical resources are also limited and have not been tested by a fast-moving epidemic. Most critically, the U.S. does not have experience with “geographic quarantine” -- sealing off a location to prevent people from leaving that area. A geographic quarantine might be used, for example, to separate a group of persons who may have been exposed to a disease until it can be determined that they are not ill. As reported in Liberia, the attempt to cordon off a large slum in the capital led to panic and violent repression of persons trying to escape. Isolating a location for long periods of time is not appropriate in the U.S. where residents of a city or region can leave to other areas or states. Residents, understandably, believed that the government had imposed a death sentence on them. In addition, five African countries have shut their borders with each other, further hampering international aid.

Geographic quarantine poses other threats, as one example shows. In Macedonia, a British man died from Ebola-like symptoms. The hotel where he had stayed was sealed off with staff and other travelers inside, including another Briton who had been travelling with the man. This is an extreme way to “trace contacts” of Ebola victims.

Were health authorities in the U.S. to impose a similar geographic quarantine, it is quite likely that a significant police or military presence would be required to enforce it. Such quarantines raise substantial human rights issues: the threat must be immediate and severe; the quarantine must be in the least restrictive manner necessary for its purpose; and persons quarantined are entitled to appropriate health care. Screening for potential carriers of the disease also raises a number of concerns. Who makes these decisions, and who coordinates enforcement, are of vital importance and must be part of public health preparedness.

Who Is in Charge: Federal and State Authority

The unique brand of federalism in the United States divides quarantine authority between states and the federal government. If a communicable disease is suspected or identified in a person arriving at the U.S. border or port of entry, the federal Centers for Disease Control may issue a federal isolation or quarantine order. Federal regulations also allow the CDC to take measures to prevent the spread of communicable diseases from one state into another, including anytime the CDC Director determines that the actions taken by the health authorities of a state are insufficient to prevent the spread of communicable diseases.

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19 U.S. Customs and Border Protection and U.S. Coast Guard officers are authorized to help enforce federal quarantine orders.
disease. The communicable diseases subject to quarantine are listed in an executive order of the President.\textsuperscript{20}

To summarize, the federal government:

- Acts to prevent the entry of communicable diseases into the United States. Quarantine and isolation may be used at U.S. ports of entry.
- Is authorized to take measures to prevent the spread of communicable diseases between states.
- May assist state and local authorities in preventing the spread of communicable diseases.
- Maintains a “Do Not Board” list preventing air travel for patients with any infectious disease that is a potential public health threat to passengers, including infectious TB. Persons are added to the DNB list only with reliable medical information provided by a state public health official and following a reviewed approval process by the U.S. Department of Health and Human Services and approval by DHS.\textsuperscript{21}

State, local, and tribal public health authorities:

- Initiate isolation and quarantine within their borders, relying on local law enforcement officers to enforce public health orders.\textsuperscript{22}
- Assume primary responsibility for tracing contacts of persons with infectious tuberculosis as well as testing for latent or active TB.

Thus, two quarantine laws are relevant for Ebola. As an example of this interaction, consider the first Ebola patients treated in the United States at Emory University Hospital. The two patients required federal approval by the CDC’s Division of Global Migration and Quarantine to enter the U.S. CDC officials also coordinated transfer of the patient to Emory through the Georgia Department of Public Health,\textsuperscript{23} which assumes quarantine authority within the territorial boundaries of the state. The Georgia Department of Public Health has authority to order isolation if compliance by an individual is in doubt, and could also impose a geographic quarantine, although neither the federal government nor any state has exercised this authority since the nineteenth century.

\textsuperscript{20} See Executive Order 13296, as amended by Executive Order 13375.
\textsuperscript{22} The “Model State Emergency Health Powers Act”, proposed in 2001, is designed primarily to address “public health emergencies” such as virus outbreaks or bioterrorism. As of April 15, 2006, 32 states have introduced 92 legislative bills or resolutions that are based upon or feature provisions related to the articles or sections of the act. Of these bills, 37 had passed.
Prompted by the potential spread of avian flu (which, unlike Ebola, can be spread through the air), in 2005 the CDC proposed regulations that would have granted the federal government a power of “provisional quarantine” to confine airline passengers involuntarily for up to three days if they exhibit symptoms of certain infectious diseases. Federal officials would also have been able to quarantine passengers exposed to people with those symptoms.

