Issue Date: ***November 13, 2009***

H1N1 Vaccination

The issue: Should the public seek immunization against the H1N1 virus, cause of the first flu pandemic in 41 years?

- *Critics of the H1N1 vaccine say:* The vaccine was developed too quickly, without enough clinical tests to ensure its safety. It contains additives that induce harmful side effects. Since swine flu is a low-risk illness that, if contracted, can be cured with existing antiviral medications, there is no need to risk the harmful side effects that may come from vaccination. Federally mandated immunization smacks of governmental overreach.
- *Supporters of the H1N1 vaccine say:* It is safe, having been developed in much the same time frame as the seasonal flu vaccine, which has a long safety record. The vaccine's ingredients are safe and will not cause injurious side effects. The drugs that treat swine flu are in limited supply, and there is no guarantee that if one contracts the H1N1 virus, there will be enough medicine available to treat the illness. Increased rates of infection jeopardize those supplies. The federal government has not made immunization mandatory; it is up to the individual to get vaccinated.

AP Photo/Brian Ray, Pool

A nurse at the University of Iowa Children's Hospital in Iowa City administers the H1N1 flu vaccine to a 16-year-old patient.

In March 2009, Édgar Enrique Hernández, a kindergartener in the small village of La Gloria, Mexico, came down with what appeared at the time to be the late winter flu, or perhaps a very bad cold. His mother said she kept her son home in bed no more than a few days before sending him back to school, but the little boy would later be labeled as "Patient Zero"--the first person since 1976 known to have contracted the H1N1 virus that would sicken thousands in the spring of 2009. Édgar recovered, but many people around the world would not be so lucky.

The virus, more commonly known as "swine flu," traveled from Mexico to the U.S., Canada and beyond with astonishing speed. By June, more than 13,000 cases had been confirmed in the U.S.; on June 11, with the worldwide figure at almost 30,000, the World Health Organization (WHO) officially declared an influenza pandemic ("flu" is short for "influenza"), a step it had not taken since 1968.

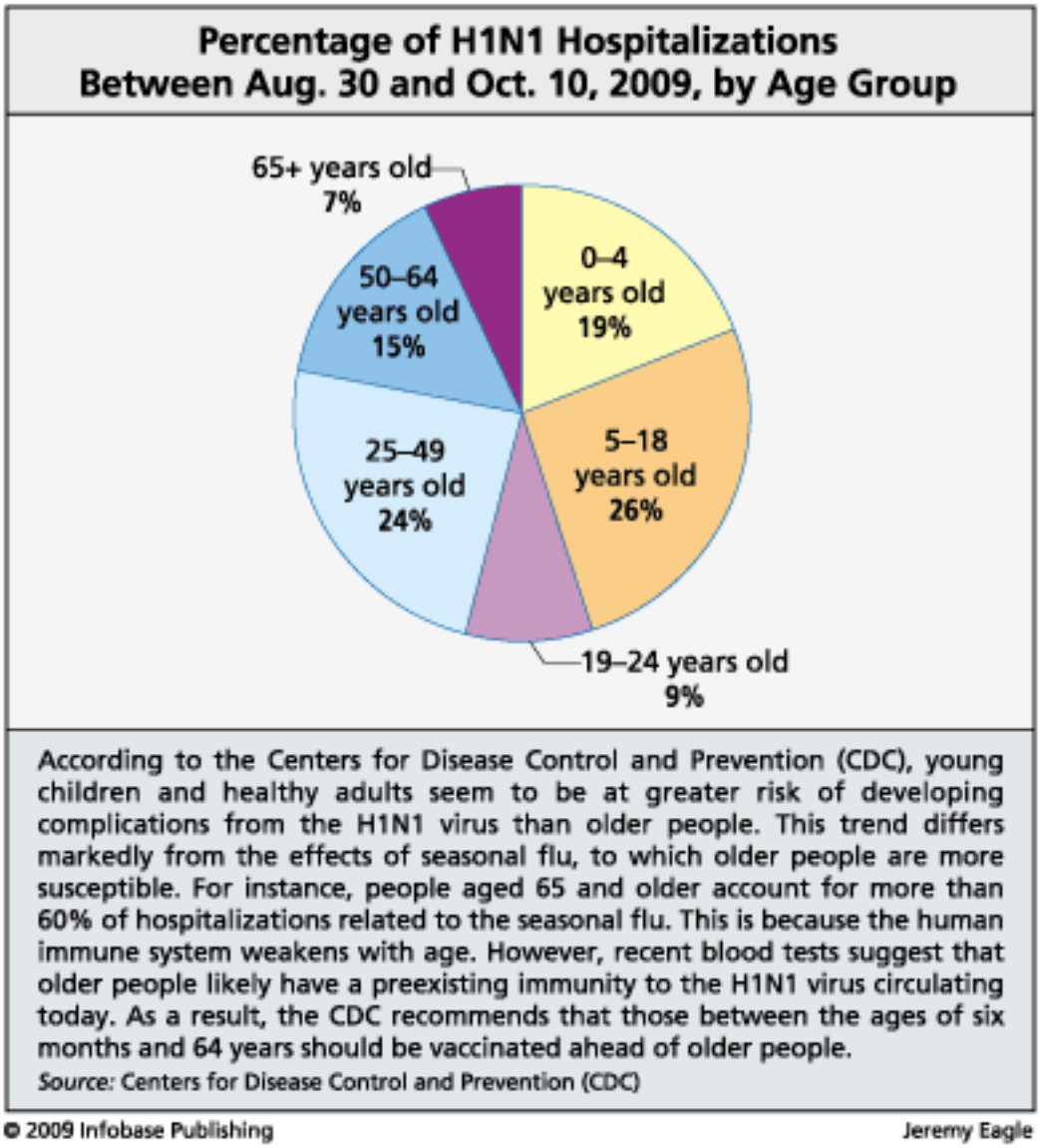
Reaction was no less swift in the U.S., where the virus appeared early in its global march. It claimed its first victim in April when a child visiting the U.S. from Mexico became the first person in the U.S. to die from swine flu. By month's end, almost 300 schools nationwide had been closed in an effort to halt the spread of the infection, which seemed to affect the young disproportionately. The government reacted by announcing a public health emergency, which President Obama (D) followed with a request to Congress for $1.5 billion in emergency response funding. With confirmed cases climbing in the U.S.--by May 8, the number exceeded 2,000--U.S. Department of Health and Human Services (HHS) Secretary Kathleen Sebelius promised that vaccine production would begin by June or July, in time for distribution at the start of the 2009-10 school year. Doctors administer vaccines, which contain small amounts of a particular virus, to boost immunity to that virus.

