

**POX AMERICANA? VACCINATING MORE EMERGENCY
DOCTORS FOR SMALLPOX: A LAW AND ECONOMICS
APPROACH TO WORK CONDITIONS**

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ABSTRACT

Experts and government agencies believe that a smallpox attack against the United States is possible. *Dark Winter*—a simulation run in June 2001 by national security groups—concluded that a single smallpox attack would result in a viral holocaust. This is because Americans have no immunity to this disease. Smallpox has no cure and a 30% mortality rate.

Federal policy fails to prepare the nation for this possibility. It identifies 500,000 workers, including emergency doctors, as bioterror responders but only encourages vaccination. The Smallpox Emergency Personnel Protection Act tried to persuade them to be vaccinated. This disability law pays up to \$262,000 for side effects, but only 39,554 workers have had the shot.

An ineffective vaccination policy for emergency doctors is the greatest hole in the nation's security from this bioterror threat. They must play a critical role in identifying and isolating the disease. Yet, to avoid this infection, many unvaccinated emergency room workers in *Dark Winter* failed to show up for work after the attack was announced.

I propose a law and economics approach to improve this aspect of national preparedness. My idea is derived from the nation's early history when doctors were hired to fight smallpox. In the 1800s, towns paid large incentives to persuade doctors to administer risky vaccinations and quarantines.

Lessons are also taken from the Swine Flu vaccine program. Congress believed that nationwide inoculation was needed in 1976 to prevent great loss of life, but vaccine makers feared tort liability. Congress fixed this problem by substituting the United States for a company or doctor who provided vaccinations. This shows that a federal cap on tort liability greatly improves participation by health care providers in an emergency vaccination program.

This experience provides an analogy to address the current lack of bioterror responders. Emergency doctors are burdened by soaring malpractice insurance costs. Costly insurance is causing many to retire or curtail their practice. This is depleting the supply of doctors to diagnose and isolate smallpox.

In sum, experience from the 1800s shows that special incentives are needed to persuade doctors to deal with smallpox. More recent experience shows that doctors participate in risky vaccination programs when they are shielded from tort liability. Congress should therefore cap tort damages for emergency doctors who are vaccinated for smallpox.

***POX AMERICANA? VACCINATING MORE EMERGENCY
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*Now, experience fully evinces the eminent utility of the kine pox [vaccine] in saving expense, as well as placing a safeguard around each individual, to protect life and health, while all attend to their usual vocations, instead of being confined with a loathsome disease, or becoming nurses to those who are thus confined. We are, therefore, disposed to support the selectmen, and the town, in this measure to prevent the spreading of the disease, when circumstances render any measures necessary.*²

—Hazen v. Strong

*It could take days, or even weeks, for the symptoms of a biological agent to begin to manifest themselves. In the case of a [bioweapon] attack, the first responder, the very tip of the spear, is likely to be a primary care physician, healthcare provider Given the unheralded nature of these silent killers, it would fall upon the public health and medical communities to detect the attack, contain the incident, and treat the victims. The delayed onset of symptoms, coupled with the fact that it is difficult to discern a deliberate [bioweapon] attack like small pox from a naturally occurring infectious disease outbreak, makes attribution and identification of the perpetrators exceedingly difficult. Moreover, this type of attack can wreak havoc with the public, which must confront fear of the unknown.*³

—Frank Cilluffo

¹ My title underscores the threat posed by a single case of smallpox to America's status as a world superpower. It plays upon the Latin *Pax Americana* or American Peace that conveys "America's dominant global position since World War II." STEPHEN N. FLANDERS & CARL N. FLANDERS, *DICTIONARY OF AMERICAN FOREIGN AFFAIRS* 471 (1993). The term comes from *Pax Britannica*, describing Great Britain's pre-eminent role in maintaining world peace and stability from the end of the Napoleonic wars in 1815 to the onset of World War I. This, in turn, comes from *Pax Romana*, an extended period of world peace and order under Roman rule.

A recent simulation of a smallpox attack on the United States predicts that a million people would die and mark the end of the United States as a superpower. See *JOHNS HOPKINS CENTER FOR CIVILIAN BIODEFENSE ET AL., DARK WINTER* 43 (June 22–23, 2001), available at <http://www.hopkins-biodefense.org/DARK%20WINTER.pdf> [hereinafter *DARK WINTER*]. This prediction is mirrored in Osama bin Laden's apocalyptic vision: "We predict a black day for America and the end of the United States as United States, and [the United States] will be separate States." *'We Predict A Black Day'—In a Rare Interview, Osama Bin Laden in 1998 Explained to John Miller of ABC News Why He Declared a Holy War on America*, *CHI. SUN-TIMES*, Sept. 23, 2001, at 18.

² 2 Vt. 427 (1830).

³ *The Threat of Bioterrorism and the Spread of Infectious Diseases, Before the U.S. Senate Committee on Foreign Relations* (Sept. 5, 2001), at <http://www.csis.org/hill/ts010905cilluffo.pdf> (testimony of Frank Cilluffo, Chairman, Committee on Combating Chemical, Biological, Radiological and Nuclear Terrorism, Homeland Defense Initiative Center for Strategic and International Studies).

INTRODUCTION

A. *Statement of Public Policy Issue*

The Centers for Disease Control (“CDC”) confirms a case of smallpox in Oklahoma City.⁴ Minutes later, the Governor declares that his state has been attacked by a smallpox weapon.⁵ Fearful people with flu-like symptoms swamp emergency rooms.⁶ The Commissioner of Health immediately plans to inoculate 3.5 million residents.⁷ Before the epidemic is controlled, the virus infects 3 million people nationwide and kills 1 million.⁸

This scenario was simulated in *Dark Winter*.⁹ Held at Andrews Air Force Base, *Dark Winter* was planned by reputable national security groups.¹⁰ To improve realism, each sequence in *Dark Winter* built on real time policy decisions made by experienced politicians who played leadership roles.¹¹ The simulation ran June 22–23, 2001—before 9/11—and identified a largely ignored terror group, Al Qaeda, as a potential smuggler of weaponized biopathogens.¹²

⁴ DARK WINTER, *supra* note 1.

⁵ *Id.* at 8. The General Accounting Office confirms the main points in this analysis. See GENERAL ACCOUNTING OFFICE, HOSPITAL PREPAREDNESS: MOST URBAN HOSPITALS HAVE EMERGENCY PLANS BUT LACK CERTAIN CAPACITIES FOR BIOTERRORISM RESPONSE 1 (2003), available at <http://www.gao.gov/new.items/d03924.pdf>.

The release of a biological agent by a terrorist might not be recognized for several days, during which time a communicable disease could be spread to many people who were not initially exposed. Because hospitals are open 24 hours a day, 7 days a week, victims would be likely to seek treatment of their symptoms there, putting hospital personnel in the role of first responders. Federal, state, and local officials are concerned, however, that hospitals may not have the capacity to accept and treat a sudden, large increase in the number of patients, as might be seen in a bioterrorist attack.

Id.

⁶ DARK WINTER, *supra* note 1, at 8.

⁷ *Id.*

⁸ *Id.* at 43 (Slide 7: “Situation Briefing: Projection of Smallpox Cases, Deaths”).

⁹ *Supra* note 1.

¹⁰ *Id.* (e.g., the Johns Hopkins Center for Civilian Bio-Defense, and Center for Strategic and International Studies).

¹¹ *Id.* Senator Sam Nunn (D. Ga.) played the role of U.S. President. Governor Frank Keating (R. Ok.), who was in his office during the Oklahoma City bombing of the Murrah Federal Building, played himself. Both leaders were joined by teams of role-playing national security and medical experts.

¹² *Id.* at 3.

Dark Winter reflects a disturbing consensus among medical and national security experts. A smallpox attack is possible.¹³ The CDC¹⁴ and U.S. Department of Health and Human Services (“HHS”) agree.¹⁵ Scientists, publishing in respected medical journals, are sounding loud alerts. One warning states in the *Journal of the American Medical Association*: “Unfortunately, the threat of an aerosol release of smallpox is real and the potential for a catastrophic scenario is great unless effective control measures can quickly be brought to bear.”¹⁶ Other experts conclude in the *New England Journal of Medicine*: “It is imperative and urgent that we prevent the intentional or unintentional release of variola (smallpox) virus into an essentially unprotected global population that continues to benefit from 25 years of freedom from smallpox.”¹⁷

Why so much alarm? The virus is already weaponized.¹⁸ It spreads easily by normal human interaction.¹⁹ After incubating for seven to seventeen days,

¹³ See Donald A. Henderson et al., *Smallpox as a Biological Weapon*, 281 JAMA 2127, 2128 (1999) (“[D]eliberate reintroduction of smallpox as an epidemic disease would be an international crime of unprecedented proportions, but it is now regarded as a possibility.”). Ken Alibek reports that under his direction in 1980 the Soviet Union started a successful program to produce the smallpox virus in large quantities. KEN ALIBEK, *BIOHAZARD: THE CHILLING TRUE STORY OF THE LARGEST COVERT BIOLOGICAL WEAPONS PROGRAM IN THE WORLD, TOLD FROM THE INSIDE BY THE MAN WHO RAN IT* (1999); see also Martin I. Meltzer et al., *Modeling Potential Responses to Smallpox as a Bioterrorist Weapon*, 7 EMERGING INFECTIOUS DISEASES 959 (2001).

¹⁴ See Centers for Disease Control, *Frequently Asked Questions About Smallpox*, at <http://www.bt.cdc.gov/agent/smallpox/disease/faq.asp> (last modified Dec. 29, 2004) (“The deliberate release of smallpox as an epidemic disease is now regarded as a possibility, and the United States is taking precautions to deal with this possibility.”).

¹⁵ Amendment To Extend the January 24 2003, Declaration Regarding Administration of Smallpox Countermeasures, 69 Fed. Reg. 3920, 3921 (Jan. 27, 2004) (“The underlying policy determinations of the January 24, 2003 declaration continue to exist, including the heightened concern that terrorists may have access to the smallpox virus and attempt to use it against the American public and U.S. Government facilities abroad.”).

¹⁶ Henderson et al., *supra* note 13, at 2142.

¹⁷ Joel G. Breman et al., *Preventing the Return of Smallpox*, 348 NEW ENG. J. MED. 463 (2003).

¹⁸ The virus was first weaponized in North America when British troops shared blankets from smallpox patients with Native Americans, resulting in a 50% mortality rate. See ESTHER W. STEARN, *THE EFFECT OF SMALLPOX ON THE DESTINY OF THE AMERINDIAN* (1945). Current research substantiates the weaponization of smallpox. See Donald A. Henderson, *The Looming Threat of Bioterrorism*, 283 SCIENCE 1279 (1999) (discussing how smallpox is especially well suited for aerosol dissemination to reach large areas and many people); P.F. Wehrle et al., *An Airborne Outbreak of Smallpox in a German Hospital and Its Significance with Respect to Other Recent Outbreaks in Europe*, 43 BULL. WORLD HEALTH ORG. 669 (1970), at [http://whqlibdoc.who.int/bulletin/1970/Vol43/Vol43-No5/bulletin_1970_43\(5\)_669-679.pdf](http://whqlibdoc.who.int/bulletin/1970/Vol43/Vol43-No5/bulletin_1970_43(5)_669-679.pdf) (discussing an occurrence in Meschede, Germany, where seventeen persons on three floors of a hospital contracted smallpox from a quarantined patient during the incubation period after cough droplets spread the virus through the hospital’s ventilation system).

¹⁹ See Centers for Disease Control, *Smallpox Fact Sheet: Smallpox Disease Overview* (Aug. 9, 2004), at

the first symptoms of smallpox appear: fever, tiredness, head and body aches, and sometimes vomiting.²⁰ After two to four days, small red spots develop on the tongue and in the mouth before progressing to the face, arms, legs, hands, and feet.²¹ The rash spreads over the entire body within another twenty-four hours.²² The contagious period is long, starting with onset of a fever and ending when the last scab falls off.²³ This assumes a smallpox patient survives. Three in ten die.²⁴

Smallpox is extremely infectious. It has no cure.²⁵ This did not matter when everyone in the United States was inoculated for the virus. However, because smallpox vaccinations ended here in the 1970s, Americans have little or no immunity.²⁶ A study authored by medical and public health experts sums up current vulnerability:

Although smallpox has long been feared as the most devastating of all infectious diseases, its potential for devastation today is far greater than at any previous time. Routine vaccination throughout the United States ceased more than 25 years ago. In a now highly susceptible, mobile population, smallpox would be able to spread widely and rapidly throughout this country and the world.²⁷

<http://www.bt.cdc.gov/agent/smallpox/overview/overview.pdf> (stating that “direct and fairly prolonged face-to-face contact is required to spread smallpox from one person to another. Smallpox also can be spread through direct contact with infected bodily fluids or contaminated objects such as bedding or clothing.”). Also, the CDC notes that:

[A] person with smallpox is sometimes contagious with onset of fever (prodrome phase), but the person becomes most contagious with the onset of rash. At this stage the infected person is usually very sick and not able to move around in the community. The infected person is contagious until the last smallpox scab falls off.

Id.

²⁰ See Centers for Disease Control, *What You Should Know in a Smallpox Outbreak* (Dec. 30, 2004), at <http://www.bt.cdc.gov/agent/smallpox/basics/pdf/outbreak.pdf>.

²¹ *Id.*

²² *Id.* For pictures of smallpox victims, see DARK WINTER, *supra* note 1, at 10–11.

²³ *Id.*

²⁴ *Id.* CDC reports that for smallpox the “only prevention is vaccination.” Smallpox occurs as variola major (the most severe and common form, with a more extensive rash, higher fever, and 30% mortality rate), and variola minor (much less common form of smallpox, with less severity and a 1% mortality rate).

²⁵ See Centers for Disease Control, *supra* note 19 (stating that “[s]mallpox can be prevented through use of the smallpox vaccine. There is no proven treatment for smallpox, but research to evaluate new antiviral agents is ongoing. Early results from laboratory studies suggest that the drug cidofovir may fight against the smallpox virus.”) (emphasis removed).

²⁶ Henderson et al., *supra* note 13, at 2128.

