

FLUCONOMICS—PRESERVING OUR HOSPITAL INFRASTRUCTURE DURING AND AFTER A PANDEMIC

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I. INTRODUCTION

During the fall of 1918, the “Spanish Flu” swept through the United States.² More than 25 percent of the United States population became ill.³ The Spanish Flu killed 2.5 percent of those infected.⁴ In a normal flu year, only one-tenth of 1 percent of flu victims die.⁵ Estimates of the total number of deaths from the Spanish Flu world-wide range from 20 million to more than 100 million.⁶ If a similar pandemic⁷ occurred today, with a similar mortality rate, 1.5 million Americans would die.⁸

In addition to the human costs, there are significant economic consequences that would follow from an influenza pandemic similar to the Spanish flu pandemic. The

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² The label “Spanish Flu” is most likely a misnomer. Most epidemiologists and public health experts now believe that the pandemic influenza of 1918 originated in Kansas, or possibly in China. JOHN M. BARRY, THE GREAT INFLUENZA, 452-56 (Viking 2004). The moniker “Spanish flu” came about because there was heavy press censorship in 1917 and 1918 of anything that could be construed as detrimental to public morale and the war effort in World War I in the United States and most of Europe. Therefore, the American and most of the European press failed to report the alarming number of persons stricken with the flu and the high mortality rate associated with it. *Id.* at 171. Spain did not censor its press heavily during this time. Therefore, the first reports of what became the influenza pandemic came from Spain, giving rise to the moniker of “Spanish flu” for the disease that was sweeping the world. GINA KOLATA, FLU, 10 (Farrar, Straus and Giroux 1999).

³ GINA KOLATA, FLU, 6 (Farrar, Straus and Giroux 1999)

⁴ *Id.* at 7.

⁵ *Id.*

⁶ *Id.*

⁷ A pandemic is an epidemic of unusual extent and severity, occurring over a wide geographic area and affecting an exceptionally high proportion of the population. WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY (UNABRIDGED) at 1629 (2002).

⁸ KOLATA, *supra* note 3, at 7.

United States Centers for Disease Control and Prevention (hereinafter, the CDC) estimates that the direct and indirect medical costs in the United States associated with a “medium-level” influenza pandemic would range from \$71 billion to \$167 billion.⁹ Influenza pandemics occur with some regularity, although they are usually not as deadly as the 1918 Spanish flu pandemic. The Asian influenza pandemic of 1957 and the Hong Kong influenza pandemic of 1968 were not as deadly as the 1918 Spanish flu pandemic, but did engender high rates of social disruption.¹⁰ Virtually all experts agree that it is not a question of if another influenza pandemic as deadly as the Spanish flu will occur, but a question of when.¹¹

How will the nation’s hospitals cope with a pandemic of this nature? Even if they can cope with the immediate impact of the pandemic, will they survive the ordeal? Will they act in the best interests of the public’s health, even if it causes them economic injury? Or will they follow the old adage that “those who turn and run away, live to fight another day,” and protect their bottom lines, even if it means a less-than-optimal response to a public health emergency such as a pandemic? How can we ensure that hospitals comply with, rather than defy, orders of public health authorities that may be adverse to their economic interests during the next pandemic or other public health emergency? Most hospitals in the United States are privately owned, and an increasing number of them are investor-owned for-profit enterprises.¹² The shift from non-profit to for-profit status, coupled with the fragmented manner in which we finance health care in this

⁹ Marcia Crosse, Director, Health Care, United States Government Accountability Office, Testimony Before the House Subcommittee on Health, Committee on Energy and Commerce, *Influenza Pandemic—Challenges Remain in Preparedness* at 2, GAO-05-760T, (May 26, 2005) (hereinafter “*Challenges Remain*”)

¹⁰ *Id.* at 1, fn. 3.

¹¹ JOHN M. BARRY, *THE GREAT INFLUENZA*, 449 (Viking 2004)

¹² AMERICAN HOSPITAL ASSOCIATION FAST FACTS ON U.S. HOSPITALS, *available at* http://www.aha.org/aha/resource_center/fastfacts/fast_facts_US_hospitals.html

country, necessitate consideration of issues of cost and compensation in advance of a public health emergency.¹³ A plan for ensuring the economic viability of hospitals and for allocating financial responsibility for the hospitals during and after a pandemic among government entities and the private sector is of utmost importance.¹⁴

This article discusses the likely economic consequences of a naturally occurring infectious disease pandemic on our nation's hospitals and how to ensure that they act to benefit the public during such a pandemic, without forcing them to incur irreparable economic damage.¹⁵ Recent examples of provider behavior during limited outbreaks of infectious disease demonstrate that monetary assurances sufficient to ensure a health care provider's survival, both during and after such an outbreak, are crucial to ensuring quick and complete compliance with the orders of local public health officials. Despite the evidence that provider worries about economic survival hamper the efforts of public health officials to protect the public's health, current law does not provide adequate assurances to health care providers that they will emerge from a public health emergency relatively unscathed. Although numerous public health emergency legal preparedness plans exist or are under development, they fail to address the fundamental question of how our health care system will survive a public health emergency that is all but certain to occur.¹⁶

¹³ MARK A. ROTHSTEIN, ET AL., UNIVERSITY OF LOUISVILLE SCHOOL OF MEDICINE, INSTITUTE FOR BIOETHICS, HEALTH POLICY AND LAW, QUARANTINE AND ISOLATION: LESSONS LEARNED FROM SARS 11 (November 2003).

¹⁴ *Id.*

¹⁵ Although much of the discussion in this article would apply to an infectious disease outbreak caused by a bioterror attack, the article's focus is on the consequences of naturally occurring outbreaks of infectious disease.

¹⁶ As of this writing, public health officials around the world are closely monitoring a strain of avian influenza, or "bird flu," that has infected approximately 175 people in Asia, Turkey, and Iraq with a mortality rate of 54%. WORLD HEALTH ORGANIZATION, CUMULATIVE NUMBER OF CONFIRMED HUMAN CASES OF AVIAN INFLUENZA A/(H5N1) REPORTED TO WHO,

Unless the law provides assurances that compliance with the orders of public health officials will not constitute economic suicide for hospitals, we are unlikely to get quick and complete cooperation from them in containing a developing infectious disease pandemic. Failure of our first-line responders to comply with the orders of public health officials could prove disastrous to any effort to protect the public from outbreaks of infectious disease.

Part II of this article explores the likely economic effects of an infectious disease pandemic on our nation's health care providers, both during and after the emergency. Using examples of provider behavior from the Spanish Flu pandemic of 1917-1918, the more recent outbreaks of Severe Acute Respiratory Syndrome (SARS) in several countries around the world in 2002-2003, and an isolated outbreak of monkeypox in the American mid-west in 2003, this discussion demonstrates the need for economic assurances for hospitals and medical staff to ensure that they act in the best interests of the public during an outbreak of infectious disease.

Part III demonstrates that existing law fails to address the economic needs of hospitals dealing with a pandemic. New legislation, and reinterpretation of existing law, are needed to ensure that money is available to compensate hospitals not only for the direct costs of providing care to pandemic victims during an outbreak, but also for the losses hospitals will incur by refraining from providing other care during a pandemic, and for the lingering economic damage they will experience because of the social stigma of

http://www.who.int/csr/disease/avian_influenza/country/cases_table_2006_03_06 (last visited March 7, 2006). If this virus becomes transmissible from person to person, it could become a pandemic even more deadly than the 1918 Spanish flu pandemic. See Marc Santora, *When a Bug Becomes a Monster*, N.Y. TIMES, August 21, 2005, available at <http://www.nytimes.com/2005/08/21/nyregion/21pandemic.html>

having been designated as an isolation or quarantine center by public health authorities during a pandemic.

Part IV of the article proposes that we provide legal assurances to the nation's hospitals that they will survive the economic effects of a pandemic. These assurances include creation of a fund earmarked to compensate hospitals for the direct costs of caring for pandemic victims, legislating a partnership between the federal government and the private insurance industry designed to offset losses that will be caused by disruption of the normal system of health care financing engendered by a pandemic, and re-interpreting the Takings Clause to compensate hospitals for their losses to goodwill due to their compliance with the orders of public health officials during a pandemic. These proposals will align the interests of hospitals with those of the public during an infectious disease pandemic, ensuring that hospitals will be fully compensated if they fulfill their roles as guardians of the public health during an infectious disease pandemic, and that our hospitals will emerge intact after the pandemic is over.

II. THE ECONOMIC EFFECTS OF AN INFECTIOUS DISEASE PANDEMIC ON THE NATION'S HOSPITALS

Although it is impossible to predict precisely how a pandemic will impact American hospitals, it is indisputable that a pandemic will have both an immediate impact on hospital finances, and a lingering negative economic effect that could be even more devastating in the long-term. At the very minimum, adequate preparation for a pandemic must include financial incentives designed to encourage hospitals to act contrary to their long and short-term financial interests in favor of the immediate health needs of the general public.

A. The Immediate Economic Impact of a Pandemic on Hospitals.

When we think of hospitals' costs of responding to a pandemic, we think of the direct costs of using hospitals and their associated medical personnel to isolate and care for sick individuals. Isolation of sick individuals, and quarantine of healthy individuals who may have been exposed to a dangerous communicable disease, have been used to control the spread of disease since the earliest recorded human history.¹⁷ Nevertheless, a historical review of the costs incurred by hospitals in caring for isolated and quarantined individuals during an infectious disease outbreak has limited, if any, value in helping us determine what costs hospitals will incur should a pandemic occur today. Until the discovery of antibiotics in the mid-20th century, people were relatively helpless to treat infectious disease. Therefore, it was not necessary to isolate sick individuals in a place where they could receive skilled medical care, such as the equivalent of the modern hospital. At the most, isolated persons suffering from infectious disease were offered palliative care, which required little medical skill or technology.¹⁸ Rather than using hospital-like facilities, isolation and quarantine were generally enforced in the location where the infected or exposed person first appeared within the jurisdiction of the officials charged with isolation and quarantine authority, such as on an arriving ship.¹⁹ Even when hospital facilities were used for isolation, as they were for persons debarking from ships in New York City in the 19th century, they were usually facilities specially dedicated to isolation and palliative care, rather than active treatment of disease.²⁰ Places that were

¹⁷ ROTHSTEIN ET AL., *supra* note 13, at 17.

¹⁸ *Id.* at 19.

¹⁹ *Id.* at 17-19.

²⁰ *Id.*

used to isolate patients suffering from infectious disease were generally known as “pesthouses,” and were avoided by upstanding citizens at all costs.²¹

Some of the earliest uses of general hospital facilities in the United States for isolation of sick patients occurred during the Spanish flu pandemic of 1918. For example, San Francisco’s first case of Spanish flu was reported in the newspaper on September 24, 1918.²² On October 14, 1918 the chief of San Francisco’s Board of Health met with the superintendents of the city’s hospitals.²³ They decided to move all of the patients who were not suffering from Spanish flu out of the San Francisco Hospital, and use it to isolate Spanish flu patients.²⁴ Ultimately, the San Francisco Hospital admitted 3,509 pandemic victims, and 26% of them died.²⁵

The Spanish flu epidemic occurred at a time when the United States was beginning to experience the development of general acute care hospitals. Nevertheless, there are a number of differences between the Spanish flu pandemic and any future pandemic that make even an analysis of costs incurred by hospitals during this pandemic unhelpful as a basis from which to extrapolate the costs to hospitals of treating victims of a modern pandemic. First, many Spanish flu victims were treated in makeshift isolation centers. In San Francisco, emergency hospitals were improvised wherever there were large, empty, and dry buildings.²⁶ Also, because the pandemic occurred while the United States was in the thick of World War I, many victims were treated in military facilities. And on military bases, conditions were even more makeshift than they were in the

²¹ *See, e.g.*, Kirk v. Wyman, 65 S.E. 387 (S.C. 1909) (woman with leprosy sued government officials to avoid being isolated in a facility formerly used to house smallpox victims).

²² ALFRED W. CROSBY, AMERICA’S FORGOTTEN PANDEMIC, THE INFLUENZA OF 1918 92 (2d ed. 2003).

²³ *Id.* at 94.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.* at 95.

civilian world. At Camp Devens, Massachusetts, the base hospital was designed to hold 1,200 men.²⁷ In September 1918, it held in excess of 6,000, and men were in every corridor, spare room, and porch.²⁸

Significant advances in medicine have rendered the type of care rendered to pandemic victims during the Spanish flu epidemic inadequate and unacceptable to today's American public. Therefore, the costs incurred in rendering such care are would grossly understate medical costs in a modern analysis. The Spanish flu swept the world in the days before antibiotics and antiviral drugs were available. Because the vast majority of care given to Spanish flu victims was palliative, it made little difference to the victim's chances of survival whether the victim was in an acute care hospital, a makeshift emergency hospital, a military field hospital, or at home. There was no public expectation that Spanish flu victims would be treated in a hospital intensive care unit, or that life-support equipment, or any of the other technologically advanced (and expensive) life-sustaining advances we have come to associate with a modern hospital, would be available to the pandemic victims.²⁹

Another reason why using the economic effect of the Spanish flu on health care providers to estimate the economic consequences of a similar outbreak on hospitals today is not useful is because of the radical changes in financing of our hospitals since 1918. In 1918 hospitals were financed mostly by charitable donations, public funds, and a steadily

²⁷ BARRY, *supra* note 11, at 189.

²⁸ *Id.*

²⁹ Scientists now believe that one reason the Spanish flu was so deadly, particularly to young, otherwise healthy adults, was because it caused a phenomenon called Acute Respiratory Distress Syndrome (ARDS). ARDS is a process of disintegration in the lungs. Even today, the only care available for an ARDS victim is to keep her alive until her lung tissue regenerates, and she can recover. BARRY, *supra* note 11, at 250. This requires respirators, skilled nursing, and all of the other technology available in a modern intensive care unit. *Id.* If the Spanish flu struck today, it simply would not be possible to properly treat severely affected pandemic victims in warehouses, schools, and other public buildings.

increasing, but still relatively small, proportion of privately insured patients.³⁰ Placing pandemic victims in hospitals did not disrupt the hospital's financial operations the way that it would today.