The development of the swine flu vaccine has generated debate. Critics question the pace at which the vaccine has been developed: Did manufacturers have enough time to test it sufficiently? Many recall the speed

with which a vaccine had been produced for the last swine flu outbreak almost 35 years earlier. They fear that that haste led to the appearance of Guillain-Barré syndrome (GBS), also known as the "French polio," in about 450 out of the 45 million people inoculated against the swine flu that year. Worried that something similar could happen today, many wonder: Should U.S. residents get the swine flu vaccine?

Many who oppose H1N1 vaccination for their children are already wary of vaccines, which they believe are directly linked to the rising number of cases of autism, a developmental disorder. Adding to their misgivings is the claim that the H1N1 vaccine contains squalene, an additive that, while it has been used safely in vaccines in Europe, has never been tested in the U.S. Still others with a general distrust of the government are wary of a vaccine developed and distributed as part of a government program. Many critics also question the necessity of guarding against such a low-risk illness. Swine flu is no worse than the seasonal flu, they contend, and existing antiviral medications have already proven effective against both illnesses.

But supporters of the vaccine caution that such conventional medications are in limited supply and should be reserved for only the most serious cases. If antivirals are used more frequently, they warn, the H1N1 virus could become resistant to them and mutate into a more potent disease agent. Supporters instead encourage vaccination, which they claim has few, if any, complications. In fact, champions of the H1N1 vaccine point to its many similarities to the seasonal flu vaccine, particularly regarding its production schedule, development methods and ingredients. Supporters also point out that immunization is not mandatory; it is up to the individual whether or not he or she is immunized. Finally, supporters like to underscore that the vaccine is free, paid for with tax dollars. The only fee likely to be associated with it is the charge levied by the administering physician.



Flu Pandemics Through Time

Doctors battled flu pandemics long before the 20th century, with the earliest known outbreak occurring in 1580, during the reign of King Philip II of Spain. His troops were thought to have spread the virus throughout Europe during their military campaigns, but with doctors unsure as to what caused the flu--some mistakenly believed it was a sexually transmitted disease--none could treat it knowledgeably, and many who contracted it died.

At least three flu pandemics were recorded in the 1700s, with a major outbreak in 1781 causing high mortality among the elderly across Russia and Asia. Flu pandemics were also noted during the 1800s, as cities grew rapidly and transportation improvements allowed people to travel more easily. Humans and animals both carry viruses, which can jump from person to person, animal to animal, or animal to person and vice versa; as people traveled more often and to more destinations, so too did viruses.