²⁷ *Id.*

In this Article, I address the low smallpox vaccination rate for emergency responders, a group that includes emergency doctors. *Dark Winter* showed that a large group of unvaccinated emergency room personnel failed to show up for work after a smallpox outbreak was reported.²⁸ Over 90% of people in the National Smallpox Immunization Program's ("NSIP") primary target group have declined vaccination.²⁹ Their low participation is an over-reaction to potential vaccine side-effects.³⁰ More to the point of my Article, this poor rate reflects a public policy that fails to create a meaningful incentive for vaccination. As a result, the nation is not prepared for smallpox. After examining employment models that have been used for over two centuries to combat smallpox in the United States, I offer a narrow, specific, and low cost idea to improve the nation's smallpox vaccination program.

B. Organization of Article

In Part I, I examine the early role played by physicians in dealing with smallpox. They personally managed pock houses, pest houses, ships, and homes as quarantine centers while tending to the medical needs of highly infectious patients. Their reputations also suffered. Because they were associated with the disease, some were accused of causing smallpox outbreaks. Local governments did not compel doctors to treat or prevent smallpox. Instead, they entered into special employment contracts with doctors who assumed these risks. Compensating doctors was costly and sometimes led to special tax levies.

By the late 1800s, public health programs regulated smallpox vaccinations. In the same period, state boards began to license physicians. In Part II, I examine how state licensing boards have eclipsed the public health role of local governments. Part II.A shows that boards impose stringent standards,

²⁸ See *infra* notes 235–36.

²⁹ See *infra* notes 235–36.

³⁰ See U.S. Food and Drug Administration, *Package Insert: Dryvax*, at <http://www.fda.gov/cber/label/smalwye102502LB.htm#adver> (last updated Nov. 6, 2002). The FDA provides a detailed summary of adverse reactions. Up to 70% of children have one or more days of temperature equal to or above 100° F. Fever is less common in adults. Generalized rashes may occur. The most frequent complication occurs after individual touches the vaccination area and spreads vaccinia to his or her face, eyelid, nose, mouth, genitalia, or rectum. A sturdy gauze patch over the shot site prevents transfer. The shot can have severe complications, such as encephalitis, encephalomyelitis, encephalopathy, progressive vaccinia (vaccinia necrosum), and eczema vaccinatum, though the FDA does not state the frequency of these problems. These conditions may result in severe disability, permanent neurological damage, and/or death. The FDA estimates a death rate of one death per 1 million primary vaccinations and one death per 4 million revaccinations. Death is most often the result of postvaccinial encephalitis or progressive vaccinia. See *generally id.*

including regulation of a doctor's body by disciplining for substance abuse. Nevertheless, smallpox immunity cannot be required as a condition for a medical license. A pre-attack requirement of a smallpox vaccination for a medical license would likely be vulnerable on constitutional grounds. I examine license revocation for physicians in the context of constitutional controversies—suspected sympathy for communists, noncompliance with informational abortion regulations, and advocacy of medicinal marijuana. These cases imply that courts would overturn discipline of doctors who refuse before an outbreak or attack to be vaccinated for smallpox.

I reinforce this conclusion in Part II.B, a section that examines recent efforts by the federal government to vaccinate doctors against deadly diseases through encouragement policies. An Occupational Safety and Health Administration (“OSHA”) rule aims to reduce accidental deaths among health care professionals who are exposed while on-the-job to Hepatitis-B. While this disease has a safe and effective vaccine, OSHA merely encourages physicians to be inoculated. Its rule has been upheld by federal courts.

Turning to smallpox vaccination, experts proposed a model law after 9/11 to provide states power to order these inoculations. Some states have enacted these emergency laws, but none mandates smallpox vaccination before an outbreak. In 2003, the HHS issued another vaccination policy for doctors. Smallpox vaccination is voluntary for emergency responders. Congress passed the Smallpox Emergency Personnel Protection Act of 2003 (“SEPPA”) to enable the HHS policy. However, because SEPPA is nothing more than a disability insurance program, it has failed as an incentive to vaccinate emergency responders.

Part III shifts to a different prevention program—emergency vaccination of 43 million Americans in 1976 for Swine Flu. The rationale of the program is explained. Next, I explore why Congress felt compelled to enact emergency legislation, titled the Swine Flu Act of 1976 (“Swine Flu Act”). A national inoculation program was stymied when vaccine makers refused to participate because of concern over product liability lawsuits. In response, the Swine Flu Act made the United States vicariously liable for adverse shot reactions through the Federal Tort Claims Act (“FTCA”). This gave legal protection to vaccine companies and physicians who administered the shot. Thus, state tort claims related to the swine flu shot were preempted. This affected nearly 5000 injured vaccinees—typically, people who were paralyzed by Guillain-Barre Syndrome (“GBS”).

Part IV synthesizes ideas from the preceding sections. A voluntary employment model for doctors is critical to smallpox preparedness. But encouragement policy has led to inadequate participation by emergency doctors who are part of the nation's bioterror response group. Partial federalization of medical torts—as occurred in the Swine Flu Act—is a better approach. Part IV.A sets forth my law and economics theory for improving participation of emergency doctors in the smallpox program. Incentives must be improved to increase participation, but direct payments are not needed to make this worthwhile. Part IV.B documents a problem that many physicians are now experiencing with medical malpractice liability. Sharply rising insurance costs are causing emergency doctors to retire, move to states with cheaper insurance, or to avoid higher risk patients. This is diminishing and disrupting the supply of responders to a bioterror attack. Part IV.C–D discusses state laws and a federal bill that cap medical liability.

This section concludes in Part IV.E. I connect a law and economics approach to the national smallpox vaccination program and insurance liability problem. Malpractice caps should be enacted for emergency doctors once they are vaccinated for smallpox. This policy would incorporate elements of the employment model of the early 1800s and the Swine Flu Act of 1976. Emergency doctors would decide whether to accept the very small risk of an adverse reaction to a smallpox vaccine in exchange for reduced insurance premiums. I believe this would create a meaningful financial incentive to improve the nation's supply of vaccinated emergency doctors.³¹

I. THE EARLY ROLE OF PHYSICIANS IN SMALLPOX OUTBREAKS: GOVERNMENT EMPLOYMENT OF DOCTORS AS INDEPENDENT CONTRACTORS

As early as 1803, physicians were hired to deal with smallpox outbreaks in the United States, as seen in *State v. Damon*.³² This case followed a crucial advance in public health: Dr. Edward Jenner's discovery of a smallpox vaccine in 1796.³³ When smallpox was first reported in a community, local

³¹ Considering that only about 8% of the entire target group was vaccinated by April 2004, I assume that most emergency medical personnel for a bioterror event are not vaccinated for smallpox. See *infra* note 140.

³² 2 Tyl. 387 (Vt. 1803).

³³ See J. Alastair Dudgeon, *Historical Introduction*, in *IMMUNIZATION: PRINCIPLES AND PRACTICE* 2 (J. Alastair Dudgeon & William A.M. Cutting eds., 1991). After Jenner correctly theorized that cowpox is a weaker viral relative of smallpox, he took cowpox matter from the arm of an infected dairymaid and exposed a healthy eight year-old boy to it. The child became immune to smallpox.

governments paid to hire a physician.³⁴ Towns also ordered house-to-house inoculations.³⁵ When people objected to vaccinations, they were fined or jailed.³⁶ Courts ruled that local governments could compel residents to be vaccinated for smallpox.³⁷

This work exposed physicians to danger in pock houses,³⁸ pest houses,³⁹ and quarantined ships.⁴⁰ Their duties included treating patients⁴¹ and purchasing supplies for quarantined people.⁴² Some physicians were stigmatized because of their direct contact with the disease. Some were

³⁴ Reynolds v. City of Mt. Vernon, 50 N.Y.S. 473 (N.Y. App. Div. 1898).

³⁵ Morris v. City of Columbus, 30 S.E. 850 (Ga. 1898).

³⁶ *Id.* at 851.

³⁷ Wyatt v. City of Rome, 31 S.E. 188 (Ga. 1898). The city “was in the exercise of a most important function of government, in which not only the inhabitants of the city, but the public at large, were interested.” *Id.* at 188. Because the city ordered vaccinations to prevent the

spread of a contagious and serious malady with which it was at the time perhaps threatened To allow any citizen a right of action on account of injuries, real or supposed, that he may have suffered in the interest of the public good, would be to paralyze the arm of the municipal government . . . and would render such action so dangerous that the possible evil consequences to it . . . might be as great as the smallpox itself.

Id.

³⁸ State v. Damon, 2 Tyl. 387, 388 (Vt. 1803).

³⁹ Bell County v. Blair, 50 S.W. 1104 (Ky. App. 1899).

⁴⁰ Harrison v. Mayor of Baltimore, 1 Gill 264 (Md. 1843).

⁴¹ Rodman v. Justices of Larue County, 66 Ky. 144 (1867).

⁴² *Harrison* provides an example. When Dr. Martin, a health officer acting on behalf of the City of Baltimore, boarded a ship with Irish immigrants arriving from Liverpool, he found numerous passengers with actual and suspected smallpox infections. *Harrison*, 1 Gill at 266. After putting the ship under quarantine, he ordered transport of sick passengers to the city’s smallpox hospital. *Id.* at 266, 270. Controversy developed when healthy passengers were quarantined onboard until the incubation period passed. *Id.* at 266–68. Seeing that the ship fed passengers only potatoes, Dr. Martin purchased beef, vegetables, herring, and bread on the ship’s credit. *Id.* at 267. The captain objected, claiming that payment of the doctor’s bill was unauthorized and was subject to arbitration. *Id.* at 268–71. An appeals court ruled that the doctor had authority not only to bill the ship for quarantine expenses incurred for passengers who were actually ill, but also for healthy passengers who might be incubating the disease. The dispute centered on an ordinance that required the doctor to “to take or direct such measures in regard to the officers, crew and passengers, as in his opinion may be necessary to disinfect them, and to prevent their propagating the disease.” *Id.* at 277–78. In the court’s view, as long as the health officer acts with “reasonable skill and judgment, and with a sound and honest discretion,” by sending

others of the crew and passengers, than those afflicted with the small pox, to the small pox hospital, we can see no sufficient objection to its being done, or to the recovery of all reasonable expenses incurred in their disinfection and purification, or during their necessary detention for the prevention of their propagation of the small pox.

Id. at 282.

prosecuted for leaving isolation centers,⁴³ and others were convicted on manslaughter charges after a spread of smallpox claimed new victims.⁴⁴ The more fortunate among these outcast doctors were merely slandered.⁴⁵

Adding to their thankless job, some doctors were not paid. Local governments offered excuses: City and county governments,⁴⁶ or local governments and charitable organizations,⁴⁷ had overlapping jurisdictions and wanted the other group to pay.

Apart from accepting risk from direct exposure to smallpox, doctors took on financial burdens. In *Ward v. Town of Forest Grove*, a physician sued to recover \$500.⁴⁸ He sought compensation for his professional services and food purchases made on his personal credit for quarantined patients.⁴⁹ The doctor

⁴³ *Comm'rs of Salisbury v. Powe*, 51 N.C. 134 (1858). A physician was charged with violating a town ordinance forbidding a person who comes from a place infected with smallpox to enter until an incubation period passed, but the court struck down the law for being too "loosely worded." *Id.* at 136.

⁴⁴ *Fairlee v. People*, 11 Ill. 1 (1849). The court reversed the conviction of a physician in Illinois who inoculated a family for smallpox was convicted of manslaughter and imprisoned for exposing an adult bystander to the virus. *Id.*

⁴⁵ *Purple v. Horton*, 13 Wend. 9 (N.Y. Sup. Ct. 1834). A physician won a \$300 judgment for slander after proving that his professional reputation was harmed when he was accused of bringing smallpox to Coventry to increase his business. The brother of a dead smallpox victim said that the doctor intentionally exposed the decedent by sitting next to him during a church service and flourishing a disease-filled handkerchief. *Id.*

⁴⁶ *See Bell County v. Blair*, 50 S.W. 1104 (Ky. App. 1899). A county refused to pay a doctor for his services related to a smallpox epidemic, claiming that he worked in a pest house within the city limits of Middlesboro. At trial, the county failed to shift the debt to the city and was ordered to pay the doctor's invoice of \$250. *Id.* at 1105. Reversing the judgment, the state appeals court reasoned:

If, as alleged in the answer, all the cases of smallpox attended by appellee were in and of the city of Middlesboro, they come within the jurisdiction of the city board, and without the jurisdiction of the county board for Bell County, and for services rendered therefor appellant is not bound.

Id.

⁴⁷ *See Rodman v. Justices of Larue County*, 66 Ky. 144 (1867). A Larue County judge ordered a doctor to attend constantly and exclusively to a smallpox victim, an African-American woman "who was so isolated as to require his services as both physician and nurse." *Id.* at 145. Failing to receive payment from the county, the doctor sued. The judge ordered a levy to pay \$150, but denied payment to the doctor of the \$110 balance. *Id.* This left the doctor to seek payment from a nearly depleted "negro fund." *Id.* An appeals court reversed the lower court and ordered the county to pay the physician in full. *Id.* at 146. The court reasoned that if the county judge had legal authority to employ medical aid for the relief of poor persons afflicted with smallpox, then the county had a duty to pay for these services. *Id.* at 145–46. The court also said that a mandamus from the local court was the proper remedy to compel the county to levy an additional tax to pay this bill. *Id.* at 146.

⁴⁸ 20 Or. 355, 356 (1891).

