

Evolving Viruses and Stagnant Public Health Policies: Flu, Fear, and Free Riders

by Edward P. Richards III

In the winter of 1918–1919, a flu epidemic swept through the world, killing tens of millions of people. More than 600,000 died in the United States, out of a population of about 100 million. From 2 percent to 20 percent of infected persons died, with many families losing more than one member. While many of these persons might have lived with modern medical care, the greatest fear of flu experts is that we will again see an epidemic of 1918–1919 proportions. The same epidemic in the contemporary United States would kill more than 1 million people even with modern care. It would completely overwhelm the health care system for months, which would raise the death rate from all other causes as well.

These fears drove the concern with the emergence in the spring of 2009 of H1N1 (swine flu), which is virologically similar to the 1919 strain of flu. Flu can spread quickly, more quickly than vaccines can be developed and rolled out. The death rate initially reported for H1N1 was high, compared with the usual seasonal flu. From a public health perspective, the specter of a new flu without an available vaccine and with a high death rate is a national emergency. From a political perspective, mismanaging such a deadly epidemic would make the Hurricane Katrina response controversy pale by comparison.

The 2009 H1N1 vaccination campaign was not successful, but we were saved—once again—by the virus turning out to be much less dangerous than early fears had indicated.

An article on the reasons this campaign essentially failed, what it says about United States vaccine policy, and what we need to do to address these problems would usually be published in a public health policy journal. So, why an article in *LITIGATION*? First, while we dodged the bullet this time, we have not evolved in any fashion that will make us better

prepared next time. Second, lawyers are employers and face the same issues on workplace vaccine policy as other employers. Third, lawyers are often called upon for advice by clients who are employers. The last, and perhaps most important, reason is that lawyers are responsible for a lot of the problems in vaccine compliance and policy.

What should flu vaccine policy be? It is useful to start with how we should manage the flu and then look at the historical and legal reasons why we don't do what we should. First, some nomenclature: An epidemic is an excess of cases of a disease over those expected in the community. If a community has 100 cases of syphilis a month, that is the background rate. If this increases to 190 cases one month, those 90 extra cases are an epidemic of syphilis. "Epidemic" is not a synonym for lots of cases, though the media treats it that way. A pandemic is a widespread epidemic—in the most extreme case, a worldwide epidemic. "Pandemic" does not mean a world-destroying plague.

Nomenclature matters for flu. With all of the worries about a possible swine flu or avian flu pandemic, we forget that we have a flu pandemic every fall. Tens of millions of people are infected, and there are 15,000–30,000 premature deaths. Billions of dollars are spent on health care costs and lost productivity. Small businesses can be shut down if key employees are too sick to come to work. The difference between the acceptable death rate of a seasonal flu pandemic and a killer pandemic is no more than a shift in lethality. A bad seasonal flu kills 1 in 1,000, and usually among the old or infirm. A deadly, society-disrupting flu kills 1 in 100, including more young people.

There are three defenses to the flu: flu vaccine, personal hygiene, and social engineering. Ideally, we would rapidly immunize 90 percent of the population. This would make everything else less important. Personal hygiene includes hand washing, no shaking hands or social kissing, and other strategies to avoid transferring a virus from your hands to your

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eyes and mouth. Social engineering means keeping infected persons away from uninfected persons. Employers should discourage people who are infected with the flu from coming to work. Schools and other institutions should discourage infected persons from coming into contact with other persons. This becomes less of a problem with high immunization rates because fewer people will be sick.

Health care institutions pose a special problem. Historically, they have been major sources of infection in communicable disease outbreaks. They are places full of people weakened by other illnesses and people with the communicable disease. Ironically, most health care institutions do not require staff to be immunized against the flu, and some require no immunizations at all for staff. Health care providers should be immunized against the flu (and other communicable diseases) to prevent the spread of disease to patients and other staff. Health care institutions should also be required to screen patients seeking care for flu symptoms as they enter the facility and separate them from other patients in the waiting room. Everyone who has spent time in a crowded emergency department waiting room is aware of the problem of sharing the room with coughing and sneezing patients. Further, responders such as police, fire, and EMS personnel should be immunized and should use personal protection such as gloves and masks when dealing with potentially infected persons.