Today, the American health care delivery system is financed by a hodge-podge of public and private sources.³¹ In 2001, 34.8% of personal health care costs were covered by private health insurance, 45.4% of personal health care costs were paid by the federal and state governments, and 14.4% of personal health care costs were paid out-of-pocket by patients.³² As part of this system, substantially higher prices may be systematically paid by one payer group (usually the private health insurers) to offset lower prices paid by another (usually the federal and state governments).³³ This “cost-shift hydraulic” is very prominent in the hospital payment system. In 2002, private insurers paid on the average 122% of costs for hospital services, while the federal and state governments paid approximately 90% of costs for the same services.³⁴ This cost-shifting allows hospitals to provide social benefits to the community, such as teaching, research, standby capacity, and charity care.³⁵ A pandemic that disrupts the payer mix of a health care provider, both immediately and in the long-term, decreases the number of patients covered by private insurers and increases the number of publicly insured or self-pay patients, is likely to have a major impact on the viability of ongoing hospital operations and a devastating

³⁰ PAUL STARR, *THE SOCIAL TRANSFORMATION OF AMERICAN MEDICINE*, 294-95 (BasicBooks 1982).

³¹ John K. Iglehart, *Business and Government: Striking New Balances*, 21 *HEALTH AFFAIRS* 7, 8 (January/February 2002).

³² BARRY R. FURROW, ET AL., *THE LAW OF HEALTH CARE ORGANIZATION AND FINANCE* 194 (5TH ed. 2004).

³³ Allen Dobson, Joan DaVanzo, and Namrata Sen, *The Cost-Shift Payment 'Hydraulic': Foundation, History, and Implications*, 25 *HEALTH AFFAIRS* 22, 23 (January/February 2006).

³⁴ *Id.* at 24. The importance and extent of this cost-shifting varies over time. For example, in the early to mid-1980s, the public payers covered their costs, while in the mid to late 1990's the increase in the prevalence of managed care drove down the percentage of costs that private insurers paid for hospital services by as much as 10%. *Id.* at 27. Nevertheless, the American health care financing system seems to depend upon the existence of cost-shifting to ensure coverage for all. *Id.* at 24.

³⁵ *Id.* at 23.

effect on the social benefits to the community that hospitals provide with the funds they receive through the cost-shift hydraulic. Hospitals and American society did not have to face this possibility during any past pandemic episode.

In addition, looking at the direct medical costs hospitals incurred in the past for caring for pandemic victims, and trying to extrapolate that to the modern American hospital, will not truly reflect the hospital's total costs of providing such care. Generally, hospitals today are not paid for their actual costs. Most payers pay hospitals based on a formula used to set a rate for an entire course of treatment for a particular diagnosis (commonly called the Diagnosis Related Group, or DRG).³⁶ The DRG in theory represents the cost to an efficient hospital of caring for an average case presenting with a particular principal diagnosis, as determined upon admission to the hospital.³⁷ Hospitals often compete to attract the type of cases for which DRG compensation is comparatively generous (such as uncomplicated cases with few complicating factors within a particular DRG, or orthopedic, cardiac and general surgical cases for which the DRG amount is relatively generous) in order to offset the costs of providing services for which the DRG does not accurately reflect total costs of care.³⁸ The DRG is only the starting point for determining the hospital's reimbursement.³⁹ DRG payments are adjusted to compensate teaching hospitals for the costs of operating an educational program, for extraordinarily expensive or "outlier" cases, and for the particular circumstances of the hospital (rural versus urban, hospitals that treat a disproportionate share of low-income patients).⁴⁰ If a

³⁶ FURROW, *supra* note 32, at 373-374. Although the term "DRG" is used by the Medicare program, virtually all payors use a similar form of prospective payment.

³⁷ *Id.*

³⁸ Stuart Guterman, *Specialty Hospitals: A Problem Or A Symptom*, 25 HEALTH AFFAIRS 95,97-98 (January/February 2006).

³⁹ FURROW, *supra* note 32 at 374.

⁴⁰ *Id.*

hospital is unable to sustain its usual case-mix of relatively highly reimbursed DRGs and relatively poorly reimbursed DRGs, because it has been designated as an isolation or quarantine center during a pandemic, it will suffer losses even if it is ultimately compensated for the direct medical costs of caring for pandemic victims. The designation of a hospital as the isolation hospital during an infectious disease outbreak for an extended period of time might mean bankruptcy.⁴¹

Nevertheless, there are some historical lessons we can learn from past pandemics regarding the financial effects of pandemics on the nation's hospitals. In a normal flu year, influenza results in 114,000 hospitalizations, and between 5 and 10 million outpatient visits.⁴² If we experience an influenza pandemic, the federal government estimates a three to seven-fold increase in hospitalizations, and a four-fold increase in outpatient visits.⁴³ The Centers for Disease Control has estimated the medical costs for an influenza pandemic as follows:⁴⁴

⁴¹ Mark A. Rothstein, *Are Traditional Public Health Strategies Consistent with Contemporary American Values*, 77 TEMP. L. REV. 175, 179 (Summer 2004); *see also*, Santora, *supra* note 16.

⁴² UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES, DRAFT PANDEMIC INFLUENZA PREPAREDNESS AND RESPONSE PLAN, p. 15 (August 2004), <http://www.hhs.gov/pandemicflu/draftplan/>

⁴³ UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES, PANDEMIC INFLUENZA PLAN, p. 18 (November 2005), <http://www.hhs.gov/pandemicflu/plan/>.

⁴⁴ Martin I. Meltzer, Nancy J. Cox, and Keiji Fukuda, *The Economic Impact of Pandemic Influenza in the United States: Priorities for Intervention*, 5 EMERGING INFECTIOUS DISEASES 659, 666 (September/October 1999), *available at* <http://www.cdc.gov/ncidod/eid/vol5no5/meltzer.htm>.

Fig. 1 - Costs (direct and indirect)⁴⁵ of influenza pandemic per gross attack rate:^a deaths, hospitalizations, outpatients, illnesses, and total costs (in 1995 US\$)

	Cost per gross attack rate (\$ millions)				
	15%	20%	25%	30%	35%
Deaths					
Mean	59,288	79,051	98,814	118,577	138,340
5th percentile	23,800	31,733	39,666	47,599	55,532
95th percentile	94,907	126,543	158,179	189,815	221,451
Hospitalizations					
Mean	1,928	2,571	3,214	3,856	4,499
5th percentile	1,250	1,667	2,084	2,501	2,917
95th percentile	2,683	3,579	4,472	5,367	6,261
Outpatients					
Mean	5,708	7,611	9,513	11,416	13,318
5th percentile	4,871	6,495	8,119	9,742	11,366
95th percentile	6,557	8,742	10,928	13,113	15,299
Ill, no medical care sought^b					
Mean	4,422	5,896	7,370	8,844	10,317
5th percentile	3,270	4,360	5,450	6,540	7,629
95th percentile	5,557	7,409	9,262	11,114	12,967
Grand totals					
Mean	71,346	95,128	118,910	142,692	166,474
5th percentile	35,405	47,206	59,008	70,810	82,611
95th percentile	106,988	142,650	178,313	213,975	249,638

⁴⁵ Direct medical costs, such as those reimbursed by third-party payers are the costs associated with hospitalizations, outpatient visits, and drug purchases. These costs were obtained from a proprietary database containing health insurance claims data from approximately 4 million insured persons. The researchers extracted the data for outpatient visits from the database with codes from the International Classification of Diseases, Ninth Revision (ICD-9) for pneumonia and bronchitis (ICD-9: 480-487.8), acute bronchitis (ICD-9: 466-466.1), and chronic respiratory disease (ICD-9: 490-496). Costs for inpatient care were extracted with the same codes, when recorded as the principal diagnosis and when recorded as any of the diagnoses in a patient's chart. Further, because influenza can cause patients with preexisting medical conditions to seek inpatient care, data were extracted for the inpatient costs of treating heart-related conditions (common preexisting conditions that place a person at high risk for influenza-related illness or death). Hospital costs attributed to pneumonia and bronchitis, acute bronchitis, chronic respiratory disease, and the identified heart conditions were then estimated as weighted averages. The principal indirect cost was lost productivity, which was valued by using an age- and gender-weighted average wage. The economic cost of a death was valued at the present net value of the average expected future lifetime earnings, weighted for gender and age. All costs were standardized to 1995 US\$ values. *Id.*

^aGross attack rate = percentage of clinical influenza illness per population.

^bPersons who become clinically ill due to influenza but do not seek medical care; illness has an economic impact (e.g., half day off work).

The mean total medical costs of an influenza pandemic with a gross attack rate of 25%, which is similar to the gross attack rate of the Spanish flu pandemic, are predicted to exceed \$118 billion. The bulk of those costs are attributable to the costs incurred in caring for victims who ultimately die, who will consume an intensive amount of hospital services and staff time. Much of this cost takes the form of enhanced staffing and hospital bed capacity that will be needed to handle a pandemic.⁴⁶ Although federal, state, and local government have provided enhanced funding for emergency preparedness since the terrorist attacks of September 11, 2001, including funds to develop hospital surge capacity for outbreaks of infectious disease,⁴⁷ the question of who will pay for the actual care of each individual pandemic victim remains fraught with uncertainty. Although presumably the public and private insurers of persons who are actually ill should pay for their treatment, if the insurer does not have a preexisting contractual relationship with the isolation center, and the pandemic victim is at that particular institution because of the orders of public health authorities, the insurer may balk at paying for the hospital stay. Likewise, the government, knowing that a patient is privately insured, is likely to insist that the private insurer pay for the patient's care. This inevitable debate between insurers, the government, and the hospital about payment rates will be a significant distraction at a time when healthcare resources should be directed to dealing with the public health emergency. Many hospitals will be tempted to avoid this outcome by doing

⁴⁶ *Id.*

⁴⁷ Press Release, United States Department of Health and Human Services, HHS Announces \$1.3 Billion in Funding to States for Bioterrorism Preparedness (May 13, 2005), *available at* www.hhs.gov/news/press/2005pres/20050513.html (last visited March 10, 2006).

everything in their power to avoid being designated as an isolation center, even if they are the most suitable places to treat pandemic victims.

Hospitals may also be used as quarantine centers for healthy individuals, such as health care workers who were exposed to the disease but are not sick themselves.⁴⁸ Both our private and public funding mechanisms for health care delivery are driven by the concept of payment for specific diagnoses of illnesses.⁴⁹ Typically, payers make no payment for custodial care of people who are not ill. A hospital that is designated as a quarantine center is likely to be at even greater financial risk than a hospital functioning as an isolation center, and thus, is extremely likely to resist the designation. Failure to quarantine people who have come into contact with pandemic victims at the place where they first come into contact with them, very possibly a hospital, as was the case during the SARS outbreak, will lead to increased spread of the pandemic disease in the general population.⁵⁰ Even when feelings of civic duty and patriotism are running high, hospitals will be reluctant to endanger their financial health and their medical staff by complying with such orders. For example, after 9/11 and the episode of anthrax bioterrorism that closely followed, response to the Centers for Disease Control's request that hospitals prepare themselves to accept patients in the event of an emergency quarantine was sluggish, at best.⁵¹

B. Hospital Resources Will Be Needed To Provide Financial Incentives for Medical Personnel

⁴⁸ See, e.g., ROTHSTEIN, ET AL., *supra* note 13 at 24.

⁴⁹ See text accompanying note 36, *supra*.

⁵⁰ See, e.g., UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES, PANDEMIC INFLUENZA PLAN, *supra* note 43 at 8 (discussing the likelihood that HHS will implement quarantine as a means of slowing the spread of a pandemic influenza).

⁵¹ See Gretchen Reynolds, *Why Were Doctors Afraid to Treat Rebecca McLester*, THE NEW YORK TIMES MAGAZINE, April 18, 2004 at 32.

Along with the anticipated increase in hospital inpatient and outpatient visits in the event of a pandemic, there will be an increase in the need for medical personnel to care for the sick. Despite the need, history tells us that many health care workers, from physicians to orderlies, will refuse to treat patients with new and emerging infectious diseases.⁵² At the very least, a substantial increase in pay will be required to recruit and retain sufficient health care workers during a pandemic.

For example, the existing supply of health care workers was no match for the numbers of patients with Spanish Flu in 1918. Many health care workers came down with the flu themselves, further exacerbating the shortage of medical personnel available to care for the sick.⁵³ The American Red Cross and the United States Public Health Service were inundated with wires begging for help.⁵⁴ Unable to meet the demand, despite heroic efforts to track down any and all available health care workers,⁵⁵ they called upon civic-minded housewives, retired nurses and doctors, medical and dental students, and all able-bodied citizens who were not in the military to tend to the thousands of sick patients in the emergency hospitals, and to provide supplies and essential services, such as sanitation, that were disrupted because of the large amount of workers out with the flu.⁵⁶ Although many people responded to the call for help, the number of volunteers was not sufficient to meet the need.⁵⁷ In San Francisco, during the height of its Spanish Flu epidemic, the Red Cross offered practical nurses \$20 per week if

⁵² Rothstein, *supra* note 41 at 186.

⁵³ See CROSBY, *supra* note 22 at 80-81.

⁵⁴ BARRY, *supra* note 2 at 351.

⁵⁵ Barry relates one episode of a nurse named Josey Brown watching a movie in a St. Louis theater. During the movie, the lights went on, the screen went blank, and a man announced that anyone named Josey Brown should go to the ticket booth. *Id.*

⁵⁶ CROSBY, *supra* note 22, at 81, 96-97.

⁵⁷ *Id.* at 82-83.

they would report for work, but still could not fill the needs of the city.⁵⁸ Most other American cities experienced similar shortages. Some nurses were forcibly held in patients' homes to care for the sick.⁵⁹

During the more recent SARS outbreak, because so many doctors and nurses were resigning rather than be forced to treat patients with SARS, hospitals in Taiwan were forced to offer "danger pay" to those working with SARS patients.⁶⁰ In Vietnam, personnel treating SARS patients received a government allowance of five times the amount normally given to health care workers.⁶¹ These stipends were paid initially by each medical institution treating SARS patients, and were ultimately reimbursed to the hospital by the government.⁶²

Even substantial financial incentives may be insufficient to recruit and retain needed medical personnel. During the SARS outbreak in Taiwan, 160 health care workers resigned rather than work with SARS patients.⁶³ In Toronto, Lucy Smith, a nurse with 17 years' experience, refused to work with SARS patients despite an order from the hospital where she worked to do so, and an offer of increased pay.⁶⁴ When discussing her reasons for refusing to work with SARS patients, Ms. Smith cited the fact that she had three children and an immunocompromised mother, and cited her responsibility to them as well as her responsibility to her patients.⁶⁵ As Dr. Peter Singer,

⁵⁸ *Id.* at 97.

⁵⁹ Rothstein, *supra* note 41, at 191.