⁴⁹ *Id.* Some Forest Grove residents who had smallpox could not afford medical attention. At trial, the doctor proved that that the committee made arrangements to care for these patients. *Id.*

had been employed after the town passed a special resolution.⁵⁰ Later, Forest Grove argued that because a resolution is not an ordinance, it had no obligation to pay.⁵¹ An Oregon appeals court disagreed.⁵² The court stated, the “resolution was perhaps an irregular exercise of the power, but it accomplished the purpose intended, and, having received the benefit of the plaintiff’s services, the defendant should be compelled to pay him the reasonable value thereof.”⁵³

Local governments were not necessarily swindlers. Smallpox employment contracts were probably vague, incomplete, and drafted in haste. More to the point, doctor invoices appeared to give “sticker shock” to local governments. Sometimes, a special tax was levied to pay these bills. This happened in *Hazen v. Strong*.⁵⁴ To avert a catastrophe, a Vermont town employed a doctor to inoculate residents for smallpox. A special tax was levied to pay him.⁵⁵ A taxpayer refused to pay the assessment, contending that no smallpox actually occurred in the jurisdiction.⁵⁶ As a result, local authorities seized and sold his cow to satisfy the debt.⁵⁷ The state supreme court, deferring to the public’s interest in taking these protective measures, rejected the taxpayer’s argument:

Now, experience fully evinces the eminent utility of the kine pox [vaccine] in saving expense, as well as placing a safeguard around each individual, to protect life and health, while all attend to their usual vocations, instead of being confined with a loathsome disease, or becoming nurses to those who are thus confined. We are, therefore, disposed to support the selectmen, and the town, in this

⁵⁰ *Id.* The town’s board of trustees passed a resolution to appoint a committee and authorize it to procure medical assistance for indigent patients. *Id.* The resolution also authorized the committee to make all necessary regulations to prevent the spread of smallpox. *Id.*

⁵¹ *Id.* A law empowered trustees

to make regulations to prevent the introduction of contagious diseases into the town; to remove persons afflicted with such diseases therefrom to suitable hospitals provided by the town for that purpose; to secure the protection of persons and property therein, and to provide for the health, cleanliness, ornament, peace, and good order of the town.

Id. at 355. This authority could be exercised or enforced “only by ordinance, unless otherwise expressly provided.” *Id.* at 356.

⁵² *Id.* at 359 (“The corporation had the power to make the contract with plaintiff upon which this suit is brought, and attempted to exercise such power by a formal resolution of its board of trustees.”).

⁵³ *Id.*

⁵⁴ 2 Vt. 427 (1830).

⁵⁵ *Id.* at 427–28.

⁵⁶ *Id.* at 432.

⁵⁷ *Id.* at 428.

measure to prevent the spreading of the disease, when circumstances render any measures necessary.⁵⁸

These nineteenth-century experiences offer relevant insights. At the first sign of a smallpox epidemic, governments rushed to hire physicians. Doctors chose whether to expose themselves to the virus. Those who worked around smallpox voluntarily assumed this risk, with relationships based on individual employment contracts. Judging from pay disputes, doctors charged premiums for this risk.

Three features stand out in this experience. Transactions (1) were voluntary for doctors, (2) paid doctors a premium, and (3) reflected labor market conditions. This solution was not a foregone conclusion. Considering the severe mortality rate of smallpox, governments could have used militias to enforce quarantines and left smallpox victims without treatment. After all, there has never been a cure for smallpox. Instead, they treated and isolated smallpox victims, while turning to labor markets for help. Individual employment contracts played a key role in managing personal and public risks. The public paid a premium to control this extraordinary threat. In turn, doctors risked infection and loss of routine business as their special duties led to physical and social isolation.

⁵⁸ *Id.* at 432. The court reasoned:

The only person known to be infected in town may have got out of town before the selectmen had convened to adopt any measures for prevention. The result may be that very many, or that none at all, took the infection before the infected person got out of town. In such a case, it would not do to let the legality of a tax, to defray the expense of preventive measures, depend upon this uncertain result; for preventive measures ought to be adopted while it must be uncertain, whether any of the persons exposed took the disease. So, an infected person may be lodged in another township. The disorder proves to be the small pox. Persons in this town may be exposed as badly as if the infected person were in the same town with them. In such a case the selectmen should fear the danger and adopt measures to prevent the spread of the disease.

Id. at 432–33.

II. EMPLOYMENT REGULATIONS FOR PHYSICIANS IN MATTERS OF SPECIAL HEALTH RISKS

A. *License Revocation and Suspension*

The early American experience with smallpox preceded formal regulation of the medical profession. Today, states regulate the practice of medicine.⁵⁹ They delegate authority to administrative agencies to promulgate professional standards.⁶⁰ These measures protect the public from charlatans, negligent practices, prescription abuse, sexual misconduct with a patient, and similar problems.

Could a state use this power to require a physician to be vaccinated for smallpox? While physician licensing focuses on education and training standards, it also addresses personal fitness matters such as drug and alcohol abuse.⁶¹ This self-harm criterion implies that the public interest extends to regulating a physician's body for fitness to practice—although, to be clear, the standard is not enforced through bodily testing but rather relies on less intrusive methods.⁶²

There are more reasons to believe that a state could require vaccination for a medical license. In *Jacobson v. Massachusetts*, the U.S. Supreme Court broadly upheld a state's power to compel smallpox vaccination.⁶³ The Court expansively reasoned that a state agency must be allowed to “function to care for the public health and the public safety when endangered by epidemics of disease.”⁶⁴ Articulated in 1905, this principle is suited for physicians who are

⁵⁹ See *Linder v. United States*, 268 U.S. 5, 18 (1925) (“[D]irect control of medical practice in the states is beyond the power of the federal government . . .”). For a more recent case, see *Whalen v. Roe*, 429 U.S. 589, 603 n.30 (1977) (discussing that the state has broad police powers to regulate the administration of drugs by health care professionals).

⁶⁰ For a comprehensive example, see CAL. BUS. & PROF. CODE §§ 2200 *et seq.* (West 2003).

⁶¹ See *Medical Bd. of Cal. v. Superior Court*, 4 Cal. Rptr. 3d 403 (Cal. Ct. App. 2003) (concluding that physician's failure to complete substance abuse program is insufficient grounds for license revocation).

⁶² See *Griffiths v. Superior Court*, 117 Cal. Rptr. 2d 445 (Cal. Ct. App. 2002) (concluding that medical licensing board did not violate physician's rights in disciplining him for two convictions for reckless driving involving alcohol).

⁶³ 197 U.S. 11 (1905). The Court upheld the conviction of a healthy adult who refused a mandatory smallpox vaccination following an outbreak of the disease in his community.

⁶⁴ *Id.* at 37. *Jacobson* refused vaccination because of potential side effects. Mindful of this concern, the Court gave more weight to the public interest in protection from the disease.

bioweapons responders. In addition, states already disqualify physicians who present a risk of transmitting a serious infectious disease.⁶⁵ An unvaccinated emergency doctor would be an infection risk in a smallpox attack.

But there is great apathy regarding smallpox. I therefore assume that a state would require smallpox vaccination for a medical license only if an actual case occurred. However, I return to a main premise for this Article: If there is a single smallpox case in the United States, many more will occur before the infection is controlled. *Dark Winter* showed that the nation would suffer 1 million smallpox deaths. In this light, I now consider whether a state could use its licensing authority to require physician vaccination before a single case.

The state's most obvious interest in requiring preventive vaccination is to improve preparedness for a potential catastrophe. However, the context for this prophylactic approach differs from the rationale that supported public vaccination from *Damon* in 1803 through *Jacobson* in 1905. Then, the disease was a constant menace. Today, the virus is eradicated from all natural reservoirs. The main reason to vaccinate now is to deter germ attack, a military rationale. The current public policy that encourages pre-attack smallpox vaccination also equates bioterror responders to front line soldiers.

Therefore, a medical license requirement to compel smallpox vaccination today would raise constitutional issues. Its justification would be conjectural and linked to the nation's war on terrorism. As the following analysis shows, an objecting physician could challenge the requirement as a violation of the Equal Protection and Due Process Clauses of the Fourteenth Amendment and of the First Amendment protection of political expression. In this light, I now examine state and federal efforts to impose political value judgments on physicians by suspending or revoking medical licenses.

Could he reasonably claim such an exemption because "quite often," or "occasionally," injury had resulted from vaccination, or because it was impossible, in the opinion of some, by any practical test, to determine with absolute certainty whether a particular person could be safely vaccinated?

It seems to the court that an affirmative answer to these questions would practically strip the legislative department of its function to care for the public health and the public safety when endangered by epidemics of disease.

Id.

⁶⁵ California provides a state board with authority to revoke a physician's license for "failing to follow infection control guidelines . . . thereby risking transmission of blood-borne infectious diseases from the physician . . . to patients . . ." CAL. BUS. & PROF. CODE § 2221.1.

In *Barsky v. Board of Regents of University of New York*,⁶⁶ the state's medical board suspended the license of two physicians for six months. It relied on a vague statute authorizing discipline against a physician who is "convicted in a court of competent jurisdiction, either within or without this state, of a crime."⁶⁷ Dr. Barsky was a member of the Joint Anti-Fascist Refugee Committee.⁶⁸ After he refused to comply with a subpoena to testify and present financial documents of his organization before the House Un-American Activities Committee, he was convicted on a misdemeanor charge.⁶⁹ Over an impassioned dissent,⁷⁰ the New York Court of Appeals affirmed this discipline.

The U.S. Supreme Court reviewed Dr. Barsky's appeal.⁷¹ In a broad ruling upholding his discipline, the majority said: "It is elemental that a state has broad power to establish and enforce standards of conduct within its borders relative to the health of everyone there. It is a vital part of a state's police power."⁷² The Court deferred to the state board's view of "the importance of high standards of character and law observance on the part of practicing physicians."⁷³

However, three dissenting opinions in *Barsky* seem relevant today. Justice Douglas concluded that professional discipline cannot be imposed on a doctor simply because of that individual's unpopular beliefs.⁷⁴ He reasoned that a doctor's loss of livelihood by license revocation is protected by the

⁶⁶ 305 N.Y. 89 (1953).

⁶⁷ *Id.* at 95.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ The judge reasoned: "[T]he gist of the findings by the Committee on Discipline appears to be this: that the crime of which appellant was convicted did not, as the Supreme Court unequivocally stated, involve moral turpitude . . ." *Id.* at 102. The legislature's intent to protect the public was not achieved by punishing a doctor for exercising his civil liberties.

It seems almost incredible to me that the legislature could have contemplated that such "noncriminal" or "meritorious" acts might be the predicate for a consequence so harsh as revocation or suspension of a physician's right to practice. Yet that is precisely what the court is now holding . . . [A] statute's validity must be judged not by what has been done under it but "by what is possible under it."

Id. 105-06 (quoting *Packer Collegiate Inst. v. Univ. of the State of N.Y.*, 81 N.E.2d 80 (N.Y. 1948)).

⁷¹ *Barsky v. Bd. of Regents of the Univ. of N.Y.*, 347 U.S. 442 (1954).

⁷² *Id.* at 449.

⁷³ *Id.* at 452.

⁷⁴ *Id.* at 474 (Douglas, J., dissenting). "Dr. Barsky's license to practice medicine has been suspended . . . because he had certain unpopular ideas." *Id.* at 473.

Constitution.⁷⁵ Justice Black was concerned that New York law defined criminal conduct so broadly that it failed to distinguish between legitimate and phantom public interests.⁷⁶

The arbitrary nature of Dr. Barsky's discipline concerned Justice Frankfurter.⁷⁷ He recognized that states have broad powers to regulate a physician's license.⁷⁸ They must have discretion to define the scope of judicial review of licensing decisions.⁷⁹ But punishing a doctor for a matter wholly unrelated to professional considerations is unconstitutional.⁸⁰

In the absence of a reported case of smallpox, *Barsky* is uncertain authority for disciplining a doctor who refuses mandatory smallpox vaccination. Some

⁷⁵ *Id.* at 474 (“[I]t does a man little good to stay alive and free and propertied, if he cannot work.”).

⁷⁶ *Id.* at 462–63 (Black, J., dissenting) (“[T]he Regents have complete discretion to impose any measure of discipline from mere reprimand to full revocation of the doctor’s license. No legislative standards fetter the Regents in this respect. And no court in New York can review the exercise of their ‘discretion,’ if it is shown that the Regents had authority to impose any discipline at all.”).

⁷⁷ *Id.* at 469–70 (Frankfurter, J., dissenting). Noting that the disciplinary committee recommended only a reprimand, but was overruled without explanation by the Board of Regents, Justice Frankfurter recounted how the New York Court of Appeals found itself so hamstrung that “‘we are wholly without jurisdiction to review such questions.’” *Id.* at 469 (quoting *Barsky v. Bd. of Regents of Univ. of N.Y.* 305 N.Y. 89, 99 (1953)). Lack of any appellate review concerned him:

[T]he highest court of the State of New York tells us, in effect, “Yes, it may be that the Regents arbitrarily deprived a doctor of his license to practice medicine, but the courts of New York can do nothing about it.” Such a rule of law, by denying all relief from arbitrary action, implicitly sanctions it; and deprivation of interests that are part of a man’s liberty and property, when based on such arbitrary grounds, contravenes the Due Process Clause of the Fourteenth Amendment.

Id.

⁷⁸ *Id.* (“[A] State must have the widest leeway in dealing with an interest so basic to its well-being as the health of its people. This includes the setting of standards, no matter how high, for medical practitioners, and the laying down of procedures for enforcement, no matter how strict.”).

⁷⁹ *Id.* (“The granting of licenses to practice medicine and the curtailment or revocation of such licenses may naturally be entrusted to the sound discretion of an administrative agency.”). He emphasized the breadth of this power, observing that “when a State does establish some sort of judicial review, it can certainly provide that there be no review of an agency’s discretion, so long as that discretion was exercised within the gamut of choices, however extensive, relevant to the purpose of the power given the administrative agency.” *Id.* at 470.

⁸⁰ *Id.* (“So far as concerns the power to grant or revoke a medical license, that means that the exercise of the authority must have some rational relation to the qualifications required of a practitioner in that profession.”). He expounded:

It is one thing thus to recognize the freedom which the Constitution wisely leaves to the States in regulating the professions. It is quite another thing, however, to sanction a State’s deprivation or partial destruction of a man’s professional life on grounds having no possible relation to fitness, intellectual or moral, to pursue his profession.

Id. He added: “Implicit in the grant of discretion to a State’s medical board is the qualification that it must not exercise its supervisory powers on arbitrary, whimsical or irrational considerations.” *Id.*

doctors have already protested against federal smallpox policy.⁸¹ Others have used professional organizations to criticize the war on terrorism.⁸² Political overtones to antiterror policies highlight *Barsky*'s relevance. A state would defend its "broad power to establish and enforce standards of conduct within its borders relative to the health of everyone there" as "a vital part" of its "police power."⁸³ This broad and clear holding would not decide the matter, however. Dissenting opinions in *Barsky* draw from a range of ideological foundations, which increase the odds that reasoning from a *Barsky* dissent appeals to current judges.

