

The Gay Prey of Baghdad

A violent little war after a violent big war.
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NEW YORK

Swine Flu

and You

Pandemic or panic? Is the vaccine safe? The fever over the fever.

By Stephen S. Hall



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The 0.5 Pandemic

**Relax.
H1N1 is not going
to be nearly as
bad as you may
have been led to
believe.***

By Stephen S. Hall

THE VIRUS IS OUT THERE, and has been all summer, circulating at a low level through the five boroughs, turning up in samples sent to the city's public-health lab, popping up at sleepaway camps, making a winter tour of the Southern Hemisphere, roaring back on college campuses in the South, and knocking on the door of New York City just as the school year began four weeks ago. And in what is known informally as an "epi shop," on the second floor of a stolid prewar building on Worth Street, the epidemiologists of the city's Department of Health and Mental Hygiene have been on the lookout, every

***Unless...**



day, for the return of H1N1.

"Where did the flu go?" Don Weiss, who heads the city's disease-surveillance operation, asked over the summer. "It didn't go anywhere. It's been in the camps."

Readers of *The Hot Zone* and other microbial potboilers may have a mental picture of epidemiologists as swashbuckling, khaki-pantsed techno-adventurers who routinely rush out into the wilderness—an outer borough, say—with cotton swabs and test kits, to corner and capture the latest killer virus. But in the real world of urban epidemiology, you get stuck in Friday-afternoon traffic, which is exactly what happened to Weiss's team in April, as they rushed over to Queens for the glamorous task of collecting nasal drippings from teenagers at St. Francis Preparatory School, later dubbed the "epicenter of the swine flu outbreak" by local media.

As nerve centers go, Weiss's office looks like it's missing a few synapses. A single monitor sits on his otherwise neat desk; a brand-new set of surveillance sample kits (lunch containers purchased at Duane Reade) are on a nearby table. But looks are deceiving here, too. Every day, a tsunami of raw data washes through the Bureau of Communicable Disease. Around 8:30 or 9 A.M., the school numbers come in. Since the beginning of the school year, nurses have been reporting how many students visit their offices with flu symptoms, as well as attendance figures. Then come the hospital numbers: 50 hospitals send in their tally of patients seen for "influenza-like illness"—fever of 100-plus, with a sore throat or cough—in the prior 24 hours. The department also tracks cases that lead to hospital admissions and those that end up in intensive care. Every day, private laboratories send possible influenza samples to the city's Public Health Laboratory, and each night, a large pharmacy chain (unnamed) sends in the day's sales of prescriptions (like the antiviral drug Tamiflu) and over-the-counter medications for flulike symptoms. The city's epidemiologists even get frequent reports using software that sifts through conditions that crop up in electronic medical records and 911 calls—"respiratory

trouble" or "child with fever"—which can be analyzed by Zip Code. All this is basically a computerized way to look for patterns of disease that suggest when, and where, the virus is starting to cause problems. And so far, what have they seen?

Nothing.

"No, we haven't seen [any problems with] H1N1," confirmed Weiss, a compact, rapid-talking physician with a fringe of close-cropped gray hair. "What we're seeing is what we would expect to see in a usual September," he said last week. "Not that this is a usual September."

Not at all. This intense round-the-clock surveillance represents New York City's advance-warning system for an ambitious plan to deal with a health crisis that may never live up to its billing. On September 1, Mayor Bloomberg announced the city's strategy for an expected return of H1N1. He was barely a minute into his remarks when he lapsed into the "yes, but" syntax that reflects the unpredictability of this flu: "There's no indication that the virus will be more virulent than what we experienced in May and June, but we must have, and do have, contingency plans in case the virus becomes more widespread or more severe."

In the meantime, ordinary New Yorkers have become intensely conversant about campus outbreaks on the West Coast, flu-infected turkeys in Chile, protesting health-care workers in Albany who are spooked by the swine-flu vaccine. If you listen out of one ear, it sounds like we could be on the cusp of the medical storm of the century; if you listen out the other, it sounds like H1N1 may be less of a threat than annual flu.

