

What Is Public Health Legal Preparedness?

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“Public health legal preparedness” is a term born in the ferment, beginning in the late 1990s, that has led to unprecedented recognition of the essential role law plays in public health and, even more recently, in protecting the public from terrorism and other potentially catastrophic health threats.

The initial articulation of public health has not kept pace with rapid evolution in the concept and in practical development of public health preparedness itself.¹ This poses the risk that legal preparedness may fall behind construction of general readiness in the public health system—and may, in fact, undercut achievement of comprehensive public health preparedness for massive threats to health in both the United States and world-wide. Inadvertent results might include both negative health impacts and infringement on individual rights.

This article has three purposes: First, to update the concept of public health legal preparedness and articulate it as a goal; second, to review current efforts to strengthen public health’s legal preparedness; and third, to lay out a preliminary, general approach toward achieving and sustaining full public health legal preparedness.

The main focus here is on legal preparedness for such acute threats as infectious disease outbreaks, natural disasters, and terrorism. Most of the practical work currently underway in public health legal preparedness is in this area. It is important to recognize, however, that the larger goal should be full legal preparedness for all types of dangers to the health of the public; for example, tobacco use, HIV/AIDS, birth defects, food and water contamination, motor vehicle-related injuries, and obesity—many of which individually account for greater morbidity and mortality

than do public health emergencies in the aggregate. Strengthening legal preparedness for the first class of threats, if approached correctly, will have valuable benefits for public health legal preparedness across the full spectrum of public health issues.

LAW IN THE PUBLIC HEALTH AND POPULATION HEALTH SYSTEMS

The 1988 Institute of Medicine (IOM) report *The Future of Public Health* conceptualized the United States public health enterprise as a system that encompassed both government public health agencies and “the associated efforts of private and voluntary organizations and individuals, for example, public hospitals and health care plans, schools, and transportation agencies, as well as private health care organizations, business, and other sectors whose activities bear upon the health of populations.”²

The 1988 report understood law to be integral to a robust public health system, declaring that:

State public health laws are in many cases seriously outdated. Statements of public health agency authority, responsibility, and organizational structure are inadequate to deal with contemporary problems. Procedural safeguards protecting individual rights are frequently weak or absent.³

On that basis, the report recommended that:

[S]tates [should] review their public health statutes and make revisions necessary to accomplish...two objectives:

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- clearly delineate the basic authority and responsibility entrusted to public health agencies, boards, and officials at the state and local levels and the relationships between them; and
- support a set of modern disease control measures that address contemporary health problems such as AIDS, cancer, and heart disease, and incorporate due process safeguards...⁴

This diagnosis and prescription can be viewed as a seed for the contemporary revival of public health law as a discipline and field of practice.

Law is such an integral tool of prevention that it is woven into the history of public health practice. Dr. John Snow, concluding from epidemiologic investigation that the Broad Street pump was the probable point source of cholera outbreaks in a London neighborhood in 1854, did not implement his intervention, the famed removal of the pump handle, until he had appeared before the cognizant governmental body, the Board of Guardians of St. James Parish, pled his case, and obtained its permission for his action.⁵

As Dr. Snow's historic feat illustrates, law serves public health in at least two ways: First, law is itself a component of the public health infrastructure. "Infrastructural" public health laws include legislatures' enactments that authorize the creation of government public health agencies and other statutes that endow them with broad legal authorities, for example, the authority to gather data, inspect, license, educate, and design interventions. The first objective enunciated in the IOM report was in the area of infrastructural public health law. "Interventional" or categorical public health laws are narrower in scope and seek to prevent or limit the danger posed by specific threats to health. Examples include the authority to restrict minors' access to cigarettes, fluoridate public drinking water, mandate child safety seats in cars, quarantine people exposed to communicable diseases, and, indeed, remove pump handles. The second IOM objective is of this type.

At approximately the same time that the public health system and infrastructure were being (re)conceptualized in the United States, work was underway that spawned the field known as "population health." Seminal work, much of it conducted in Canada, pointed to a broad array of determinants of health, certainly including the operation of healthcare and public health agencies but also, and more profoundly, "aspects of the social environment (income, education, employment, social support, culture) and of the physical environment (urban design, clean air and water), genetics, and individual behavior."⁶ Recognition of the role law plays, as a type of policy intervention, in shaping many such determinants pervades the population health literature.

The contribution the population health field makes to conceptualizing public health legal preparedness is its stimulus

to casting the net broadly. In this perspective, a public health law may be seen as any law that has significant consequences for the health of a defined population. The term may encompass such nominally foreign domains as economic development laws, tax law, and international trade law.