Furthermore, judicial scrutiny depends on the facts. The immediacy of a smallpox threat would be pivotal. Current risk assessments of smallpox put the threat as extremely low, but not zero. This suggests that judges would closely scrutinize the state's asserted interest in requiring doctors to get a comparatively risky smallpox vaccination. There are scenarios between pre-attack and a reported case of smallpox. A terror group could hint at a germ attack or specifically threaten to spread smallpox. Or, a smallpox case could occur outside the United States. If this occurred in an area known for terrorist activities, concern for an imminent attack would increase. These developments would enhance a state's legitimacy in using discipline to compel vaccination.

Physician licensing has recently been used in regulating abortions. In *Thornburgh v. American College of Obstetricians & Gynecologists*,⁸⁴ Pennsylvania placed numerous procedural restrictions on a woman's choice to have an abortion.⁸⁵ These included "informed consent" procedures, requiring a physician to provide a pregnant patient with information aimed at discouraging abortion.⁸⁶ Failure to adhere to these requirements put a doctor at risk for

⁸¹ See Tina Hesman, *Experts Describe Smallpox Risk as Carrying Little Risk for Most Workers*, ST. LOUIS POST-DISPATCH, Jan. 27, 2003, at A6 (reporting that unions for doctors and health care workers protested the national smallpox vaccination program).

⁸² See Mark Siebert, *Big Crowd Expected for Peace Gathering*, DES MOINES REGISTER, Mar. 20, 2004, at B1 (describing the protest of the war on terrorism by the Iowa chapter of Physicians for Social Responsibility).

⁸³ *Barsky*, 337 U.S. at 442.

⁸⁴ 476 U.S. 747 (1986).

⁸⁵ Abortion Control Act, 1982 Pa. Laws 476, Act No. 138 (codified as amended at 18 PA. CONS. STAT. § 3201 *et seq.* (2000)).

⁸⁶ *Thornburgh*, 476 U.S. at 760. A physician was required to provide, at least 24 hours in advance of an abortion:

- (a) the name of the physician who will perform the abortion;
- (b) notice that there may "be detrimental physical and psychological effects which are not accurately foreseeable;"

suspension or license revocation.⁸⁷ The law went further, requiring that the doctor file an “informed consent report” with the state, available for public inspection. The law defined willful failure to file a report as “unprofessional conduct,” putting the offending physician at risk for license suspension or revocation.⁸⁸ Without ruling on this enforcement mechanism, the Supreme Court struck down these informational requirements, reasoning that they were “an outright attempt to wedge the Commonwealth’s message discouraging abortion into the privacy of the informed-consent dialogue between the woman and her physician.”⁸⁹

Abortion and smallpox are completely unrelated medical matters, so what is the significance of *American College of Obstetricians & Gynecologists*? License penalties for physicians are uncommon. They occur much less frequently in political controversies. Appellate litigation of these cases is even more rare. Thus, there are few clues on court review of this power in a political context. In the fifty years since *Barsky*, individual employment rights have dramatically increased.⁹⁰ *American College of Obstetricians & Gynecologists* marks a shift in judicial perspective from *Barsky*. The Supreme Court is less deferential when a medical practice is politicized and enforced by license penalties.

A recent federal appeals court decision provides another benchmark. Voter approval of medicinal marijuana in California and Arizona set the stage for *Conant v. Walters*.⁹¹ The Clinton administration’s drug czar took measures to

(c) forewarning of the “particular medical risks associated with the particular abortion procedure to be employed;”

(d) the probable gestational age of the fetus; and

(e) the “medical risks associated with carrying her child to term.”

Id. “Materials were required to describe ‘probable anatomical and physiological characteristics of the unborn child at two-week gestational increments from fertilization to full term, including any relevant information on the possibility of the unborn child’s survival.’” *Id.* at 761. To validate her consent, a woman was required to certify in writing, prior to an abortion, that she read and understood all this information. *Id.* at 760–61.

⁸⁷ *Id.* at 759.

⁸⁸ *Id.* at 765.

⁸⁹ *Id.* at 762.

⁹⁰ Today, individuals have unprecedented individual employment rights. *See, e.g.,* Pugh v. See’s Candies, Inc., 171 Cal. Rptr. 917, 925 (Cal. Ct. App. 1981) (finding an implied oral contract exception to employment-at-will); Petermann v. Local 396, Int’l Bhd. of Teamsters, 344 P.2d 25, 27 (Cal. Ct. App. 1959) (finding a public policy exception to employment-at-will); Toussaint v. Blue Cross & Blue Shield of Mich., 292 N.W.2d 880 (Mich. 1980) (finding a handbook exception to employment-at-will).

⁹¹ 309 F.3d 629, 632 n.1 (9th Cir. 2002) (referencing California Proposition 215 and Arizona Proposition 200).

prevent doctors from encouraging medicinal marijuana.⁹² Under Drug Enforcement Agency (“DEA”) rules, plans were announced to revoke a physician’s license for recommending the drug.⁹³

In response, patients and physicians sued to enjoin action upon this threat.⁹⁴ The plaintiffs provided scientific evidence that medicinal marijuana relieves uncontrolled vomiting and extreme pain for cancer patients and other critically ill people.⁹⁵ They argued that the DEA plan chilled communication of legitimate medical information and therefore violated First Amendment rights of free expression.⁹⁶ The federal government contended, however, that this medical advice would contribute to illegal drug activities.⁹⁷

The Ninth Circuit Court of Appeals made the district court’s injunction permanent, prohibiting the DEA from acting on its license revocation plan.⁹⁸ The court reaffirmed police powers “that have left states as the primary regulators of professional conduct,”⁹⁹ and also concluded that “direct control of medical practice in the states is beyond the power of the federal

⁹² *Id.* at 632.

⁹³ *Id.* (quoting the federal policy that found a doctor’s “action of recommending or prescribing Schedule I controlled substances is not consistent with the ‘public interest’ (as that phrase is used in the Federal Controlled Substances Act)”). The Clinton administration stated its intention to revoke a physician’s registration to prescribe controlled substances under the “public interest” section of 21 U.S.C. § 823(f) (2000). *Conant*, 309 F.3d at 632.

⁹⁴ *Id.* Plaintiffs were patients with serious illnesses, physicians who were licensed by California and also treated patients with these health conditions, and a physician group named Bay Area Physicians for Human Rights. *Id.* at 633.

⁹⁵ *Id.* at 641. Detailed reporting of this justification appears in Judge Kozinski’s concurring opinion. He gives a summary of an Institute of Medicine report that cautiously advocates medicinal marijuana to provide relief for patients with metastatic cancer, HIV/AIDS, multiple sclerosis, spinal cord injuries, and epilepsy. *See id.*

⁹⁶ *Id.* at 634–35 (reflecting physician concern that “[t]o hold that physicians are barred from communicating to patients sincere medical judgments would disable patients from understanding their own situations well enough to participate in the debate.”) The court also dealt with the concern of seriously ill plaintiffs that “[w]ithout open communication with their physicians, patients would fall silent and appear uninformed.” *Id.*

⁹⁷ *Id.* at 632. The definition of “public interest” under federal drug law was the basis for the Clinton Administration’s approach to regulate conditions of employment for physicians. It regulates any conduct by a doctor “which may threaten the public health and safety.” *Id.* at 632–33. Under the Clinton plan, the Departments of Justice and Health and Human Services provided written notice of the revocation policy to licensing boards and physician groups that advocated medicinal marijuana. It cautioned that “physicians who ‘intentionally provide their patients with oral or written statements in order to enable them to obtain controlled substances in violation of federal law . . . risk revocation of their DEA prescription authority.’” *Id.* at 633.

⁹⁸ *Id.* at 639.

⁹⁹ *Id.* (citing *Linder v. United States*, 268 U.S. 5, 18 (1925)).

government.”¹⁰⁰ But the opinion emphasized that the injunction prohibited only license revocation when a doctor discusses potential benefits of medicinal marijuana with a seriously ill patient.¹⁰¹ The court’s order did not protect doctors aiding and abetting in the cultivation, distribution, or use of controlled substances.¹⁰² The court also reasoned that the federal government’s interest in preventing recommendation of marijuana was too vague to survive the First Amendment requirement of “narrow specificity.”¹⁰³

As in *American College of Obstetricians & Gynecologists*, *Conant* presents no connection between smallpox and medicinal marijuana. This case shows, however, that courts defer to medical licensing authorities as long as they make judgments within recognized bounds of professional standards. However, once license revocation advances a political agenda, courts scrutinize this power. Thus, *Conant* reinforces my conclusion made in connection with *Barsky* and *American College of Obstetricians & Gynecologists*: In a low-threat environment for smallpox, states would be unlikely to be able to require physician vaccination for smallpox.

B. Protective Federal Regulation: Encouragement Policies To Vaccinate for Hepatitis-B and Smallpox

On rare occasions, a public health matter is enforced by penalizing doctors. This approach has not been used for vaccination policies. Instead, encouragement policies have been implemented. Even then, this has been limited to two diseases: Hepatitis-B and smallpox.

Vaccination for Hepatitis-B was the first encouragement policy. OSHA issued a rule in 1991 to control workplace exposure to bloodborne pathogens, HIV, and Hepatitis-B.¹⁰⁴ The rule applies to most health care professionals, from surgeons and dentists to health care workers in nursing homes.¹⁰⁵ The

¹⁰⁰ *Id.*

¹⁰¹ *Id.* at 635 (holding that the injunction does “not enjoin the government from prosecuting physicians when government officials in good faith believe that they have ‘probable cause to charge under the federal aiding and abetting and/or conspiracy statutes’”).

¹⁰² *Id.* at 636.

¹⁰³ *Id.* at 639.

¹⁰⁴ See *Am. Dental Ass’n v. Martin*, 984 F.2d 823, 824 (7th Cir. 1993) (citing Occupational Exposure to Bloodborne Pathogens, 56 Fed. Reg. 64004 (Dec. 6, 1991); Occupational Exposure to Bloodborne Pathogens, Correction, 57 Fed. Reg. 29206 (July 1, 1992); 29 C.F.R. § 1910.1030).

¹⁰⁵ *Id.* at 833 n.4 (listing that the rule covers physicians and surgeons, registered nurses, therapists, lab technicians, emergency medical technicians, surgical technicians, other health professionals, licensed practical

rule imposes universal infection controls¹⁰⁶ when these workers come into contact with human blood.¹⁰⁷

The rule has a vaccination element. Since there is no vaccine for HIV but an effective one for Hepatitis-B, the element applies only to the latter.¹⁰⁸ OSHA estimated that this vaccine could save between 113 and 129 healthcare workers who die each year from workplace exposure to this illness.¹⁰⁹ Toward this goal, OSHA requires employers to provide a Hepatitis-B vaccination for every worker who is exposed to blood.¹¹⁰ For employees, the rule is voluntary: They are free to decline vaccination.¹¹¹

In *American Dental Ass'n v. Martin*, a divided panel of the Seventh Circuit Court of Appeals upheld OSHA's regulation.¹¹² Without ruling on the vaccine, Judge Posner spoke approvingly of it.¹¹³ He reasoned: "OSHA's evaluation of the effects of the rule, relying as it does on the undoubted expertise of the Centers for Disease Control, cannot seriously be faulted, at least by judges."¹¹⁴

Smallpox vaccination is also regulated by an encouragement policy, more complicated because of its state and federal layers. The state layer involves a

nurses, therapy assistants, physician assistants, medical assistants, nursing aides, dentists, dental hygienists, and dental assistants).

¹⁰⁶ OSHA intended its rule to guard against the possibility of bloodborne infection from pathogens in all patients, not only the blood of patients known or believed likely to be carriers of Hepatitis-B or HIV. *Id.* at 825.

¹⁰⁷ *Id.* Thus, the rule requires the use of goggles, gloves, masks, sterilization, and waste disposal in a hospital setting. *Id.* It requires protection in any dental procedure in which the patient's saliva can drip, spray, or splatter on a dental worker. *Id.* at 826.

¹⁰⁸ *Id.* at 825.

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 839.

¹¹¹ *Id.* at 825.

¹¹² Litigation focused on the breadth of the rule, covering not only hospitals but places where bloodborne infections are less likely—for example, dental offices, in-home health care services, and nursing homes. Concerned by this scope, Judge Coffey's partial dissent agreed with dentists and the home health care industry that:

[I]t is improper for the Occupational Safety and Health Administration's final bloodborne pathogens standard to be applied uniformly to their respective fields since the levels of exposure to bloodborne pathogens are vastly different among the various disciplines. The rule adopted can best be classified as an attempt to try to kill a fly with a sledgehammer.

Id. at 831. He expressed disappointment in the vaccine policy, which was "fueled by one single episode involving Kimberly Bergalis in Florida contracting AIDS from her dentist." *Id.*

¹¹³ *Id.* at 825 ("Most of these deaths would be avoided by the vaccine, but by no means all, because the vaccine is not a hundred percent effective and, more important, because many health care workers refuse to be vaccinated.").

¹¹⁴ *Id.*

preliminary step to require smallpox vaccinations for first responders. The source of these state laws is the Model State Emergency Health Powers Act (“MSEHPA”). A draft for public discussion was published in December 2001.¹¹⁵ The model law follows a request by the CDC for public policies to improve response to a bioterror attack. Public health officials are authorized to identify, monitor, and address public health emergencies. A public health emergency is defined by the model law as an occurrence or imminent threat of an illness or health condition, posing a high probability of harm or death to a large number of people that results from bioterrorism, nuclear or chemical attack or accident, or natural disaster.¹¹⁶ The model law requires states to develop a comprehensive plan to deal with public health emergencies.¹¹⁷ Government officials are granted extraordinary powers to examine, test, treat, and vaccinate individuals, and isolate or quarantine those who refuse to comply.¹¹⁸ Also, power is provided to compel in-state health care providers to assist with emergency treatment or other necessary measures. In order to increase the supply of medical personnel to treat victims of a bioterror attack, MSEHPA suspends state-specific licensing requirements that would otherwise bar out-of-state health care workers from providing emergency assistance. Finally, MSEHPA provides immunity from civil liability for death or injury to persons who act at the emergency direction of state or local governments.¹¹⁹

These laws lay a necessary groundwork for a bioterror attack. But I return to the main premise for this Article: If a single smallpox case occurs in the United States, it will not be isolated. *Dark Winter* shows that it will be followed by many more cases. Meanwhile, immense losses will occur. Thus, laws based on MSEHPA are similar to my hypothetical scenario of using medical licenses to require smallpox vaccination for doctors. Both approaches

¹¹⁵ MSEHPA, Draft (Dec. 21, 2001), available at <http://www.publichealthlaw.net/MSEHPA/MSEHPA2.pdf>.