All pretty simple and cheap. Getting there is the hard part. Employers and schools and every social institution would have to require their employees, students, and wards to be immunized. Employers and others would also have to have strict workplace policies discouraging people from coming to work sick. This would require sick pay, changes in union contracts, and a philosophical change from the “work till you drop” ethos in the workplace. How do lawyers reconcile 2,200 billable hours with staying home when sick? (This is not so hard with online access to Westlaw and LEXIS, but how do police officers or nurses work from home?)

We should do this, or as much as possible, starting with immunizations, because it would save lives, suffering, and money every year. We are a health- and risk-obsessed society. We make major changes in public policy over health risks that affect relative handfuls of people, while effectively ignoring seasonal flu. The most important reason we should do this, however, is that we need to be ready in case we do get a killer flu or other communicable disease emergency.

You cannot change ingrained behaviors and beliefs overnight. You cannot overrule anti-vaccination policies in union contracts, make workers stay home when they are part of a workforce that has been socialized to come to work if they can still crawl, or get police to wear masks and gloves by just saying, gee, this is a bad flu, we need to do everything differently. Once bodies start piling up in the streets, behavior will change, but by then you have likely lost the opportunity to control the outbreak.

The federal government needs to fund standby vaccine production capacity to allow the quick manufacture and testing of vaccines for new viruses. Our current vaccine procurement system is broken, lurching between vaccine shortages some years and excess vaccine being destroyed other years. As H1N1 demonstrated, we cannot reliably produce vaccine on a tight schedule. Congress needs to address liability for workplace immunization programs and for sick-time policies for persons who are able to work but who are being asked to

stay at home to protect others. Confusion over state laws and worker’s compensation insurance provisions should not be allowed to derail effective national vaccine policy.

State and local health departments need to rebuild their disease-control infrastructure. During the past 20 years, state and local governments have cut health department disease control budgets, and federal funding has shifted from basic public health to terrorism and disaster-of-the-day issues. This has forced most health departments to fire or not replace epidemiologists and the other disease-control staff who are needed to track and manage epidemics. These losses do not just affect the flu; they undermine control of human immunodeficiency virus (HIV) and even bioterrorism response. Having an elaborate plan and a pile of emergency laws is cheaper than having staff, but it is not a substitute for trained staff when you have an outbreak—or a hurricane or an oil spill.

These are not radical or even very costly ideas. Some of them are just getting us back to where we were 40 years ago. Adopting this approach, especially mandatory immunizations, however, is politically impossible at this point in time. Understanding why, and the pivotal role played by lawyers in creating this problem, requires a brief review of communicable disease control and politics.

Smallpox: A Case Study in the Value of Vaccinations

For much of the history of humankind, life was nasty, brutish, and short. Even in relatively modern times, life was short. In 1849, Lemuel Shattuck found that the average life expectancy in Boston was 25 years. It was somewhat higher in the rural areas, but even there, it was less than 35 years. Over the next 160 years, life expectancy in the United States has increased to nearly 80 years. A significant part of this increase is due to vaccines and mandatory disease-control programs.

Smallpox is the paradigmatic vaccine-preventable disease. It evolved with humans and infects no other animals. It is a disease of civilization in that it requires enough density of population that it can keep finding new victims—if at any point no one is infected, then the disease would disappear because there would be no source of new infection. If you are infected with smallpox, you have a 5–30 percent chance of dying. If you survive, you will be scarred (pocked) and may suffer brain damage or blindness. You also get lifetime immunity to a second smallpox infection.

Smallpox in a naïve community—one that had not had an epidemic during the lifetime of the inhabitants—would kill both by direct infection and by disrupting society. If parents were too sick to care for their children, the children might die even if they survived the disease. Visit an old graveyard in a community that had a smallpox epidemic, and you see clusters of tombstones with the same death dates, sometimes whole families wiped out. If a significant part of the population was infected, social order itself could break down. The early United States Supreme Court opinions that discussed epidemics saw them as national security threats, not just health threats, thus justifying broad and intrusive powers to control them.

In communities with recurrent epidemics of smallpox, the primary victims have been the children born since the last epidemic. While less destructive to social order, losing children has both emotional and economic consequences in communities that need all available labor for subsistence. This is the

common pattern for communicable diseases that create immunity in those who survive: They become childhood illnesses. They still take a toll on adults who are not infected as children, but the majority of their victims are children.