The deadliest flu virus known to date, however, was the flu strain that caused the global pandemic of 1918. A fifth of the world's population at the time contracted the virus, with over one quarter of Americans suffering its effects. The virus eventually claimed the lives of anywhere from 40 million to 100 million people worldwide (assessments vary). Accounts of the pandemic are murky, however, since its progress was overshadowed by the events of World War I (1914-18). Warring nations also censored reports of the outbreak for fear that enemies would use the virus to their advantage, which may explain why details of the pandemic are largely absent from the historical record.

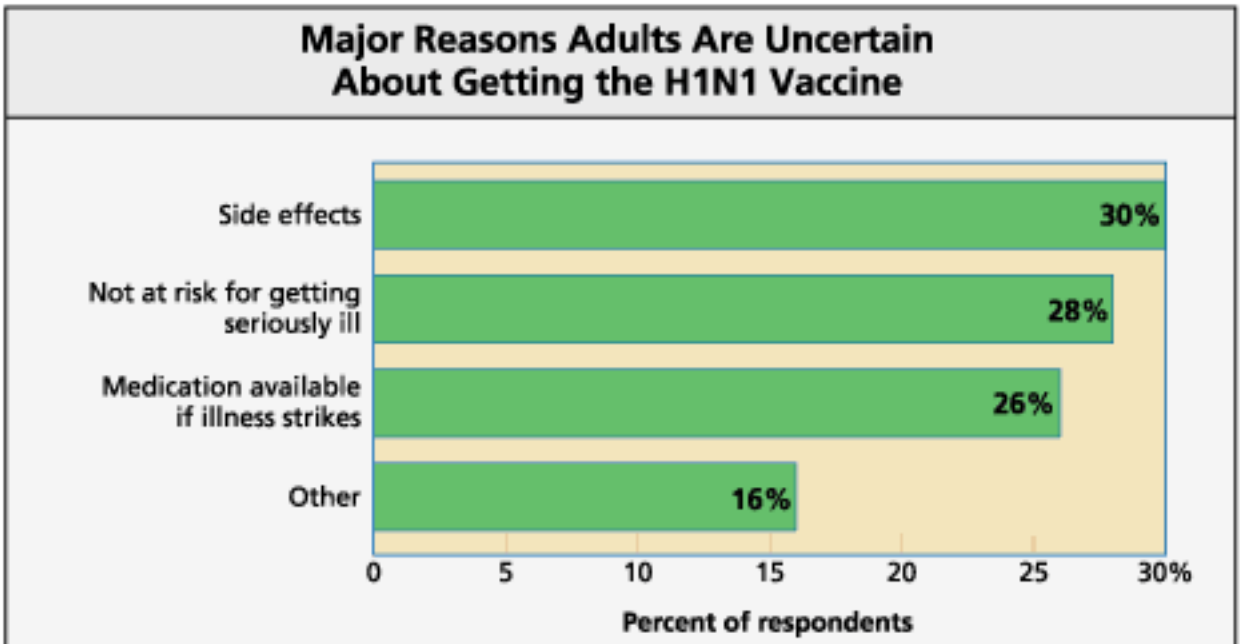
The scientific community, however, remained interested in the flu strain, studying it and learning how to isolate the virus and grow it in a laboratory. By 1944, scientists were able to introduce the first flu vaccine. Vaccinations did not come into real prominence until 1957, however, when a flu pandemic struck Asia. Advances in science and medicine allowed health officials at the time to identify the virus quickly and develop a vaccine against it; nevertheless, the flu still killed between 2 million and 4 million people worldwide.

Other types of vaccines were being developed and introduced to the public during the same time period. Between 1955 and 1970, for example, vaccines for polio, smallpox, measles, mumps, rubella and anthrax became available. Before their release, millions suffered or died from those diseases; smallpox alone killed one out of four of its victims until it was virtually eradicated in 1980.