⁶⁰ ROTHSTEIN, ET AL., *supra* note 13, at 103.

⁶¹ *Id.* at 114.

⁶² *Id.*

⁶³ *Id.* at 103.

⁶⁴ Barbara Sibbald, *Right to refuse work becomes another SARS issue*, 169(2) CANADIAN MEDICAL ASSOCIATION JOURNAL (July 23, 2003), at 141

⁶⁵ *Id.* Ms. Smith's concerns for her and her family's safety were well-founded. SARS was transmitted largely through hospital-based exposures, and health care workers were disproportionately affected. Forty percent of Toronto's SARS patients were health-care workers. Nineteen percent of China's SARS cases

director of the University of Toronto Joint Centre for Bioethics explained in response to questions regarding Ms. Smith's position, there is a "threshold beyond which health care workers aren't obliged to take personal risks. We don't expect firefighters to jump into a burning pit, or police officers to throw themselves in front of a bullet."⁶⁶

There is no reason to believe that Americans will behave more selflessly than their Canadian, Vietnamese, or Taiwanese counterparts when faced with an infectious disease outbreak. In fact, there is reason to believe that they will behave even more self-protectively. Many of the Asian countries that experienced SARS outbreaks are known for their communitarian cultures.⁶⁷ Canada is known for a commitment to social solidarity, especially in the area of health care and its health care system.⁶⁸ Their cultures contrast sharply with American culture, which has a strong tradition of individualism and skepticism about government.⁶⁹

The American tradition of individualism and minimal government intervention with personal liberty has been evident during public health emergencies in the past. During the Spanish flu epidemic of 1918, although many health care workers did their jobs and died doing so, many people fled even from their own loved ones who came down with the flu.⁷⁰ The sheer inability of hospitals to deal with a sudden surge in patient demand was compounded by the failure of trained medical personnel to show up

involved health-care workers, as were 57% of Vietnam's. Rothstein, *supra* note 41, at 184. In Hong Kong, 22% of SARS deaths were among physicians and nurses. Rothstein, *supra* note 41, at 184.

⁶⁶ Sibbald, *supra* note 64. Although the heroic actions of firefighters and police responding to the 9/11 attacks on the World Trade Center in New York belie this statement, first-responder reaction to a highly visible, spectacular terrorist attack is likely to be far more heroic than the medical community's reaction to a comparatively slower-moving, much more invidious emergency like a naturally occurring infectious disease pandemic.

⁶⁷ ROTHSTEIN, ET AL. *supra* note 13, at 26 (November 2003).

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ BARRY, *supra* note 2, at 342-3.

for work, not only because they themselves were ill, but because of fear of contact with the sick.⁷¹ Towns that were not hit during the Spanish flu pandemic's first wave, and had notice of the coming pandemic and thus had time to prepare, enforced complete isolation from their surroundings at gunpoint.⁷² Although this method of enforced quarantine was apparently effective,⁷³ it does not evidence a willingness for self-sacrifice on the part of Americans in the face of epidemic disease.

Nor has the attitude of American health care workers towards self-sacrifice in the face of epidemic disease appear to have improved since 1918. In the 1980's, when it became known that H.I.V. could be transmitted through bodily fluids, doctors and other health care providers turned away AIDS patients.⁷⁴ In June 2003, a physician in Rockford, Illinois who volunteered to treat a girl with monkeypox⁷⁵ incurred the wrath of his physician partners, who felt that his contact with the girl would put them all at risk.⁷⁶ Fears of bioterrorism can also fuel health care workers' reluctance to treat. One physician with small children who treated a monkeypox patient explained that prior to a definitive diagnosis, he feared a bioterror attack of smallpox: "My attitude was, I'm going to stay as far away from this guy as possible."⁷⁷ The physician's experience with monkeypox has convinced him that he would not volunteer for anything dangerous in the future, and that he would not be "turned into" a first responder in a public health

⁷¹ Santora, *supra* note 16.

⁷² BARRY, *supra* note 2, at 345.

⁷³ Gunnison, Colorado, which enforced a total isolation of the town by closing it and banning public gatherings, escaped without a single death, while the nearby town of Sargents suffered six deaths in a single day, out of a total population of 130. *Id.* at 345-46.

⁷⁴ See Reynolds, *supra* note 51; see also Bragdon v. Abbott, 524 U.S. 624 (1988) (dentist refused to treat an HIV positive patient in the dentist's office).

⁷⁵ Monkeypox is an orthopox virus similar to smallpox. There was a monkeypox outbreak in the American Midwest in 2003, which was traced to Gambian giant pouched rats imported from Ghana to the United States as exotic pets. The Gambian rats infected prairie dogs at area pet shops, which in turn infected at least 37 people in the Midwest. Reynolds, *supra* note 51.

⁷⁶ *Id.*

⁷⁷ *Id.*

emergency.⁷⁸ A study from the fall of 2003 found that more than 50 percent of doctors would not accept a smallpox vaccination, 67 percent would not treat smallpox without having been vaccinated, and only 55 percent of doctors surveyed agreed that physicians have an obligation to care for patients even if it might endanger their own health.⁷⁹

In modern society, the American tradition of individualism in health care has become even more entrenched than it was in the past because of structural changes in the way health care is delivered. The advent of managed care, greater compartmentalization of care, and the lack of a statement of a duty to treat in professional organizations' mission statements and ethical guidelines are all cited as reasons for the erosion of a sense of community in American health care.⁸⁰ Financial incentives to care for victims of an infectious disease pandemic alone will not reverse this erosion, nor ensure an ample supply of health care workers in an emergency. Nevertheless, they represent one step towards ensuring that those who do step forward are rewarded for their courage and community-minded spirit, or at least, treated equitably. Nurses and other front-line medical personnel will look to their employers, generally the hospitals, to pay the financial incentives that will be required to attempt to care for isolated and quarantined persons. Hospitals must have resources available to make these payments.

C. The Lingering Economic Effects of a Pandemic on Hospitals.

Even if provisions are made to compensate hospitals used as isolation centers during a pandemic, or as quarantine centers for healthy individuals, any means of

⁷⁸ *Id.*

⁷⁹ Dr. Matthew Wynia & Dr. Caleb Alexander, *Ready and Willing? Physicians' Sense of Preparedness for Bioterrorism; Only 21 Percent feel prepared, but 80 percent are willing*, HEALTH AFFAIRS (September/Oct. 2003), available at LEXIS, Health Care Library, Health Care Journals. Again, this attitude amongst health care providers distinguishes them from persons who we traditionally consider first responders, such as firefighters and police officers, who exhibited their willingness to risk their own lives during a public emergency after the 9/11 attacks on the World Trade Center.

⁸⁰ Rothstein, *supra* note 41, at 186.

alleviating the economic burden of a pandemic on the nation's hospitals and ensuring compliance with the orders of public health officials must account for the economic after-effects of the hospital's designation as a "pesthouse." American history is rife with examples of the subsequent undesirability and perceived unmarketability of places used to quarantine and/or isolate persons with infectious diseases such as smallpox or leprosy.⁸¹ During the Spanish flu pandemic of 1918, property owners who protested the taking of their property by local public health officials for quarantine or isolation centers, fearing the lingering stigma of having been the "pesthouse" would hurt their business after the epidemic ended, found no sympathy from local health officers. For example, in response to a complaint filed by a hotel owner protesting the commandeering of his property for an emergency flu hospital, a health official in Spokane, Washington reportedly said: "We don't care a rap what the owners of the building think about it or about us. . . . This is a very serious emergency and if the owners of the Lion Hotel think they can put a dollar on one side of the scale and a human life on the other and get away with it, they are very, very badly mistaken."⁸²

⁸¹ See, e.g., *Kirk v. Wyman*, 65 S.E. 387 (S.C. 1909) (describing a house formerly used to isolate persons with smallpox as a "pesthouse," and describing the efforts of an elderly citizen of the city with leprosy to avoid being sent to live there); *J.A. Brown v. County of Pierce*, 68 P. 872 (Wash. 1902) (claiming a right to compensation from the city of Tacoma for the full value of property used by the city as a "pesthouse" for the isolation and quarantine of persons with smallpox because by such use the marketable value of the property was destroyed).

⁸² Heather Lalley, *Flu Outbreak of 1918 Proved Devastating to Spokane, World*, SPOKANE SPOKESMAN-REVIEW, November 18, 2004, at D8. Of course, we live in a different world today. Through the ascendancy of private health insurance as the primary method of payment for hospital care in the years since 1918, the efforts to control rising health care costs since the 1970's, and the most recent appearance of consumer-driven health care spending, Americans are used to a health care system that weighs expenses against human life. The recent debate in California and other states about mandating nurse staffing ratios in hospitals is a good example of the prevalence of weighing cost against life in our health care delivery system. A recent study shows that trimming a nurse's workload by a single patient can save lives, but costs between \$24,000 and \$136,000. Michael B. Rothberg, Ivo Abraham, Peter K. Lindenauer, and David N. Rose, *Improving Nurse-to-Patient Staffing Ratios as a Cost-Effective Safety Intervention*, 43 MEDICAL CARE 8 (August 2005). Hospitals and legislators are using the study to debate the wisdom of mandating a nurse-to-patient ratio in Massachusetts. Melanie Evans, *Putting a price on care*, MODERN HEALTHCARE, August 8, 2005, at 14.

Hospitals are not immune from the stigma of being designated the “pesthouse.” Scarborough Hospital in Toronto, Canada was the first hospital in Toronto to isolate SARS patients.⁸³ Scarborough’s first SARS patient experienced a long wait in the hospital emergency department (18-20 hours) before SARS was suspected.⁸⁴ Therefore, persons who entered the hospital after the first patient, but before adequate infection control measures had been implemented, were asked to adhere to a 10-day home quarantine.⁸⁵ Subsequently, four hospitals were designated as SARS facilities in the city.⁸⁶ Despite the cessation of the SARS outbreak by the summer of 2003, Scarborough Hospital continued to experience a loss in patients and severe stigma as a “pesthouse” long after the outbreak ended.⁸⁷

If a similar patient boycott occurred in an American hospital, the loss of lucrative privately insured patients, who, under the cost-shifting that is ubiquitous in our financing system for hospitals, subsidize other patients and socially beneficial hospital services, would seriously challenge a hospital’s financial viability. The affected hospitals would be left caring for only patients who had no choice of providers—generally, the publicly funded patients whose care is paid by the government at less than cost, or uninsured patients who cannot pay at all. This would exacerbate the precarious financial position the hospital would experience after a public health emergency.

Privately owned hospitals will be particularly sensitive to social stigma. Not-for-profit privately owned hospitals rely on their ability to issue and sell bonds to the public

⁸³ ROTHSTEIN, ET AL., *supra* note 13, at 55.

⁸⁴ *Id.*

⁸⁵ *Id.* at 24.

⁸⁶ *Id.* at 56.

⁸⁷ David Baird, Esq., Tory’s LLP, Remarks at Breaking Down the Divide: Contemporary Corporate Theory Applied to the Health Care Industry, Seattle University School of Law (February 27, 2004).

to finance their capital needs, and for-profit privately owned hospitals are dependent upon the capital markets for their needs. If the public fears going to a particular hospital because of its prior designation as an isolation or quarantine facility, the hospital will have great difficulty attracting investment in either the bond or stock markets. The aftermath of Hurricane Katrina on the privately owned hospitals in the New Orleans area illustrates the effect that a major disruption in the hospital's normal business activities due to a natural disaster can have on the hospital's ability to resume its normal activities when the disruption ceases. In New Orleans, even hospitals that were not physically damaged by the hurricane have remained closed since the disaster, due to lack of funds to reopen.⁸⁸ Whether they reopen or not is entirely dependent on the capital markets.⁸⁹

Therefore, ensuring hospital compliance with the orders of public health officials during an infectious disease pandemic will require assuring providers that they will be protected from the direct and indirect costs of caring for pandemic victims, from the loss of the ability to cost-shift during the pandemic, and from probable loss of business and the ability to cost-shift after the pandemic is over.

III. THE INADEQUACY OF EXISTING LAW TO PROTECT OUR HOSPITALS FROM THE ECONOMIC EFFECTS OF A PANDEMIC

A financially sound hospital system before, during, and after a public health emergency is critical to the public's health and the economic and social recovery of a region.⁹⁰ The law is our primary mechanism for ensuring that our hospital system remains

⁸⁸ See Reed Abelson, *Can Hospitals Reopen? It's a Matter of Money*, THE NEW YORK TIMES, Sept. 14, 2005, at C1-C5.

⁸⁹ *Id.*

⁹⁰ *Id.*

sound after a pandemic.⁹¹ Nevertheless, although public health systems and hospitals are heavily regulated at the federal, state, and local government levels, current law does not ensure the financial health and continued viability of the nation's hospitals during and after an infectious disease pandemic. Although government officials and the private sector have been paying increased attention to legal preparedness for a public health emergency in recent years, these efforts fail to address the economic hardships that hospitals will face during and after a pandemic. Therefore, they will fail to achieve their essential purpose of ensuring that the hospitals and other first-responders are ready and available to respond to a pandemic, and are ready and available to resume their vital function in our health care delivery system after the pandemic subsides. The following sections discuss existing federal and state laws that are commonly cited as economic protectors for the nation's hospitals, and points out their failure to deal with the realities of hospital finance.

A. The Takings Clause

On the federal level, there are a number of constitutional provisions,⁹² statutes, regulations, and administrative pronouncements that address the economic interests of health care providers responding to a public health emergency, such as an infectious

⁹¹ See generally, LAWRENCE GOSTIN, PUBLIC HEALTH LAW: POWER, DUTY, RESTRAINT 4 (University of California Press 2000); Barry S. Levy, M.D., *Twenty-First Century Challenges for Law and Public Health*, 32 IND. L. REV. 1149 (1999).

⁹² In addition to the Takings Clause, discussed *infra*, at various times in our history the courts have interpreted the Contracts Clause and the Due Process Clause to protect private economic interests from encroachment by state or federal government. See U.S. CONST. art. I §10 (Contracts Clause); U.S. CONST. amend XIV §1 (Due Process Clause); EUGENE CHEMERINSKY, CONSTITUTIONAL LAW, 222-224, 559 (2d ed. 2005). Nevertheless, the Contracts Clause cannot be used to override the power of the state to regulate as necessary to ensure the health, safety, and general welfare of the community. See, e.g., *Atlantic Coast Line R. Co. v. Goldsboro*, 232 U.S. 548 (1914). And the use of the Due Process clause to protect private contractual relationships from government interference has given way to extreme deference to the legislature's determination that there is a rational basis for a law that allegedly interferes with the economic liberty of private persons. See *Williamson v. Lee Optical Co.*, 348 U.S. 483 (1955). Therefore these constitutional provisions are likely to be of little use to hospitals seeking compensation from the government for damages caused by compliance with orders of isolation and quarantine during a pandemic.

disease pandemic. Nevertheless, they are inadequate to assure complete compensation for health care providers whose economic interests are adversely affected by compliance with the orders of public health officials during an outbreak of pandemic disease. They fail to provide incentives to hospitals and their medical staffs to put their duties as first responders during a pandemic above their interests in preserving the economic status quo on which they depend for survival.