In 1798, Edward Jenner published his work, *An Inquiry into the Causes and Effects of the Variolae Vaccinae*, on vaccinating against smallpox using a related virus, cowpox, which caused little illness but which created immunity against smallpox. The British government, concerned by the toll smallpox took on the population in general and on military recruits in particular, pushed for widespread smallpox vaccinations. Smallpox vaccination was rapidly adopted by other countries, including the United States.

Mandatory smallpox vaccinations brought the disease under control in developed countries by World War II. The development of a stable vaccine that could be used without refrigeration allowed massive smallpox control programs in the developing world. The year 1947 saw the last smallpox cases in the United States. There were no more cases worldwide by the mid-1980s. Smallpox was eradicated in nature—the first disease to be eradicated. A worldwide, mandatory smallpox vaccination and control program ended one of the great scourges of man.

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The Legal Basis for Mandatory Vaccinations

Ironically, today the public's support for vaccinations is at a low point, even though vaccines are extremely safe, safer than they have ever been in the past. In contrast, smallpox vaccination during the 1800s and early 1900s was a risky proposition. The vaccine was often contaminated by disease-causing bacteria and viruses, and cowpox itself could produce a dangerous illness in persons whose immune systems had been weakened by cancer and other diseases. Many people, including clergy, resisted vaccination.

In 1905, the United States Supreme Court decided *Jacobson v. Massachusetts*, 197 U.S. 11 (1905), its only decision directly dealing with the right of the state to require vaccination of all citizens. At the time of *Jacobson*, Massachusetts had authorized the health department to require smallpox vaccinations when the health department determined that there was a threat of smallpox in the community (making this a classic administrative law decision). There was a criminal fine for refusing vaccination. *Jacobson* was a clergyman who was opposed to smallpox vaccination because of the risks of complications. These were not irrational objections and were supported by scientific evidence. For those who may have forgotten Constitutional Law I, this is the same Court, during the same term, that decided *Lochner v. New York*, 198 U.S.

45 (1905). *Lochner* held that the state did not have the right to trump the liberty of bakers to contract away their health and safety. Thus, we have a Court that was not noted for its sweeping deference to state legislatures, even on health and safety matters.

Nonetheless, the *Jacobson* Court endorsed the legislature's power to require smallpox vaccinations. In the strongest language, it reiterated that the social contract runs in both directions: Individuals have rights in society, but they also have duties to society. Individuals cannot enjoy the benefits of the social contract without bearing its burdens, which include enduring the risks of vaccination. Subsequent decisions make it clear that the state need not provide a religious exception to mandatory vaccination laws, only that it not discriminate among religions if it does grant an exemption.

Jacobson rests on three legs. In modern terms, it is a state police power case. The state police power has better original intent support than most constitutional powers. Yellow fever ravaged the colonies, killing 10 percent of the population of Philadelphia in one summer. Starting in the colonial period and through the drafting of the Constitution, the states imposed individual quarantines and other disease-control measures. The public health powers were clearly part of the powers retained by the states. *Jacobson* is also supported by the older concept of mayhem—as defined by Blackstone, the prohibition of self-maiming to avoid military service. Mayhem laws reflected the right of the state to protect its citizens for the services they provide the state.

The oldest authority for *Jacobson*, and other public health powers related to epidemics, is societal self-defense. Societal self-defense is the fundamental right of states to do what is necessary for their self-preservation. It is also the root of national security law and the reason that public health power, as applied to epidemic disease, should be seen as a national security power and not just as a state police power. Under this theory, whether you can keep trans-fat out of bagels is clearly a police power question, and whether you can require individuals to be vaccinated against a disease that could destroy social order in the United States is a national security law question.

The *Jacobson* decision is more than 100 years old, but it is still good law. Civil libertarian scholars, and even some lawyers within the Centers for Disease Control and Prevention (CDC), have argued that the Warren Court implicitly limited *Jacobson*. A careful reading of the Supreme Court's decisions during the past 40 years shows instead that the Court has used public health law language as the basis for preventive detention in criminal law and as the rationale for many of the national security law cases that allow massive intrusions into individual liberties to protect the public. It is unlikely that this Supreme Court, or any politically conceivable future Court, will find that the state is powerless to require individuals to be vaccinated against diseases that threaten the public health and safety.