Either way, we may be finding out sooner rather than later. On September 18, the Centers for Disease Control and Prevention announced that the 2009-10 flu season in the United States had officially begun, and much of the country is experiencing what New York City lived through in the spring. The first shipments of swine-flu vaccine are expected to arrive in the city this week—a little earlier than first advertised, but with fewer doses than initially anticipated.

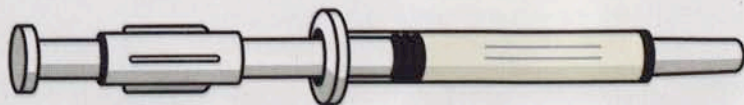
Despite the widespread outbreaks, the vi-

rus seems to have evolved—not genetically, but in the minds of public-health officials. What looked like a lethal miscreant in the spring looks a little different now—still capable of causing serious disease and rare deaths in vulnerable groups, like pregnant women and young children—but not the second coming of 1918's global pandemic. Officials just hope it stays that way.

IT SEEMED TO come out of the blue, although scientists now think the new strain of H1N1 was years, and probably decades, in the making. And there's not a mad scientist on Earth who can cook up a flu virus as devilishly as nature's ultimate weapons laboratory: an infected cell.

As the name implies, swine flu has its origins in pigs, and researchers recently were able to read enough of its genealogy to suggest that this strain has a complicated and exotic history. Part of its heritage traces back to a North American swine virus that has infected pigs for decades, part of it comes from a seasonal H3N2 human flu that was circulating around 1997, part of it comes from bird-flu viruses, and part of it seems to have come from a Eurasian pig. If all this sounds impossibly promiscuous and confusing, remember that flu viruses travel widely and well (the new H1N1 blew through more than 70 countries in little more than two months), and then think about the kind of place where pigs and humans typically come together. The new H1N1 was probably born on a farm.

Where that farm was we'll probably never know, nor is there a documented "sentinel case" like the famous "Patient Zero" for AIDS. A Mexican politician, however, recently proposed erecting a statue to Édgar Hernández, a 5-year-old from the state of Veracruz who is said to be the first person to have had a confirmed case of swine flu. (He reportedly suffered flulike symptoms in early March and later tested positive. He made a full recovery.) What's clear is that



What to Know About the Vaccine

ATTENUATED VERSUS inactivated? In the arm or up the nose? What's an H1N1 virgin to do? Here are a few vaccine guidelines, based on suggestions from federal

and city health officials. **The first batches of H1N1 vaccine** to reach New York this week are expected to be FluMist—made from live but weakened H1N1 flu virus

and administered as a nasal spray. **This is the vaccine that will go primarily to children** (kids 10 and up should achieve immunity with one dose; children age 2 to 9 will

need two). Clinical testing indicates that it provokes a protective antibody response in about eight to ten days. Some experts argue that **a live vaccine like FluMist may be better than flu shots** because it may induce local immunity in the nasal passages, which is where the flu virus strikes. However,

a live vaccine like FluMist cannot be given to pregnant women, children under 2, adults over 50, and adults with chronic conditions like heart disease. **The other type of swine-flu vaccine**, which should arrive soon in injectable form, uses killed virus to stimulate the immune system. (Its

a pneumonia-like illness began to move through Mexico in March and early April, and it worried flu experts, who have been dreading a new pandemic strain of influenza for a long time.

This one looked like it had a pretty good pedigree. It was swine H1N1, and genetically similar to the famously deadly 1918 strain. Doctors in Mexico were spooked by two things. The disease spread very rapidly. And it seemed to specialize in attacking, and sometimes killing, children and healthy young adults. As fate would have it, the virus made its first ruckus in a country not known for sophisticated disease surveillance, then landed in a city with one of the best municipal surveillance shops in the business.

YOU WOULD NEVER have guessed on Friday, April 24, that a pandemic was coming to town. In local news, the Mets were already five games out of first, and Madonna was still recovering from being thrown by a horse in the Hamptons. The big news out of Mexico was that the recently arrested chief of a drug cartel claimed to have offered personal-development and ethics training to his employees. Really.