The proposed rules also would have expanded obligations of airlines to inform the CDC about sick passengers and to maintain contact information about all fliers in case the CDC and other federal agencies need to investigate a serious disease outbreak. Opposed by the airline industry and civil liberties groups, the regulations were withdrawn in 2010.24

*Ebola Quarantine Orders in the U.S.: Examples from Texas, New Jersey, Maine, and North Carolina*

State public health departments have extensive legal authority to order quarantine, isolation, disclosure of personal information and contacts, and restricting travel. Although the quarantine statutes in Texas and most other states permit a limited form of judicial review, as a practical matter most orders will not be contested in a court, and prior approval by a court is not required. As a general rule, state laws require an individual assessment that a person poses a risk, as well as a sound scientific basis for quarantine. When depriving a person of liberty, the state must also use the least restrictive alternative to achieve public safety.

Ebola poses additional civil liberties issues because the time between exposure and development of the disease can be as long as three weeks. That is a long time to quarantine persons who may never develop the disease. Logistically, it can be difficult to provide basic needs such as food and healthcare. There is normally no compensation for missed work, for example, and social ostracizing and a corresponding need for police protection can be real problems.

As previously noted, the control measures put in place by Texas public health officials included identifying anyone who may have come into close contact with the Ebola patient, as well as mandatory quarantine – for up to three weeks – for several persons deemed at high risk of developing the disease. Police units initially guarded the apartment building where the family had lived. Later, the family was removed to another location, and a hazardous materials team cleaned the apartment.

Texas health officials, as one put it, had to use their “control measure orders in new ways for a new disease and situation.” “Fortunately,” he added, “the law seems flexible enough for us to accomplish what we need: so far.”25

25 Interview, October 4, 2014, transcript on file with the author.
Some glitches occurred in the early days following the diagnosis of the first case of Ebola. The patient visited an emergency room but was sent home with antibiotics. Three days later, he returned to the hospital and Ebola was confirmed. (Tests can confirm Ebola once symptoms appear, but do not rule it out if someone is not symptomatic or whose symptoms are attributable to another case, such as influenza.) At the Dallas apartment where the Ebola victim was staying with four others, the occupants were ordered to remain inside, with contaminated items that were removed only days later because of a lack of a state permit to transport hazardous materials on Texas roads, according to *The Wall Street Journal.*

After a Dallas nurse who had cared for the patient was diagnosed with Ebola, hazardous materials cleaning crews responded more quickly. Police officers stood guard on the streets as biohazard crews scoured an entire apartment building. Neighbors were alerted to the situation by police officers and received Ebola-information pamphlets from the CDC.

In North Carolina, three U.S. health workers returning from Liberia entered voluntary quarantine for three weeks. As a precaution, the state’s public health authority invoked its legal authority to enforce the quarantine if needed.

The most widely discussed example to date, however, has been the case of a health worker subject to strict quarantine orders imposed first by the state of New Jersey, where the worker was detained at an airport, and then by the state of Maine, where she was ordered into home confinement. The health worker had no symptoms throughout the quarantine and never developed the disease.

The quarantine order in Maine became the first, and so far only, judicial modification of a public health order. A state judge ruled that public health officials had not proved “by clear and convincing evidence that limiting respondent’s movements to the degree requested” was needed to protect the public. The modification eased the most stringent aspect of the order – home seclusion for three weeks – while retaining monitoring and social distancing aspects of the quarantine order consistent with CDC recommendations. Medical groups argued that automatic quarantines of three weeks for persons displaying no symptoms will discourage health care workers from traveling to Ebola-stricken countries, while Maine and other states contend that such restrictions are necessary to protect public health.

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If Ebola could be stopped at international borders, the use of quarantine laws within the United States would be unnecessary. Borders inevitably are porous, however, even when passengers are individually screened at a port of entry. Enhanced screening techniques might reduce some, but by no means all, of the risk of further transmission of the Ebola virus. These measures, and the role of the CDC, are discussed below.