Although legal scholars differ about whether protection of wealth and property was the primary motivating force behind the United States Constitution, there is no doubt that economic and private property rights were among those the framers sought to protect.⁹³ The Takings Clause decrees that private property may not be taken for public use, without just compensation.⁹⁴ When a hospital receives an order from a public health official adversely affecting its economic interests, such as an order for isolating sick patients or quarantining exposed persons, it is likely that the facility will call upon the courts to decide whether a compensable taking has occurred. Such a case is likely to raise a host of vexing questions about what types of government actions constitute compensable takings. Clearly government action taken to combat an outbreak of infectious disease is designed to defeat a “public enemy,” thus presenting a compelling argument that the action constitutes a taking for public use.⁹⁵ Nevertheless, according to the United States Supreme Court, not all private sacrifices needed to defeat a “public

⁹³ ERWIN CHEMERINSKY, CONSTITUTIONAL LAW 519-20 (2d ed. 2005)

⁹⁴ U.S. CONST. Amend. V. The Takings Clause has been deemed to apply to state governments and political subdivisions of states through the 14th Amendment’s due process guarantee. See *Chicago, B. & Q. R.R. Co. v. Chicago*, 166 U.S. 226 (1897). Furthermore, all state constitutions either expressly or impliedly prohibit takings without just compensation. Stephen Calandrillo, *Eminent Domain Economics: Should “Just Compensation” be Abolished, and Would “Takings Insurance” Work Instead?*, 4 OHIO ST. L. J. 451, 471 (2003).

⁹⁵ *Miller v. Schoene*, 276 U.S. 272, 279 (1928); *In re Property Located at 14255 53rd Ave. S. v. Department of Agriculture*, 120 Wash. App. 737, 749 (1982).

enemy” require just compensation under the Takings Clause.⁹⁶ Rather, the Court has long held that determining whether a compensable taking has occurred depends on the type of government action taken, the relative strength of the interests of the public versus the interests of the affected property owner, the extent of the property owner’s economic loss, and the reasonable expectations of the property owner.⁹⁷

Virtually all of these questions are *terra incognita* in the context of how they would apply to hospitals’ requests for compensation for economic losses incurred due to an infectious disease pandemic. Modern-day Takings Clause jurisprudence has developed simultaneously with great advances in the fields of medicine and public health.⁹⁸ Because of these medical advances, large-scale epidemics requiring isolation and quarantine of sick persons in modern hospitals are virtually unknown in the United States. At the same time that advances in medicine and technology made the need for large-scale isolation and quarantine of persons exposed to infectious disease virtually obsolete, the Court was interpreting the Takings Clause to require just compensation for government regulatory actions, both permanent and temporary, that had previously been considered non-compensable.⁹⁹ Therefore, 19th-century and early-20th century Takings Clause jurisprudence, the jurisprudence that existed the last time the United States had to contemplate the consequences of large-scale isolation and quarantine of infectious disease victims, has limited utility in the context of analyzing what the courts would do

⁹⁶ *Id.*

⁹⁷ *See* Miller, 276 U.S. at 279; *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419 (1982); *Penn Central Transportation Co. v. New York City*, 438 U.S. 104 (1978).

⁹⁸For example, advances in public health have accounted for about twenty-five of the thirty years of increased life expectancy in the United States since the beginning of the 20th century. LEVY, *supra* note 91, at 1150.

⁹⁹ *See, e.g.* *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922) (establishing that government regulation of private property may be considered a constitutional “taking,” requiring just compensation, even if the government does not physically possess the property).

today if faced with hospital claims for compensation based on their compliance with isolation and quarantine orders. The courts have rarely, if ever, had an opportunity to apply the Takings Clause to orders of public health officials closing hospitals or designating them as isolation or quarantine centers.

Courts decide Takings Clause cases as questions of law, based on the factual background of each specific case.¹⁰⁰ By its own terms, the Takings Clause only applies when “property” is taken for “public use.” The Court has defined public use broadly, and has specifically held that government designation of a hospital as an isolation or quarantine facility is a legitimate exercise of the state’s police powers to protect the public health.¹⁰¹

Although an order establishing an isolation or quarantine center on private property is undoubtedly a “public use” within the meaning of the Takings Clause, it is less certain whether such an order involves a taking of “property.” Physical occupation of the hospital by the government would clearly involve interference with “property,” since even a *de minimus* physical occupation of real property has been held to constitute a compensable taking.¹⁰² An order establishing an isolation or quarantine center at a hospital could involve a physical occupation of the hospital by the government, but it is far more likely to constitute a regulatory action directing the hospital to use its premises in a certain manner, thus disrupting the day-to-day business of the hospital. It is far from clear whether the hospital’s contracts with insurers and other business associates, and

¹⁰⁰ Huntleigh USA Corp. v. United States, 63 Fed. Cl. 440, 444 (2005).

¹⁰¹ Jacobson v. Massachusetts, 197 U.S. 11, 27 (1905). The “public use” requirement is satisfied when the government’s exercise of its eminent domain power is rationally related to a conceivable public purpose. Hawaii Housing Authority v. Midkiff, 467 U.S. 229, 240-41 (1984). The Court has defined “public purpose” broadly, to be coterminous with the sovereign’s exercise of its police powers. *Id.* at 240.

¹⁰² See, e.g., Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982) (holding that installation of cables on an apartment building was a physical occupation requiring just compensation).

day-to-day revenue-producing operations are “property” within the meaning of the Takings Clause. Protecting these intangible interests would be of paramount importance to a hospital when considering whether to comply with an order designating it an isolation or quarantine center. The United States Supreme Court has found compensable takings when government action adversely affects intangible interests such as loss of repose,¹⁰³ intellectual property,¹⁰⁴ and monetary interest on pooled funds.¹⁰⁵ Yet a hospital would have no certainty as to whether the Takings Clause would protect its intangible business interests. Intangible business-related interests have been characterized as compensable “property” in some types of takings, but have been characterized as non-compensable losses in others.¹⁰⁶

Most commentators and court decisions distinguish between two types of takings of property: possessory and regulatory.¹⁰⁷ A possessory taking occurs when the government confiscates or physically occupies private property.¹⁰⁸ A permanent physical occupation of property, no matter how minor, is a compensable taking no matter how strong the public interest that the government’s action serves.¹⁰⁹ If the government permanently physically occupied a hospital and ran it as an isolation or quarantine

¹⁰³ United States v. Causby, 328 U.S. 256 (1946).

¹⁰⁴ Ruckelshaus v. Monsanto Co., 467 U.S. 986 (1984).

¹⁰⁵ Phillips v. Washington Legal Foundation, 524 U.S. 156 (1998).

¹⁰⁶ See David B. Sweet, Annotation, *Supreme Court’s Views As to What Constitutes “Private Property” Within Meaning of Prohibition, Under Federal Constitution’s Fifth Amendment, Against Taking of Private Property for Public Use Without Just Compensation*, 91 L.Ed.2d. 582, §6 (2006). State law governs whether or not intangibles are characterized as property protected by the Takings Clause. See JOHN E. NOWAK AND RONALD D. ROTUNDA, *CONSTITUTIONAL LAW* (7th ed. 2004).

¹⁰⁷ Some scholars argue that there are actually three types of takings: possessory, regulatory, and derivative. They define a derivative taking as occurring when government action affecting specific property diminishes the value of surrounding property. Abraham Bell and Gideon Parchomovsky, *Takings Reassessed*, 87 VA. L. REV. 277, 280 (April 2001). If the courts were to adopt Bell and Parhomovsky’s theory of compensatory derivative takings, the number of possible compensatory takings due to government actions to combat a pandemic would likely increase beyond what is likely to occur under current jurisprudence.

¹⁰⁸ ERWIN CHERMERINSKY, *supra* note 93, at 575.

¹⁰⁹ Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 441 (1982).

facility, clearly the former owners of the hospital would be entitled to compensation.¹¹⁰ The only question remaining (and it is a big one) would be the proper measure of damages.

In the relatively straightforward situation of a permanent physical occupation of property by the government, there is a formula for compensating the former owner of the property. The value compensable in the case of a permanent physical occupation of property by the government is the value which is capable of transfer from owner to owner, i.e., the fair market value of the property at the time of the government's action, from the perspective of the owner.¹¹¹ Nevertheless, the loss to the owner of nontransferable value deriving from a unique need for the property, or a sentimental or illogical attachment to it, is treated as a loss for the common good, and is not compensable.¹¹² Sentimental value or inordinate attachment to a piece of property is not something that is transferable to the government. Likewise, eminent domain law generally does not recognize a right to compensation for destruction of business goodwill, provided the former owner is free to pick up and continue her business elsewhere.¹¹³ The government must only pay for what it gets, not for what the owner loses.¹¹⁴ In the normal possessory taking, business goodwill and going-concern value are not considered compensable "property." The government does not receive these

¹¹⁰ For an example of statutory authority for a public health authority to commandeer and operate a hospital during a public health emergency, see the MODEL STATE EMERGENCY HEALTH POWERS ACT (hereinafter, MSEHPA) §502(a) and (b) (December 21, 2001 draft), *available at* <http://www.publichealthlaw.net/MSEHPA/MSEHPA2.pdf> (last visited March 13, 2006). As of Feb 1, 2006, Section 502 of the MSEHPA had been adopted by 12 states. *See* Model State Emergency Health Powers Act Legislative Surveillance Table, *available at* <http://www.publichealthlaw.net/Resources/Modellaws.htm>. (last visited March 13, 2006).

¹¹¹ *Kimball Laundry Co. v. United States*, 338 U.S. 1, 5 (1949)

¹¹² *Id.*

¹¹³ *See, e.g.,* *WMX Technologies v. Miller*, 197 F.3d 367 (9th Cir. 1999); Sandra L.K. Davidson, Annotation, *Good Will as Element of Damages for Condemnation of Property on Which Private Business is Conducted*, 81 A.L.R.3d 198 (1977, updated May 2005).

¹¹⁴ *Id.*

interests, because it does not continue to operate the property seized as a business. These types of losses are treated as the price of citizenship, and as a sacrifice to the greater good of the community.¹¹⁵

Thus, if the government seizes a hospital, and subsequently shuts it down, compensation based on the fair market value of the property seized (i.e., the land, equipment, and fixtures) might be considered constitutionally adequate. After all, the former hospital owners would not receive back from the government a hospital with a significantly diminished value some time in the future, which they will have to rebuild into a viable business enterprise. They would not have to entice paying patients back to the hospital after it ceases being an isolation or quarantine center. They would not need to assure potential patients or insurers that a feared infectious disease was completely gone from the hospital, or that the hospital was once again capable of delivering the same type of quality care they had come to expect from it before it was appropriated by the government. If the hospital owners wished to engage in the business of operating a general acute care hospital again, they could take the fair market value payment they received from the government for the hospital's tangible assets, find a new location, and start over, pointing to their record as owners of a successful acute care hospital prior to the government's actions as support for their new business.¹¹⁶ No lingering stigma of a hospital having been designated as the "pesthouse" will follow them to their new business venture. Theoretically, hospital owners can re-establish their relationships with

¹¹⁵ Kimball Laundry Co, 338 U.S. at 5.

¹¹⁶This presumes that the government has not regulated itself a monopoly on the provision of acute care hospital services, leaving the hospital with no means of continuing its business elsewhere. *See generally*, Huntleigh USA v. United States, 63 Fed. Cl. 440 (2005) (court holds that the complete federalization of the airline security business may require the government to compensate a private airline security business for loss of its ongoing business opportunity).

insurers, suppliers, and employees on the same or similar terms to those they had previously negotiated, with no ill effects.

Although the government has the legal authority to physically occupy a hospital and run it as an isolation or quarantine facility, even if it did so, it is highly unlikely that such an occupation would be permanent. When the immediate public health crisis subsides, and the government no longer needs the hospital, it will most likely return the hospital to the owners. The owners of a business that has been temporarily occupied by the government and run as a going concern, and then returned to the owners after the government's need for the business ends, are in a much different position than the owners of a business that is permanently appropriated by the government. Unlike business owners whose business is gone forever, it is not financially feasible for business owners who know that they will get their business back at some point in the future to open a new version of their old business while the government is occupying their old business. If they do, they are likely to find themselves with two identical businesses at some point, neither of which can be operated at a profit because of the existence of the other business.¹¹⁷ This temporary interruption of the owner's business narrows the range of alternatives open to the owner so much, that it increases the government's obligation to him.¹¹⁸ Although the usual measure of damages for a temporary possessory taking is the fair rental value of the property for the time period it is used by the government,¹¹⁹ when the government's actions have so narrowed the range of alternatives available to the property owner, the government may be required to pay for the loss of going-concern

¹¹⁷ *Kimball Laundry Co.*, 338 U.S. at 14.

¹¹⁸ *Id.* at 15.

¹¹⁹ See J.E. Keefe, Jr., *Elements and Measure of Compensation in Eminent Domain for Temporary Use and Occupancy*, 7 A.L.R.2d 1297 (1949, updated April 2002).

value or goodwill experienced by the owner due to the government's actions.¹²⁰ In this situation, the government is receiving the going-concern value and goodwill of the business, and these interests are considered compensable property.

Although the government has the power to occupy and operate a hospital during a public health emergency, it is far more likely that public health authorities will rely on their statutory or regulatory power to designate hospitals as isolation and quarantine facilities, and require the hospital to comply with those orders, while the owners remain in possession and continue to operate the hospital.¹²¹ If this type of government action qualifies as a taking at all, it would constitute a regulatory taking. There is no set formula for determining when government regulation has gone "too far" in encroaching on the rights of private property owners, and constitutes a regulatory taking.¹²² It is well-settled that if government action permanently deprives a property owner of *all* economically beneficial use of her property, the government must pay the owner just compensation.¹²³ In such a case, business goodwill and going concern value may be compensable property, as they are when there is a temporary possessory taking of a going business concern,

¹²⁰ *Kimball Laundry Co. v. United States*, 338 U.S. 1, 15-16 (1949). This principle has recently been held to apply to a regulatory taking that creates a government monopoly in the former business owner's line of work. See *Huntleigh USA Corp. v. United States*, 63 Fed. Cl. 440 (2005) (holding that the proper measure of damages to a former airline security business for the federal government's takeover of the airline security industry should include payment for lost goodwill and going-concern value).