Meanwhile, all hell was breaking loose at a parochial school in Fresh Meadows.

It actually began around 1 P.M. that Thursday, when dozens of students at St. Francis began showing up in nurse Mary Pappas's office, complaining of nausea, fever, and a cough. By the time the number reached 75 that afternoon, Pappas decided to contact the city's Health Department. Nobody from the city came out that day, according to principal Brother Leonard Conway, and by 9:30 the next morning, the line outside the nurse's office had already begun to form. The timing couldn't have been worse: One of the school's biggest annual events, International Night, was scheduled for that evening.

As soon as word of the St. Francis outbreak reached 125 Worth Street, the question was simple, recalls Scott A. Harper, a medical epidemiologist: "Is it here?"

The epi shop had been on the lookout for

unusual flu cases since April 15, when the CDC had published a report about a new strain of influenza, dubbed "2009 H1N1," which had been identified in California. In fact, the same Thursday as the St. Francis episode, the city had asked private labs to send any influenza-A samples to the Public Health Lab for testing. But it was the call from Nurse Pappas that began to connect two epidemiological dots.

On that frenetic Friday, while Weiss's team chased down sick students at St. Francis, the Public Health Lab, located near Bellevue, was alerted to expect some samples. Few municipal laboratories were better positioned to test an anonymous bug under

emergency circumstances; the PHL had lived through the anthrax scare in 2001 and West Nile-virus outbreaks. The first whiff of a problem reached the upper echelons of city government by the afternoon, when then-Health Commissioner Thomas R. Frieden (now head of the CDC) contacted Linda I. Gibbs, deputy mayor for health and human services. "I got a call from Tom Frieden to say that he was recommending closing down a school event," Gibbs recalls. "[He said], 'This is a big deal, families in from out of town, lots of people will be upset, but we just have this huge number of kids that are out absent. We don't know what it is yet, but we need to take this precaution.'"



response time: also eight to ten days).

Seasonal-flu vaccines, which are different from those for swine flu, are already widely available in the city, and public-health officials recommend receiving both. **Either vaccine can be taken first, they say, or simultaneously.** "The only

thing not recommended," says Health Commissioner Thomas A. Farley, "is getting nasal spray for both vaccines at the same time. One will block the uptake of the other."

The American Academy of Pediatrics recommends the H1N1 vaccine for everyone between the ages of 6 months and 24

years. At a time when initial supplies are still limited, the CDC recommends that several groups receive priority vaccination: pregnant women, people who live with or care for children younger than 6 months, health-care and emergency workers in direct contact with patients, children

between 6 months and 4 years old, and children 5 to 18 years old with chronic medical conditions.

Health officials stress that the new vaccines are safe. But as I mentioned to Commissioner Farley, even my own family's pediatrician did not yet recommend the new vaccine for our children. "I understand that

there are always questions about vaccine safety," Farley responded. **"We've had decades of experience with essentially this vaccine,** and although it's very frequent for people to have side effects"—primarily soreness at the site of injection—"serious adverse reactions are very, very rare." S.S.H.

That was the same message that city officials delivered to Brother Leonard around 5:15 P.M. "I had to play the bad guy" he recalls, "and send everyone home. And that's when the media found out." By Monday, more than two dozen TV field units—eventually including crews from Korea, Japan, and Ukraine—were camped outside St. Francis, which remained closed for a week.

Initial tests at the lab were inconclusive but ominous. One of the things the city learned in the spring is that the commercial test kits that quickly distinguish Flu A viruses (which include H1N1) from Flu B (which circulate as seasonal flu) can give false-negative results up to 70 percent of the time. By the following morning, the city knew many of the St. Francis samples were "Flu A untypeable"—lab shorthand for a new, unknown strain of influenza A. The lab sent samples overnight to the CDC for more definitive five-hour tests known as PCR that confirmed the worst: The new strain of H1N1 had reached New York. Soon after, samples began to flood into the lab. In a typical flu season, the city lab (which also does PCR testing) would process about 100 samples. "When we jumped to 100 samples a *day*," says Sara Beatrice, the lab's director, "it was a reminder that we weren't in Kansas anymore."