The Epidemiology of *Jacobson*

Jacobson is good epidemiology as well as good law. In the simplest case, a vaccination protects the vaccinee from a disease, and it does not matter if anyone else gets vaccinated. The only required vaccine like this is for tetanus. Tetanus is a serious and often fatal poisoning caused by a bacterium that is ubiquitous in the environment. Tetanus is not spread from person to person; it is caught from the environment, usually

related to an injury such as stepping on a nail. If you are not vaccinated against tetanus, it only affects your risk of having the disease; it does not affect anyone else. The community's resistance to tetanus is just the sum of each individual's immunity to tetanus.

Vaccines that protect against diseases that are spread from person to person depend on herd immunity, not solely on individual immunity. This means that the individual's risk of being infected and perhaps dying from the disease depends both on the individual's vaccination status and the proportion of the community that has been vaccinated. For example, many vaccines provide incomplete protection against the disease. Flu vaccine reduces the chance of an individual becoming infected, and reduces the severity of the disease if the individual is infected. Some people cannot be successfully vaccinated because they are allergic to a component of the vaccine such as the chicken egg protein in the flu vaccine. Others have a weak immune system that cannot produce immunity even when they are vaccinated.

To understand how herd immunity protects the community from the flu, including persons who have not been vaccinated, think of a flu epidemic as a fire. People are the fuel for the fire. An unvaccinated person burns hot and long, and spreads the fire most effectively. A vaccinated person may not catch fire at all, and will burn weakly, spreading the fire to few people. If everyone in the community who can be successfully vaccinated is vaccinated, say 95 percent of the at-risk population, then the virus will find little fuel and will spread slowly and to relatively few people. It will likely die out before there is a major epidemic. Everyone's chance of catching the flu is reduced dramatically, and people who cannot be vaccinated because of their medical condition are still protected.

As the percentage of vaccinated persons falls, the epidemic finds more fuel. Persons who have not been vaccinated become sick, sicker than if they had been vaccinated. Persons who were vaccinated are at greater risk of being infected because the virus spreads more widely in the community, carried by the infected unvaccinated. Persons who could not be vaccinated are at higher risk of infection and serious illness. At some reduced level of community vaccination, herd immunity breaks down and the disease spreads throughout the community, rather than dying out. This point varies with the nature of the disease. One important factor is how easy the disease spreads, known as its "communicability." The more communicable the disease, the higher the percentage of the population that must be vaccinated for herd immunity to be effective. Extremely contagious diseases such as measles require very high vaccination rates. Diseases that leave persons infectious for long periods of time also require higher herd immunity rates.

Thus the free-rider problem: Herd immunity can protect an individual who has not been vaccinated, as long as almost everyone else has been vaccinated. But herd immunity fails, injuring everyone, if too many people become free riders. In any given year, more than half the population does not get adequately vaccinated, undermining any herd immunity effect. This is also a global issue—severe acute respiratory syndrome (SARS) crossed the ocean in a matter of days. Our risk is increased by vaccination policy in other countries.

While herd immunity was not clearly understood when *Jacobson* was decided, everyone understood that communities in which many people were vaccinated had fewer problems

with epidemics. When a vaccine really is dangerous, as the smallpox vaccine was in 1905, it is understandable that people would want to opt out and hope their vaccinated neighbors would protect them or their children. The *Jacobson* Court understood that if persons could opt out of vaccination, just as if they could opt out of the draft, the community and the nation would be put at risk, not just the individuals who opted out.

When did the vaccination system go wrong? Smallpox vaccinations were required in the United States through the early 1970s. Smallpox vaccine at that time was pure, so there was no more problem with contamination by dangerous bacteria or viruses. However, the vaccine was a live virus vaccine, so the person being vaccinated had a mild case of what was thought to be cowpox, and that gave the immunity to smallpox. (When genetic analysis technology became available, it was found that the virus in smallpox vaccine was probably not cowpox but a version of another animal pox that is extinct in the wild.) For persons with immune system diseases, the smallpox vaccine can cause life-threatening illness. While immunosuppressive diseases were relatively rare in the early 1970s, about one person per million vaccinated died, and many more became ill.