¹¹⁶ *Id.* at art. I, § 104(m).

¹¹⁷ *Id.*

¹¹⁸ *Id.* at art. VI, §§ 602–03.

¹¹⁹ *Id.* at art. VIII, § 804(b)(2). Several states have enacted legislation based on this model law. See ARIZ. REV. STAT. §§ 36-136; 36-624 (2002); Delaware Emergency Health Powers Act, DEL. CODE ANN. tit. 16, § 122 (2002); FLA. STAT. ch. 381.0011 (2002); GA. CODE ANN. § 973 (2002); HAW. REV. STAT. § 169 (2002); ME. REV. STAT. ANN. tit. 22, § 820 (2002); MD. CODE ANN. art. 41, § 2-201 (2002); Minnesota Emergency Health Powers Act, MINN. STAT. § 12.31 (2002); MO. REV. STAT. § 44.010 (2001); N.H. REV. STAT. ANN. § 107 (2002); S.D. CODIFIED LAWS § 34-22-41 (Michie 2002); Tennessee Emergency Health Powers Act, TENN. CODE ANN. § 68-56 (2002); Detection of Public Health Emergencies Act, UTAH CODE ANN. § 26-23 (2002). South Carolina has not collected this material in one location. See 2002 S.C. Acts 339. Rather, it is scattered throughout the South Carolina Code. See *General Index* to CODE OF LAWS OF SOUTH CAROLINA 1976, at 858–59 (2005) (listing over 100 code sections under the heading “Terrorism and Homeland Security”).

provide coercive vaccination powers, but neither applies before a smallpox event.

This does not offer Americans reasonable protection from smallpox. If *Dark Winter* is credible, the concern for Americans is not only for their personal protection from infection. When *Dark Winter* predicts 3 million casualties, it implies that almost 99% of Americans will avoid this horrific illness. But only the most secluded hermit would be spared the economic ruin, extreme isolation, and reconfiguration of a vastly diminished American society that would result from a single smallpox event.

Congress and the Department of Health and Human Services have a voluntary smallpox vaccination program. However, it falls short of preventing a viral holocaust. The policy encourages smallpox vaccination for front-line emergency responders. President Bush initiated it on December 13, 2002.¹²⁰ The Secretary of HHS was charged with coordinating state and local governments to form volunteer smallpox response teams.¹²¹ Acting on this authority, the agency announced plans to use countermeasures such as smallpox vaccines, cidofovir, and Vaccinia Immune Globulin.¹²² Participation by emergency responders is encouraged.¹²³ Response teams include emergency healthcare workers.¹²⁴

From its inception, this policy has delivered poor results.¹²⁵ It is also currently stalled.¹²⁶ More than 90% of the policy's target group remains

¹²⁰ Smallpox Compensation Program: Smallpox (Vaccinia) Vaccine Injury Table, 42 C.F.R. § 102.21 (2004). The policy is justified by the "heightened concerns, in the wake of the attacks of September and October 2001, that terrorists may have access to the smallpox virus and may attempt to use it against the population of the United States and government facilities abroad." Background to Interim Final Rule, 68 Fed. Reg. 51492 (Aug. 27, 2003).

¹²¹ *Id.* at 51492–93. To put the policy into effect, the Secretary of HHS made a formal "Declaration Regarding Administration of Smallpox Countermeasures," on January 28, 2003. *See id.* at 4212. He found that "a potential bioterrorist incident makes it advisable to administer, on a voluntary basis, covered countermeasures specified . . . for prevention or treatment of smallpox . . . or control or treatment of adverse events related to smallpox vaccination . . ." *Id.*

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.*

¹²⁵ U.S. GENERAL ACCOUNTING OFFICE, SMALLPOX VACCINATION: IMPLEMENTATION OF NATIONAL PROGRAM FACES CHALLENGES (Apr. 2003), GAO-03-578, available at <http://www.gao.gov/new.items/d03578.pdf>.

¹²⁶ DEMOCRATIC MEMBERS OF THE HOUSE SELECT COMMITTEE ON HOMELAND SECURITY, A BIODEFENSE FAILURE: THE NATIONAL SMALLPOX VACCINATION PROGRAM ONE YEAR LATER 12 (2004) ("The Administration has been unable to restart a program that has been stalled since May of 2003, leaving a

unvaccinated.¹²⁷ The problem is not its voluntary element, which reflects a humane concern about the potentially serious side effects of the smallpox vaccine.¹²⁸ The policy fails, first, because it underestimates the incentive needed to motivate volunteers to accept the comparatively high risk of the smallpox vaccine. Clearly, more incentive is needed to improve the vaccination rate among emergency responders.

Second, the policy embeds the concept of a civilian defense force in the existing employment relationships of emergency responders. These individuals are already employed as doctors, nurses, fire fighters, police officers, and other public health workers. The policy is not failing because of this dual capacity concept. It fails, however, because it exposes workers to greater personal risk in this preparedness phase without adequate compensation.

Workers' compensation is a case in point. Available to every emergency responder, this state administered insurance program pays for lost income and medical bills when a person is injured in the course of employment. In contrast, smallpox vaccination is not a condition of employment. Therefore, an adverse shot reaction does not appear to qualify an emergency responder for worker compensation benefits.¹²⁹ Disability insurance that is provided under the national smallpox policy provides too little compensation for vaccine

conspicuous gap in our biodefenses. There has been no attempt by the Administration to change this situation, and no indication of a strategy or intention of sufficient magnitude to do so.”).

¹²⁷ Centers for Disease Control, *Smallpox Vaccination Program Status by State* (Dec. 31, 2003), at <http://www.cdc.gov/od/oc/media/spvaccin.htm>. The original goal was to vaccinate 500,000 health care workers within thirty days of beginning the civilian program for smallpox defense. As of October 31, 2004, only 39,597 emergency responders were vaccinated.

¹²⁸ See Smallpox Emergency Personnel Protection Act of 2003, H.R. 1463, 108th Cong. (2003); see also 149 CONG. REC. H2490 (daily ed. Mar. 31, 2003) (Representative Cardin remarked: “Last week, a 57-year-old nurse from my own state of Maryland died within 5 days of receiving the smallpox vaccine [T]o date, 12 health care workers who received the vaccine have experienced severe heart problems within day [sic] of inoculation, and 3 have died. These deaths and complications are sending waves of panic through the health care community.”); *id.* at H2485 (testimony of Andrew L. Stern, President of the Service Employees International Union: “Already, there has been a great reluctance among health care workers to risk injury and loss of income without an adequate safety net for themselves and their families.”).

¹²⁹ *Id.* at H2483 (testimony of Barry Kasinitz, Director of Governmental Affairs, International Association of Fire Fighters: “[W]e have concerns about the compensation package contained in H.R. 1463. The legislation appears to have been crafted to serve as a supplement to workers compensation, but it is far from clear that workers compensation would cover injuries stemming from the vaccine. Because the smallpox vaccination program is a voluntary program, state workers comp systems may deny benefits.”).

injuries.¹³⁰ In addition, it provides uncertain recovery to people who are injured from a secondary spread of the vaccine (e.g., contact from a scab).¹³¹

Congress ignored these concerns when it passed the Smallpox Emergency Personnel Protection Act of 2003.¹³² Under the Smallpox Vaccine Injury Compensation Program authorized by SEPPA, certain persons¹³³ may be entitled to benefits¹³⁴ or compensation,¹³⁵ including compensation for death or disability,¹³⁶ for covered injuries that are a direct result of the administration of a smallpox countermeasure, including the smallpox vaccine or accidental

¹³⁰ *Id.* (testimony of W. Michael Sheld, President, Infectious Diseases Society of America (“IDSA”), an organization of physicians and scientists who work with state and local governments to oversee the nation’s bioterror preparations):

It is just and right that individuals be made whole for the injuries they suffer as the result of a program being carried out under the auspices of national security. Under H.R. 1463, compensation for medical expenses, disability, lost wages and death is modeled after the Public Safety Officers Benefit program (PSOB). The PSOB program is designed to work in conjunction with other benefit programs, such as workers’ compensation and health insurance and is designed primarily to deal with death and total, permanent disability. In the case of smallpox, there are no guarantees that a person injured by the smallpox vaccine will be covered by workers’ compensation or will be adequately insured.

¹³¹ *Id.* (“One element that IDSA believes to be of primary significance to the success of NSIP (National Smallpox Immunization Program) is universal eligibility. That is, all individuals injured as a consequence of NSIP’s implementation should be compensated for their injuries. Eligibility should not be promised upon whether injured individuals volunteered to participate in the program or were injured as a result of a secondary transmission.”).

¹³² Smallpox Emergency Personnel Protection Act of 2003, Pub. L. No. 108-20, 117 Stat. 638 (to be codified at 42 U.S.C. § 201).

¹³³ Section 261(2) defines a “covered individual” in several parts. This person is a health care worker, law enforcement officer, firefighter, security personnel, emergency medical personnel, other public safety personnel, or support personnel for such occupational specialties. *Id.* She must function in a role identified in a state, local, or Department of Health and Human Services smallpox emergency response plan approved by the Secretary, and be vaccinated for smallpox by certain dates. *Id.*

¹³⁴ Section 264(a) defines medical benefits as “payment or reimbursement for medical items and services as reasonable and necessary to treat a covered injury of an eligible individual.” *Id.* However, these benefits are “secondary to any obligation of the United States or any third party (including any State or local governmental entity, private insurance carrier, or employer) under any other provision of law or contractual agreement, to pay for or provide such services or benefits.” *Id.* § 264(b).

¹³⁵ Section 265(b) sets compensation for lost employment compensation as “at the rate of 66 2/3 percent of monthly employment income, except that such percentage shall be 75 percent in the case of an individual who has one or more dependents.” *Id.* There are numerous and substantial compensation limits under Section 265(c).

¹³⁶ Section 266(a) provides death or permanent total disability payments to “an eligible individual who is determined to have a covered injury or injuries . . .” *Id.* Subsection (c)(1) awards a death or disability benefit “equal [to] the amount of the comparable benefit calculated under the PSOB.” *Id.*

vaccinia inoculation.¹³⁷ The benefit for total disability or death equals the amount payable under the Public Safety Officers Benefit (“PSOB”) program. This federal policy pays \$262,000 in a lump sum, indexed for inflation, to public safety officers who are killed or totally disabled in the line of duty.¹³⁸

Throughout the smallpox vaccination program, the CDC has carefully monitored severe reactions among military¹³⁹ and civilian¹⁴⁰ vaccinees. It has published detailed case studies of nonlethal¹⁴¹ and lethal¹⁴² reactions. Based on this monitoring, the CDC has tightened prescreening criteria so that now people with heart conditions are excluded from vaccination.¹⁴³

Putting the smallpox vaccination program in the context of my historical research, much of it is consistent with earlier vaccination efforts that were

¹³⁷ Section 261(3) defines a “covered injury” as “an injury, disability, illness, condition, or death (other than a minor injury such as minor scarring or minor local reaction)” *Id.* It must directly result from a vaccine during the effective period of the declaration, or accidental vaccinia inoculation within specific time and place parameters. *Id.*

¹³⁸ 42 U.S.C. § 3796 *et seq.* (2000).

¹³⁹ Centers for Disease Control, *Update: Cardiac Adverse Events Following Smallpox Vaccination—United States, 2003*, 52 MORBIDITY & MORTALITY WKLY. REP. 278 (2003). Fourteen cases of myocarditis and one fatal myocardial infarction were reported among 250,000 military personnel who received smallpox vaccination for the first time. No cases of myocarditis and/or pericarditis were identified among the 115,000 service members who were revaccinated. In sum, among the approximately 365,000 vaccinated military service members, one death was reported. *Id.*

¹⁴⁰ *Id.* From January 24 to March 28, 2003, smallpox vaccine was administered to 29,584 civilian health-care and public health workers in fifty-four U.S. jurisdictions. Ten cases of heart-related “events” were reported among civilian vaccinees since the beginning of the smallpox vaccination program.

¹⁴¹ *Id.* In 2003, a fifty-six year old male who was vaccinated on March 4 experienced a flu-like illness on March 16. Over the next week, he had chest pain, fever, chills, pallor, and left knee pain. Seventeen days after vaccination, his symptoms resolved. A thirty-two year old female with no history of cardiac disease was vaccinated on January 31. By February 16, she developed a fever, crushing chest pain, and shortness of breath. After standard treatment, her symptoms resolved and she returned to normal health. An active sixty-four year old man with previous smallpox vaccinations was revaccinated on March 21. Two days later, he sought medical care for chest fullness and dizziness. He received cardiac catheterization, during which two arterial stents were implanted. He returned to work on March 31. *Id.*

¹⁴² *Id.* On March 23, a fifty-five year old woman with a history of hypertension, high cholesterol, and smoking died five days after smallpox vaccination. However, an autopsy showed extensive atherosclerotic disease, with right coronary artery thrombosis and lateral wall softening. *Id.* The autopsy indicated that the virus from the vaccine did not travel beyond the vaccination site nor was present in her heart and other visceral tissue. *Id.* On March 26, a fifty-seven year old woman with a history of smoking, hypertension, and carotid endarterectomy died twenty-two days after smallpox vaccination. An autopsy test found no evidence of vaccinia virus DNA except at the vaccination site. *Id.*

¹⁴³ *Id.* (“Persons should be excluded from the pre-event smallpox vaccination program if they have had heart disease or any type of ischemic cardiovascular disease diagnosed, with or without symptoms Persons also should be excluded if they have three or more risk factors: hypertension, diabetes, hypercholesterolemia, smoking, or an immediate family member who had onset of a heart condition before age 50.”).

successful. Throughout the nineteenth century, local governments administered vaccination programs. They employed private physicians to quarantine exposed and infected people and to vaccinate others. There is no record of self-vaccination by these doctors, but one can only presume that they took this sensible precaution before exposing themselves to the highly infectious disease. By the time of *Jacobson*, smallpox vaccination programs were widespread and mandatory.¹⁴⁴

These programs were effectively integrated in the existing employment relationships of physicians. Participation was voluntary, but, as early experience shows, doctors were paid a premium for increasing their exposure to smallpox.¹⁴⁵ Today, however, smallpox vaccinations are perceived more as a threat than as a necessary prophylactic. Current policy cannot be faulted for this, but it has failed to adapt to a sea change in the nation's aversion to vaccine risks.¹⁴⁶ It miscalculates the risk-reward matrix that emergency responders, including doctors, use in making a personal decision on smallpox vaccination. In a word, the policy fails to offer doctors the risk premium they once enjoyed. With this background in mind, I turn to the lessons of the 1976 Swine Flu vaccination program. This national experience provides relevant insights for improving the vaccination rate of emergency responders in the smallpox program.