PUBLIC HEALTH PREPAREDNESS

The 1988 IOM report catalyzed what grew in the 1990s into a veritable movement to strengthen the public health system, which the report had famously found to be "in disarray."⁷ In little more than one decade, an array of new institutions — national public health leadership institutes, the Management Academy for Public Health, the Health Alert Network, centers for public health preparedness, and others — was created to address gaps in public health's leadership, management, workforce, public health agencies and laboratories, information and communication systems, and other basic components.⁸ Those components, variously defined, have been conceptualized as comprising the infrastructure of the public health system.⁹

The term "public health preparedness" appeared in the late 1990s in the context of new and emerging infectious diseases, the then-hypothetical threat posed by bioterrorism, and other potentially massive public health emergencies. Conceptually, public health preparedness can be defined as the readiness of a public health system (of a community, a state, the nation, the world community) to respond to specified health threats. It also can be phrased as a goal, i.e., as attainment by the public health system of a defined benchmark of response to conventional dangers and, specifically, to such emerging threats as Severe and Acute Respiratory Disease (SARS), terrorism, and the next major dangers to follow.

This movement of the 1990s and of the early years of the new decade led to the development of "performance standards" and tools that are being used to measure empirically the capacity of state and local public health agencies to conduct public health services.¹⁰ Congress enacted the Public Health Threats and Emergencies Act of 2000 authorizing a national program to assess the public health infrastructure, state by state, against those standards and to fill identified gaps.¹¹ Following the 2001 terrorist attacks, Congress enacted the Public Health Security and Bioterrorism Response Act of 2001 which, inter alia, authorized a CDC grant program to assist states, the District of Columbia, New York City, Chicago, Los Angeles County, and the U.S. territories to strengthen their capacity to prepare for and respond to massive public health threats.¹² Continued in 2003, the program requires recipients to assess their existing capacity in six functional areas and, in effect, defines operationally what is meant by public health preparedness for the United States.

PUBLIC HEALTH LEGAL PREPAREDNESS: DEFINITION AND GOAL

Public health legal preparedness is a subset of public health preparedness and can be defined as attainment by a public health system (again, of a community, a state, the nation, the world community) of legal benchmarks essential to the preparedness of the public health system. Viewed through the lens of the 1988 IOM report, which defined the mission of public health as "the fulfillment of society's interest in assuring the conditions in which people can be healthy,"¹³ legal preparedness is the contribution legal tools make to assuring those conditions.

Law occupies something of a middle ground in our democratic society. De Tocqueville's ideal of a largely voluntary social order has had profoundly instructive manifestations in recent public health history. On September 11, 2001, first responders, health professionals, and lay citizens alike threw themselves into the World Trade Center and Pentagon responses by the thousands, often at personal peril. Coercion was totally absent and, if present, surely would have been both functionally counterproductive and corrosive of the voluntary civic spirit. On the voluntarism-coercion spectrum, legal preparedness efforts must respect the role of the individual at the same time they facilitate effective response to disease and other public health threats and provide for the essential leadership and coordinating role that public bodies ultimately must play.

Core Elements

The first step in fleshing out the concept of public health legal preparedness is to unpack its four core elements. The working hypothesis is that achieving legal preparedness is contingent on each element's meeting a defined benchmark or standard.

Laws or legal authorities clearly are the beginning point for public health legal preparedness, just as epidemiology is for outbreak investigation. Laws are the authoritative utterances of public bodies and come in many stripes, among them statutes, ordinances, and judicial rulings as well as the policies of such public bodies as school boards, mosquito control districts, transportation commissions, and land use planning bodies.

At the operational level, public health laws also include such "implementation tools" as executive orders, administrative rules and regulations, memoranda of understanding (e.g., between health departments and private hospitals for surge capacity or between health departments and law enforcement agencies for joint investigation of suspected terrorism), and mutual aid agreements among localities, states, or nations.

Laws, however, are neither self-creating nor self-enforcing. Thus the second core element is the *competencies*

of the people who serve as the agents of public health legal preparedness. In the public sector these include elected officials, public health professionals, their legal counsel, government agency administrators, judges, law enforcement officials, and others. In the private sector are included medical practitioners, hospital and health plan administrators, community organizations, a wide range of service and advocacy organizations, and their legal counsel. Also important are the researchers, educators, and other scholars who develop the science base for public health legal preparedness and who educate practitioners in public health law. In this context, the term "competencies" refers to the abilities and skills these practitioners should have to access and understand the relevant laws and to actually apply them to given health issues.

The third core element is *information* for these agents' use in shaping and applying public health laws. Examples include repositories of public health laws, updates on new enactments and judicial rulings, reports on innovations and public health law "best practices," and public health law practice guidelines. A surprising finding is how rare such information resources are. With some exceptions, there appear to be few, if any, published manuals on public health emergency law for government and hospital attorneys, "bench books" for judges to brief themselves on evidentiary standards for public health search warrants and quarantine orders, or databases of extant state and municipal public health emergency statutes and regulations.

Cross-Jurisdictional and Cross-Sectoral Coordination

The fourth core element is *coordination* of legal authorities across the multiple sectors that bear on public health practice and policy and across the vertical dimension of local-state-federal-international jurisdictions. Coordination is critical precisely because the public health system is richly multidisciplinary, multisectoral, and cross-jurisdictional.