THE OTHER SHOE that dropped during that 72-hour period came from Mexico. U.S. health authorities had been belatedly alerted to the epidemic of respiratory illness that began there in late March. Although information was slow to trickle northward—the first big Mexico swine-flu stories wouldn't hit local news until Saturday, April 25—Mexico City was in the process of proving that medical panic could also be an export in the globalized economy.

The Mexican government abruptly

some-odd people in Mexico who had died," says Thomas A. Farley, New York's new health commissioner. "It wasn't clear if that was 100 out of 1,000, in which case it would have been severe pandemic influenza, or if it was 100 out of 100,000. And it turns out that it was probably more like 100 out of 100,000." One well-respected U.S.-based flu expert told me, "The end result in Mexico was a disaster. It was a disaster in terms of damage to tourism, to children's education, and to the overall economy, and it was a disaster in terms of getting the numbers right."

Less than 72 hours after the first St. Francis student walked into Nurse Pappas's office, the story had gone, well, viral. Any hopes that the H1N1 strain might not have spread too far locally were quashed when the city learned of two confirmed cases a few days later: one was of a student athlete from Suffolk County, the other of someone who had flown in for a party. Neither had a connection to either St. Francis or Mexico.

H1N1 teased New York for about a week. After a brief rise, the number of cases began to drop, hinting at a short-lived epidemic. Then, suddenly, the outbreak exploded, with all sorts of medical and social implications. Some office workers returning from ill-timed trips to Mexico were told to take another week off. Many New Yorkers, especially parents with young children who had heard reports from Mexico about seriously ill children, began to clog the city's hospitals. By the peak of the outbreak, in late May, many emergency rooms struggled with two to three times the normal patient flow.

"When anyone said 'swine flu' in the spring, it was like people said 'Ebola,'" says Dr. Christopher Doty, head of the New York chapter of the American Academy of Emergency Medicine. "Everyone assumed [it] meant you were going to die."

In June, the World Health Organization declared a global H1N1 pandemic. Pharmaceutical companies raced to prepare special vaccines. Government agencies began to

the prospects for an H1N1 pandemic in the fall. Palese has an Italian surname, an Austrian accent, and a blunt, plain-speaking manner that cuts through the usual influenza hedging.

"People in general do not believe that influenza is a serious disease," Palese says in his sixteenth-floor office at Mount Sinai, which overlooks the East River. "But 30,000 people die of seasonal flu each year" in the U.S. As he speaks, Palese is balancing a model of the influenza virus—round like a baseball, with knobby blue and pink projections—in his right hand. The nubs represent two proteins on the surface of the virus, blue for hemagglutinin (the *H* in H1N1) and pink for neuraminidase (the *N*). Influenza viruses keep changing this top coat. Small year-to-year mutations produce seasonal-flu strains, and those tiny changes throw off our immune system enough to require new flu vaccines each year. The big, whole-cloth makeovers, like in 1957 and 1968, occur when the subtype changes (a switch, for example, from H1 to H3); these new strains produce pandemics, because nobody's immune system recognizes the new coat.

Flu viruses are very sensitive to temperature and humidity, which is why a typical flu season around here doesn't usually begin until December. The new H1N1 apparently didn't get that handbook, because it circulated widely during the summer in the U.S., particularly in sleepaway camps. Palese has a remarkable contraption in his lab—a closed cabinet with four internal shelves, each accommodating two side-by-side guinea-pig cages. He can adjust the temperature and humidity inside the cabinet, testing the conditions by which various strains of flu are most easily transmitted. The new H1N1 strain turned out to be exceedingly catchy. As Dr. Bonnie Arquilla, chief of disaster planning at Kings County Hospital Center in Brooklyn, says, "If you're exposed to it, chances are you're going to get it."