¹²¹ See, e.g., MSEHPA §502(b), *supra* note 110. Federal, state and local governments do not have the personnel necessary to physically occupy the number of hospitals that are likely to be needed in the event of a large-scale public health emergency. The United States Public Health Service has only 1,300 commissioned medical officers, 1,000 registered nurses, and 760 pharmacists nationwide. See <http://www.usphs.gov/html/professions/html>.

¹²² *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415-16 (1922)

¹²³ *Lingle, Governor of Hawaii et al. v. Chevron U.S.A. Inc.*, ___ U.S. ___, ___, 125 S.Ct. 2074, 2081 (2005), quoting *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1019 (1992) (emphasis in original).

especially if the government has made it impossible, through regulation or otherwise, for the former business owners to engage in their former business elsewhere.¹²⁴

Nevertheless, this “*per se*” rule of compensation does not apply to a temporary regulatory taking, even if the regulation does deprive the property owner of all beneficial use of her property while it is in effect.¹²⁵ For temporary regulatory actions, whether a compensable taking has occurred is an unqualified “maybe.”¹²⁶ Furthermore, the Court has cautioned against applying precedents from possessory takings cases to regulatory takings cases, making analysis of temporary regulatory takings cases even more constricted and fact-specific.¹²⁷

For the vast majority of regulatory takings cases, both permanent and temporary, the Court has applied a three-factor test to determine if compensation is due to the property owners, known as the *Penn Central* test.¹²⁸ The primary *Penn Central* factors are: The economic impact of the regulation on the property owner; the extent to which the regulation interferes with investment-backed expectations; and the character of the governmental action.¹²⁹ The inquiry is specific to the facts of each case, making it virtually impossible to predict in advance whether or not a particular government action will result in a compensable taking.

¹²⁴ See *Huntleigh USA*, 63 Fed. Cl. 440.

¹²⁵ *Tahoe-Sierra Preservation Council v. Tahoe Regional Planning Agency*, 535 U.S. 302 (2002) (holding that a building moratorium lasting 32 months did not necessarily constitute a *per se* compensable taking).

¹²⁶ *Id.* at 321.

¹²⁷ *Id.* at 323. This caution has not troubled the United States Court of Federal Claims. The Court of Federal Claims recently extended the holding in *Kimball Laundry v. United States*, 338 U.S. 1 (1949), a temporary possessory takings case requiring compensation for lost good will and going concern value, to a permanent regulatory taking. *Huntleigh USA*, 63 Fed. Cl. 440 (2005).

¹²⁸ *Tahoe-Sierra*, 535 U.S. at 323.

¹²⁹ *Penn Central Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978).

The law regarding the availability of compensation for goodwill and going concern value in the event of designation of a hospital as an isolation or quarantine facility during a pandemic is summarized in Figure 2:

Fig 2: Availability of compensation for loss of goodwill and going concern value for designation as an isolation or quarantine center

	Government Physically Occupies and Runs the Hospital	Government Issues Orders Designating the Hospital as an Isolation or Quarantine Center, Hospital Continues to Be Operated by Owners
Temporary Designation of Hospital as an Isolation or Quarantine Facility	Yes	Maybe
Permanent Designation of Hospital as an Isolation or Quarantine Facility	No, unless the condemnor continues to run the business as a hospital and thus makes use of the hospital's accumulated goodwill.	Yes, but only if owner is deprived of all economically beneficial use of property.

In the context of an order designating a hospital as a temporary isolation or quarantine center, one could imagine the myriad of fact-specific inquiries that would plague the courts under the *Penn Central* test. For example, with regard to the economic impact of the regulation on the property owner, should loss to the hospital be offset by any payment made to the hospital by the public health authorities for caring for isolated or quarantined people? What are the hospital's true damages, given the cost-shifting phenomenon and the convoluted nature of hospital payments structures? What kind of investment-backed expectations exist for private non-profit hospitals, and how does a charitable mission factor into these expectations? With regard to the character of the government action, shouldn't hospitals, which are heavily regulated by the state, expect

to be subject to orders of this nature, and therefore have no vested property right in the ability to carry on their business during a public health emergency?¹³⁰

The most likely hospital scenario is a temporary regulatory designation as an isolation or quarantine facility. Under current Takings Clause jurisprudence, the only thing that is certain in this scenario is that a hospital will have the opportunity to argue about whether it is entitled to receive any compensation from the government. And even if it convinces a court that the *Penn Central* factors militate in favor of compensation, it must then argue that the Court's possessory Takings Clause jurisprudence allowing compensation for goodwill and going-concern value in certain circumstances should apply to a temporary regulatory taking, an analogy that the Court has discouraged.¹³¹ And even if it convinces the court that goodwill and going-concern value are compensable property in the case of a temporary regulatory taking, these are notoriously hard to quantify, stumping even a scholar of law and economics of the caliber of Justice Felix Frankfurter.¹³²

The uncertainty of availability, type, or amount of compensation available under the Takings Clause prevents it from acting as an incentive for hospitals to comply with the orders of public health authorities during a pandemic. In the case of a wide-scale public health emergency requiring multiple isolation and quarantine centers capable of using sophisticated medical technology, the threat of massive amounts of litigation

¹³⁰ See, generally, Huntleigh, 63 Fed. Cl. 440, 446-448 (2005) (discussing the highly regulated nature of the airline security business and rejecting that as a reason to refrain from ordering compensation for government taking).

¹³¹ *Tahoe-Sierra*, 535 U.S. at 323-24.

¹³² In *Kimball Laundry v. United States*, 338 U.S. 1 (1949), Justice Frankfurter's majority opinion did not dictate a methodology for the trial court to use to value good will or going-concern value. *Id.* at 16. Instead, it set forth various examples of how to calculate the value of these intangibles from economic texts of the time, and remanded the matter to the trial court to sort out. *Id.* The dissenters noted with disdain that the majority opinion includes an "academic dissertation on valuation." *Id.* at 23.

regarding the entitlement to, and amount of compensation due to hospitals will not only cool the eagerness of hospitals to comply with the orders of public health authorities, but could also temper the government's response to the emergency, cause delay, and adversely affect the public's health. The undeveloped state of our Takings Clause jurisprudence in the context of public health emergencies provides hospitals with incentives to protect themselves by resisting such orders in the first place, rather than taking the chance of complying and engaging in protracted and risky litigation about the amount of compensation due afterwards.

A less apparent danger to the viability and quality of our health care system from the uncertain state of our Takings Clause jurisprudence in this area is what some scholars have called "demoralization costs."¹³³ This is the likelihood that a property owner, knowing that the compensation she receives will be inadequate if her property is taken, will fail to maintain the property or use it properly.¹³⁴ A hospital that knows that that it is unlikely to receive adequate compensation for its losses if it is designated as an isolation or quarantine facility, has little economic incentive to build additional capacity or invest in additional equipment in anticipation of a pandemic, if the additional space and equipment are unlikely to be used when there is no pandemic.¹³⁵ As hospitals realize the uncertainty of adequate compensation to make up for their designation as an isolation or quarantine center, they will be more and more likely to resist such designations in any way legally possible. Hospitals may choose to make themselves less attractive targets for public health authorities seeking isolation or quarantine centers by channeling funds

¹³³ See, e.g., Frank Michelman, *Property, Utility and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165 (1967)

¹³⁴ *Id.*

¹³⁵ *Id.*; see also, Steve P. Calandrillo, *Eminent Domain Economics: Should "Just Compensation" Be Abolished, and Would "Takings Insurance" Work Instead?*, 64 OHIO ST. L.J. 451, 525 (2003).

away from pandemic preparedness. Instead, hospitals may shy away from the possibility of becoming isolation or quarantine centers, hoping instead to reap the benefits of receiving more lucrative business that isolation and quarantine centers will have to turn away. This demoralization cost is a creeping detriment to the population's health care.

B. Federal Statutory and Regulatory Authorities

A small number of diseases are subject to federal quarantine authority.¹³⁶ Expenses for the care and treatment of persons quarantined pursuant to federal quarantine authority may be paid for by the United States Public Health Service.¹³⁷ For all other diseases, state and local governments have primary responsibility for isolation and quarantine within their borders.¹³⁸ Federal authorities do not apply until the Director of the Centers for Disease Control determines that measures taken by state or local authorities are inadequate to prevent the spread of a communicable disease outside of a state.¹³⁹

This does not mean that there will be no federal assistance available to assist hospitals in the event of an infectious disease pandemic. Federal statutes such as the Stafford Act¹⁴⁰ and the Public Health Service Act¹⁴¹ specify certain conditions under

¹³⁶ Exec. Order No. 13,295, 68 Fed. Reg. 17255 (April 4, 2003), and Exec. Order No. 13,375, 70 Fed. Reg. 17299 (April 1, 2005). These diseases are cholera, diphtheria, infectious tuberculosis, plague, smallpox, yellow fever, viral hemorrhagic fevers (Lassa, Marburg, Ebola, Crimean-Congo, South American, and others not yet isolated or named), SARS, and influenza caused by novel or reemergent influenza viruses that are causing, or have the potential to cause, a pandemic. *Id.*

¹³⁷ 42 U.S.C.S. §249 (1994). The legislation does not specify a payment amount or rate. Furthermore, although persons not otherwise entitled to treatment by the Public Health Service may be treated in cases of emergency, they will be charged for treatment. 42 C.F.R. §32.111 (2005). This will leave the hospital holding the bag with regard to payment for any treatment they render under orders of the Public Health Service that is not for one of the federally quarantinable diseases.

¹³⁸ Centers for Disease Control, Severe Acute Respiratory Syndrome (SARS), Legal Authorities for Isolation and Quarantine at 1 (page last modified January 27, 2004), available at <http://www.cdc.gov/ncidod/sars/legal.htm> (last visited March 13, 2006).

¹³⁹ 42 C.F.R. §70.2 (2005).

¹⁴⁰ 42 U.S.C.S §5121 *et seq.* (2002)

¹⁴¹ 42 U.S.C.S §241 *et seq.* (1994)

which the federal government will contribute resources, personnel, and financial aid in the event of a public health emergency. Nevertheless, these statutes provide no assurance that federal financial resources will be either adequate to meet the hospitals' short-term needs, nor are they directed towards alleviating the long-term financial effects of a pandemic on hospitals. Rather, the vast majority of federal expenditures authorized under these statutes are allocated to state and local governments to prepare and plan for immediate needs during a public health emergency, such as enhanced communications between first responders, and pre-emergency development of hospital surge capacity.¹⁴² Virtually no funds have been earmarked for alleviating the long-term financial effects of a public health emergency on the nation's health care delivery system. Although spending funds to develop better disease surveillance systems and hospital surge capacity is laudable and certainly necessary, it does not provide an economic incentive for hospitals and other first responders to cooperate with the orders of public health authorities during the critical early stages of an emergency.

1. The Stafford Act

The Stafford Act is the federal government's primary legislation designed to alleviate the consequences of major disasters and emergencies in the United States.¹⁴³ An infectious disease pandemic falls within the Stafford Act's definition of an "emergency."¹⁴⁴ The President can declare that an emergency exists only upon the request of the Governor of an affected state.¹⁴⁵ The Governor must base her request on a

¹⁴² See, e.g., News Release, United States Department of Health and Human Services, HHS Announces \$1.3 Billion in Funding to States for Bioterrorism Preparedness (May 13, 2005), available at <http://www.hhs.gov/news/press/2005pres/20050513.html> (on file with the author).

¹⁴³ 42 U.S.C.S. §5122 *et seq.* (2002).

¹⁴⁴ 42 U.S.C.S. §5122(1) (2002).

¹⁴⁵ 42 U.S.C.S. § 5170 (2002)

finding that the “situation is of such severity and magnitude that effective response is beyond the capabilities of the State and the affected local governments and that Federal Assistance is necessary.”¹⁴⁶

In the context of an infectious disease pandemic, the requirement that a public official admit that the situation is beyond the capabilities of the local governments is a serious disincentive to declaring an emergency. There is a serious stigma and accompanying loss of revenue that surrounds a geographic area, industry, or even building that becomes associated in the public’s mind with an infectious disease. For example, during the outbreak of an influenza virus in 1976 at Fort Dix, New Jersey, that became known as the “swine flu” because the type of influenza virus involved was normally a pig virus, pig farmers complained that the name “swine flu” might frighten people away from eating pork.¹⁴⁷ They suggested renaming the flu the “New Jersey flu.”¹⁴⁸ New Jersey officials, concerned about the effect the name “New Jersey flu” would have on the state’s image, vigorously resisted this moniker.¹⁴⁹

More recently, worldwide reaction to the SARS outbreak was delayed because of China’s fear that news of SARS would negatively impact local economies, particularly before the upcoming Chinese New Year.¹⁵⁰ During the SARS outbreak in Taiwan, the Taiwanese Health Department fined three physicians the equivalent of \$2,600, and three hospitals the equivalent of \$43,000 each for covering up or delaying the reporting of possible SARS cases.¹⁵¹ The City of Toronto and the Province of Ontario are currently

¹⁴⁶ *Id.*

¹⁴⁷ KOLATA, *supra* note 3 ,at 155

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ David Bishop, Note, *Lessons from SARS: Why the WHO Must Provide Greater Economic Incentives for Countries to Comply with International Health Regulations*, 36 GEO. J. INT’L. L. 1173, 1184 (2005).

¹⁵¹ ROTHSTEIN, ET AL., *supra* note 13, at 103.

defending several lawsuits based on their alleged failure to take appropriate measures to control the outbreak of SARS, allegedly because of their desire to preserve the public image of Toronto and not alarm the international community.¹⁵² Therefore, federal assistance triggered by a declaration under the Stafford Act is likely to be delayed until the situation is dire enough to override the legitimate stigma concerns of local business interests and politicians.