The sectoral and jurisdictional scope of legal preparedness is not fixed. Rather, it is defined by the nature of a given health threat and by the functional response that that threat requires. The scope of coordination varies accordingly. The 2003 SARS epidemic is a case in point. In the government sector, SARS raised legal issues not only for public health agencies and hospitals but also for law enforcement personnel, diplomats and immigration officials, airport and other transport administrators, the police, school administrators, and national security agencies. In the private sector, legal issues involved private hospitals, churches, apartment managers, airlines, employers (who faced issues regarding affected employees' leave, medical coverage, and compensation for time spent in quarantine), schools, child care programs, and myriad other entities.

Throughout the SARS epidemic, legal counsel to

government and private entities played a vital role, illustrating their need to understand thoroughly state laws regarding government control of medicines and equipment, use of private hospitals and other facilities, and such measures that may be necessary in a public health emergency.

A single jurisdiction — for example, a city or county — where the four critical elements meet defined benchmarks may be said to have achieved public health legal preparedness, at least for health threats it can address on its own. Most health threats, however, span multiple jurisdictions. Public health legal preparedness in most cases involves laws, agents, and information across at least two jurisdictional dimensions. One is vertical and includes local, state, federal, and international government public health agencies as well as the counterpart array of private-sector institutions such as metropolitan, state, and national bar associations. The other is horizontal — across like jurisdictions (e.g., state to state) and across like sectors such as the legal counsel serving the many hospitals located in a given metropolitan region.

Communicable diseases and tobacco control illustrate the broad jurisdictional scope public health legal preparedness can assume. The horizontal dimension is important in both because the laws of one jurisdiction can have significant implications for others. If, for example, one of the fifty states did not require reporting of new communicable disease cases, other states would be at hazard. Similarly, a state with low excise tax on cigarettes may pose a health threat to its high-tax neighbors. Public health agencies at the local, state, national, and international levels must have the legal authority to gather information about communicable diseases cases and the sale of cigarettes in their jurisdictions, to frame interventions, and to inform policy makers and the public. The World Health Organization and the World Trade Organization are active in HIV/AIDS prevention and tobacco control, as is seen in the Framework Convention for Tobacco Control and in the intellectual property provisions of World Trade Organization agreements which affect production of off-patent antiretroviral drugs.¹⁴

Jurisdictional complexity prevails in most infectious disease outbreaks. This is true as well of lower-incidence (at least in the United States) infectious diseases such as tuberculosis and of the many risk factors for diabetes, cardiovascular disease, cancer, and other chronic diseases. Most highway and transportation systems, for example, span multiple localities and, in many cases, multiple states. Their laws and policies, many of which favor automobile transportation, may disfavor physical fitness and contribute significantly to obesity across all the affected jurisdictions.

In the United States, cross-jurisdictional issues must be handled sensitively and with respect for the constitutional and political framework. Public health traditionally has been the domain of state and local governments. The federal role largely centers on promulgating guidelines, providing

resources to states, tribes, and territories, and fostering basic and applied prevention research. State-state and state-local public health relations are jurisdictionally complex as well and typically feature well defined roles.

INITIATIVES TO IMPROVE PUBLIC HEALTH'S LEGAL PREPAREDNESS

The federal government and most states and municipalities revise their public health statutes, regulations and other legal authorities frequently. Most such changes are finely tuned responses to such threats as HIV/AIDS, West Nile virus, childhood obesity, and disasters like the 2002 "Station" nightclub fire in Rhode Island, which led to enactment of new fire code standards. Comprehensive revision of states' public health laws is far less frequent. For elected officials and senior public health officials who must deal with a complex and protean array of issues on a continuing basis, sweeping public health law "reform" may raise many questions, especially when an incremental or pinpoint revision in a law or regulation can solve a problem.

The 1988 IOM report issued the first national call for states to refresh their public health legal authorities. No published review of the states' response is known. The first concrete steps toward public health legal preparedness did not appear until about 2000, when several independent initiatives were undertaken: One was formation of the Turning Point Statute Modernization collaborative,¹⁵ another was establishment of the Public Health Law Program at the Centers for Disease Control and Prevention,¹⁶ and a third involved issuance of calls for updating public health laws to deal with potential terrorist attacks.