The histories of two previous swine-flu

"If you're exposed to it, chances are you're going to get it," says the chief of

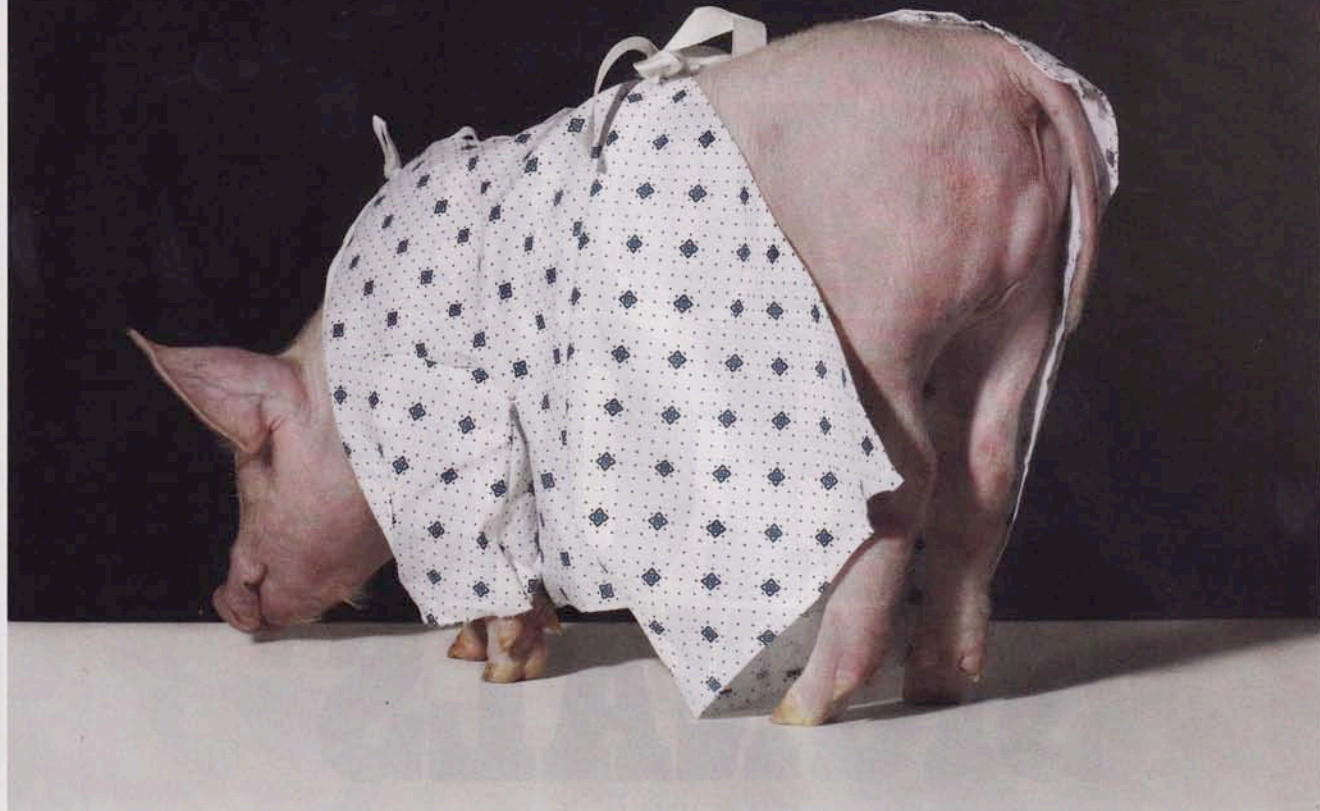
closed museums and schools, barred crowds from sporting events, canceled other public gatherings, and declared a national emergency on the same day that St. Francis canceled its International Night. Images of Mexico City residents wearing blue surgical masks were soon seen from New York to Tokyo.