In that environment, vaccines were generally well received by the public. Recalling his seven-year-old daughter's death from measles in 1962, one year before the vaccine for the disease was released, Roald Dahl, the British author of *Charlie and the Chocolate Factory*, wrote:

> *In my opinion parents who now refuse to have their children immunized are putting the lives of those children at risk. In America, where measles immunization is compulsory, measles, like smallpox, has been virtually wiped out. Here in Britain, because so many parents refuse, either out of obstinacy or ignorance or fear, to allow their children to be immunized, we still have a hundred thousand cases of measles every year.*

Pro-vaccination advocacy such as Dahl's would become less effective after 1976, when swine flu broke out at a military base in Fort Dix, N.J. Scientific studies of the virus there revealed disturbing similarities to the one that caused the 1918 pandemic. Believing the country threatened by a potentially devastating epidemic, President Gerald Ford (R, 1974-77) quickly instituted a $137 million nationwide vaccination program. (Adjusting for inflation, today's figure would be about half a billion dollars.) Forty-five million Americans were immunized before the program was abruptly halted. Various factors influenced the stoppage--no threat had materialized, and the government lacked a strong public relations strategy to educate the public about the vaccine. But what derailed that vaccination program more than anything else was a frightening correlation between the vaccination and the appearance, in more than 50 people who had been among the first to receive the shot that year, of GBS, or "French polio," a rare disorder that can result in paralysis and, in some cases, death. Although studies linking the two were inconclusive, the suspected connection was enough to damage the public trust and cause the government to halt its H1N1 vaccination program. By the end of the year, roughly 450 of those vaccinated had developed GBS, and about 30 people had died of it.



In September 2009, the Harvard School of Public Health (HSPH) released its fourth survey of Americans' reactions to the 2009 H1N1 flu outbreak. Six of 10 adults surveyed were not sure that they would get vaccinated, with 30% of that group claiming concerns about side effects resulting from the vaccine as the main reason for their uncertainty. Slightly smaller groups of respondents said they were reluctant to get vaccinated either because they did not believe the H1N1 virus would make them seriously ill, or because they felt the virus could be effectively treated with existing medications. Remarking on the figures, Robert Blendon, a professor of health policy and political analysis at HSPH, stated, "If public health officials want to encourage a larger number of people to get vaccinated this fall, they will need to address the public's concerns in the coming weeks."

Source: Harvard School of Public Health (HSPH)

Jeremy Eagle

2009 Swine Flu Pandemic

Swine flu would not reappear in the U.S. until April 2009, when 20 children in California, Kansas, New York and Texas came down with the disease. The Centers for Disease Control and Prevention (CDC) declared a "public health emergency" on April 26, after eight students at St. Francis Preparatory School, a private Roman Catholic high school in Fresh Meadows, in the New York City borough of Queens, were diagnosed with the disease. The school nurse, noting that about 150 students had to be sent home with flu-like symptoms on April 23 and 24, had called the CDC to notify them of the unusually high number of flu cases at the school. The eight positive diagnoses that came on April 26 represented the highest concentration of confirmed cases in the country, making St. Francis Prep the epicenter of the H1N1 outbreak in the U.S. [See Key Events in the History of Swine Flu and the H1N1 Vaccination (sidebar)]

It was soon determined that St. Francis Prep students who had been to Mexico on spring break had probably returned as carriers of the disease. Even if they did not personally come down with the flu, they could have easily infected hundreds of people in New York City. The H1N1 virus can be contracted in the same manner as the regular seasonal flu--by inhalation or by touching something contaminated with the virus and then touching one's mouth, nose or eyes. Children and adults were thus instructed to cough or sneeze into their sleeves, rather than their hands, and wash their hands thoroughly and frequently. Liquid hand sanitizers also became big sellers soon after the outbreak.

Despite the sense of alarm that quickly developed among the public, and the precautions taken by many

(including wearing surgical masks for protection against the virus), by the end of May the number of confirmed H1N1 cases nationwide topped 8,000. Similar figures were reported in countries throughout the world before the WHO officially announced a flu pandemic in June.

In late July 2009, the CDC reported that a total of 43,677 cases of swine flu had been confirmed in the U.S. since April, with 302 deaths. But with that announcement, CDC officials also said they suspected the total was actually much higher. An investigation by the CDC's Carrie Reed and a team at the Harvard School of Public Health (HSRH) in Boston, Mass., produced a report (published online in October 2009 ahead of its print publication in the December 2009 issue of *Emerging Infectious Diseases*) estimating that anywhere from 1.8 million to 5.7 million people in the U.S. had probably been infected, resulting in 9,000-21,000 hospitalizations by late July.

With new cases being reported daily over the course of the spring, U.S. officials reacted quickly. Obama requested $1.5 billion from Congress to address the outbreak. The Obama administration declared that a vaccine for swine flu would start being produced in early summer. Obama convened key figures who had presided over the immunization effort in 1976 and asked for their recommendations. In the meantime, vaccine manufacturers gave HHS Secretary Sebelius a delivery schedule and estimates of the number of doses they could produce. Based on their figures, she announced in July that 120 million doses would be available by early fall. Sebelius later admitted that she perhaps had been naïve in believing manufacturers' promises; an examination of how the vaccine is produced may explain why.