The Turning Point project engaged teams of collaborators in five states, as well as technical experts, to draft a model state public health act for states to use as a tool in assessing their existing public health laws. The substantive focus of the model, published in September 2003, is largely on the infrastructural authorities of state health departments.¹⁷

In the late 1990s the U.S. national security community raised domestic policy-makers' awareness of the growing potential for terrorism directed against the United States and stimulated a number of studies and recommendations for action to improve public health's legal preparedness. In 2000 alone, at least three reports came to that conclusion. The National Governors Association and the National Emergency Management Association together concluded that:

States need...model legislation...to assist them in WMD [weapons of mass destruction] preparedness... Every state should examine state laws and authorities that relate to search and seizure...quarantine, evacuation, relocation or restricting access.¹⁸

The congressionally chartered Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction (the "Gilmore Commission") called for a national office for combating terrorism that would:

...review existing Federal and State authorities for mandatory or prescriptive activities, such as vaccinations, quarantine, containment, and observation. As a result... 'model' legislation and regulations should be promulgated for the consideration of the States.¹⁹

Planners of Colorado's 2000 TOPOFF pneumonic plague exercise recommended, in a retrospective analysis, that:

...state health agencies [should] review their statutory authority and evaluate whether these laws would be adequate to deal with the threats of bioterrorism and pandemic influenza.²⁰

In 2000 and 2001, a number of other commissions, study groups, and independent observers recommended focused action to strengthen public health's legal capacity to prepare for possible biologic, chemical, and radiologic terrorism.

The initial focus of the CDC Public Health Law Program was on training, applied research, and consultation in a variety of conventional topical areas identified by public health practitioners and policy-makers. In response to the growing concern with potential bioterrorism, however, the program and partners (the American Bar Association Standing Committee on Law and National Security, and the National Security Forum), convened a meeting in April 2001 of representatives from the public health, public health law, law enforcement, and national security communities. The participants recognized the need to develop a model public health emergency powers law.²¹

The terrorist attacks of September 11, 2001, and the following anthrax incidents gave extraordinary urgency to strengthening the general preparedness of the public health system as well as legal preparedness specifically. CDC commissioned a draft model state emergency health powers act²² within weeks of September 11 and by May 2002 initiated and funded a major program to strengthen state and local public health agencies' comprehensive preparedness for terrorism, infectious disease epidemics, and other massive health threats. Among its other provisions, the program called on grantees to improve their public health legal preparedness in important, albeit limited, ways. The CDC terrorism preparedness program thus incorporated the first nationwide initiative for public health legal preparedness.

More recent, significant outgrowths of the CDC legal preparedness initiative are three projects to strengthen the capacity of key partners to exercise their legal authorities in concert with those of public health: The first is the

Forensic Epidemiology training course for front-line public health and law enforcement officials in joint investigation of bioterrorist events. The second is the "community legal preparedness" project to inform health care attorneys about public health emergency laws, and the third aims to inform state and municipal judges about the legal authorities of public health departments.²³

Finally, fifteen years after publication of *The Future of Public Health*, the IOM issued a successor report — *Assuring the Health of the Public in the 21st Century* — that scrutinizes the nation's public health system and contains 34 recommendations for policy change. The first calls for national attention to aligning the legal authorities of public health agencies with the emerging health threats of the decade, including but not limited to terrorism and looming infectious disease outbreaks.²⁴

FRAMEWORK FOR PUBLIC HEALTH LEGAL PREPAREDNESS

The building blocks of comprehensive public health legal preparedness are the four core elements identified above arrayed across the sectors and dimensions relevant to defined health threats. In the case of dental caries, for example, the scope is relatively narrow, in part, because only a few sectors are involved, e.g., dental and public health practitioners, health educators, public (and private) water suppliers, and the legal counsel to these entities.

On the other hand, the scope of public health legal preparedness is much broader in the case of bioterrorism because many sectors are involved — public health, law enforcement, the judiciary, the private bar, the national security community, and elected officials, to name a few — and because it cuts vertically and horizontally across many jurisdictions.

Table 1 displays the general building blocks of public health legal preparedness for terrorism — the core elements, sectors, and dimensions. This is a schema for public health legal preparedness in any given jurisdiction. As presented, the vertical axis of the table contains only a few of the organizations with a role to play in legal preparedness. In actual use, it would be filled in with the names of the actual organizations relevant to a specific jurisdiction, e.g., Indiana, Orange County, Houston, or the entire United States.

The table focuses on terrorism for illustrative purposes, but the model is useful as a conceptual point of departure for achieving general public health legal preparedness as well. Action steps that would follow would include setting priorities, defining standards, identifying and correcting gaps, and repeatedly testing actual preparedness.

Table 1. Building Blocks of Public Health Legal Preparedness for Terrorism at the State Level

SECTORS	Legal Preparedness Core Elements			
	Laws	Competencies	Information	Coordination
A. Public Health				
1. State health agency				
2. Local health agencies				
3. Public health labs				
Etc.				
B. Health Care				
1. Hospitals				
2. Clinics				
3. Managed care organizations				
C. Emergency Management				
1. First responder organizations (EMS, Fire protection)				
2. Poison control centers				
Etc.				
D. Emergency Management				
1. State homeland security agency				
2. State emergency management agency				
3. Local emergency management agencies				
Etc.				
E. Law Enforcement				
1. State & local police				
2. District & prosecuting attorneys				
3. U.S. Attorney				
4. FBI state unit				
5. State National Guard				
Etc.				
F. Judiciary				
1. State courts				
2. Municipal courts				
G. Private/Voluntary Organizations				
1. Private-sector legal counsel				
2. Community-based organizations				
3. Non-profit service organizations				
Etc.				