Contagious Disease Control Measures: Surveillance, Screening and Contact Tracing

Surveillance, screening and contact tracing are critical to the containment of any contagious disease. Health Departments in the U.S. have extensive experience with these critical tasks, as they are employed frequently to trace contacts of persons who may have been exposed to tuberculosis. With assistance from the CDC, state and local health officials investigate personal contacts and identify others who may have been exposed in transit and during medical treatment. These persons are notified of potential exposure, provided with information and health resources, and, as appropriate, are quarantined or monitored for symptoms of the disease.

In the case of Ebola, the potential incubation period is up to 21 days after exposure to an infected person’s body fluids, and there is as yet no test to predict whether a person exposed to the disease will go on to develop symptoms. By contrast, exposure to tuberculosis can be tested almost immediately. Such tests identify persons who have acquired “latent” tuberculosis, which may or may not develop into the active form of the disease. Persons with latent tuberculosis then receive medical as appropriate.

Contact tracing inevitably compromises privacy rights about a patient’s condition. Public health officers have statutory authority to reveal a patient’s condition to those potentially exposed, although the patient’s name or other identifying information generally may not be disclosed publicly. Hospitals and private healthcare providers are obligated to inform local public health departments when they diagnose certain contagious diseases and may be required to provide the names of the patient’s potential contacts that they know about.

“Surveillance” is used in public health to include the collection, analysis, and use of data to understand the prevalence and sources of disease. In the context of Ebola, surveillance activities have been critical in West Africa.30 In the United States, surveillance activities – the foundation of public health practice – is “community organized”, meaning that federal, state, and local government, as well as educational institutions and researchers, must work together to provide reliable and timely data.31

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Immigration Law and Border Control

While not traditionally viewed as part of public health law, the immigration and border control laws of individual nations are directly relevant to the threat of pandemic disease. In the United States, immigration and border control officers may refuse to admit any non-U.S. citizen infected with a “contagious disease of public health significance.” U.S. citizens, on the other hand, cannot be refused re-entry into the country, although officials can order immediate isolation for treatment at their arrival point, and can prohibit air travel for the period during which a sick patient could easily spread the disease.

For the two Ebola patients transferred from Liberia to Emory Hospital, both had a “right of return” on the basis of their citizenship, but not a right to choose where they could travel within the United States. Hence, the cooperative effort of Emory Hospital officials, the CDC, U.S. Customs and Border Protection, the Federal Aviation Administration, and Georgia officials paved the way for the transfer of the patients from Liberia to Emory.

The Liberian government also agreed to the transportation plans for the two American patients. While normally a nation may not prevent a non-citizen from leaving, it can do so for health safety as well as law enforcement. The Liberian government could have prevented movement of any patients out of local isolation or quarantine if travel within that country posed undue health risks for others. It was necessary, then, to negotiate with the Liberian government against this backdrop of national legal authority.

The United States has the same legal authority with respect to its sovereign borders. States or the federal government can prohibit travel of ill persons until their disease is no longer contagious, using the quarantine and isolation authority noted above. When repatriating foreign nationals who have been ordered to leave the United States, federal law requires that ill patients receive treatment until they are non-contagious before they may be released.

The Department of Homeland Security has implemented enhanced screening at points of entry. Border patrol agents have been told to ask travelers about possible exposure to the virus and to be on the lookout for anyone with a fever, headache, achiness, sore throat, diarrhea, vomiting, stomach pain, rash or red eyes. Arriving passengers at five major U.S. airports will be checked for fever if they have travelled from West Africa. If a passenger is suspected of carrying the deadly virus, they would be quarantined immediately and evaluated by medical personnel, according to the CDC. Because border officials will test for fever, which can have any number of causes other than Ebola, there

will likely be many “false positives” who will have their liberty restricted for a period of time. This is yet another trade-off in the balance of individual liberties and public health concerns, necessitated by a new disease, new situations, and new conditions.