The virus that causes influenza is unusual among viruses in that it continually evolves. So, while there are only three kinds of flu--Influenza A, B or C--the virus that causes each flu type constantly mutates independently of the ones that produce the other influenza types. The ever-mutating viral strains cause people to catch the flu repeatedly over the course of their lives.

Those mutations mean flu vaccines must be updated annually. The WHO schedules two vaccine strategy meetings every year: one in February for the Northern Hemisphere and another in September for the Southern Hemisphere. After hearing from an international network of scientists, the organization recommends the flu subtypes that vaccine manufacturers should target, and medical labs immediately begin production because the time frame is tight, around six months. In that period, manufacturers must not only develop the vaccine, but also get it approved by the FDA and similar agencies in other nations. [See FDA Drug Approval Process]

Given that schedule, the H1N1 viral subtype could have been integrated into the production of the seasonal flu vaccine if the virus had appeared just a little bit earlier than it did last spring, says HHS. Had that been the case, the H1N1 vaccine would have needed no separate public education campaign; it would simply have been part of the seasonal flu vaccine, which has widespread approval among both experts and the general public. "We wouldn't be talking about safety now if [the H1N1 vaccine] were given within the context of the seasonal flu," adds Dr. Anthony Fauci, director of the U.S. National Institute of Allergy and Infectious Diseases.

Although the vaccine was not developed along with the seasonal flu vaccine, there was time to test it. Human trials began in Australia in July, and by September, researchers there and in the U.S. were able to announce that a single dose of the swine flu vaccine was sufficient to protect against the H1N1 virus. Indeed, the seasonal flu vaccine may have been subject to fewer tests than the H1N1 vaccine. According to Dr. John Treanor, a professor of medicine and immunology at the University of Rochester in upstate New York, the seasonal flu vaccine is produced annually without the benefit of time-consuming and costly clinical trials. "We don't do clinical studies when [seasonal flu vaccines] are licensed because of the long history of flu vaccine safety," he said. By contrast, the close public attention paid to the development of the H1N1 vaccine resulted in its being more widely tested than seasonal flu vaccines typically are.

During the summer, with vaccine production in full swing, rumors began circulating that the adjuvant squalene was an ingredient in the vaccine, troubling many who are generally wary of inoculations. Adjuvants are

additives that boost immune response. The enhanced response allows vaccines to be given in smaller doses, which means vaccine supplies last longer. While squalene has been tested and used safely in vaccines overseas, it has yet to be used in routine vaccines in the U.S. Despite the fact that drug manufacturers and the U.S. government assured the public that squalene would not appear in the H1N1 vaccine, many people nevertheless feared it would be an ingredient. That fear led to reluctance on the part of many to allow themselves or their children to be inoculated with the vaccine.

Media coverage of the swine flu vaccine remained high. It intensified in September 2009, when 2,000 students at Washington State University in Pullmanbegan showing symptoms of the disease when they arrived for the start of the school year. The news was consistent with medical observations, in the spring, of a far higher incidence of swine flu among those aged 64 and younger than among the elderly. That trend is contrary to that of the seasonal flu, which more typically afflicts older age groups. The scientific community has not determined why the H1N1 virus attacks the young more often than the elderly, but recent blood tests suggest that older people likely have a preexisting immunity to the virus.

As patterns among victims emerged, public health officials began prioritizing vaccine recipients. Since the young seemed especially vulnerable to the virus, they rose to the top of the list, as did pregnant women, a demographic with a demonstrated vulnerability to all flu types. Because of their contact with the public, health care workers also joined the list, as did those below the age of 64 who suffer from underlying health conditions (asthma and diabetes, for example) that make them more susceptible to the H1N1 virus.

The vaccine comes in two forms--an injectable form and a mist that can be sprayed into the nostrils. The nasal spray, called FluMist, can be administered to healthy children aged two and older. While most people need just one vaccination, Sebelius suggests that children under age 10 should be inoculated twice to maximize the vaccine's effectiveness.

After the CDC released the list of preferred vaccine recipients, some local governments and health care providers made the swine flu vaccine mandatory for health care workers, a move that raised suspicion among various groups. "You start with health-care workers but then expand that umbrella to make it mandatory for everybody," said Lori Price of Citizens for Legitimate Government, a Connecticut-based group opposed to government expansion. "It's all part of an encroachment on our liberties." Soon, fears that swine flu immunization would become a federal requirement were rampant, and debate over the vaccine escalated.