Setting Priorities

Procedurally, the first step in assuring legal preparedness for a given public health threat is to determine its nature and gravity. Accurate threat and vulnerability assessments establish the functional (epidemiologic, laboratory, medical, etc.) activities that must be conducted to deal with a given threat, and they, in turn, frame the specific topics in legal preparedness that must be addressed. Deliberate poisoning of the food supply, for example — as in the 1985 covert *Salmonella* contamination of salad bars in central Oregon — invokes the investigatory powers of public health and police departments.²⁵ Threat and vulnerability assessments typically are done by national security, law

enforcement, and related public agencies. Public health agencies increasingly participate in those analyses.

Establishing the priority threats of concern directs attention to certain cells in Table 1. For example, if smallpox, SARS, or pneumonic plague poses the greatest threat, then the cluster of cells in Table 1 relevant to control of infectious diseases should be the focus, e.g., disease reporting, contact tracing, quarantine, large-scale vaccination, and government control of hospitals, among others. If radiologic devices pose the greatest threat, a different cluster of cells should be addressed; here law would be used to cordon off contaminated facilities and premises, evacuate endangered areas, and decontaminate those exposed to radiation. If threat assessment shows that chemical attacks (like the serin attack in the Tokyo subway) are the greatest danger, yet another cluster of cells is implicated.

Benchmarks and Standards

Setting benchmarks or standards is the procedural step driving development of practical, effective public health legal preparedness. Benchmarks are required for each of the four core elements of preparedness — laws, competencies, information, and coordination. This section reviews the status of work, in the area of infectious disease epidemics and terrorism, to define public health legal preparedness standards. Considerable work is underway in this area, based largely on essentially voluntary initiatives by state and local health departments, like those undertaken in conjunction with the National Public Health Performance Standards Program, in which state, local, and federal public health policy-makers collaborate. The CDC terrorism preparedness program, which was designed in consultation with state and local public health-policy makers, complements such efforts.

Two approaches have been taken toward defining benchmarks: those driven by hypothetical or real incidents and those driven by deliberate planning processes. In the first category are such exercises as TOPOFF (pneumonic plague, Colorado, spring 2001), Dark Winter (smallpox, Oklahoma City, spring 2002), and TOPOFF2 (pneumonic plague, Northeastern Illinois, spring 2003), and such real events as the terrorist attacks of September and October 2001, and the SARS and monkeypox incidents of early 2003.

The earliest such work focused on the first core element of public health legal preparedness — *laws* — was in the context of the 2000 TOPOFF exercise. As they planned the exercise, Colorado public health officials and their legal counsel found that the grounds for a gubernatorial declaration of a public health emergency were unclear in existing law and that coordinated response plans were lacking among public health agencies, healthcare providers, and community health clinics. This concern produced a) legislation which created a technical advisory body to

advise the governor regarding the need for a public health emergency declaration, b) draft executive orders for use should such a declaration be made, and c) a set of rules and memoranda of understanding promulgated by the state health department mandating specified types of emergency response coordination across public health, health care, and community health agencies. These new legal authorities were tested in the TOPOFF exercise, found helpful, and, to that limited extent, constituted de facto benchmarks for certain legal powers for an outbreak of pneumonic plague or similar, highly contagious disease. Several legal powers were found wanting. For example, post-mortem analysis showed it was unclear which level or agency of state government, if any, had authority to restrict travel within the state and across state lines.²⁶

Researchers at the Center for Law and the Public's Health published a draft model state emergency health powers act in December 2001. This template focuses on public health emergencies and takes an "all hazards" perspective, i.e., it seeks to address biological, chemical, and radiological threats alike. Its authors drew many of the provisions of the template from existing state laws that they considered exemplary in some respect. Other provisions reflected the authors' own understanding of needed state government legal powers and responsibilities. The National Conference of State Legislatures published "The Model State Emergency Health Powers Act: A Checklist of Issues," a report which translated the draft model act into a tool legislators could use in assessing their states' public health legal preparedness.²⁷ As of mid-2003, it was estimated that almost all states had used the template, as intended, as a tool to aid in analyzing their existing public health emergency laws and that 33 states and the District of Columbia had adopted provisions of the draft model act through legislative or executive action.²⁸

While highly diverse, the draft model act and enacted state measures are an important step toward developing benchmarks for state governments' public health emergency legal preparedness. The template omits important sectoral and dimensional issues since it does not address the legal authorities of local governments or of the federal government, nor those of sectors outside the government public health domain. The new statutes speak to the needs and circumstances of the individual states and do not necessarily seek consistency across states. Nonetheless, they reflect the consensus of supportive elected officials that specific, improved legal tools are needed.