Some public-health officials and scientists now suggest that Mexican authorities may have overreacted to the initial outbreak. "We knew that there were 100-

sketch out worst-case scenarios. And the first question everyone struggled with was, *What are we dealing with?*

PETER PALESE, who heads the microbiology department at Mount Sinai School of Medicine, brings a lot of street cred to this particular conversation. He works at one of five federally funded "centers of excellence" in flu research in the U.S., and he served on the working group of scientific experts who advised President Obama on

pandemics, one lethal and one imaginary, haunted officials. In the spring of 1918, an H1N1 swine influenza caused mostly minor illness; it came back in the fall, and by the time it had finished its worldwide business, more than 50 million people were dead. Historian Alfred Crosby estimates that New York City suffered as many as 24,000 deaths, and some of the public-health advice and images back then eerily echo today: Sanitation workers wore masks, and patrons at movie theaters were encouraged



to cover their mouths when they coughed. In the winter of 1976, four soldiers at Fort Dix, in New Jersey, were hospitalized with another novel H1N1 strain of swine flu, and one died; in the frenzied preparation for an expected pandemic, the government rushed a vaccine into production and more than 40 million Americans received shots against a strain that never reappeared again. After only two months, the vaccination campaign was halted out of fears that more people may have died of suspected side effects from the vaccine than of swine flu itself.

The strain of H1N1 that showed up this spring had a different personality that

search Hospital in Memphis, points out that “young people seem to be driving” the outbreaks, which made the start of the school year a “red flag” time. “It’s a *fit* virus,” he says. And the key biological wild card is whether it could mutate into something more lethal. “It wouldn’t take much to make this a nasty bastard,” Webster adds.

DURING THE SUMMER, New York City planners and others ran various exercises in dread. One of the scariest potboilers on the summer reading list was the 68-page report that the President’s Council of Advisors on Science and Technology (PCAST) released

voluntarily vaccinated against H1N1 in the spring by actually getting it; on the other hand, we are also exceptionally rich in flu-breeding venues, like the subway—but the numbers convey the gravity of these “what if” exercises.

PCAST’s scenario suggests, for example, that 30 to 50 percent of the U.S. population could become infected; in New York, that translates to between 2.5 and 4.2 million people. According to the same scenario, the report suggests that between 1.2 million and 2.5 million people would be sick enough to need medical care, between 25,000 and 50,000 would require hospitalization, and anywhere from 4,200 to 8,400 people would require treatment in ICU units. (These numbers almost certainly favor the high end; however, scientists who worked on the PCAST models were not available for comment. They are fairly consistent with the figures New York City came up with in 2006 when it undertook a planning scenario for a 1918-like virus.)

To put those last numbers in perspective, there are currently 1,870 ICU beds in New York City hospitals, according to associate health commissioner Geoffrey Cowley, and the average daily occupancy is about 90 percent. “In an emergency,” Cowley says, “hospitals would free up ICU beds by triaging some patients to (Continued on page 90)

disaster planning at Kings County Hospital.

puzzled public-health experts. It appeared similar to the 1918 strain, but its off-season, warm-weather surges were unusual. Perhaps the biggest surprise was that elderly people, usually the most vulnerable to flu, seemed almost untouched by the spring outbreak—“a real head-scratcher,” Don Weiss said during the summer. Children between the ages of 5 and 17, by contrast, seemed especially susceptible.

In fact, Dr. Robert G. Webster, an influenza expert at St. Jude Children’s Re-

on August 24, which painted some surprisingly grim possibilities for the fall. One “plausible scenario”—immediately qualified as “not a prediction”—suggested that a fall outbreak of swine flu could produce up to 90,000 deaths nationwide with up to 300,000 hospitalizations, straining the country’s medical infrastructure. It’s an admittedly crude exercise to interpolate the predictions of this “plausible” national scenario to New York City’s 8.4 million residents—about 10 percent of us got in-

regular ones." Even with a "realistic increase in cases," Palese argues, "we cannot handle it as a city—or as a country, for that matter."

But by the summer, city planners knew they weren't dealing with that kind of virus. They were feeling relatively confident that the new H1N1 was, in Farley's words, "much less severe" than the seasonal flu. Indeed, within two weeks of the St. Francis outbreak, one word began to creep into the medical conversation: "mild." With some important exceptions—young children with health problems (asthma, or neurological disorders like cerebral palsy), pregnant women, and older adults with preexisting health problems like heart disease or diabetes—the new H1N1 seemed to cause primarily mild disease.