III. THE SWINE FLU ACT OF 1976: PHYSICIANS PARTICIPATE IN A MASS VACCINATION PROGRAM IN EXCHANGE FOR FEDERAL TORT IMMUNITY

A. *Crisis and Fear of Pandemic Spur Congress To Enact the Swine Flu Act*

Current bioterror policy ignores useful experience from a 1976 public health threat. After a flu virus similar to the one that killed 500,000 Americans in 1917 appeared again in early 1976, the federal government raced to develop

¹⁴⁴ See *supra* text accompanying note 63.

¹⁴⁵ See *supra* Part I.

¹⁴⁶ See Steve P. Calandrillo, *Vanishing Vaccinations: Why Are So Many Americans Opting Out of Vaccinating Their Children?*, 37 U. MICH. J.L. REFORM 353 (2004). Calandrillo explains that a mercury-based preservative used in many vaccines, thimerosal, is a neurotoxin that may be related to autism. *Id.* at 396–97. However, no vaccine is made now with this component. More generally, opponents of vaccinations allege that vaccines cause multiple sclerosis, sudden infant death syndrome, diabetes, asthma, and bacterial infections. *Id.* at 402–03.

a mass immunization program.¹⁴⁷ Congress authorized an emergency plan under the National Swine Flu Immunization Program of 1976.¹⁴⁸ Senator Jacob Javits, sponsor of this legislation, stressed that inoculations were voluntary for the American public, but also highly advisable.¹⁴⁹ Forty-three million people received the Swine Flu vaccine from October 1 through December 18.¹⁵⁰ The program was halted after growing numbers of vaccine-related Guillian-Barre Syndrome cases occurred.¹⁵¹ A 1986 report found that 4733 vaccinees developed GBS, killing 223 of them.¹⁵² Injury claims exceeded \$85 million.¹⁵³

Anticipating these side effects, vaccine makers refused to participate because of tort liability.¹⁵⁴ Adding to their concern, private insurers denied them coverage for participating in this program.¹⁵⁵ In response, Congress

¹⁴⁷ U.S. GOVERNMENT ACCOUNTING OFFICE, IMMUNIZATION—HHS COULD DO MORE TO INCREASE VACCINATION AMONG OLDER ADULTS, 149 CONG. REC. H2478 (daily ed. June 8, 1995), *reprinted in* GAO/PEMD 95-14.

¹⁴⁸ National Swine Flu Immunization Program of 1976, Pub. L. No. 94-380, 90 Stat. 1113 (codified at 42 U.S.C. § 247b(j)), *repealed by* Pub. L. No. 95-626, § 202, 92 Stat. 3551, 3574 (1978) (42 U.S.C. § 247b). The bill was presented on the Senate floor without a hearing or committee report on August 10, 1976. 122 CONG. REC. 26626 (daily ed. Aug. 10, 1976). The House of Representatives took up this bill on the same day, also without prior consideration, and passed it. *Id.* at 26817. President Ford signed the bill into law two days later.

¹⁴⁹ The Senator remarked: “I would express the personal hope that citizens, in their own interests and in the interests of patriotism for the whole country, would seriously and affirmatively consider entering into the program. But there is no element of mandate, force, or constraint of any kind.” 122 CONG. REC. 26636 (daily ed. Aug. 10, 1976).

¹⁵⁰ U.S. GOVERNMENT ACCOUNTING OFFICE, *supra* note 147.

¹⁵¹ GBS symptoms are reported in *Manko v. United States*, 636 F. Supp. 1419 (W.D. Mo. 1986). In the initial acute phase, GBS often involves rapid onset of neurological dysfunction progressing rapidly to paralysis of the legs or arms. *Id.* at 1426. Early symptoms are tingling, numbness, or weakness in the toes, feet, fingers, or hands and progresses along the limbs to the trunk. *Id.* at 1426–27. In 90% of cases, symptoms peak within two months and are followed by a very prolonged recovery. Most patients eventually make a full recovery, but approximately 5% of GBS victims suffer some residual neurological deficit. *Id.* at 1427.

¹⁵² Charles Seabrook, *Leftover Swine Flu Shots a Reminder of Fiasco 10 Years Ago*, ATLANTA J.-CONST., Nov. 20, 1986, at A20.

¹⁵³ *Id.*

¹⁵⁴ *Wolfe v. Merrill Nat. Lab., Inc.*, 433 F. Supp. 231, 234 (D. Tenn. 1977) (holding that “some form of guarantee to the drug manufacturers” was necessary so “that they would be protected against multiple suits predicated on negligence or otherwise by individuals alleging injury from inoculation with the vaccine”).

¹⁵⁵ *Hunt v. United States*, 636 F.2d 580, 592 (D.C. Cir. 1980); *Wolfe*, 433 F. Supp. at 233 n.4 (“Unfortunately, the behavior of the insurance companies with respect to effectively preventing the vaccine to be made available to the American people has placed us in the tragic position of also having to create an alternative remedy for persons injured as a result of inoculation with the vaccine under the immunization program.”).

passed the National Swine Flu Immunization Program of 1976.¹⁵⁶ By amending the Federal Tort Claims Act to include the Swine Flu vaccination program,¹⁵⁷ state tort claims against vaccine makers and doctors who gave these shots were preempted.¹⁵⁸ Vicarious liability was broadly defined.¹⁵⁹

During an unusually hurried legislative process, Senator Harrison Williams explained this unique public underwriting of tort liability:

This is pioneering in the sense, it has never been done before, but it is in response to an emergency. That is the way the liability fixes upon the government, through the total class act, for any misfortune which would follow, as defined, the administration of the inoculation and vaccine.¹⁶⁰

The Secretary of Health, Education, and Welfare offered a more comprehensive justification for this policy.¹⁶¹

¹⁵⁶ See *In re Swine Flu Immunization Prods. Liab. Litig.*, 533 F. Supp. 703, 719 (D. Utah 1982) (“The purpose of the Act clearly was to free the vaccine manufacturers from liability so that the swine flu vaccine could be distributed.”).

¹⁵⁷ 42 U.S.C. § 247b(k)(1)(A)(ii) (2000) (“[T]o provide such protection and to establish an orderly procedure for the prompt and equitable handling of claims by persons alleging such injury or death, it is necessary that an exclusive remedy for such claimants be provided against the United States because of its unique role in the initiation, planning, and administration of the swine flu program”); see also *id.* § 247b(k)(2)(A) (“The United States shall be liable with respect to claims submitted after September 30, 1976 for personal injury or death arising out of the administration of swine flu vaccine under the swine flu program and based upon the act or omission of a program participant in the same manner and to the same extent as the United States would be liable in any other action brought against it under such section 1346(b) and chapter 171”).

¹⁵⁸ *Id.* § 247b(k)(2)(B) (defining a “program participant” as “the manufacturer or distributor of the swine flu vaccine . . . the public or private agency or organization that provided an inoculation under the swine flu program . . . and the medical and other health personnel who provided or assisted in providing an inoculation under the swine flu program”) (emphasis added).

¹⁵⁹ *Id.* § 247b(A)(i) (“[T]he liability of the United States arising out of the act or omission of a program participant may be based on any theory of liability that would govern an action against such program participant under the law of the place where the act or omission occurred, including negligence, strict liability in tort, and breach of warranty.”).

¹⁶⁰ 122 CONG. REC. 26632 (daily ed. Aug. 10, 1976); see also *id.* at 26796 (statement of Representative Paul G. Rogers of Florida: “We have asked the drug companies to produce this vaccine We have told them the dosage we want, what strength. We gave them the specifications because we are the only buyers, the Government of the United States. This is not the usual process of going out and selling. But if someone is hurt, we think people ought to have a remedy.”).

¹⁶¹ The comments of Joseph Califano, Jr., Secretary of Health, Education, and Welfare, are documented in detail. See *In re Swine Flu Immunization Prods. Liab. Litig.*, 533 F. Supp. at 718. He said that injured vaccinees

will not need to prove negligence by Federal workers or others in the Swine Flu Program as required by Federal law and the law in many states. Instead claimants in most cases need to show

The law succeeded in two key respects: (1) The grant of legal immunity resulted in broad participation by vaccine makers and doctors, and (2) more than 40 million Americans were vaccinated.¹⁶² But the vaccine itself caused problems.¹⁶³ The CDC halted inoculations after a spike in GBS cases.¹⁶⁴

B. Lessons from the Swine Flu Act for the National Smallpox Immunization Program

The Swine Flu program offers pertinent lessons for the National Smallpox Immunization Program. When the federal government shields healthcare providers from tort liability, participation by healthcare providers greatly improves. Only the federal government can play this role. This lesson is responsive to criticisms of SEPPA. SEPPA provides low and uncertain disability benefits. As I show in the next Part, physicians are straining today under soaring malpractice insurance costs. Premiums are especially high for emergency doctors—the very workers who are bioterror responders. This is causing many to retire early or curtail their practice. As a result, the supply of emergency doctors to treat smallpox is declining. Following the policy example of the Swine Flu Act, I suggest a federal law to limit malpractice damages for emergency doctors who are vaccinated for smallpox. Like the Swine Flu program, this approach would partially diminish tort recovery for the public. This partial loss would be offset, however, by increasing the public's protection from a dreaded disease.

only that they in fact developed Guillain-Barre as a result of a Swine Flu vaccination and suffered the alleged damage as a result of that condition.

Id. Califano elaborated:

First, the informed consent form . . . did not warn individuals that there was a one in one hundred thousand risk that a person receiving a flu shot would contract Guillain-Barre and that one in every two million would die from the condition Second, in the Swine Flu program, the Federal Government, in an unprecedented effort, actively urged millions of Americans to get flu vaccination shots and funded the nationwide campaign. Thus we have decided to provide just compensation for those who contracted Guillain-Barre as a result of the Swine Flu program rather than force many individuals to prove government negligence in protracted proceedings.

Id.

¹⁶² See *id.* at 717 (“Between October 1, 1976 and December 10, 1976, over 40 million Americans—or one-third of the adult population of the United States—were vaccinated. This made the Swine Flu Act the largest vaccination program in history.”).

¹⁶³ See *Varga v. United States*, 566 F. Supp. 987, 989 (N.D. Ohio 1983).

¹⁶⁴ See *Lima v. United States*, 708 F.2d 502, 506 (10th Cir. 1983).

IV. A LAW AND ECONOMICS APPROACH TO INCREASE SMALLPOX VACCINATIONS AMONG EMERGENCY DOCTORS

A. A Law and Economics Idea To Recruit Emergency Doctors to the National Smallpox Immunization Program

My policy proposal draws from America's history in dealing with smallpox and swine flu. In the nineteenth century physicians were paid premiums to deal with smallpox. Experience teaches that government must offer private doctors meaningful incentives to incorporate the risky demands of smallpox prevention and treatment into their routine practice. This work was never accomplished by compulsion. Thus, a licensing requirement to vaccinate doctors for smallpox is not feasible as long as the disease remains a remote threat.

These lessons expose fundamental problems with current smallpox vaccination policy: It assumes too much altruism and pays doctors too little relative to its historical context. Its incentives fit the period from the late-1800s through 1972, when smallpox vaccination was widely required and public health programs replaced premium smallpox payments to physicians. Times have changed. Americans today have the same smallpox immunity as their colonial ancestors: Only a minute few have reliable immunity. The smallpox threat in the 1800s was much greater than today. But experts determined that this threat was zero in the 1970s—hence, the decision to end all vaccinations. Now, the threat has re-emerged. Because of nearly universal vaccination by the second half of the 1900s, an outbreak then could not devastate the nation. Today, however, a single outbreak would be cataclysmic.

Encouragement policy is also cheap and complacent. Recent trends imply that smallpox policy should compensate doctors who are vaccinated. Universal immunity has changed to universal vulnerability. Germ warfare is an emerging possibility. Highly interactive, mobile, and dense populations are able to spread this virus on a disastrous scale. SEPPA's disability payment plan is inferior because it provides only conditional compensation. Earlier approaches succeeded because governments paid doctors to deal with smallpox.

Direct payment to physicians is one way to improve the vaccination rate. This is consistent with the historical model. The current situation is more complicated. Physicians were sole agents in combating smallpox in the early 1800s. Today, they are expected to coordinate with other professionals who are designated as bioterror responders. There is no clear justification to pay doctors to be vaccinated without compensating emergency room nurses, law enforcement officers, fire fighters, and other support personnel.

Also, unless direct payments are extravagant, they are unlikely to be helpful. Physicians were neither specialized nor highly compensated in the early 1800s. By contrast, physicians are rarely heard to complain today about income. However, many are deeply worried about the premiums they pay for malpractice insurance.

In the following analysis, I demonstrate that current smallpox policy misses an opportunity to address this relevant economic concern of physicians. Their growing problem with tort liability highlights the relevance of the Swine Flu Act. When the nation needed vaccine makers and doctors for the emergency program, pay was irrelevant. Protection from tort liability was their paramount concern. This suggests that a specific economic logic motivates modern doctors to participate in an emergency vaccination program. This economic logic was present when the Swine Flu Act motivated doctors by providing a free insurance policy.

In Part IV.B, I show that medical malpractice liability insurance has reached crisis proportions for some physicians. Emergency doctors are more affected than many other practitioners. Part IV.C–D examines state and federal approaches to address this rapidly escalating problem. In Part IV.E, I suggest that malpractice liability reform can be used to improve physician participation in the smallpox vaccination program.