The controversy broadened when deliveries of the vaccine were delayed at the same time that swine flu cases began spiking throughout the country. By the end of October, the CDC tally of swine flu fatalities since April stood at about 1,200, a figure that would be adjusted to 4,000 by mid-November. Children and teenagers accounted for more than 100 of those deaths. In October, Anne Schuchat of the CDC described the statistics as "very sobering." Added Sen. Joseph Lieberman (I, Conn.), "I'm worried the virus is getting ahead of the public health system's ability to control it." The delays have caused some counties in different states to begin rationing doses, with those groups prioritized by the CDC receiving preferential treatment. [See Deliveries of the H1N1 Vaccine Delayed (sidebar)]

Critics Claim Swine Flu Vaccine Cannot Be Trusted

Many critics view the swine flu vaccine as too new and untested, saying its development proceeded too quickly and without the benefit of clinical trials. Vaccination critic Barbara Loe Fisher, co-founder of the National Vaccine Information Center, a private organization, suggested to CBS News in November that the "true nature" of the H1N1 outbreak was still unknown, and hence that inoculation against the virus was somewhat risky. "I think it's perfectly legitimate for people to question whether or not they should get vaccinated," she said, "and whether or not for some it's better to have the influenza, get antibodies and be protected in future years."

Critics of the H1N1 vaccine often refer to the government's handling of the 1976 outbreak when explaining

their distrust of the current vaccination program. Speaking to the online newspaper the *Post Chronicle*, Leonard Horowitz, a medical researcher with advanced degrees in public health from Harvard University in Cambridge, Mass., said, "The H1N1 swine flu shot is more of a drug than a vaccine, given the list of toxic chemical ingredients causing side effects, including Guillain-Barré syndrome." Indeed, concern over side effects is the leading reason Americans hesitate to get the vaccine, according to a poll released in September 2009 by the HSPH.

Other critics of the swine flu vaccine focus more specifically on its composition: What did scientists add to it? Thimerosal and adjuvants top their list of worries. Thimerosal is a preservative that contains small amounts of ethyl mercury, a compound that, like all members of the mercury family, is toxic. When ingested in excessive amounts, mercury and its compounds cause serious health problems, such as severe renal and gastrointestinal damage, as well as neural disorders. The U.S. Food and Drug Administration (FDA) banned thimerosal from children's vaccines 10 years ago as a precautionary measure, a move that eased parents' minds but also stoked suspicion that children who received vaccinations prior to the ban could have been endangered. Addressing that possibility before the House Government Reform Committee in 1999, a school nurse said, "Vaccines are supposed to be making us healthier; however, in twenty-five years of nursing I have never seen so many damaged, sick kids. Something very, very wrong is happening to our children." While thimerosal is not in the FluMist nasal spray, the Associated Press has reported that it has been added to many injectable doses of the vaccine to prevent bacterial contamination.

Of recent concern to some critics, moreover, is the revelation in September that Paul Offit, a leading vaccine advocate and the chief of the infectious diseases division at the Children's Hospital of Philadelphia, failed to disclose his indirect financial ties to one of the pharmaceutical companies manufacturing the H1N1 vaccine, CSL Inc. They point out that CSL is owned by Merck & Co., which manufactures the vaccine RotaTeq, developed by Offit to fight the rotavirus, a highly contagious disease that infects many children under age five. Offit is reported to have made millions of dollars from the sale of RotaTeq, causing critics to suspect a profit motive behind his advocacy of the H1N1 vaccine and the government's vaccination policies, as well as behind the endorsements of other medical professionals. "If people are to have confidence in the integrity of the swine flu vaccination program this fall," said Jim Moody, attorney for the National Autism Association, "then we need full disclosure of all financial relationships between proponents and manufacturers on every vaccine on the market. Who has an objective opinion about a company that has made them rich?"