The public generally accepted this risk and supported mandatory vaccination laws. Vaccines for diphtheria, pertussis (whooping cough), and tetanus had been required for years. These vaccines were all much safer than smallpox vaccine, but they did have occasional side effects. Polio vaccine had been introduced in the mid-1950s. A batch of polio vaccine made by Cutter Labs in 1958 was improperly processed and caused more than 100 cases of polio. This was before products liability law or large tort judgments. Some compensation was paid, but these vaccine injuries were seen as an aberration and did not undermine the general confidence in vaccines. A vaccine for measles, mumps, and rubella was introduced in 1971.

Change was afoot, however, and a major factor in this change came from the American Law Institute. The Restatement (Second) of Torts brought us section 402a and 402b—products liability—in 1965. This made it much easier to sue drug manufacturers, especially vaccine manufacturers because the learned intermediary defense is weakened for mass immunization programs. Another factor was the success in eradicating smallpox. By 1970, it had been more than 20 years since the last case in the United States, and there were only limited cases in developing countries. Because the population had a pretty high herd immunity, policymakers decided that the risk of a smallpox outbreak had been so reduced that the risk of complications of routine smallpox vaccinations was now greater. Routine smallpox immunizations were discontinued, the first time a vaccine had been discontinued because it was now more risky than the disease. (There were dissenters who argued that if smallpox vaccination was discontinued, the world eventually would be at risk of a global smallpox epidemic that could destroy whole societies—which is where we are now, if smallpox were to turn up as a bioterrorism weapon.)

The First Swine Flu Immunization Campaign

The critical event began in February 1976. Routine viral analysis among military recruits with the flu found the usual seasonal flu strain, but a few samples had a new, previously unknown strain. There were several characteristics of the virus that made the scientists at the CDC worry that it might resemble the 1918–1919 Spanish influenza. They were characteristics

of a type of virus shared with pigs, which is where the name swine flu comes from. The CDC was really concerned about the time frame: A virus picked up as a new strain in the late winter was likely to reappear as a major epidemic the next fall. If they decided that people needed to be vaccinated against this new strain, there was very little time to get started on making the vaccine and vaccinating people before the fall flu season.

The small time frame short-circuited the decision making on the 1976 swine flu immunization campaign. At all points, the CDC was forced to balance the risk of going into a major epidemic with no preparation against the risks of an unneeded mass vaccination effort. We had been doing seasonal flu vaccination campaigns for years without problems, so little thought was given to the risks of an unnecessary campaign. The decision was made at the White House by President Ford to go ahead with a massive rush vaccination campaign.

The first hint of the brave new world coming was when vaccine manufacturers refused to make the vaccine unless they were indemnified by the government. The vaccine manufacturers were beginning to see large products liability verdicts for unpreventable and sometimes improbable vaccine injuries. They were unwilling to ensure the safety of a new vaccine that would be rolled out with little clinical testing. Congress agreed to immunize the vaccine manufacturers against any legal claims. Congress went further, however, and set up an unprecedented vaccine injury compensation fund. Essentially, vaccine injury claims would be turned into modified federal tort claims, with strict liability claims allowed.

While there was little discussion of it at the time, this compensation fund represented a profound shift in vaccine policy. Previously, vaccine injuries, at least those not due to real negligence, were just part of the cost of living in society. With this fund, people were promised that they would be taken care of if they suffered an injury from doing their civic duty.

The vaccine was rolled out before the usual flu season. Although it was voluntary, there was high participation in the program. Soon after the vaccinations began, questions were raised about whether the vaccine was linked to cases of a rare neurologic disease, Guillain-Barré syndrome. This is a progressive neurologic disease that in extreme cases paralyzes the body and requires the patient to be put on a ventilator. The extreme cases are easy to diagnose accurately. The milder cases are much more ambiguous, and there were no definitive diagnostic tests. Once the alert went out, neurologists who saw a patient with neurologic signs with no clear cause, and who had recently been vaccinated for swine flu, diagnosed him or her with Guillain-Barré syndrome. This was especially true if the doctor was already working closely with a plaintiff's attorney on other injury cases.

Soon there was a huge Guillain-Barré syndrome scare, and the swine flu vaccination campaign was ended. The expected swine flu never materialized, profoundly undermining the credibility of the CDC and of vaccines. The swine flu compensation program was flooded with claims and paid out much more money than had been anticipated. Years later, careful epidemiology on military personnel who had been vaccinated, but who were not part of the compensation program, showed that there was no real evidence that the vaccine caused excess cases of Guillain-Barré syndrome. The problem had been that no one had carefully counted the background cases of Guillain-Barré syndrome that normally occurred. Without knowing how many people got

Guillain-Barré syndrome each year, it made sense to believe that the cases were due to the vaccine.