B. Physicians Confront Malpractice Liability

The cost of medical malpractice liability insurance has risen sharply. A recent General Accounting Office report concludes that many physicians will not be able to afford this essential insurance.¹⁶⁵ As a result, these doctors plan

¹⁶⁵ U.S. GOVERNMENT ACCOUNTING OFFICE, MEDICAL MALPRACTICE INSURANCE, MULTIPLE FACTORS HAVE CONTRIBUTED TO INCREASED PREMIUM RATES (2003), GAO 03-702, available at <http://www.gao.gov/highlights/d03702high.pdf>.

to close or curtail their practices.¹⁶⁶ The problem has already caused thousands to walk off their jobs or threaten a strike.¹⁶⁷ Premiums are likely to continue their steep ascent. Aon, a national insurance company, predicted that medical malpractice claims will rise by an additional 9.7% in 2004.¹⁶⁸

The problem does not uniformly affect physicians. Some specialists pay over \$200,000 in annual premiums.¹⁶⁹ Emergency doctors are among those especially affected by this surging cost. An American Medical Association survey showed that 45% of hospitals lost emergency room doctors or reduced emergency services because of this problem.¹⁷⁰ The Association's report also showed the widespread impact of this problem. In Georgia, 1750 physicians have stopped or plan to end emergency room coverage.¹⁷¹ Major trauma care networks are either closed or curbing services in Missouri.¹⁷² The only Level I trauma care center in Nevada shut down for ten days because surgeons moved to flee insurance costs.¹⁷³ In West Virginia, a hospital downgraded its trauma center from Level I to Level III because four emergency care surgeons refused to pay \$800,000 in liability premiums.¹⁷⁴

¹⁶⁶ *Id.*

¹⁶⁷ See Guy Boulton, *St. Joseph's, UCH Doctors Considering Partial Strike*, TAMPA TRIB., July 23, 2003, at 1 (reporting that Florida doctors considering postponing elective surgeries for one week to protest policy on medical malpractice insurance); Karin Fischer, *Senators Say Liability Bill Offers No Answers*, CHARLESTON GAZETTE, July 10, 2003, at A2 (reporting on walkout by West Virginia Doctors over malpractice insurance costs); Patrick J. Powers, *Rising Malpractice Rates Hurt Patients*, BELLEVILLE NEWS-DEMOCRAT, Feb. 27, 2003, at 2003 WL 16400989 (200 Illinois doctors close offices and strike in protest of high malpractice insurance costs); Lindy Washburn, *Human Torment Underlies Crisis in Insuring Doctors*, RECORD, Feb. 2, 2003, at A-01 (reporting that 5000 to 10,000 New Jersey doctors cancelled routine appointments and elective surgery and plan to stay out a week or longer).

¹⁶⁸ Bureau of National Affairs, *Professional Liability: Medical Malpractice Rates Show No Sign of Slowing, Study Finds*, HEALTH CARE DAILY REP. (Jan. 28, 2004).

¹⁶⁹ U.S. GOVERNMENT ACCOUNTING OFFICE, *MEDICAL MALPRACTICE, IMPLICATIONS OF RISING PREMIUMS ON ACCESS TO HEALTH CARE* (2003), GAO 03-836, at 8 (finding that in Dade County, Florida, annual premiums were \$56,153 for internal medicine, \$174,268 for general surgery, and \$201,376 for OB-GYNs).

¹⁷⁰ American Medical Association, *Medical Liability Reform—NOW!* (Dec. 3, 2004), at 3, available at <http://www.ama-assn.org/ama1/pub/upload/mm/450/mlrnwjunel12004.pdf>.

¹⁷¹ *Id.* at 11.

¹⁷² *Id.* at 14.

¹⁷³ *Id.* at 15.

¹⁷⁴ *Id.* at 20.

Communities are being hit hard by this problem. A Florida hospital has been cited repeatedly for lacking neurosurgical care and proper medical coverage in its emergency room.¹⁷⁵ The hospital's emergency care neurologists screen patients on a consultation basis, being "selective" in the people they treat.¹⁷⁶ A doctor explained that this allows him to avoid higher risk patients and costlier premiums to treat them.¹⁷⁷ He no longer treats stroke patients in the emergency room and delays treatment until they are stabilized and admitted to a hospital floor.¹⁷⁸ A Chicago-area trauma center is losing doctors due to insurance costs.¹⁷⁹ The impact is severe because the hospital serves patients that competitors turn away.¹⁸⁰ In South Carolina, doctors are paying 27% more for malpractice premiums in 2004, on top of a 23% hike in 2003.¹⁸¹ Emergency doctors are being driven to lower cost states.¹⁸²

This growing problem is significant for smallpox preparedness for three reasons. First, these widespread accounts suggest that the supply of emergency doctors is declining. This can only degrade the nation's readiness for a bioterror attack. There is a more subtle labor market problem. Insurance costs are forcing some physicians who practiced medicine in emergency centers to retreat to their offices. By purchasing cheaper insurance for less risky practices, these doctors are unavailable to treat smallpox in emergency rooms.

Second, *Dark Winter* shows that smallpox does not arrive on a published schedule. It presents itself as the flu after a lengthy incubation. The flu would not cause former emergency room doctors who now buy cheaper insurance to abandon their safe offices. *Dark Winter* predicts a surge in demand for emergency room services once the disease breaks out. Thus, rising malpractice insurance also constrains an agile response to the start of a bioterror event.

Third, as the insurance problem grows, it accelerates the mobility of emergency doctors. This has implications for bioterror training and planning,

¹⁷⁵ Phil Galewitz, *Hospital Cited for ER Gap Again*, PALM BEACH POST, May 6, 2004, at D1.

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ Karen Mellen, *Chicago-Area Hospital Laments Insurance Costs*, CHI. TRIB., May 4, 2004, at 1.

¹⁸⁰ *Id.*

¹⁸¹ James D. McWilliams, *South Carolina Physicians Face 27 Percent Hike for Malpractice Insurance*, KNIGHT RIDDER/TRIB. BUS., May 1, 2004, available at 2004 WL 55697515.

¹⁸² *Id.* This is affecting the quality of care in emergency rooms, according to the president of the state medical association: "South Carolina is in crisis . . . [T]rauma centers are closing their doors to patients. The situation is just going to worsen and people are going to die unless the Legislature steps in soon." *Id.*

which are specific to locales. A doctor who trains for a bioterror attack in South Carolina is not likely to be as prepared after she relocates to a lower cost state, unless she retrains there. She would be less familiar with databases, reporting procedures, isolation practices, and coordinating agencies.

C. State Legislation Addressing the Malpractice Problem

Against this backdrop, some states have passed laws to hold down liability costs. The most common approach caps noneconomic damages. Courts have upheld these limits in Alaska,¹⁸³ California,¹⁸⁴ Colorado,¹⁸⁵ Idaho,¹⁸⁶ Kansas,¹⁸⁷ Maryland,¹⁸⁸ Michigan,¹⁸⁹ Missouri,¹⁹⁰ Nebraska,¹⁹¹ Virginia,¹⁹² West Virginia,¹⁹³ and Wisconsin.¹⁹⁴ Going further, courts in Indiana,¹⁹⁵ Kansas,¹⁹⁶ Louisiana,¹⁹⁷ and New Mexico¹⁹⁸ have upheld limits on economic and noneconomic damages.

This pattern has been resisted in other states. Courts in Alabama,¹⁹⁹ Georgia,²⁰⁰ Illinois,²⁰¹ New Hampshire,²⁰² North Dakota,²⁰³ Ohio,²⁰⁴ Oregon,²⁰⁵ and Washington²⁰⁶ have struck down noneconomic damage caps. States that recently enacted limits, or revised caps, on noneconomic damages are

¹⁸³ Evans v. State, 56 P.3d 1046 (Alaska 2002).

¹⁸⁴ Hoffman v. United States, 767 F.2d 1431 (9th Cir. 1985).

¹⁸⁵ Scholz v. Metro Pathologists, P.C., 851 P.2d 901 (Colo. 1993).

¹⁸⁶ Kirkland v. Blaine County Med. Ctr., 4 P.3d 1115 (Idaho 2000).

¹⁸⁷ Samsel v. Wheeler Transp. Servs., Inc., 789 P.2d 541 (Kan. 1990), *overruled on other grounds* by Bair v. Peck, 811 P.2d 1176 (Kan. 1991).

¹⁸⁸ Murphy v. Edmonds, 601 A.2d 102 (Md. 1992).

¹⁸⁹ Zdrojewski v. Murphy, 657 N.W.2d 721 (Mich. Ct. App. 2002).

¹⁹⁰ Adams v. Children's Mercy Hosp., 848 S.W.2d 535 (Mo. Ct. App. 1993).

¹⁹¹ Gourley *ex rel.* Gourley v. Neb. Methodist Sys., Inc., 663 N.W.2d 43 (Neb. 2003).

¹⁹² Etheridge v. Med. Ctr. Hosps., 376 S.E.2d 525 (Va. 1989).

¹⁹³ Verba v. Ghaphery, 552 S.E.2d 406 (W. Va. 2001).

¹⁹⁴ Guzman v. St. Francis Hosp., 623 N.W.2d 776 (Wis. Ct. App. 2000).

¹⁹⁵ Johnson v. St. Vincent Hosp., 404 N.E.2d 585 (Ind. 1980).

¹⁹⁶ Kan. Malpractice Victims Coalition v. Bell, 757 P.2d 251 (Kan. 1988), *overruled on other grounds* by Bair v. Peck, 811 P.2d 1176 (Kan. 1991).

¹⁹⁷ Butler v. Flint Goodrich Hosp., 607 So. 2d 517 (La. 1992).

¹⁹⁸ Fed. Express Corp. v. United States, 228 F. Supp. 2d 1267 (D.N.M. 2002).

¹⁹⁹ Moore v. Mobile Infirmary Ass'n, 592 So. 2d 156 (Ala. 1991).

²⁰⁰ Denton v. Con-Way S. Express Inc., 402 S.E.2d 269 (Ga. 1991).

²⁰¹ Best v. Taylor Mach. Works, 689 N.E.2d 1057 (Ill. 1997).

²⁰² Carson v. Maurer, 424 A.2d 825 (N.H. 1980).

²⁰³ Arneson v. Olson, 270 N.W.2d 125 (N.D. 1978).

²⁰⁴ State *ex rel.* Ohio Acad. of Trial Lawyers v. Sheward, 715 N.E.2d 1062 (Ohio 1999).

²⁰⁵ Lakin v. Senco Prods., Inc., 987 P.2d 463 (Or. 1999).

²⁰⁶ Sofie v. Fibreboard Corp., 771 P.2d 711 (Wash. 1989).

Florida,²⁰⁷ Idaho,²⁰⁸ Mississippi,²⁰⁹ Nevada,²¹⁰ Ohio,²¹¹ Oklahoma,²¹² Texas,²¹³ and West Virginia.²¹⁴

The recent experience in Pennsylvania should be highlighted because it targets emergency room doctors for retention. Doctors there threatened to close their practices and relocate to other states to avoid paying into a malpractice fund administered by the state.²¹⁵ To stem a loss of doctors, Pennsylvania enacted the Health Care Provider Retention Program Act in December 2003.²¹⁶ Its purpose is to ensure a supply of doctors by controlling their liability costs under the Medical Care Availability and Reduction of Error law (“MCARE”).²¹⁷ MCARE still requires reporting of serious medical errors and also provides compensation for victims.²¹⁸ However, it seeks to retain and attract health care professionals by underwriting some or all of their MCARE assessment.²¹⁹ This abatement is scaled by risk that is associated with medical

²⁰⁷ FLA. STAT. ch. 766.118 (2003) (variable caps on noneconomic damages).

²⁰⁸ IDAHO CODE § 6-1603 (Michie 2004) (\$250,000 cap on noneconomic damages, excluding causes of action out of willful or reckless misconduct or felonious actions).

²⁰⁹ MISS. CODE ANN. § 11-1-1-60 (2004).

²¹⁰ NEV. REV. STAT. 41A.031 (2002) (cap on noneconomic damages per physician, not per incident); *id.* at 41.503 (providing a separate cap of \$50,000 cap on civil damages for a claim arising out of trauma care).

²¹¹ OHIO REV. CODE ANN. § 2323.43 (Anderson 2002) (sliding cap on noneconomic damages, with lowest limit set at \$250,000).

²¹² OKLA. STAT. ANN. tit. 63, § 1-1708.1F (West 2003) (\$300,000 cap on noneconomic damages in pregnancy, labor and delivery, post-partum, and emergency room care).

²¹³ TEX. CIV. PRAC. & REM. § 74.301 (Vernon 2004) (\$250,000 cap on noneconomic damages per claimant in any judgment against a physician or health care provider).

²¹⁴ W. VA. CODE § 55-7B-8 (2003) (several caps on noneconomic damages, depending on type of medical service rendered and injury to patient, ranging from \$250,000 to \$500,000).

²¹⁵ Hal Marcovitz, *Transfers, Delays Expected If Doctors Quit*, ALLENTOWN MORNING CALL, Dec. 13, 2003, at B1. The fund portion of a doctor’s annual insurance bill was expected to rise to about \$20,000 in 2004. *Id.*

²¹⁶ PA. STAT. ANN. tit 62, § 1304-A (West 2004).

²¹⁷ *Id.* at tit. 40, § 1303.302. The declared purposes of the law are to “ensure that medical care is available in this Commonwealth through a comprehensive and high-quality health care system;” to make available “a full spectrum of hospital services and to highly trained physicians in all specialties . . . across this Commonwealth;” to offer “medical professional liability insurance . . . obtainable at an affordable and reasonable cost in every geographic region of this Commonwealth;” to afford a person “who has sustained injury or death as a result of medical negligence by a health care provider . . . a prompt determination and fair compensation;” and to “reduce and eliminate medical errors by identifying problems and implementing solutions that promote patient safety.” *Id.*

²¹⁸ *Id.* at tit. 62, § 1303.308(a) (requiring provider to report a serious event or incident that the provider reasonably believes has occurred); *see also id.* at tit. 40, § 1303.302(a) (defining “incident” as an “event, occurrence or situation involving the clinical care of a patient in a medical facility which could have injured the patient but did not either cause an unanticipated injury or require the delivery of additional health care services to the patient”).

²¹⁹ *Id.* at tit 62, § 1303.308(a).

specialties.²²⁰ Emergency care physicians are in the highest risk group and therefore receive a 100% abatement of their MCARE assessment.²²¹ There is a catch, however. To qualify for the abatement, they are required to certify their intention to provide professional services in Pennsylvania for at least one calendar year following this abatement.²²²

The Health Care Provider Retention Program Act has potential significance for the smallpox program. It recognizes that malpractice insurance is diminishing the supply of doctors. Moreover, the law places priority on retaining emergency doctors. Finally, it suggests that emergency doctors are motivated by curbing their insurance costs.