Opponents of the vaccine also worry about theorized links between autism and vaccines containing mercury. Reported cases of autism have risen in the U.S. at an alarming rate in recent years, roughly coinciding with the increased number of vaccines being administered to children, as opponents of immunizations point out. News that some forms of the H1N1 vaccine would probably contain thimerosal, which has small amounts of mercury in it, prompted some concern in the medical community. Autism researcher Derrick MacFabe at the University of Western Ontario in London, Ontario, in Canada, calls the belief of many parents that their children's autism was caused by vaccines "completely valid." Critics become angry when advocates of the vaccine insist that children should be among the first to receive the H1N1 vaccine, because those critics believe mandatory childhood immunizations are at the root of the autism crisis. [See Autism and Vaccines]

Some critics object on more political grounds. "[Keep the] U.S. out of my bloodstream," said conservative political commentator Glenn Beck on his popular radio show, *The Glenn Beck Program.* He, like right-wing pundit Rush Limbaugh, has lambasted the Obama administration for pushing the swine flu vaccine on the American public.

More liberal commentators share Beck's criticisms. "I don't trust the government, especially with my health," announced talk show host Bill Maher on his show *Real Time With Bill Maher.* On his microblog Twitter account, which 50,000 readers follow, he posted: "If u get a swine flu shot, ur an idiot." Such messages, especially from high-profile critics, fuel the controversy surrounding the H1N1 vaccine.

Many individuals, meanwhile, simply do not fear the H1N1 virus. "I don't think I am going to die from the swine flu," Luis Gonzalez, a 40-year-old truck driver in Seattle, Wash., told the Associated Press. A significant number of adults share his viewpoint, according to the September 2009 Harvard survey, which found that 28 percent of respondents hesitate to get the H1N1 vaccine because they do not believe swine flu is dangerous. Critics point out that more serious complications of swine flu can be treated with existing antiviral medications, such as Tamiflu and Relenza. Given those options, they ask, why bother getting the H1N1 vaccine?

Swine Flu Vaccine Is Safe, Supporters Say

Advocates of the H1N1 vaccine respond to their opponents' antigovernment arguments by reminding them that vaccination against swine flu is voluntary, not mandatory. A belief to the contrary is "simply false," states HHS on its Web site. The agency goes on to clarify that, while some health care workers may be required to receive swine flu shots, the requirement would be imposed by local hospitals and city governments, not by the federal government.

Indeed, supporters of the H1N1 vaccine have begun informational campaigns to rebut claims about the vaccine that they characterize as unfounded. For example, advocates point to the page entitled "Flu Myths and Realities" on the HHS Web site, where the agency disputes mistaken reports about the vaccine, such as its high cost to individuals (the only fee involved is charged by physicians administering it) and its ingredients. For example, squalene, HHS insists, is not in either the H1N1 or the seasonal flu vaccines currently in circulation. HHS does acknowledge on the site that thimerosal will be in some, but not all, forms of the H1N1 vaccine. Those who wish to avoid the preservative, say HHS officials, can choose to receive the vaccine as a nasal spray, which does not contain thimerosal.

As for side effects, such as GBS and autism, advocates of the vaccine insist that people have little to fear from the H1N1 vaccine. (Their stance is in keeping with a special federal court decision issued in February 2009 that vaccines do not cause autism and that families with autistic children are not entitled to compensation from vaccine manufacturers.) Says Doug Kamerow, a chief scientist at the research institute RTI International and a former assistant surgeon general, "There has been no evidence of harm or serious side effects in the vaccine [;]...the worst you can expect from the vaccine is a sore arm for a day or two"--a common reaction to seasonal flu vaccines.

The safety record for flu vaccines should thus reassure the public, argue proponents of the H1N1 vaccine. "The risk from the vaccine is far, far, far less than the risk of actual exposure to the virus," says Dr. Amy Ray, an infectious disease and public health specialist with University Hospitals Case Medical Center in Cleveland, Ohio.

Some supporters of H1N1 vaccination, in fact, suggest that those who choose not be vaccinated or not to inoculate their children may be endangering their entire community. Offit points to a phenomenon called "herd immunity," in which large groups of people (as many as 90% for it to be seen most clearly) who have acquired immunity to a disease--through either having been inoculated against it or having been infected with the disease--in turn provide immunity to the small percentage of uninoculated individuals also living in the community. (Health experts in the Northeast suspect that herd immunity may already be at work in that region of the country, which was hit hard with swine flu cases in spring 2009 but where very few cases have been reported in the fall.) Offit insisted in a CBS News interview:

> *If you choose not to get the H1N1 vaccine then you're choosing to subject your child to getting a virus which has already caused tens of thousands of people to be hospitalized, and more than 100 children to be killed.... We have every reason to know that that vaccine is going to be safe and effective. It's a terrible choice not to get H1N1 vaccine. It's the wrong choice.*

While proponents of the H1N1 vaccine admit that many of those who have contracted the virus do not fall

seriously ill--it is, after all, very similar to the regular seasonal flu, which does, nevertheless, kill 36,000 annually--they worry that a dismissive attitude toward swine flu and a dependence on antiviral medications is the prelude to a greater disaster. "If everyone starts using antiviral medicines, the flu virus will likely mutate to become resistant to the medicines," explains Kamerow. That scenario would put us "in big trouble," he says.