The Aftermath of the Swine Flu Vaccination Program

The Department of Health, Education, and Welfare (the predecessor to the Department of Health and Human Services) commissioned a report on the swine flu vaccination campaign. It was not flattering, but it did not find that the CDC was grossly negligent. The court of public and political opinion was less forgiving. The CDC's internal response was to become risk averse, a posture it did not change until after 9/11. This meant that it did not strongly advocate for any programs that might be controversial, including effective vaccination laws. (Unfortunately, reports of a massive hepatitis B epidemic in gay bathhouses started coming in just as the swine flu campaign was ending. The CDC did not act on these and did not recommend shutting the bathhouses. This set the stage for the AIDS epidemic, which began in these same bathhouses in the late 1970s.)

Lawyers learned that vaccine cases could be a gold mine. The public had become suspicious about vaccine safety and about the government's vaccine requirements in general. This made jurors more friendly to vaccine injury claims, and the vaccine injury compensation business was born. A major strategy was to undermine the public's confidence in even proven safe vaccines, a strategy that helps to create a fertile environment for claims of vaccine injuries without credible proof of injury. This is easy to do with vaccinations because they are given to millions of children every year. The odds are that some of these children are going to have serious medical problems with or without vaccines. But convincing a jury that the plaintiff's injury was just part of the background noise of life is a hard task unless the judge really pays attention to *Daubert v. Merrell Dow Pharmaceuticals*, 509 U.S. 579 (1993), and excludes weak testimony.

Within 10 years, vaccine litigation was so disruptive that Congress created the National Childhood Vaccine Injury Act in 1986. This provided statutory compensation for certain injuries claimed to be due to vaccines, and limited legal claims for injuries that were not on the compensation list. This act was a political compromise as much as a scientific document, and it bolstered the public's belief that vaccines are dangerous. It also fueled attempts to get around the limits on litigation by making claims that did not fall under the limits of the act. The most damaging of these were the claims that vaccines cause autism.

Autism is a neuropsychiatric condition affecting the relationship between the affected individual and the environment, especially other people. We do not know how it is caused, and there are only limited treatments. It has increased dramatically during the past 40 years. Many scientists believe that most of this increase is the result of broadening the diagnosis. In 1970, the diagnosis of autism was limited to children who were so severely affected that they had no contact with other people and were not able to function in society at all. Now the diagnosis includes much milder conditions. Forty years ago, children with these less severe conditions were seen as troubled or as having behavioral problems, and were not recognized as having an illness.

There was never credible medical evidence that vaccines cause autism. But vaccines were a natural target—so many

children get them that most children with autism had also been vaccinated as young children. Autism has become so common that it would generate a lot of cases, making it worth the effort to solicit and prosecute cases. Because some previous theories of autism blamed the children's parents for the condition, many autism support groups welcomed a theory that exonerated parents and instead pointed to a toxic cause. Add the Internet and an uncritical press, and you quickly have a national epidemic of autism caused by vaccines. Although the last of these cases were dismissed in 2009, they did long-term damage to people's willingness to have their children vaccinated.

The Changing Political/Legal Environment

While *Jacobson* is still good law, it is only permissive: It does not require states to protect their citizens with mandatory vaccination laws. When smallpox and other vaccine-preventable diseases were constant threats, and outbreaks were common, the public supported public health efforts. This included properly funding and staffing disease-control efforts, as well as supporting measures such as mandatory vaccines. More important, the diseases scared people more than vaccine injuries did.

A working vaccine program destroys its own political support. As with smallpox, when the disease disappears from the community for long enough that people forget their fears of it, they worry more about vaccine injuries than the disease. These worries have been exacerbated by vaccine injury litigation and by what have been seen as missteps by the CDC in the first swine flu immunization campaign. Unfortunately, as political organizations controlled by elected officials, the CDC and most public health departments are not in a position to provide strong leadership when public sentiment turns against an important public health measure.