Flight evacuations of health care workers include a gauntlet of regulatory approval. The U.S. State Department must approve any evacuations coming from West Africa to the United States. Only one air transportation company – Phoenix Air – has the capability to transport Ebola patients because it has the only approved isolation tents for medical evacuations. Prior to the Ebola outbreak in West Africa, the CDC contracted with Phoenix Air to construct three containment systems capable of transporting persons with serious communicable disease, built to CDC specifications and approved by the U.S. Department of Defense. The containment system is termed an “Aeromedical Biologic Containment System” (ABCS), designed to fit a Gulfstream III jet.\(^\text{36}\)

To date Phoenix Air has transported all of the Ebola patients brought to the United States, and it has also evacuated patients to Europe. All U.S. patient evacuations have been funded privately, not by the federal or a state government. A medical team accompanies each flight, with no transmission of the virus to them or to pilots and ground crew. Decontamination procedures following a flight are extensive, as one can imagine. Those procedures are governed by federal and state regulations as well as the company’s own standards.

In addition to advance approval by the U.S. State Department and the Federal Aviation Administration, pilots must receive clearance to enter and depart from the country where the patient is. Refueling stops for the return flight from West Africa to the U.S. also had to be negotiated. Upon return, the flight and crew must clear customs as would any flight arriving in the U.S. The Department of Homeland Security has designated Dallas-Forth Worth airport as the only entry point for in-bound flights with Ebola patients. As is the case with a refueling stop, neither the pilots or any medical staff exit the plane as U.S. Customs and Border Protection officers confirm the identity of the plane and its occupants.

*Drug Development and Approval: The U.S. Food and Drug Administration*

Will scientists find a cure or preventive treatment for Ebola? One of the complexities facing public health workers in Africa is the use an experimental drug, including one called ZMapp,\(^\text{37}\) given to the first two U.S. health workers who were later transported to Emory Hospital in Atlanta. The Dallas patient was given a different experimental drug. Testing new drugs in animals before controlled trials on humans is the normal course for new drug development in the United States. Neither of these drugs has been tested in


humans. Approval of new drugs is a highly regulated, lengthy process overseen by the U.S. Food and Drug Administration to ensure that drugs are safe and effective.\textsuperscript{38} Fast-track action is possible, however, and drugs administered outside of the U.S. typically are not subject to FDA jurisdiction.\textsuperscript{39} In August, the FDA issued an Emergency Use Authorization for the U.S. Department of Defense, allowing it to make use of an experimental blood test to detect the Ebola virus.\textsuperscript{40} Other treatments, not yet tested on animals or even human volunteers, may be approved by the FDA for limited, emergency use. Untested drugs raise profound questions of bioethics and process, especially when the supply of drugs is limited and the need is great. The World Health Organization, for example, convened a panel of medical experts to review the ethics of experimental treatment for Ebola.\textsuperscript{41}

\textit{Other Regulatory Agencies}

Several other administrative agencies and public-private partnerships play a supporting role in the control of epidemic disease by requiring safety measures maintained in hospitals and other health-care facilities. These include:

- The federal Occupational Safety and Health Administration sets safety standards to protect hospital workers.\textsuperscript{42}
- The Joint Commission on Accreditation of Healthcare Programs accredits and certifies more than 20,500 health care organizations in the U.S.\textsuperscript{43}
- State hospital licensing agencies inspect hospitals and oversee expansion, new services. In Georgia, for example, the Georgia Department of Community Health is responsible for administering the Certificate of Need Program that evaluates proposals for new or expanded health care services or facilities under Georgia’s Health Planning Statute.\textsuperscript{44}

Other state regulations include fire, safety, building, and sanitation codes in hospitals, and accreditation and licensing rules. These safety measures, collectively, are an important part of public health vigilance in the United States.

\textsuperscript{38} U.S. Food and Drug Administration, How Drugs are Developed and Approved, http://www.fda.gov/drugs/developmentapprovalprocess/howdrugsaredevelopedandapproved.
\textsuperscript{42} U.S. Occupational Safety and Health Administration, Worker Safety in Hospitals, https://www.osha.gov/dsg/hospitals/.
\textsuperscript{43} Joint Commission on Accreditation of Healthcare Programs, About the Joint Commission, http://www.jointcommission.org/about_us/about_the_joint_commission_main.aspx.
\textsuperscript{44} O.C.G.A. Title 31, Chapter 6.
State laws and regulations govern the disposal of medical waste. These provisions are extremely detailed and vary significantly among cities and states. State and local government agencies may revise these provisions specifically for Ebola containment.\footnote{The U.S. Environmental Protection Agency provides an overview of state medical waste disposal programs and a link to the Model Guidelines for State Medical Waste Management at http://www.epa.gov/osw/nonhaz/industrial/medical/programs.htm.}