Nevertheless, once the President declares a federal emergency, federal emergency assistance is available to the affected area to support its efforts to “save lives, protect property and public health and safety, and lessen or avert the threat of a catastrophe.”¹⁵³ Total assistance for a single emergency cannot exceed \$5,000,000, unless the President determines that continued assistance is immediately required because of a continuing and immediate risk to lives, property, public health or safety, and that there is no other assistance available.¹⁵⁴ Under the Stafford Act, the federal government is the payer of last resort; an applicant for aid under the Act must exhaust all other sources of aid first, including private insurance.¹⁵⁵ The United States may recoup federal assistance if it duplicates benefits available to the person from another source.¹⁵⁶

When an emergency declared under the Stafford Act involves public health needs or a developing potential medical situation, federal assistance is delivered pursuant to the structure set forth in the Department of Health and Human Services Emergency Support

¹⁵² See, e.g., Reasons for Decision at 2-4, Between Andrea Williams and The Attorney-General of Canada *et al.*, No. 03-CV-259366 CP, (Ontario Superior Court of Justice August 22, 2005) (on file with the author).

¹⁵³ 42 U.S.C.S §5192(a) (2002).

¹⁵⁴ 42 U.S.C.S §5193(b) (2002).

¹⁵⁵ 42 U.S.C.S §5155 (2002).

¹⁵⁶ *Id.*

Function #8 (ESF 8).¹⁵⁷ ESF 8 specifies the types of supplemental federal assistance available to state and local governments to meet the health and medical needs of victims of emergencies.¹⁵⁸ The federal assistance authorized under ESF 8 is in the form of administration and coordination.¹⁵⁹ ESF 8 specifically states that “[A]rrangements for definitive medical care are primarily a local function. Requests for additional assistance should first be referred to State authorities.”¹⁶⁰ ESF 8 does not provide for any federal involvement in the after-effects of a public health emergency, economic or otherwise, on the nation’s hospitals.

2. The Public Health Service Act

The Stafford Act is not the only federal legislation applicable to a public health emergency situation. The Public Health Service Act¹⁶¹ (PHSA) specifically addresses the powers and role of the federal government during public health and medical emergencies.¹⁶² Under the PHSA, the Secretary of the Department of Health and Human Services can declare a public health emergency, and may make grants and provide awards for expenses to entities involved in responding to such an emergency.¹⁶³ The Secretary’s declaration of a public health emergency automatically expires after 90 days, subject to renewal.¹⁶⁴ The PHSA establishes a “Public Health Emergency Fund”

¹⁵⁷ Department of Homeland Security, National Response Plan, Health and Medical Services Annex, Emergency Support Function #8 (January 2003), available at http://www.dhs.gov/dhspublic/interapp/editorial/editorial_0566.xml (last visited March 13, 2006)

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.* at 14.

¹⁶¹ 42 U.S.C.S. §201 *et seq.* (2002).

¹⁶² United States Department of Health and Human Services, Concept of Operations Plan (CONOPS) for Public Health and Medical Emergencies at 4 (March 2004), available at <http://www.pandemicflu.gov/plan/> (last visited March 13, 2006).

¹⁶³ 42 U.S.C.S. §247d(a) (April 2005 supplement).

¹⁶⁴ *Id.*

available to the Secretary in the event she declares a public health emergency.¹⁶⁵ Although the fund was previously required to have a balance of \$30 million at the beginning of each fiscal year, current legislation does not establish any specific funding level for the fund.¹⁶⁶ Expenditures from the fund are designed to meet short-term public health emergency needs; they can only be made while a declaration of a public health emergency is in effect.¹⁶⁷ The fund is designed to supplement, not supplant, other financial resources available for public health activities.¹⁶⁸

The PHSA was amended in June 2002 specifically for the purpose of enhancing the United States' preparedness for a large-scale public health emergency.¹⁶⁹ In addition to the Public Health Emergency Fund,¹⁷⁰ the Response Act contains a number of provisions earmarking federal funds for preparation for a public health emergency. There are funds earmarked for assessing national needs to combat threats to the public health,¹⁷¹ for grants to States or local authorities to assess public health threats,¹⁷² for grants to improve State and local public health agency preparedness,¹⁷³ for grants to improve State, local, and hospital preparedness for a public health emergency,¹⁷⁴ and for grants for community-hospital partnerships to prepare for a public health emergency.¹⁷⁵ For fiscal year 2003, over 1.6 billion dollars in federal funds was allocated for these purposes.¹⁷⁶

The funds can be expended for a variety of planning and preparedness functions,

¹⁶⁵ 42 U.S.C.S. §247d(b) (April 2005 supplement).

¹⁶⁶ 42 U.S.C.S. §247(d)(b) (1994); 42 U.S.C.S. §247d(b) (April 2005 supplement).

¹⁶⁷ 42 U.S.C.S. §247(d)(b) (April 2005 supplement).

¹⁶⁸ 42 U.S.C.S. §247(d)(c) (April 2005 supplement).

¹⁶⁹ Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (hereinafter, the Response Act), P.L. 107-188 (June 12, 2002).

¹⁷⁰ 42 U.S.C.S. §247d (April 2005 supplement).

¹⁷¹ 42 U.S.C.S. §247d-1 (April 2005 supplement).

¹⁷² 42 U.S.C.S. §247d-2 (April 2005 supplement).

¹⁷³ 42 U.S.C.S. §247d-3 (April 2005 supplement).

¹⁷⁴ 42 U.S.C.S. §247d-3a (April 2005 supplement).

¹⁷⁵ 42 U.S.C.S. §247d-3b (April 2005 supplement).

¹⁷⁶ 42 U.S.C.S. §247d-3a (April 2005 supplement).

including response training for health care professionals, enhancing worker safety in the event of a bioterror attack, and simulations and exercises to test the capability and timeliness of public health emergency responses.¹⁷⁷

The Response Act also enhanced the National Disaster Medical System (NDMS), which is specifically designed to augment the country's emergency medical response capability during a public health emergency.¹⁷⁸ The NDMS may be activated by the Secretary of the Department of Health and Human Services to provide medical services to the victims of a public health emergency, even if a public health emergency has not been declared under the PHSA.¹⁷⁹ Private hospitals may voluntarily join the NDMS by entering into an agreement with NDMS.¹⁸⁰ Hospitals agreeing to join NDMS agree to commit a number of their available acute-care beds for NDMS patients.¹⁸¹ The number of beds committed may be adjusted at will by the hospital, even after the NDMS is activated.¹⁸² To date, approximately 1,818 hospitals have committed approximately 110,605 acute-care beds to the NDMS program.¹⁸³ Although at first glance, this sounds promising, even in a normal year flu patients occupy over 114,000 hospital beds.¹⁸⁴ Obviously, hospitals are not eagerly lining up to contribute beds to the NDMS in sufficient numbers to make a even a dent in the bed capacity that will be needed in even a moderate influenza pandemic, of the type modeled by the Centers for Disease Control.¹⁸⁵

¹⁷⁷ *Id.*

¹⁷⁸ 42 U.S.C.S. §300hh-11 (2002)

¹⁷⁹ 42 U.S.C.S. §300hh-11(b)(3)(A)(i) (2002).

¹⁸⁰ See Frequently Asked Questions About NDMS, available at <http://mediccom.org/public/tadmat/ndms/NDMSFAQ.html> (last visited March 13, 2006).

¹⁸¹ *Id.*

¹⁸² *Id.*

¹⁸³ NDMS Statistics, available at <http://mediccom.org/public/tadmat/ndms/ndmsstat.html> (last visited March 13, 2006).

¹⁸⁴ See note 42, *supra*.

¹⁸⁵ See Fig. 1, *supra*.

It appears that further incentives are necessary to enlist sufficient numbers of hospitals for the NDMS to have any real effect during a public health emergency.

One reason for the lackluster hospital response to the NDMS might be financial. Although hospitals that admit NDMS patients are assured that they will be reimbursed by the federal government, the only reimbursement contemplated is for the actual expenditures incurred in furtherance of the program.¹⁸⁶ The legislation authorizing appropriations to pay for the program does not specify a method for calculating the amounts that will be paid to hospitals for each bed occupied by an NDMS patient. It is left to the Secretary of Health and Human Services to provide the resources necessary to reimburse expenditures carried out in furtherance of the program.¹⁸⁷ A hospital might easily decide that the reimbursement contemplated is too uncertain for it to take the risks associated with designating beds as NDMS beds, and making itself an attractive isolation or quarantine center in the event of a pandemic. Without any understanding of what payment will be made for beds committed to the NDMS, hospitals are likely to decline to join the NDMS, or quickly withdraw their beds from the program at the start of an emergency, if beds are filled with more lucrative paying patients at that time. Even if its beds are not filled, hospitals are unlikely to want to run the risk of losing whatever more lucrative business they do have at the beginning of a pandemic by designating empty beds to the NDMS and running the risk that their elective surgery and orthopedic patients, whose payors bear the brunt of the cost-shifting done by hospitals, will need to be relocated to other hospitals.

3. Federal Administrative Preparations for Public Health Emergencies

¹⁸⁶ 42 U.S.C.S. §300hh-11(h), (i) (2002)

¹⁸⁷ *Id.*

Although there is an enormous amount of money earmarked for public health emergency preparedness through these legislative schemes, there is confusion about the amount and character of funds earmarked for actual direct payment to health care providers responding to a public health emergency. And there is no money allocated by the federal government for providers to deal with the economic aftermath of a pandemic. For example, in November 2005, the President released the National Strategy for Pandemic Influenza, coupled with a request to Congress for \$7.1 billion in funding.¹⁸⁸ The request included \$251 million to detect and contain outbreaks before they spread around the world; \$2.8 billion to accelerate development of cell-culture technology; \$800 million for development of new treatments and vaccines; \$1.519 billion for the Departments of Health and Human Services (HHS) and Defense to purchase influenza vaccines; \$1.029 billion to stockpile antiviral medications; and \$644 million to ensure that all levels of government are prepared to respond to a pandemic outbreak.¹⁸⁹ Along with the National Strategy, the Department of Health and Human Services released its more detailed Pandemic Influenza Plan. HHS's Pandemic Influenza Plan provides further details of how the bounty of federal preparedness funds authorized in response to the President's request are to be expended.¹⁹⁰ The Plan sets forth a detailed operational framework for prevention, preparedness, evaluation, response, containment and recovery from an influenza pandemic.¹⁹¹ It specifically describes who is responsible for what activities amongst the various federal agencies with overlapping responsibilities in the area of public health.

¹⁸⁸ National Strategy for Pandemic Influenza and Funding Request, *available at* <http://www.whitehouse.gov/homeland/pandemic-influenza.html> (last visited March 13, 2006).

¹⁸⁹ *Id.*

¹⁹⁰ CONOPS, *supra* note 162.

¹⁹¹ *Id.* at 9.

In contrast to this specificity for responsibilities during a public health emergency, the Plan is very vague about whose obligation it is to pay for care once a public health emergency is declared, and through what agency the money will flow. This vagueness is echoed in the more general Concept of Operations Plan (CONOPS) for Public Health and Medical Emergencies that was previously promulgated by the Department of Health and Human Services.¹⁹² CONOPS merely states that funding for the activities described in the Plan will be provided through direct and supplemental appropriations and reimbursements.¹⁹³ CONOPS also notes that the States could be made to reimburse the federal government for certain activities carried out during a public health emergency under the PHSA, setting the stage for widespread wrangling about payment responsibilities not only between private insurers and the government, providers and local authorities, local authorities and state agencies, and between state agencies themselves, but between the federal government and the states as well.¹⁹⁴ The knowledge that even the states and the federal government have not agreed on who will pay for care during a public health emergency is hardly an incentive for swift provider compliance with local public health authority orders that the provider knows will cause it economic injury.

As far as the economic aftermath of a public health emergency is concerned, the discussion of recovery in CONOPS is limited to a brief statement regarding demobilizing the Secretary's Emergency Response Team, and an assurance that there are medical and mental health services available to agency workers after deployment.¹⁹⁵ Consistent with the federal statutory assumption that a public health emergency is a short-lived, limited

¹⁹² CONOPS, *supra* note 162.

¹⁹³ *Id.* at 8.

¹⁹⁴ *Id.* at 9.

¹⁹⁵ *Id.* at 14.

scope phenomenon and that direct provision of medical care is a primarily local concern, CONOPS does little to address the after-effects of a public health emergency on the nation's health care delivery system, economic or otherwise.

C. State and local authorities

The authority to isolate or quarantine in the event of a public health emergency varies widely from state to state.¹⁹⁶ The Model State Emergency Health Powers Act (MSEHPA) provides some common ground for assessing the availability of compensation from state and local public health authorities for hospitals following the orders of authorities during a public health emergency.¹⁹⁷ The MSEHPA specifies that compensation for property taken by a public health authority during a public health emergency shall be calculated in accordance with the applicable laws of eminent domain in a non-emergent situation.¹⁹⁸ Unless a state's constitution has been interpreted to provide compensation beyond that contemplated under the United States Constitution in a temporary regulatory taking situation, a hospital located in a state that follows the MSEHPA would thus find itself in the constitutional Takings Clause netherworld described in Part ____, *supra.*, after acting as an isolation or quarantine center during a pandemic.

States that have not adopted this provision of the MSEHPA do not necessarily have laws that are more likely than the MSEHPA to assure hospital compliance with orders of public health authorities. For example, New Jersey, the most densely populated

¹⁹⁶ Centers for Disease Control, Severe Acute Respiratory Syndrome (SARS), Legal Authorities for Isolation and Quarantine, *supra* note 138.

¹⁹⁷ MSEHPA, *supra* note 110. Parts of the MSEHPA, or provisions modeled on parts of the MSEHPA, have been adopted by 37 states as of February 1, 2006.

¹⁹⁸ MSEHPA, *supra* note 110, at §§506, 805(c). As of February 1, 2006 five states (DE, IA, LA, MO, NH) had adopted §506 of the MSEHPA.

state with a population of over 8.5 million people, considers itself to be particularly vulnerable to the importation and spread of infectious disease.¹⁹⁹ Over half a million people commute between New York and New Jersey every day, making the interstate spread of disease during a pandemic very likely in the region.²⁰⁰ Recognizing its potential vulnerability to an influenza pandemic, New Jersey has a lengthy and detailed draft Influenza Pandemic Plan.²⁰¹ The Plan was developed in close collaboration with partner organizations throughout the state, and reviewed by both public and private sector stakeholders.²⁰² The Plan recognizes that because of the likely scope and duration of an influenza pandemic, it will be difficult to shift resources between states, and the state must plan to be self-reliant.²⁰³ The Plan acknowledges that influenza prophylaxis and treatment during a pandemic will predominantly be the responsibility of individuals and organizations in the private sector, and that voluntary compliance by the private sector with guidelines and directives from governmental agencies is needed.²⁰⁴ New Jersey also acknowledges that the pre-pandemic period is the critical period for determining the impact of the pandemic on health care resources.²⁰⁵

Despite the apparent awareness of New Jersey public health authorities that cooperation from the private health care sector will be critical in a public health emergency, the Plan contains no provisions for alleviating the immediate or long-term economic impact the private health care sector is likely to experience from treating

¹⁹⁹ New Jersey Department of Health and Senior Services, Influenza Pandemic Plan at 12 (Draft, February 1, 2006), available at <http://www.cste.org/specialprojects/Influenzaplans/StateMap.asp>.