The political result has been a dramatic weakening of mandatory vaccination laws and a failure to pass new vaccine requirements. At last count, 23 states had modified their mandatory childhood vaccination laws to let parents with any objections to vaccinations opt their children out of mandatory vaccinations. Because the only enforcement of vaccine requirements is to require vaccines before public school admission, home-schooled children fall out of the system entirely in several states. Even in states without broad opt-out provisions, instructions on how to claim a religious exemption are available over the Internet. Most troublingly, there are health care providers who do not believe in vaccinations and will provide medical excuses to parents who want to dodge childhood vaccine requirements.

More fundamentally, we have almost no mandatory vaccination laws for adults. (The only exceptions are for workers in certain high-risk communicable disease laboratory jobs.) Adult immunizations are completely voluntary, unless required by the employer. There are also no laws helping employers who want to require vaccinations. For example, hepatitis B is a deadly disease that is spread by contact with blood and bodily fluids, as well as by sexual contact. It is a particular risk for health care workers. The Occupational Safety and Health Administration (OSHA) issued regulations in the 1980s requiring hospitals to provide the vaccine for workers and to encourage the workers to take the vaccine, but OSHA did not make vaccination mandatory.

Many hospital employees, even nurses and physicians, refuse to be vaccinated for flu and other conditions. Some

are worried that hastily produced vaccines such as the H1N1 vaccine have not been adequately tested. This is a legitimate concern, but one that we cannot indulge. We cannot promise risk-free vaccines, and we cannot let people opt out to let others take the risk. But, in return, the government needs to do much better at rapidly making and testing vaccines.

Some just do not believe in vaccination, rejecting even well-established vaccines such as vaccines against hepatitis A and B. Health care worker unions treat this as a collective bargaining issue and oppose employer mandates for vaccination. OSHA could have required, but did not require, hepatitis B immunizations in its rulemaking. Congress could provide a safe harbor for employers who want to require workplace vaccinations by exempting vaccine requirements from collective bargaining and other legal challenges. State and local health departments could require health care workers to be vaccinated for hepatitis B, but they have largely failed to do so because of political pressures. New York came under a firestorm of criticism when it proposed requiring health care workers to get vaccinated for H1N1—despite health care workers being at high risk for both catching and spreading H1N1.

Where Do We Go from Here?

Herd immunity teaches us that you cannot protect yourself from many communicable diseases without protecting your neighbor. The legal corollary is that individual employers and institutions will have problems if they deviate from the herd

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in instituting internal disease-control programs. Effective protection against seasonal flu, and thus against new agents such as avian flu or a more dangerous seasonal flu, really depends on a societal response.

The failure of public policy on the flu is a microcosm of a general problem in United States policy. Market ideology and the Reagan revolution have convinced a large part of the public and many elected officials from the right and the left that it is acceptable to be a free rider, that is, to be greedy about societal resources. People want protection against a deadly pandemic but do not want to get their vaccinations, disrupt their work schedule, or pay taxes for the necessary infrastructure to make real protection possible. People on the Gulf Coast want to build and rebuild in areas that cannot be protected from hurricane destruction, and they expect subsidized flood insurance and government handouts to pay them to do it. Governors who rail against federal taxes and federal intrusion into their states suddenly demand federal government protection from the very oil companies they have sold their states to.

Lawyers have had a major role in undermining vaccination policy. Massive public relations campaigns to discredit vaccines so as to increase the value of cases and arguing to

legislatures that disease-control laws are unconstitutional intrusions into individual rights are both considered well within ethical guidelines and might even be part of zealous advocacy. That does not change their pernicious effect on public policy. While we can hide behind our ethical codes, are we serving our clients' interests or society's? Does it really help the mother of a child with autism to have her family wrapped up in a decades-long fight against vaccine manufacturers just because there is someone who will testify that all the science is wrong? Attacks by civil libertarian lawyers on disease-control measures aimed at gay bathhouses in the 1970s and on HIV control measures in the 1980s succeeded only in condemning tens of thousands of gay men to a horrible death.

Sometimes the herd matters, even to the individual. Our code of ethics is based on an adversary model, but public policy is not an adversary process, at least not in arenas such as public health where there is no effective advocate for proper policy. Law professors are as guilty of this as other lawyers. We confuse one-sided advocacy with scholarship to stake out the most outrageous positions on public policy issues, all too often for the sake of self-promotion. We cannot even claim to be defending a client's interest. Outside the narrow confines of the courtroom, we all need to be better informed and more responsible for the consequences of our actions on the welfare of our community. □