**Private Ordering and Public-Private Partnerships**

Hospitals and other health providers have protocols that are not “law” in the traditional sense, but rather are an example of private ordering. “Private ordering” is a term used by legal scholars to describe contractual and other arrangements by non-government entities. These voluntary arrangements serve as an institutional form of law-making and application.\footnote{See Harvard Law School, The Bridge: Compulsory Terms and Private Ordering, http://cyber.law.harvard.edu/bridge/LegalProcess/compulsory.htm.}

Emory University Hospital, for example, has its own guidelines and procedures for treatment of contagious disease, as well as a specially created isolation unit with rigorous protocols. Staff members who do not comply with these rules can be fired or sanctioned, suppliers can be monitored, and other safety measures imposed that are specific to the institution.

State and local hospital associations provide information and education on issues ranging from access to health care and clinical care updates to effective hospital management and compliance with accreditation standards.\footnote{See American Hospital Association, State, Regional, and Metropolitan Hospital Associations, http://www.aha.org/about/srmassoc/index.shtml.}

Hospital record systems, using software sold by third parties, have been of particular concern. IT companies and industry experts note that the Ebola outbreak in West Africa “has accelerated changes in how U.S. hospitals address the threat of infectious disease.”\footnote{Susan Kelly, *Ebola Fears Speed Changes in U.S. Hospital Records Systems*, REUTERS, Dec. 17, 2014, http://www.reuters.com/article/2014/12/17/us-health-ebola-usa-records-idUSKBN0JV2HQ20141217.}

In an example of a public-private partnership, the federal government has provided $25 billion in recent years to move U.S. medical records from paper files to computers. But how software tracks patients and alerts key staff, as well as providing surveillance for disease outbreaks, has been problematic. In Dallas, for example, Texas Presbyterian Hospital faulted its electronic medical record system as one factor in the failure to diagnose the Ebola patient who had travelled from Liberia.\footnote{Miles Moffiet and Reese Dunklin, *Hospital e-Records Systems Like Presbyterian’s cited in Failures Across U.S.*, THE DALLAS MORNING NEWS, Oct. 13, 2014, http://www.dallasnews.com/news/metro/20141010-hospital-record-system-failures-seen-across-u.s.-cited-in-errors.ece.}

Public-private partnerships, in fact, are essential to containment of the disease, especially in West Africa. Business collaboration with the United Nations and the World Health
Organization has provided funding as well as technical and logistical capabilities that would otherwise not exist.\textsuperscript{50}

In the United States, examples of public-private ordering include private hospital collaborations with state agencies to prepare for potential Ebola cases. For example, in Indianapolis, a non-profit organization coordinates the Indiana Ebola preparedness plan, in concert with the Indiana Hospital Association, the Indiana State Department of Health, and Indianapolis EMS, which is an arm of the city of Indianapolis.\textsuperscript{51} In Chicago, the city’s mayor and the Chicago Department of Public Health announced the agreement of four hospitals to form a network of resource centers that are preparing to provide care in the event of a patient being diagnosed with Ebola in that city.\textsuperscript{52} Other state and local governments have provided less public information on emergency planning, perhaps because some of those jurisdictions are still developing a preparedness plan.

\textit{Patient Confidentiality}

In the United States, health-care providers must maintain confidentiality about the identity and health status of any patient they treat. Health information privacy is governed by the Health Insurance Portability and Accountability Act of 1996, commonly referred to as HIPAA.\textsuperscript{53} The U.S. Department of Health and Human Services issues regulations to implement HIPAA. These rules are fairly detailed:

The Office for Civil Rights enforces the HIPAA Privacy Rule, which protects the privacy of individually identifiable health information; the HIPAA Security Rule, which sets national standards for the security of electronic protected health information; the HIPAA Breach Notification Rule, which requires covered entities and business associates to provide notification following a breach of unsecured protected health information; and the confidentiality provisions of the Patient Safety Rule, which protect identifiable information being used to analyze patient safety events and improve patient safety.\textsuperscript{54}