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² *Id.* at 2.

²⁰³ *Id.*

²⁰⁴ *Id.* To facilitate private sector cooperation, New Jersey has provided an “Influenza Pandemic Plan Guide for Health Care Facilities,” available at <http://nj.gov/health/flu/pandemic.shtml>.

²⁰⁵ *Id.*

victims of an influenza pandemic.²⁰⁶ In fact, the plan acknowledges that the economic impact of an influenza pandemic will be significant, but then states that this is not within the purview of the public health response plan.²⁰⁷ The closest the Plan comes to addressing the problem is a promise that the New Jersey Department of Health and Senior Services Office of the State Epidemiologist will coordinate a state-wide effort to assess the impact of the pandemic on health care resources and prepare a report with recommendations for the future when the pandemic is over.²⁰⁸

It is doubtful that the assurance that the authorities will prepare a report with recommendations will be sufficient to persuade hospitals and other first responders to comply with the orders of public health authorities designating them as isolation or quarantine centers. The New Jersey Constitution's Takings Clause has been construed to be coextensive with the United States Constitution's Takings Clause.²⁰⁹ Given the uncertainty that compensation will be available to hospitals from traditional takings clause analysis, this is a recipe for defiance rather than cooperation in the event of a pandemic.

California, a populous state in close proximity to Asia and a large immigrant population, acknowledges that a pandemic is likely to affect everyone in California, and that no amount of planning will allow response to a major pandemic to be "business as usual."²¹⁰

²⁰⁶ The New Jersey Department of Health and Senior Services estimates that an 8 week wave of pandemic influenza with an attack rate of 35% will result in 40,904 hospital admissions, 9,553 patients in ICU, 4,775 flu patients on ventilators, and 8,141 deaths (of which 5,700 will occur in hospitals). *Id.* at 13. New Jersey acknowledges that these numbers are most likely underestimates of what would occur during such a pandemic. *Id.*

²⁰⁷ *Id.* at 14.

²⁰⁸ *Id.* at 78.

²⁰⁹ See Rohaly v. State of New Jersey et. al., 732 A.2d 524, 526 (N.J. Super. Ct. App. Div. 1999).

²¹⁰ California Department of Health Services, Pandemic Influenza Preparedness and Response Plan at 6, (Draft, January 2006), available at <http://www.cste.org/specialprojects/Influenzaplans/StateMap.asp>.

The California Department of Health, in its Pandemic Influenza Preparedness and Response Plan, estimates that 35% of the population could become ill with influenza in the event of a pandemic, and that there could be more than 35,000 deaths.²¹¹ The Department of Health acknowledges that a pandemic could continue for months, or even years, and will require a sustained health facility response.²¹² The Plan’s objectives for healthcare planning are to maintain to the greatest extent possible the provision of healthcare services sufficient to meet the needs of all Californians during an influenza pandemic, as well as respond to the healthcare needs of pandemic victims and coordinate that response amongst providers.²¹³ In order to accomplish this, the public health authorities are exploring their legal authority to require hospitals to cancel elective surgeries or otherwise develop capacity in anticipation of a pandemic.²¹⁴ Yet the Plan says nothing about assuring private sector health care providers that they will be compensated for the economic damage they are likely to experience if they comply with the orders of public health authorities designating them as isolation or quarantine centers.

The California Supreme Court has characterized a “somewhat broader” range of valuation for property taken by the government under the California Constitution, but otherwise, the state and federal Takings Clauses are construed identically.²¹⁵ Without any financial assurances beyond the vagaries of litigation under the Takings Clause, private hospitals are likely to succumb to the “not in my backyard” syndrome, and do whatever they can to avoid being associated with the pandemic, at least in the critical early stages.

²¹¹ *Id.* at 3.

²¹² *Id.* at 6; Appendix 3, §3.1.

²¹³ *Id.* at Appendix 3, §3.3.

²¹⁴ *Id.* at §3.6.1.

²¹⁵ *See San Remo Hotel v. City and County of San Francisco*, 27 Cal.4th 643, 664 (2002).

IV. ENSURING THAT HOSPITALS ACT IN THE INTERESTS OF PUBLIC HEALTH DURING A PANDEMIC

Current law is inadequate to ensure that hospitals will be completely compensated if they comply with the orders of public health authorities during the critical early stages of an infectious disease pandemic. Thus, it does nothing to encourage provider compliance with such orders in the face of countervailing economic self-interests. In order to be reassured that they will not be forced out of business if they comply with such orders, hospitals must be assured of three things: that they will be paid for the actual costs of caring for victims of a pandemic; that they will be paid for lost revenue from disruption of their routine business and their inability to cost-shift while designated as an isolation or quarantine center; and that they will receive adequate compensation after the pandemic is over to make up for the loss of goodwill they are likely to face due to being designated as the “pesthouse” during a pandemic. If we can ensure that these three elements loss will be compensated, we can ensure that our hospital managers will act in the public interest in the face of a pandemic, rather than act contrary to the public interest in the interests of economic self-preservation. We can ensure that we will still have a functioning health care delivery system after the pandemic is over. The remainder of this article proposes that an efficient way to provide these three elements of compensation to hospitals and ensure the public’s health is through collaboration between the public and the private sectors, taking advantage of their respective areas of expertise.

A. Amending Current Disaster and Emergency Laws to Assure Prompt Payment for the Direct Costs of Care

During the thick of a public health emergency, quick economic relief to hospitals is of paramount importance. Our existing emergency and disaster relief laws should

clearly provide for direct payments to hospitals in the throes of dealing with pandemic disease, regardless of whether they are acting pursuant to a Stafford Act declaration or pursuant to the orders of local public health officials. After the crisis has been alleviated, the law should provide for the government to recoup costs that it expended caring for sick patients from private health insurers who should have covered the costs of caring for their sick beneficiaries under the terms of their contracts with providers. This will prevent insurers from receiving a windfall at the expense of the public, and postpone the inevitable arguing about who is responsible for payment for the treatment of pandemic victims until the pandemic subsides and the immediate public health crisis is over.

Although federal and state laws are full of preparedness initiatives, and substantial funding from all levels of government has been directed towards preparedness, confusion reigns about who will pay for what when pandemic victims are actually hospitalized.²¹⁶ Although some hospitals have accumulated large reserves in recent years, and may be able to handle the disruption in their revenue streams that will inevitably occur when they are responding to a pandemic, many hospitals operate at the edge of solvency.²¹⁷ In order to ensure that hospitals and other first responders have funds readily available to survive the interruption of their normal revenue streams, Congress should implement legislation earmarking some of the dollars allocated for influenza and pandemic preparedness for a reserve fund designed to pay for the care of pandemic victims as it is rendered. In keeping with the philosophy expressed in ESF 8 that arranging for medical care is primarily a local function, and to ensure that the federal government does not encroach

²¹⁶ See Steven D. Gravely and Erin S. Whaley, *Emergency Preparedness and Response: Legal Issues in a Changing World*, 17 THE HEALTH LAWYER Vol. 3 at 1 (June 2005).

²¹⁷ See Monty Veazey, *A Growing Crisis*, MODERN HEALTHCARE, August 22, 2005 at 32. Veazey notes that in Georgia, on average, the non-profit hospitals lose more than \$1 million per year in operating income, and three of the five largest hospitals in the state are running at negative operating margins.

on state police powers that are reserved to the states, the reserves could be held at the state and local level in secure, interest-bearing accounts, and access could be limited to the chief public health official of a political subdivision. With the knowledge that funds to compensate them are actually available and under the control of the local chief public health official, it is far more likely that hospitals will comply with the orders of that official and perform their duties without resistance.²¹⁸ If the payment level associated with the treatment of pandemic victims is sufficient, hospitals and other first responders may even be eager to carry out the orders of public health authorities as part of their charitable missions, rather than reluctantly complying.

In order to be effective, the payment made to a hospital for each pandemic victim treated must be sufficient to at least cover the hospital's costs of care. The payment must include compensation for any "combat pay" the hospital must offer its staff to get them to care for pandemic victims. State Medicaid payment levels, for instance, would be insufficient to ensure compliance.²¹⁹ Federal legislation establishing reserve accounts should specify that the payment rates established by local public health authorities must compensate for the actual costs of providing care for patients with symptoms similar to pandemic victims (to the extent comparisons are possible), as well as additional costs that are likely to be incurred by the hospital in providing medical personnel to care for such patients, such as incentive bonuses to staff. Setting the rates will require careful study of

²¹⁸ Local control of a pandemic compensation fund also is attractive because it will minimize any conflict between state and local authority if a pandemic occurs in a home rule city. Home rule cities are authorized by state law to legislate matters of local concern without specific state authority, or a delegation of specific state authority. DANIEL R. MANDELKER, *LAND USE LAW* §4.24 (5th ed. 2003). Because in their earliest phases, infectious disease outbreaks are purely local concerns, placing the funds in the hands of the chief public health officer of a home-rule city will ensure that early action taken to contain a pandemic, including designating isolation and quarantine facilities, will not be hampered by wangling between state and local authorities regarding payment of funds.

²¹⁹ Veazey, *supra* note 217 (noting that Georgia hospitals lose 13% on every Medicaid patient they treat).

the rates paid by various insurers to hospitals caring for their beneficiaries with specific conditions or illnesses, the costs of providing this care, and the prevailing wages paid to medical personnel in the area. Much of this data is currently gathered by the Department of Health and Human Services Centers for Medicare and Medicaid Services, for use in setting hospital Medicare reimbursement.²²⁰ Additional research in the area could be funded by the federal government as part of emergency preparedness activities.

B. Insuring Against the Loss of the Ability to Cost-Shift During a Pandemic

It would be sound public policy to encourage hospitals to view the risks of loss associated with infectious disease pandemics as they view other risks of loss from natural disasters, such as fire and flood, and prepare ahead of time for such losses by insuring for them. Many businesses purchase private “business interruption insurance” to protect themselves from the risks of interruptions to their revenue streams due to natural or man-made disasters.

Private business interruption insurance is designed to indemnify an insured against losses arising from an inability to operate a commercial establishment in a normal manner because of a natural or man-made disaster.²²¹ Currently, the majority of such policies limit coverage to interruptions from events for which an insurer has significant actuarial experience, such as fire, flood, tornado, or hurricane.²²² And even then, the insurance is only triggered by physical damage to the policyholder’s property, and only covers the insured for the time period necessary to rebuild, replace, or repair physical

²²⁰ See, e.g., 42 U.S.C.S. §1395ww (2005) (describing methodology for calculating payments to hospitals for inpatient services, including calculation of the wage index and cost report amounts).

²²¹ See Robert T. Horst and Mark Rosenberg, *Successful Use of the Examination Under Oath Policy Provision and the Evaluation of the Time Element Claim*, 1 MEALEY’S BUSINESS INTERRUPTION INSURANCE (Sept. 2002), available at <http://www.mealeys.com/biscom.html>.

²²² *Id.*

damage to property.²²³ Standard business interruption insurance would therefore be useless to a hospital faced with the loss of its revenue stream from its most lucrative lines of day-to-day business (such as elective surgeries) because of a designation as an isolation or quarantine center, rather than due to some physical damage to the facility.

Therefore, in order for the compensation scheme to work, state insurance regulators would have to mandate the terms of business interruption insurance that insurers must offer to hospitals. They would have to disapprove any policy language that excludes coverage for losses incurred due to compliance with the orders of public health authorities, and thus create “public health emergency business interruption insurance” (PHEBII) available to hospitals.

Although state mandating of the terms of PHEBII is a necessary first step, it is highly unlikely that it will suffice to create a private market in PHEBII on its own. The private insurance market has already demonstrated its unwillingness to insure against risks associated with public health emergencies and threats of infectious disease pandemics; risks that have historically been perceived as a government problem.²²⁴ For example, in 1976, believing that a potentially deadly influenza pandemic of swine flu was imminent, the federal government undertook a national swine flu vaccine program.²²⁵ Almost immediately, the vaccine manufacturers’ insurers refused to provide liability insurance to the manufacturers for adverse effects associated with the vaccine.²²⁶

²²³ *Id.*

²²⁴ The propensity to classify natural risks as a government problem is not limited to the arena of public health. Shortly after Hurricane Katrina hit the Gulf Coast, a spokesman for Allstate Insurance (one of the largest homeowners insurance providers in Mississippi) said: “Flood insurance is the province of the federal government.” CNN Money, *available at* <http://cnnmoney.printthis.clickability.com/pt/cpt?action=cpt&title=Mississippi+to+sue+ins> (Sept. 15, 2005).

²²⁵ KOLATA, *supra* note 3, at 151.

²²⁶ *Id.* at 158-59.

Concerned about the potentially enormous numbers of claims and uncertain of the amounts associated with the claims due to lack of prior claims experience, private insurers took the position that if the public was endangered, then the government should take the risk.²²⁷ Congress, however, was unconvinced that it should do so. Ultimately, the impasse was broken when Congress passed legislation committing the federal government to insuring the swine flu vaccine manufacturers against claims that the vaccine injured people.²²⁸

There is no reason to believe that private insurers will react differently to being told by state regulators to cover a business interruption due to a public health emergency than they reacted during the swine flu public health emergency. And after a public health emergency occurs, insurance for its effects will likely be virtually impossible to obtain at any price, just as terrorism insurance was virtually unavailable in the days following 9/11, even at very high prices.²²⁹ Faced with state insurance regulation forcing them to take what they consider unknowable and unquantifiable risk, business interruption insurers are likely to pull out of the market in a particular state rather than comply, leaving the hospitals in the state no better off than they were before state coverage mandates were instituted.

²²⁷ *Id.* at 159.

²²⁸ *Id.* at 164. It took a major public health scare to break the impasse. While Congress and the private insurance companies were wangling about indemnifying the vaccine manufacturers, an outbreak of a mysterious respiratory disease at an American Legion convention in Philadelphia killed twenty-six people. *Id.* at 163. Although the disease turned out to be a previously unknown bacterial infection (which came to be known as “Legionnaire’s Disease”), it caused Congress to recognize the political nightmare that would ensue if people started to become ill with the swine flu while Congress refused to indemnify the vaccine manufacturers. *Id.* at 164.