In addition, Arthur Kellerman, a physician at the Emory University School of Medicine in Atlanta, Ga., and an associate dean for health policy at Emory's medical school who advocates getting the H1N1 vaccine, points out that supplies of antivirals are limited. "We don't have thousands and thousands of ICU [intensive care unit] beds and high-frequency jet ventilators standing by to care for [swine flu patients]," he says. Therefore, he and other supporters advise people who choose not to be vaccinated not to take treatment availability for granted.

Proponents offer a final argument in support of the vaccine: Why court illness? Leigh Vinocur, an emergency physician at the University of Maryland School of Medicine in Baltimore, asks, "Does it feel good to have the flu? Do you like staying home in bed for two days feeling like you've been hit by a truck?" Anyone who answers no to either of those questions, she suggests, should get vaccinated.

Swine Flu Cases Continue to Be Monitored, Officials Say

The number of deaths caused by swine flu continues to climb worldwide, according to the WHO. Almost 6,000 deaths have been recorded through the end of October, though the number is probably far higher since some countries stopped counting individual cases due to heavy caseloads.

In the U.S., 48 states to date have reported flu activity, almost all of it swine flu, with more than 4,000 people dying from the disease since April, the majority of whom continue to be younger than 65. Federal officials say such numbers equal the peak toll during a normal flu season, which typically begins in January. The higher-than-average figures for the fall suggest an unusually early and aggressive start to the flu season.

Obama officially declared swine flu a national health emergency on October 23. White House officials repeatedly stressed that the president's action was not in response to the escalating number of swine flu cases, but rather an administrative step intended to ease hospitals' ability to care for swine flu patients. For instance, the declaration gave HHS Secretary Sebelius the power to sign waivers for those facilities needing to implement disaster operation plans due to overwhelming numbers of swine flu patients.

The president's declaration has renewed focus on the H1N1 vaccine controversy. The unanticipated delays and shortages are reminders that the current swine flu outbreak remains a situation in flux, and, as noted by Hugh Pennington, an emeritus professor of virology at the University of Aberdeen in Scotland, public health officials are likely to continue making decisions in a "cloud of uncertainty," despite all that is now known about viruses and microbiology. For now, the government finds itself engaged in a careful balancing act--on the one hand, it is charged with protecting the public through acts like developing and recommending vaccines; on the other, it knows that its recommendations must not cause the public to panic.

Discussion Questions & Activities

1) Do you think it is safe to get the H1N1 vaccination? Why or why not?

2) If you were a healthy adult, past college age but younger than 65, would you choose to get inoculated for H1N1? Why or why not?

3) What do you think is the strongest argument not to get the H1N1 vaccine? Explain your answer.

4) What do you think is the best reason to get inoculated against H1N1? Explain your position.

5) Write a letter to President Obama evaluating the performance of his administration so far in handling the

H1N1 crisis. Tell him how you think HHS Secretary Sebelius is doing and whether or not you think the president has provided good leadership throughout the flu crisis. What do you think the administration has done well in that regard, and what do you think it could do better? Be as clear and detailed as you can be.

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Additional Sources

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Link, Kurt. *The Vaccine Controversy: The History, Safety, and Use of Vaccinations.* Westport, Conn.: Praeger, 2005.

Contact Information

Information on how to contact organizations that are either mentioned in the discussion of the H1N1 vaccine or can provide additional information on the subject is listed below:

Centers for Disease Control and Prevention (CDC)
1600 Clifton Road
Atlanta, Ga. 30333
Telephone: (800) 232-4636
Internet: www.cdc.gov

U.S. Department of Health & Human Services (HHS)
200 Independence Ave., S.W.
Washington, D.C. 20201
Telephone: (877) 696-6775
Internet: www.hhs.gov

World Health Organization (WHO)
Avenue Appia 20
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Switzerland
Telephone: (+41) 22-791-21-11
Internet: www.who.int/en

Key Words and Points

For further information about the ongoing debate over H1N1 vaccination, search for the following words and terms in electronic databases and other publications:

2009 pandemic
H1N1 vaccine
Kathleen Sebelius
Swine flu
Thimerosal

Modern Language Association (MLA)

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