The Dark Winter exercise, which postulated a smallpox outbreak, identified conflict and uncertainty about the locus of legal authorities and about coordination across levels of government, that is, problems in the fourth core element of public health legal preparedness:

...tensions rapidly developed between state and federal authorities... State leaders wanted control of decisions regarding the imposition of disease-containment measures (e.g., mandatory vs. voluntary isolation and vaccination), the closure of state borders to all traffic and transportation, and when or whether to close airports.²⁹

The 2003 TOPOFF2 exercise in Chicago and North-eastern Illinois gave explicit attention to legal issues. The state health department convened a legal review team composed of legal counsel from state, county and city public health agencies, health care institutions, the offices of the governor and attorney general, and other government offices, with participation as well by selected federal attorneys. The team focused on improving the understanding the participating attorneys had of their clients' existing legal authorities and on forming enduring collaborations among those attorneys. Among the products of the exercise was an exhaustive compilation of the Illinois state and municipal laws pertinent to public health emergencies. TOPOFF2 thus addressed, in part, all four elements of public health legal preparedness — *laws, competencies, information, and coordination* — and did so at the local and state levels. Perhaps most significant, the team and its working group on quarantine and isolation were given standing status after the exercise, established linkages with the judiciary, and were charged to develop the legal components of the state plan for SARS.

The 2003 SARS and monkeypox outbreaks put legal preparedness to an especially difficult test. SARS highlighted legal issues around quarantine and isolation, two classical, law-based public health tools used to interrupt the transmission of contagious diseases. Taiwan and Ontario, for example, made extensive use of these tools, relying primarily on existing laws and working relationships with police and other law enforcement authorities for assistance in implementation. In the United States, the White House issued an executive order designating SARS a federally quarantinable communicable disease.³⁰ On the global stage, the World Health Organization adopted two resolutions reaffirming its policies regarding the obligations of member states to report infectious disease outbreaks.³¹ While the legal lessons learned from SARS are being distilled in the United States, Canada, and other affected countries, it appears that newly defined legal preparedness standards may emerge from the experience and that they will center on quarantine and isolation, due process protections for subjects, and the legal rights of health care workers exposed to high-risk infection.

The recent spread of monkeypox involved agents of transmission different from SARS and spotlighted different legal powers, specifically, those related to the transport, sale, and possession of certain rodents that have become

popular as pets. Beginning with Wisconsin and Illinois, states and the federal government (in a joint order issued by CDC and the Federal Drug Administration) relied on existing statutory authority and issued executive branch orders to control traffic in giant Gambian rats, prairie dogs, and other rodents implicated in the outbreak.³² The response to monkeypox embodied intersectoral coordination. In Illinois, for example, while the state health department had the lead coordinating role, the regulatory powers of the state agriculture department were used to quarantine animals suspected of infection. The legal measures used in the monkeypox incident appear to have had the desired effect. The lesson learned may be that the existing laws were adequate to the task and that they may be a suitable benchmark for this type of disease.

The second approach to developing benchmarks for public health's legal preparedness is taking place through systematic planning processes. One such process was stimulated by publication of the draft model state emergency health powers act, following extensive review and comment – some of it quite critical — by elected state officials, appointed health officials, legal scholars, and advocacy groups. The consultation process continued in 2002 and early 2003 in several fora, including eight regional, multistate meetings convened by the Reforming States Group, where legislators, attorneys general, health officials and their legal counsel, and emergency preparedness officials reviewed their states' public health emergency laws as well as the legal basis for state-to-state *coordination* of their responses to public health emergencies.³³ Among the cross-jurisdictional topics examined were disease and syndromic surveillance reporting, validation of the credentials of out-of-state health professionals, professional liability, and compensation for assistance provided by states that donate assistance to others. Participants found that virtually all states had enacted a version of the Emergency Management Assistance Compact (a model law published by the National Emergency Management Association) whose provisions have been used extensively in interstate *coordination* of disaster response.³⁴

Public health's general legal preparedness for public health emergencies is one focal point of a nationwide initiative aimed at strengthening the nation's public health infrastructure: the National Public Health Performance Standards Program mentioned above, a joint undertaking of the CDC, state and local public health agencies, and their national associations.³⁵ This initiative has developed considerable consensus on standards that state and local public health agencies and systems should meet to assure they perform the ten "essential services" deemed necessary to protect the public's health as well as measures of those services.³⁶ Of these ten services, the one related most closely to legal preparedness is that of "enforcing laws and regulations that protect health and ensure safety."³⁷ The

self-administered instrument used to measure the status of this service at the state public health system level asks a total of 109 questions to probe the performance of the following three elements:

- The review, evaluation, and revision of laws and regulations designed to protect health and safety to assure that they reflect current scientific knowledge and best practices for achieving compliance,
- Education of persons and entities obligated to obey or to enforce laws and regulations designed to protect health and safety in order to encourage compliance, and
- Enforcement activities in areas of public health concern, including, but not limited to the protection of drinking water...reinspection of workplaces following safety violations... enforcement of laws governing the sale of alcohol and tobacco to minors; seat belt and child safety seat usage; and childhood immunizations.³⁸

Respondents answer the 109 questions on a four- or five-step scale and thereby indicate how well their jurisdiction performs the "enforcing laws and regulations" essential service. Similar instruments have been developed to measure performance at the local level.