²²⁹ *Id.* at 799.

After 9/11, in response to the private market's refusal to provide terrorism insurance, Congress passed the Terrorism Risk Insurance Act of 2002 (TRIA).²³⁰ The TRIA is a useful model for the public-private collaboration contemplated by the PHEBII proposed in this article. Under the TRIA any person who offers property or casualty insurance in the United States must offer terrorism insurance as well.²³¹ To address concerns that the government was mandating the insurance industry to take an unknowable, unquantifiable amount of risk, and responding to threats that insurers would pull out of the market completely, the TRIA also provides federal reinsurance for losses incurred by the insurers due to terrorism after payment of a significant deductible amount.²³² The insurers must also pay a 10% coinsurance above the deductible for 2006, rising to 15% in 2007, before government funding is available.²³³ Total public and private liability for losses due to terrorism is capped at \$100 billion.²³⁴ Federal compensation is only available when the Secretaries of the Treasury and State certify that an "act of terrorism" has occurred, and only if industry insured losses nationwide exceed \$50 million in 2006 and \$100 million in 2007.²³⁵ The government will recoup a significant amount of any payments it makes for terrorism losses through a surcharge on property and casualty policyholders, regardless of whether or not the policyholders have

²³⁰ Pub. L. No. 107-297 (2002) (prior to 2005 amendment). The TRIA was extended for an additional two years by the Terrorism Risk Insurance Extension Act of 2005, Pub. L. 109-144 (2005).

²³¹ Pub. L. No. 107-297, §103(a)(3), (c) (2002).

²³² Pub. L. No. 107-297, §103(e)(1) (2002).

²³³ Pub. L. No. 107-297, §103(e)(1) (2002), as amended by Pub. L. No. 109-144, §4 (2005).

²³⁴ Pub. L. No. 107-297, §103(e)(2) (2002).

²³⁵ Pub. L. No. 107-297 §§102(1)(A) (2002), as amended by Pub. L. No. 109-144 §6 (2005).

purchased terrorism insurance.²³⁶ The TRIA has been embraced by the insurance industry, who lobbied for its extension for an additional two years.²³⁷

Legislation similar to the TRIA could be used to ensure that hospitals are insured against losses of revenue due to pandemics and their compliance with the orders of public health officials during a pandemic. Such legislation would require all purveyors of business interruption insurance to offer PHEBII, yet take much of the sting out of the requirement by having the federal government insure the insurance industry against excess risk. Unlike the TRIA, which does not require a policyholder to purchase terrorism insurance, in the exercise of their police power and to safeguard our health care delivery system, states could and should require hospitals to purchase PHEBII as part of their licensure requirements. Naturally occurring infectious disease pandemics, unlike mass terrorist events, are relatively predictable occurrences. Although each pandemic differs with regard to its penetration and mortality rates among the general public, we have sufficient experience with infectious disease and projections of costs for actuaries to use for initial premium calculations. Therefore, it would not be unreasonable to require hospitals to purchase PHEBII, and many of the criticisms that have been levied against the TRIA because of the unquantifiable nature of risks associated with terrorism are less applicable to losses associated with a more predictable pandemic.

This public reinsurer-private insurer collaboration minimizes many of the problems inherent in a private insurance scheme. Requiring hospitals to purchase PHEBII eliminates any possibility of adverse selection. “Adverse selection” refers to the tendency

²³⁶ Pub. L. No. 107-297 §103(e)(8) (2002).

²³⁷ See National Association of Professional Insurance Agents, Quick FAQ on the TRIA Extension, available at <http://www.pianet.com/IssuesOfFocus/HotIssues/tria/12-20-05-6.htm> (last visited March 13, 2006).

of only high-risk customers to purchase available insurance.²³⁸ Without a mandatory purchase requirement, it is highly likely that only hospitals that are most likely to become isolation or quarantine centers would decide to purchase PHEBII.²³⁹ This would artificially inflate the premiums charged for the insurance, and prevent insurers from spreading the risk amongst a balanced cross-section of the nation's hospitals, urban and rural, large and small. In the absence of a requirement of universal purchase of PHEBII by hospitals, when there is a pandemic, the insurers would be likely to have to pay an enormous amount of claims, and will go out of business.²⁴⁰ Requiring hospitals to purchase PHEBII as a condition of licensure protects the hospitals, the insurers, and the public, and will keep the rates affordable by allowing the insurers to properly spread risk.

The problem of adverse selection may be minimal anyway in the context of PHEBII because of the inherent random nature of an infectious disease pandemic. Typically, adverse selection occurs because the policyholder has information, that the insurer does not have, suggesting that an insurable event is likely to occur.²⁴¹ The insurer cannot adjust the premium rates to reflect the appropriate level of risk without this information, and thus, winds up paying out far more than it anticipated. In contrast, hospitals have no more knowledge about where and when a pandemic could occur than potential insurers. Because the insureds and the insurers are on a level playing field as far as knowing the where, when, and magnitude of a potential pandemic, there would probably be less adverse selection in the context of this type of private takings insurance than in other types of insurance, even if hospitals were not required to purchase PHEBII.

²³⁸ Daniel A. Farber, *Public Choice and Just Compensation*, 9 CONSTITUTIONAL COMMENTARY 279, 284 (1992).

²³⁹ See Calandrillo, *supra* note 135, at 526-27.

²⁴⁰ *Id.* at 526.

²⁴¹ Jeffrey Manns, Note: *Insuring Against Terror?*, 112 YALE L.J. 2509, 2538 (June 2003).

Another commonly discussed problem in private insurance is moral hazard.²⁴² Moral hazard occurs in the insurance marketplace when the insured can take action that affects the probability or the magnitude of the event that triggers an insurance payment.²⁴³ A classic example is a landowner with a fire insurance policy who becomes less diligent in clearing combustibles away from his house.²⁴⁴ In the context of PHEBII, an insurer might be concerned that a hospital suffering financially would do something to make it more likely that the insurer will have to pay under the insurance policy, such as failing to resist designation as an isolation or quarantine center.²⁴⁵ Unlike the typical moral hazard situation, in the context of pandemic preparedness, this is actually a desirable outcome from a public health perspective.

The public-private collaborative nature of this model also eliminates many of the problems inherent in a purely public compensation scheme. One of the major problems that appears when the government institutes a scheme of publicly funded compensation for some perceived social ill is the phenomenon of rent-seeking. Rent-seeking occurs when a constituent who may be entitled to a payout under a public compensation scheme uses political or other means to try to fit all adverse events that affect the constituent within the category of adverse events for which the scheme is designed to compensate.²⁴⁶ In the context of PHEBII, the danger is that insurers will attempt to fit all outbreaks of infectious disease into the category of a major pandemic, so that the reinsurance provisions of the legislation would be triggered. This propensity towards rent-seeking,

²⁴² Lawrence Blume and Daniel L. Rubinfeld, *Compensation for Takings: An Economic Analysis*, 72 CALIF. L. REV. 569, 593 (July 1984)

²⁴³ *Id.*

²⁴⁴ Malcolm Gladwell, *The Moral Hazard Myth*, THE NEW YORKER, August 29, 2005 at 44, 46

²⁴⁵ Obviously, the hospital is highly unlikely to do anything to influence the other triggering event for a payment under the insurance policy, actually encouraging a pandemic in its community.

²⁴⁶ Calandrillo, *supra* note 135.

however, will be quashed by the existence of a substantial deductible and coinsurance that must be paid by the insurer before any federal assistance becomes available.²⁴⁷ Only in a truly dangerous and costly pandemic situation, where the economic losses are high enough to dwarf the payout that the private insurers will make via their deductibles, would it be worth the insurers' while to seek reinsurance. In such a situation, the government will likely have already declared a state of public health emergency.

C. Interpreting the Takings Clause to Require Compensation for Lost Goodwill and Going Concern Value After a Pandemic

In addition to ensuring that hospitals comply with public health dictates during a pandemic, it is in the public's interest to ensure that we have a functioning health care delivery system after the pandemic ends. Congress and state legislatures should pass legislation requiring compensation for provable loss of goodwill and going concern value when the government effects a temporary regulatory taking of a going business concern to protect the public health.

The loss that a hospital faces when it is designated as an isolation or quarantine center is not only the loss of its ability to cost-shift during and after a pandemic, but also the lingering damage to the hospital's reputation caused by such a designation. Such a loss is not insignificant. With regard to the SARS epidemic of 2003, hospital counsel has opined that "the mere mention of SARS in the same sentence with the name of a specific health care facility can create panic among patients and families, and cause significant damage to the facility's reputation as well as its ability to continue to treat patients."²⁴⁸ For the majority of hospitals, which depend on the ability to attract privately insured

²⁴⁷ *Id.*

²⁴⁸ Gravely and Whaley, *supra* note 216, at 5.

patients to subsidize care for publicly insured and uninsured patients, such a stigma could mean the difference between continued existence and shutting the hospital's doors.

We are unlikely to be able to change the public's attitude towards isolation and quarantine facilities through law. But we can change the law to compensate hospitals and other first responders so they can survive until the public's memory of a pandemic and association of the hospital with the pandemic dissipates. The Takings Clause is a reflection of society's acknowledgement that if the government takes away a person's private property for the benefit of society, then society as a whole should pay.²⁴⁹ The United States Supreme Court has said that the purpose of the Takings Clause is "to bar the Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."²⁵⁰ No government action could yield a greater benefit to society than a taking to ensure that the public's health is protected, and that the sick are cared for. If any burden should in fairness and justice be borne by the public as a whole, it should be the burden of protecting the public's health.

When the government takes a hospital for use as an isolation or quarantine center during a public health emergency, it is taking not only the real property, equipment, and physical improvements to the property. It is counting on the expertise of the hospital's staff and the hospital's reputation as a provider of quality health care to assure the public that the situation is under control. As such, the government is taking and using the hospital's goodwill for the duration of the emergency. Under established Takings Clause jurisprudence, the government pays for what it gets and what it can and does use. It is not much of a stretch to require compensation for goodwill in such a circumstance.

²⁴⁹ CHEMERINSKY, *supra* note 93 at 574.

²⁵⁰ *Armstrong v. United States*, 364 U.S. 40, 49 (1960).

And when the emergency is over, because of the stigma attached to a place where there has been a concentration of infectious disease, the government has used up or destroyed the hospital's goodwill. This leaves the hospital owners with no alternatives but to start over, without the goodwill that they spent many years creating. The Model Eminent Domain Code recognizes that in situations where loss of goodwill is caused by the taking of the property, cannot reasonably be prevented by relocating the business or taking other reasonable steps, and will not be otherwise compensated, the business owner should be compensated for the loss.²⁵¹ It is consistent with the intent of the Takings Clause for Congress and state legislatures to mandate that loss of goodwill be considered compensable property when a hospital is designated by the public health authorities as an isolation or quarantine center. Legislation requiring compensation for goodwill in such a situation will remove the uncertainty inherent in leaving the determination of whether any compensation will be paid for loss of goodwill to the courts. It will also act as a check on rash or unfounded action by the government that adversely affects hospitals, but does little to further the public's health, such as the premature designation of a hospital as an isolation facility.

Even with such legislation, the government and the hospital may disagree about the amount of compensation due the hospital because of the government's actions. To further minimize uncertainty over the potential amount of compensation for lost goodwill, and to minimize the expenses and vagaries inherent in using the courts to determine this amount, Congress could earmark a proportion of the emergency preparedness funds now being expended to commission studies on the effects of prior epidemics on public attitudes towards hospitals in nations that suffered from epidemics in

²⁵¹ Model Eminent Domain Code §1016 (1974).

recent years, and develop projections of the effects of a pandemic on the goodwill of American hospitals. The projections could be used to develop a table for compensating hospitals for loss of goodwill based on the size, type, and location of the hospital, and the severity of the pandemic. A mediation or arbitration mechanism could be included in the legislation to resolve any claims by a particular hospital that the table does not completely compensate it for the government's actions.²⁵² The assurance that payment for lost goodwill is mandated provided the hospital can prove the loss, coupled with the uninterrupted revenue stream provided the hospital during the public health emergency through the emergency reserve fund and PHEBII discussed above, would be a giant step towards ensuring that hospitals have no reason to shy away from designations as isolation or quarantine centers.

V. CONCLUSION

We know it is not a matter of if, but of when, an infectious disease pandemic will strike the United States. We can place our reliance on the wonders of modern medicine, and the good intentions and charitable missions of our institutional and individual health care providers, to ensure that we are cared for when we are sick, and hope for the best. Chances are that we will be cared for in some fashion during the immediate crisis of a public health emergency. But given the state of our crumbling health care safety net, the increase in the number of for-profit hospitals in the country, and the paper-thin margins on which many of the nation's hospitals operate, chances are that hospitals will resist any order to take actions that are harmful to their bottom lines. This instinct for economic self-preservation could endanger the public's health and rob us of our best chance to

²⁵² New Jersey has established an "emergency compensation board" for each county to determine the amount of compensation due a property owner as a result of government use of private property during an emergency. *See* N.J.S.A. § Appendix A:9-51.

minimize or avoid the most severe consequences of a pandemic. And even if they comply with the orders of public health authorities, it is likely that when the immediate crisis passes, many of the hospitals that the most poor and vulnerable of our citizens rely on to provide them with care will not survive the economic damage caused by the actions they took and the choices they made in the public interest.

During the past decade, our federal, state, and local governments have acknowledged the need for preparedness in the face of a public health emergency by passing legislation allocating large amounts of money to “preparedness” activities. Recognizing the need for public health emergency preparedness is a good thing. Nevertheless, despite this sudden cascade of resources for planning activities, our nation’s hospitals are in no better position to economically survive a public health emergency than they were before the resources appeared. As Justice Brandeis has observed, “[v]alue is a word of many meanings.”²⁵³ Rather than continuing to beef up our bureaucracies and filter dollars through layers of government in the name of “emergency preparedness,” Congress and state legislatures could get better value for our dollars by using the existing public health bureaucracy and the expertise of private insurers to set up a system that ensures that our first responders will actually be available during a public health emergency, will be provide the care needed by the public, and will survive the emergency to continue to provide the care the public needs in the future.

²⁵³ *Southwestern Bell Telephone Co. v. Public Service Comm’n.*, 262 U.S. 276, 310 (1923).