On the other hand, medical professionals are required to report patients with certain contagious disease to the state public health department. Public health officials who are

\begin{itemize}
\item \textsuperscript{50} See Kate Dodson, \textit{5 Key Takeaways on UN-Business Collaboration for the Ebola Response}, GLOBAL
\item \textsuperscript{53} U.S. Department of Health and Human Services, \textit{Health Information Privacy}, http://www.hhs.gov/ocr/privacy.
\item \textsuperscript{54} Id.
\end{itemize}
government employees, state or federal, may share patient information with each other for specified purposes. But as a general rule, public health agencies may not disclose a patient’s name or identifying information to the general public.

Breach of confidentiality obligations can result in severe harm to individuals. Even a false diagnosis of Ebola, or an imagined exposure to the virus, can lead to social ostracism (witness the number of school closings from attenuated connections, without proof of actual exposure or with any scientific basis). It can also affect a person’s job or business. Similarly, patients cured of Ebola are remembered long after the fact, subject to uninformed opinions about the safety of interactions with them.

Is there a duty to treat?

All of the medical professionals in contact with the Ebola patients at Emory volunteered for the patients’ care. But could a doctor, nurse, or other specialist refuse to treat a patient suspected of having a contagious disease such as Ebola?

Hospital emergency rooms may not turn away any patient until the patient’s condition is assessed and stabilized. The Emergency Medical Treatment and Labor Act (EMTALA)\(^\text{55}\) is a federal law that requires anyone coming to an emergency department to be stabilized and treated, regardless of their insurance status or ability to pay. Hospitals may not transfer or discharge patients needing emergency treatment except with the informed consent (itself a legal doctrine) or stabilization of the patient, or when their condition requires transfer to a hospital better equipped to administer the treatment. The Dallas hospital treating the Ebola patient reported losing more than $400,000 per day before his death.\(^\text{56}\) Many hospital systems failed to prepare for the possibility that an Ebola patient would walk through the doors, an event that while foreseeable is unlikely and thus difficult to budget for. In many states, health agencies have worked to establish designated specialty hospitals, specifically to treat Ebola patients.

Outside of the requirements of EMTALA, as a general rule medical professionals can refuse to treat patients in many circumstances. Because medicine is highly regulated, physicians do not have unlimited discretion to refuse to accept a person as a new patient, however. Physicians cannot refuse to accept a person for ethnic, racial, or religious reasons. Nor can they discriminate based on the person's sex, unless the sex of the patient is relevant to the physician's specialty. Outside of these protected areas, physicians have great latitude in refusing to accept persons as patients. This means that patients usually cannot win a lawsuit against the medical professional for refusing to treat him or her, but refusing to treat a patient could result in termination of employment. More importantly,


refusal to treat raises ethical and professional concerns as well as the possibility of sanctions by a state medical board.\textsuperscript{57}

\textit{Can the government require testing or treatment of a patient?}

What if a person who is suspected of having a contagious disease such as Ebola refuses to be tested or treated? In the United States, competent adults have the right to refuse medical treatment. This right emerged from decisions by the U.S. Supreme Court involving, among other issues, the right to refuse vaccination. Even a patient committed involuntarily to a psychiatric institution has the right to refuse psychotropic medication. But the state can continue to isolate the patient until he or she is no longer infectious or a public threat, as is the case with infectious tuberculosis.

Although a patient suffering from a disease such as Ebola is unlikely to refuse treatment, one can imagine instances in which a patient might refuse to be tested. A positive test means that the person is then “labeled” and potentially ostracized in public and social relations. That person is also subject to significant restrictions on liberty, even if a cure or treatment is not available. If there is no cure or palliative treatment, then the primary purpose of testing is to segregate sick persons from well persons in order to contain the disease. The person to be tested may be quite unwilling to comply.

This area of health law – voluntary submission to testing – is less clear than the right to refuse treatment. Health care workers can be required to submit to testing for the protection of patients. HIV testing practices, for example, are regulated by state laws. The controversy over HIV testing in cases of occupational exposure is reflected in inconsistencies and variations in state laws and policies. Thirty-six states have laws that allow unconsented HIV testing of patients in cases of occupational exposure, when such exposures occur in a hospital setting.\textsuperscript{58} Teachers also may be required to undergo TB testing in order to protect the health of their students.