This initiative is significant for several reasons: First, it attempts to measure the *laws* and *competencies* of legal preparedness empirically. Second, it is integrated into a broader framework to measure the performance of many public health services at the state and local levels. Third, while the perspective is not on public health emergencies per se, the evaluation instruments can easily be modified for these purposes.

A separate but related effort has come from the American Bar Association's Task Force on Emergency Management and Homeland Security which published in 2002 a "Draft Checklist for State and Local Government Attorneys to Prepare for Possible Disasters." The checklist not only addresses natural and induced disasters broadly but also focuses on public health emergencies. While it does not posit legal preparedness standards per se, the checklist consists of questions (e.g., "Who has the authority to declare an emergency...?") that guide attorneys through analyses that identify gaps and potentially lead to corrective actions — in *laws*, *competencies*, *information*, and *coordination* — deemed necessary in a given state, county, or city. Especially notable is the ABA's attention to local government attorneys, a group not addressed by the other initiatives reviewed here.³⁹

The most ambitious effort to strengthen the general preparedness of the nation's public health system is the

terrorism preparedness grant program CDC began in 2002. (Federal funding was \$918 million in fiscal year 2002 and \$870 million in fiscal year 2003.) The grantees (the fifty states, the District of Columbia, New York City, Chicago, Los Angeles County, and the U.S. territories) are expected to reach a large number of concretely defined goals in the areas of planning, surveillance, laboratory testing, electronic communications, public information, and workforce competencies. Explicit goals for public health legal preparedness are included. In the 2002 funding cycle grantees were asked to:

Prepare a timeline for the assessment of statutes, regulations, and ordinances within the state and local public health jurisdictions that provide for credentialing, licensure, and delegation of authority for executing emergency public health measures, as well as special provisions for the liability of healthcare personnel in coordination with adjacent states.⁴⁰

and to:

ensure legal authority to require and receive reports on and investigate any suspect cases, potential terrorist events, or unusual illness clusters.⁴¹

In the 2003 funding cycle grantees were asked to analyze the findings of those assessments and to assure the “request and require” authority. In addition, CDC asked grantees to address legal provisions for dealing with “health issues of workers and their families who may be involved in emergency response,” to affirm they had laws in place to address liability issues associated with potential adverse consequences of smallpox immunization, and to ensure legal authority to “respond in ways to protect the public (e.g., quarantine laws).”⁴²

Standards for the second element of public health’s legal preparedness – *competencies* – have received less attention than have laws. In 2002, the Center for Law and the Public’s Health published a set of general law-related competency standards for public health practitioners, following review and comment by public health practitioners.⁴³ Competency standards specific to public health emergencies were issued in 2002 by the Columbia University School of Nursing’s Center for Health Policy.⁴⁴ The report, sparked by the 2001 terrorist attacks, contains a range of functionally-based competency standards for public health practitioners in local, state and federal positions. Those related to legal preparedness hold that public health leaders in state and local agencies should be able to:

- Communicate public health information/roles/capacities/legal authority accurately to all emergency response partners (other public health

agencies, other health agencies, and other government agencies) during planning, drills, and actual emergencies..., and

- Evaluate/review the public health laws of the jurisdiction on a regular schedule, to assess that they are current and up-to-date pertaining to BT [bioterrorism] events.⁴⁵

The CDC terrorism grant program does not explicitly address law-related competencies. The learning objectives of the CDC Forensic Epidemiology training course in joint investigative response to bioterrorist incidents by local public health and law enforcement professionals, however, effectively serves as benchmarks for investigative *competencies* each of those communities needs to master. At this writing, the course — a model for the multisectoral, collaborative approach critical to achieving legal preparedness — is being delivered in states and municipalities around the country.

Work is underway to develop two complementary training tools: the “Advanced Forensic Epidemiology” course in joint public health-law enforcement consequence management of terrorist events; and training for the general public health workforce in the legal foundations for public health practice.

With respect to *information*, CDC established the Public Health Legal Preparedness Clearinghouse in early 2003 (and the Public Health Law Association initiated U.S. and U.S.-Canada teleconferences) as fora where public health attorneys, policy makers, and others could engage in peer-to-peer consultation and access current information on counterparts’ use of legal interventions in response to the SARS and monkeypox outbreaks.⁴⁶ These first steps will lead to design and deployment of additional vehicles for information access and exchange.

In summary, a number of initiatives have been taken to set benchmarks or standards for public health’s legal preparedness for terrorism. Table 2 arrays these projects across the four core elements. It is important to recognize that none of these projects has attempted to establish a definitive standard for any of the four core elements. A checkmark in a cell of Table 2 indicates only that some limited attention was given by the cited project. Nonetheless, these projects have laid a valuable basis for a truly comprehensive specification of standards that can be applied within the framework presented in Table 1.