²²⁰ *Id.* § 1304-A. Subsection (a) provides that a “health care provider” may apply to the state’s insurance department for an abatement of the MCARE assessment for the previous calendar year. *Id.* An application must provide a statement of the applicant’s field of practice, including any specialty, proof of payment of the applicant’s assessment for the preceding calendar year, proof of payment of the applicant’s premium for medical professional liability insurance for the preceding year, if applicable, and the current calendar year, including the amount paid. *Id.* Subsection (b) authorizes the state’s insurance department to review these applications before that agency grants a complete or partial abatement of the state-administered liability assessment. *Id.* In addition, the law provides:

The Insurance Department shall notify the department that the applicant is entitled to a 100% abatement of the imposed assessment if the health care provider was assessed under section 712(d) of the MCARE Act as:

- (i) a physician who is assessed as a member of one of the four highest rate classes of the prevailing primary premium;
- (ii) an emergency physician;
- (iii) a physician who routinely provides obstetrical services in rural areas as designated by the Insurance Department; or
- (iv) a certified nurse midwife.

Id. In addition, the law says that the Insurance Department “shall notify the department that the applicant is entitled to a 50% abatement of the imposed assessment if the health care provider was assessed under section 712(d) of the MCARE Act as a physician but does not qualify for an abatement under paragraph (1).” *Id.* Subsection (c) authorizes a state-paid refund to a health care provider for his or her 2003 MCARE assessment under certain conditions. *Id.*

²²¹ *Id.* § 1305-A. Subsection (a) authorizes the state insurance department to prepare a “certificate of retention” that requires a health care provider seeking an abatement under the program “to attest that the health care provider will continue to provide health care services in this Commonwealth for at least one full calendar year following the year for which an abatement was received pursuant to this article.” Failure to abide by the attestation results in imposition of a duty to repay 100% of the abatement received plus legal and administrative costs. The law makes exceptions for physicians who are enrolled in a residency program, die during a retention period, are disabled and unable to practice in the retention period, or retirees at the age of seventy or older.

²²² *Id.*

D. Federal Legislation Addressing the Malpractice Problem

Meanwhile, Congress is considering proposals to enter this traditional field of state regulation. The most comprehensive bill is the Help Efficient, Accessible, Low-cost, Timely Healthcare Act of 2003 (“HEALTH Act”).²²³ It cites problems caused by the medical liability situation.²²⁴ It proposes to cap noneconomic damages at \$250,000 for medical malpractice damages,²²⁵ while ensuring 100% recovery for actual damages from medical negligence.²²⁶ It seeks to improve access to health care for more people by lowering costs.²²⁷ The Congressional Budget Office estimates that the law would lower premiums nationwide by 25–30%.²²⁸ So far, the bill has been stymied in the Senate after similar legislation passed in the House.²²⁹

E. Linking Federal Approaches to Smallpox Preparedness and Medical Malpractice Relief

I conclude Part IV by connecting a law and economics approach for the smallpox vaccination program to the insurance problem that affects emergency doctors. These matters seem to be unrelated. Nevertheless, both reflect developing crises—a stalled inoculation program that leaves the United States exposed to a horrific type of germ warfare and an insurance dilemma that is depleting the supply of emergency room doctors to respond to smallpox. These public policy issues converge by diminishing the supply of vaccinated

²²³ H.R. 5, 108th Cong. (2003).

²²⁴ *Id.* § 2(a) (stating that current civil justice system “is adversely affecting patient access to health care services,” “health care and insurance industries affect[] interstate commerce,” and “health care liability litigation . . . have a significant effect on the amount, distribution, and use of Federal funds . . .”).

²²⁵ *Id.* § 4.

²²⁶ *Id.* § 2(b) (purpose of the bill is to reform health care liability to “improve the availability of health care services,” reduce the use of costly “defensive medicine,” “ensure that persons with meritorious health care injury claims receive fair and adequate compensation, including reasonable non-economic damages,” and “improve the fairness and cost-effectiveness of our current health care liability system . . .”).

²²⁷ *Id.*

²²⁸ Congressional Budget Office, *Economic and Budget Brief Issue: Limiting Tort Liability for Medical Malpractice* (Jan. 8, 2004), available at <http://www.cbo.gov/showdoc.cfm?index=4968&sequence=0#F13>.

²²⁹ Bureau of National Affairs, *Professional Liability: Republicans Again Seek Senate Vote on Bill Capping to Malpractice Health Lawsuit Damages*, HEALTH CARE DAILY REP’T (Apr. 5, 2004), at D-8; see also 150 CONG. REC. S9099 (daily ed. Sept. 13, 2004) (regarding S. 2207, 108th Cong. (2004), Senator Cornyn discussed a cap on physician liability for noneconomic damages at \$250,000, without limiting economic recoveries). The bill limits punitive damages to the greater of double the amount of economic recoveries or \$250,000. In 2003, the House passed a bill that imposed caps on damages and placed other restrictions on health care lawsuits. See *supra* notes 223–27.

doctors who would make critical decisions to detect the first smallpox cases and initiate crucial quarantines.

The federal government has a key role to play in addressing these policy problems. I propose a federal policy that caps malpractice insurance for emergency doctors on the condition that they are vaccinated for smallpox. My research suggests two different means to achieve this end. Following the example of the Swine Flu Act of 1976, the FTCA could be amended to make the federal government vicariously liable for a portion of negligence damages caused by these doctors. Alternatively, the HEALTH Act could be modified to cover only emergency doctors who are vaccinated for smallpox.

This approach would cause emergency doctors to link two risk assessments that they now make on an independent basis—the probability of their adverse reaction to a smallpox shot and their preference for liability risks. Emergency doctors should price these risks in a coordinated way: Do I want to avoid the very low probability of an adverse vaccine reaction but continue to pay soaring insurance premiums, or do I accept the very small risk of becoming seriously ill in exchange for substantial relief from rising premiums?

This approach would alter the mix of health risks borne by the public. Opponents of liability caps believe that safer medical practices result from holding physicians responsible for the economic and noneconomic damages caused by their negligence. Consider, however, if federal law limits the noneconomic damages of emergency doctors in exchange for being vaccinated for smallpox. The public might be exposed to more medical negligence. On the other hand, the risk of a national catastrophe from a smallpox outbreak would diminish. From the standpoint of national readiness for this virus, this trade-off would be worthwhile.

Only the federal government can create a nationwide market for allocating the disparate risks of medical negligence and smallpox. This much is clear: The government accomplished a similar feat in the context of the Swine Flu Act. While that vaccine was judged to be more harmful than useful, amendment of the FTCA created a national market for emergency vaccinations that would not otherwise exist. A state approach to this form of risk management is incompatible with the national dimensions of bioterrorism.

CONCLUSION

Like a freak celebrity, the smallpox threat received fifteen minutes of fame in the stunning aftermath of 9/11 and the anthrax attacks. The import of *Dark Winter*—which occurred just before the war on terrorism became a reality and involved highly respected sponsors and role players—is that a smallpox attack is a serious and continuing concern. I do not overstate this problem²³⁰ but draw attention to the moribund state of the National Smallpox Immunization Program. The urgency behind NSIP has morphed into a dangerous complacency.

I do not propose a grandiose plan to expand this program. To the contrary, I concentrate on a small but critical element that has failed and suggest an idea to revive it. If one profession is crucial to control smallpox, it is the emergency room doctor. If that physician identifies a case two to three days before symptoms become obvious, a timely quarantine can occur.²³¹ Public health plans can spring into action. Innumerable infections can be prevented.

Returning to *Dark Winter*, once a single outbreak occurs, the event will mushroom to a viral holocaust. Large numbers of emergency room personnel will shirk their duty to avoid exposure to smallpox.²³² This assumes they are unvaccinated. The resulting inundation of emergency rooms will create ideal conditions to spread the virus.

In contrast, vaccinated personnel would not avoid work to save themselves. Their presence would be the best hope to manage the stampede that *Dark Winter* predicts. Only these doctors can make early and critical quarantine decisions. They cannot stop an attack, but they can substantially mitigate its toll.

Against this backdrop, my Article suggests a framework that has stood the test of time. Physicians who were vaccinated for smallpox were the best defense against this dread disease in the early 1800s. Their immunity allowed them to fight the virus “in the trenches.” The key to their recruitment was a voluntary employment model that paid a risk premium. Governments paid a

²³⁰ See *supra* notes 16–17, 27.

²³¹ *Supra* notes 5, 19 (discussing that emergency room personnel would be first responders to a bioterror attack and very early symptoms of smallpox during infectious period do not obviously indicate smallpox).

²³² DARK WINTER, *supra* note 1.

steep price but their officials understood that the benefits of saving lives and preserving commerce outweighed this short-term cost.

My research shows that the National Smallpox Immunization Program is uninformed by this experience, even though the present model mimics plans from 200 years ago by piggybacking smallpox prevention and treatment on the private practices of doctors. My research also shows that the current program is badly out of sync with the employment history of smallpox doctors. It is designed for the twentieth century, when smallpox immunity among patients and doctors was nearly universal and the risk of personal infection was infinitesimal. With the virus approaching natural eradication, governments had no reason to pay smallpox doctors a risk premium. The twenty-first century is more like the 1800s, with nearly zero smallpox immunities and more risk of infection. The policy fails to pay a risk premium to the current generation of smallpox doctors.

The medical malpractice crisis has something that the smallpox program lacks—a motivated, energized constituency with key skill sets for this disease.²³³ Emergency doctors are very concerned about their surging insurance costs. The supply of emergency doctors is shrinking and its distribution is changing, degrading the nation's smallpox preparedness. My proposal would help to stabilize and reverse these labor market dynamics.

There are real costs associated with my idea, but they are not budgetary. Instead, they would be borne by individuals who recover smaller damage awards for the medical negligence of emergency doctors. A very small number of doctors who choose to participate in the vaccination program would have serious reactions. These costs would be real and substantial.²³⁴

²³³ Don Babwin, *Angry Doctors' Advice to Lawyers: Heal Thyself*, KAN. CITY STAR, June 16, 2004, at A1. A growing number of doctors are so furious with the medical liability problem that they are refusing to treat lawyers and their families. In addition, some doctors are now refusing to treat state lawmakers.

²³⁴ This concept is already part of antiterrorism policy. In October 2003, the Department of Homeland Security issued an interim rule to encourage entrepreneurs to develop new technologies to protect the U.S. See U.S. Department of Homeland Security, *Safety Act—Partnering with American Entrepreneurs in Developing New Technologies to Protect the Homeland*, at http://www.dhs.gov/dhspublic/interapp/press_release/press_release_0439.xml (last visited Mar. 25, 2005). Authority for the rule appears in the Support Anti-Terrorism by Fostering Effective Technologies (SAFETY) Act of 2002, Pub. L. No. 107-296, 116 Stat. 2238 (2002) (to be codified at 6 U.S.C. §§ 441 *et seq.*). The law limits tort liability for claims that are related to an act of terrorism where a qualified Anti-Terror Technology (“ATT”) is deployed. *Id.* In June 2004, the agency approved its first ATTs: a computer system that provides real-time, event driven bomb threat analysis; a two-way high speed audio and video system to allow offsite experts to assist with bomb detection; a biohazard analytical tool; and a water jet cutting system to gain rapid access to enclosed areas. See U.S. Department of

The benefits from my proposal would be less tangible and also limited. Yet, for every doctor who is vaccinated, national readiness would march forward an irreversible step. In this light, consider the disquieting observations of the Director of Federal Emergency Management Agency (“FEMA”) during the mid-point of *Dark Winter*:

Finally, most U.S. hospitals don’t have the staff to care for extra patients even in normal times. *Now, with so many hospital workers afraid to come to work, staff shortages are even worse* making it impossible for [National Disaster Medical System] hospitals to accept additional patients.²³⁵

The FEMA Director added this key detail:

Disaster Medical Assistance Teams (DMATs) are the 30-person volunteer units in the [National Disaster Medical System] that are meant to provide supportive medical care in disasters. DMATs have only provided modest medical support to some cities in the last six days—some volunteers have concerns about their own health and safety It is estimated [that] only 2,000 of the 7,000 personnel who comprise the DMATs are on the ground helping with medical care in affected states across the nation.²³⁶

This refers to pre-9/11 conditions for smallpox inoculation, when the vaccine was not available to anyone. *Dark Winter* is premised on an unvaccinated civilian population, including emergency responders. Why assume that the 90% of emergency responders who are unvaccinated in 2004 will behave any differently than the same group in *Dark Winter*? Without a better vaccination rate for emergency responders, the nation’s preparedness for smallpox is not much better than before 9/11. Far from deterring this hideous germ attack, the current NSIP invites it.

The terror attacks of 2001 were unprecedented. They struck the heart of the nation’s government and arteries of its commerce. The planners of 9/11 lacked nothing in imagination. Their executioners lacked nothing in daring. The evil genius behind the anthrax attacks took a great personal risk in being

Homeland Security, *Department of Homeland Security Announces First Designations and Certifications Under the Safety Act*, at <http://www.dhs.gov/dhspublic/display?content=3726> (last visited Mar. 25, 2005).

²³⁵ DARK WINTER, *supra* note 1, at 33 (emphasis added).

²³⁶ *Id.* at 34.

exposed to a potent strain of finely milled bacterial spores.²³⁷ An effective policy to control smallpox does not need to match these risks. However, *Pox Americana* is threatened by a timid, cheap, and unimaginative smallpox vaccination program. Satisfied with a moribund program that does nothing but encourage vaccination for emergency responders, the United States has done little to prepare for the worst. Without renewed effort, this program will remain crippled by overcaution, inertia, and complacency. Meanwhile, a single outbreak of smallpox in our unvaccinated and mobile population raises the specter of *Pox Americana*.

²³⁷ See Kevin P. Fennelly et al., *Airborne Infection with Bacillus Anthracis—From Mills to Mail*, 10 EMERGING INFECTIOUS DISEASES 996 (2004), available at <http://www.cdc.gov/ncidod/eid/vol10no6/pdfs/02-0738.pdf> (“*B. anthracis* was previously known to have potential as a weapon on battlefields or for large-scale outdoor dissemination. Its delivery through the mail moved the risk indoors.”).