Involuntary testing has the potential to infringe upon U.S. constitutional freedoms, such as an unreasonable search under the Fourth Amendment, an invasion of privacy, or discrimination under the Fourteenth Amendment. At least one state limits the ability of officials to create TB compulsory screening programs that target persons who are at higher risk of infection.\textsuperscript{59} Screening programs that target specific groups for purposes which are not based on individuals’ heightened risk of infection may be challenged on constitutional, statutory, or other legal grounds.

\textsuperscript{57} See generally Chalmers C. Clark, \textit{In Harm’s Way: AMA Physicians and the Duty to Treat}, 30 JOURNAL OF MEDICINE AND PHILOSOPHY 65 (2005).
Nonetheless, in a public health emergency involuntary testing would likely be justified on the ground that the individual poses an unwarranted danger to the general public. Courts tend to defer to medical professionals on these issues. Health officials likely could, for example, require testing for anyone wishing to leave a quarantined area. Not everyone potentially exposed to the disease will inform health-care workers for fear that he or she will be quarantined, stigmatized, or lose employment.

**Law Enforcement in Multiple Jurisdictions**

Any contagious disease epidemic in the United States requires coordination of multiple law-enforcement agencies. In a worst-case scenario, a declaration of “martial law” would permit use of U.S. military forces to enforce quarantines, distribute and protect medical supplies, and keep or restore order. The 1878 Posse Comitatus Act forbids military involvement in domestic law enforcement without congressional approval. But it may be that the National Defense Authorization Act of 2012 legalizes or authorizes martial law in the United States. One Senator stated that this Act "essentially repeals the Posse Comitatus Act by authorizing the U.S. military to perform law enforcement functions on American soil."\(^{60}\)

Americans are accustomed to overlapping law-enforcement jurisdictions. In the Emory University area, for example, the DeKalb County Police Department, the DeKalb County Sheriff’s Office, and the City of Decatur Police Department operate near the City of Atlanta police and the Fulton County Sheriff’s Office. The Georgia State Patrol has statewide jurisdiction, as do Federal law-enforcement agencies. Coordinating these offices is an obvious difficulty in any public health emergency.

Less obviously, local law-enforcement must work within jurisdictional boundaries for tasks such as transporting patients and anticipating public protest. The FBI joined with state and local law enforcement officers to get the two Ebola patients through traffic from Dobbins Air Force Base to the Emory University Hospital. Also, state law prescribes strict geographic limits for Emory’s Police Department (it may protect all University property and 500 yards beyond). Emory police assumed primary responsibility to plan for protests, and legally they may limit protesters (and media) to specified areas. Emory police share responsibility for any potential dangers to the public or individuals, including coordinated response to two bomb threats received at Emory.

Adequate safety equipment to handle potential Ebola cases is an important issue for law enforcement and emergency personnel. In the U.S. there are more than 13,000 state and local law enforcement agencies, each with the potential to encounter someone with a suspected case of Ebola. This number does not include ambulance and fire department personnel. Equipping these first-responders with appropriate safety gear, and training them in its use, is a herculean task. Some first-responders have filed complaints about the

lack of safety equipment. In one example, the San Antonio Professional Firefighters Association filed a complaint against the San Antonio Fire Department, alleging that the city’s first responders “had not received adequate training, that they didn’t have requisite personal protective equipment for treating suspected Ebola cases and that the city didn’t have appropriate protocols in place to handle an actual incident.”

The Texas Department of State Health Services reviewed the claim, and it later cleared the San Antonio Fire Department, closing the complaint.

Lawsuits and Liability

Although the topic of this paper is the public health authority of governments, it is worth a glance at the tort liability system in the U.S., as it is traditionally viewed to supplement (but not replace) government regulatory authority. Civil liability is a gap-filling measure to address regulatory and market failure with respect to safety.