Gap Analysis, Corrective Measures, and Testing

Once benchmarks are set, the next steps in building legal preparedness involve measuring actual performance, identifying gaps, and taking corrective measures to fill them. This sequence is called for explicitly in the Public Health Improvement Act of 2000 and in the CDC terrorism grant guidelines. In 2002, CDC published a self-administered

Table 2. Standards-Setting Projects for Public Health Legal Preparedness for Terrorism

	Legal Preparedness Core Elements			
	Laws	Competencies	Information	Coordination
A. Incident- & Exercise-Driven Projects				
1. TOPOFF	■			■
2. Dark Winter				■
3. Draft model state emergency health powers act & training	■	■		
4. SARS	■		■	■
5. TOPOFF2	■	■	■	■
6. Monkeypox	■		■	■
B. Planning-Driven Projects				
1. National PH Performance Standards Program	■			
2. National PH Competencies Task Force		■		
3. CDC terrorism preparedness program	■			
4. ABA state and local law section	■			
5. Forensic Epidemiology course		■		
6. EMAC				■
7. Reforming States Group multistate meetings	■	■	■	■

diagnostic tool, the "Local Public Health Preparedness and Response Capacity Inventory: A Voluntary Rapid Self-Assessment," that included three questions related to legal preparedness.⁴⁷ Several gaps in legal preparedness have been identified during these exercises and projects, and improvements have been implemented both in individual jurisdictions (e.g., Colorado's action in the spring of 2000) and nationally (e.g., through CDC's grant program for comprehensive public health emergency preparedness).

Testing is the final step in designing, implementing, and maintaining legal preparedness. Testing may be conducted both through exercises such as TOPOFF and Dark Winter and in the real-life crucibles of infectious disease outbreaks and other acute public health incidents. Considerable work has been done, for example, to identify the factors that supported effective use of quarantine and other law-based tools in the SARS epidemic. Studies of the SARS response in Canada and the other affected countries are likely to produce recommendations for improving all four element of legal preparedness: *laws, competencies, information, and coordination*. The Canadian ministry of health appointed an advisory commission in May 2003 whose report, among other points, recommended that the federal government:

...should embark on a time-limited intergovernmental initiative with a view to renewing the legislative framework for disease surveillance and outbreak in management in Canada...⁴⁸

and noted the need to train relevant government workers in implementing quarantine laws and responsibilities.⁴⁹

Testing should be perpetual and be conducted as an integral part of broader exercises that test public health's overall preparedness. To paraphrase Edmund Burke's dictum, eternal testing may be the price of public health preparedness.

SUMMARY

Legal preparedness has gained recognition as a critical component of comprehensive public health preparedness for public health emergencies triggered by infectious disease outbreaks, natural disasters, chemical and radiologic disasters, terrorism and other causes. Public health practitioners and their colleagues in other disciplines can prepare for and respond to such an event effectively only if law is used along with other tools. The same is true for more conventional health threats.

At first glance, public health legal preparedness may appear to be only a matter of having the right laws on the books. On closer examination, however, it is as complex as the field of public health practice itself. Public health legal preparedness has at least four core elements: laws (statutes, ordinances, regulations, and implementing measures); the competencies of those who make, implement, and interpret the laws; information critical to those multidisciplinary practitioners; and coordination across sectors and jurisdictions.

The process of improving public health legal preparedness has begun in earnest with respect to potentially massive public health emergencies. Elected officials, public health, legal, and law enforcement practitioners, and national security organizations have contributed to initial benchmarks for the core elements. A few gaps in legal preparedness have been identified in the context of exercises, actual public health emergencies, and through more general assessments of public health preparedness conducted by CDC and the Department of Justice.

While a strong beginning has been made, this work is incomplete. Redoubled effort is needed to define practical, measurable benchmarks or standards of legal preparedness, to identify and correct shortcomings, and to review findings from regular exercises and actual public health emergencies. There is great value in having this work move forward on two converging tracks, one defined by states and localities acting on their own initiative and the other shaped by the federal government as informed by state and local experience. The TOPOFF and Dark Winter exercises exemplify the grounded, case-based approach that teaches practical lessons about benchmarks, gaps, and steps to improve public health's legal preparedness.

It goes without saying that action on both tracks should be taken by collaboratives whose membership includes

representatives of the many different communities integral to the design and application of laws that affect the health of the public and the effectiveness of the public health system itself. Consistent with the concept of a public health or population health system with which we began this paper, participants in both tracks should include representatives of non-governmental bodies — community-based organizations, non-profit organizations active in disaster preparedness and response, and others. This paper presents a conceptual and analytic framework those groups may apply, one that is sufficiently broad to serve as an integrating schema across sectors and jurisdictions but also sufficiently flexible to accommodate the unique features of the many community and state public health systems which, together with federal partners, comprise the U.S. public health system, in sum, a framework responsive to the exigencies of our times, faithful to the guiding principles of American federalism, and conducive to a new standard of health protection for all our citizens.

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