Tort and product liability law in the U.S. provides compensation for individuals who have been harmed by the failure of others to meet some standard of care. With respect to Ebola, potential areas of litigation might include the following:

- **Misdiagnosis of disease.** The hospital in Dallas where an Ebola patient was initially misdiagnosed and who later died agreed to pay a settlement to members of his family. A misdiagnosis that leads to spread of the disease to others might lead to further liability, in addition to delaying care for the patient. On the other hand, medical workers are generally shielded from liability with respect to patient treatment that in non-emergency situations might be considered negligent.

- **Defective materials or inadequate training.** Manufacturers of protective suits may also be sued by health workers if it is proved that the protective gear was manufactured or designed defectively. A recent lawsuit seeks damages from a manufacturer over claims that its surgical gowns protected against Ebola, when allegedly the gowns had failed industry standards. Health workers who allege inadequate training by their employers may be limited to worker compensation systems.

- **Civil rights violations.** Remedies for civil rights violations by public officials are often limited by the doctrine known as “sovereign immunity.” As a general rule, police officers and public health officials cannot be sued personally for actions taken in a good-faith belief of public necessity.

- **Confidentiality violations.** Liability for divulging the name of a patient by private health providers is provided by HIPPA, discussed above. Private health care providers and public health officials may communicate with each other about specific patients, and indeed, public health workers by necessity divulge the name of a patient when tracing contacts who may have been exposed.

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• Ebola exposure as a disability? The Americans with Disabilities Act of 1990 and its implementing regulations prohibit employers and state governments from discriminating against persons with a defined disability. Persons with HIV/AIDS are protected under this Act. It is an open question whether the Act’s requirements will extend to persons associated with Ebola. The U.S. Department of Justice maintains a web site with comprehensive information about the Americans with Disability Act and its requirements.63

The Fear Factor

As a final point, a “fear factor” plays a prominent role in public response to Ebola. Most public health officials believe that we have much to fear from an outbreak of fear, noting that few countries are better equipped to keep the public safe. The key is to contain and eradicate the virus in West Africa. But a U.S. travel quarantine from those nations could trap Americans and encourage others to travel in ways that make them harder to track. A quarantine of that nature would also weaken governments and prevent aid, potentially allowing even further spread of the disease.

Other diseases endemic in the U.S. are far more prevalent and pose more serious public health risks. For example, mortality from drug-resistant tuberculosis64 is currently a “serious threat” for the United States, according to the CDC.65 The CDC warns that if infection rates of drug-resistant tuberculosis increase within the U.S., the threat will change “from serious to urgent” because it can be transmitted through the air and there are very limited treatment options. Tuberculosis is more easily spread than the Ebola virus. Yet tuberculosis garners little attention in the media, except when local outbreaks result in deaths, as occurred recently at an Atlanta homeless shelter,66 or in El Paso Texas, when more than 800 persons, mostly infants, were tested for potential TB exposure through a healthcare worker.67 By comparison, health authorities tracked 48 persons in Dallas, Texas.

Will Ebola be treated differently from tuberculosis and other contagious diseases, and should it be? Human fear and human reactions affect how law is made and how it is enforced. The International Health Regulations were created for this reason. The infinitesimally small risk of an Ebola outbreak in the U.S threatens to dominate health policy. But the greater threat domestically may be complacency about existing disease.

Conclusion

As is evident, numerous government agencies – state, federal, tribal, and local – play key roles in the containment of contagious disease. The judicial system is unlikely to be directly involved. The strength of response to a public health threat, then, relies upon high quality political institutions. Leaner, more efficient government agencies with the ability to communicate and coordinate quickly are essential – the resources of the CDC and state public health agencies are insufficient without these other critical elements. Sierra Leone provides a glaring example of weak government institutions. The crisis there has collapsed health services and the economy, making efforts to contain the virus that much more difficult. It is essential to contain the catastrophe in West Africa, a true public health disaster in 2014. The lesson for the United States, instead, is preparation for “the big one” that scientists expect – some disease other than Ebola, one that spreads easily through the air and threatens to sicken mass numbers.

Law and legal systems should help, not hinder, the medical professionals on the front line. Public health law in the U.S. and elsewhere can provide an ordered mechanism for containing outbreaks. When functioning as designed, law protects both health workers and the public. Government authority for screening, surveillance, isolation, quarantine and border control must be balanced with public trust.

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