Yes, there were 54 fatalities in New York City as of this summer, but that was out of an estimated 750,000 to 1 million infected people. During an average flu season, by contrast, about 1,100 New Yorkers die of seasonal influenza. Deputy Mayor Gibbs says the city has planned for "the most likely scenario, where it comes back, is widespread, and remains mild." Under that scenario, this fall's advice will sound pretty familiar: wash your hands, cover your sneezes, and if you get sick, stay home until you feel better. Only for a small subset of people—pregnant women, children under 2, and people with chronic health problems—are the rules a little different: If you start to feel seriously ill, seek medical advice as rapidly as possible, since antiviral medications like Tamiflu work best when administered early. And since children seem both to drive the outbreaks and to get sick more than other age groups, the city decided to provide free H1N1 vaccine for all students.

In the end, St. Francis turned out to be an aberration. "No other school in the city replicated the kind of numbers we saw there," says Gibbs with a shrug. "I don't know—luck of the draw? But that was our opening moment, right? St. Francis, simultaneous with what we were hearing out of Mexico, and nobody knowing how virulent it was."

Now they do. In order to become more virulent, according to Palese, the virus would need, at minimum, to acquire one of the genes that seems to have conferred devastating virulence on the 1918, 1957, and 1968 pandemic strains. Known as PB1-F2, it is not active in the new H1N1 flu strain, and acquiring it would be an exceedingly rare (though not impossible) event. Without getting into a lot of genetic mumbo jumbo, the currently circulating strain could acquire the more lethal form of this gene in one of two ways. One would be to pick up three separate, specific, and simultaneous mutations

in a particular area of the virus's genetic instructions to switch on PB1-F2; the odds of two such mutations occurring together are, says Palese, about one in 10 billion, the odds of all three, one in a quadrillion.

The other way would be for the virus to obtain the lethal version of the PB1 gene in an event known as "reassortment." This happens when two different flu viruses occupy the same cell at the same time and swap (or "reassort") their genes. "Which is not that difficult," Palese notes. "It could be in a human, birds, pigs, reindeer, ducks, horses, whales, turkeys."

But even these rare reassortment events come with cumbersome genetic baggage. It would be, Palese says, "like taking the engine of a Lamborghini—great sound, 500 horsepower!—and putting it into a Volkswagen. If you put it into the swine virus, it may not work." This is why Palese sometimes refers to the current H1N1 outbreak as "a 0.5 pandemic." Meaning? "It is not a real pandemic," he says.

WHERE DOES THAT leave us? With no evidence of a fall surge locally, so far, and a lot of vaccine on the way—although not as much initially as city officials expected. The city placed an order with the CDC for its first batch of vaccine last week and was told it would arrive in a matter of days. A month ago, officials thought they'd receive approximately 1.5 million doses in mid-October; late last week, Farley learned it would be closer to 70,000, although much more is on the way. The first batch will be live vaccine in the form of the nasal spray FluMist, which means that pregnant women, children under 2, people over age 50, and people with chronic health conditions cannot be vaccinated with it. "So it will have limited utility," Farley says. "It'll be primarily useful for children." Other formulations of the vaccine, like shots, are expected within weeks.

Oddly, though, the latest scare to have attached itself to H1N1 seems less about the virus than about the vaccine—many parents are expressing concern about its safety, and resistance to taking it seems to be building. "One of the reasons that people are resistant to the vaccine is that a lot of the flu we saw in the spring was so mild that they don't understand that H1N1 can be fatal to healthy children," said Dr. Alanna Levine, a spokesperson for the American Academy of Pediatrics. "The benefits of the vaccine so far outweigh the risks that it's a no-brainer." As Thomas Frieden recently pointed out, "It is being produced just as seasonal flu vaccine is produced ... in the same factories, with the same mechanisms, with the same safety precautions."

Memories of the swine-flu fiasco in 1976 are part of the issue here—there were fears

that people may have died from side effects of a vaccine rushed through production (there was a suspected rise in cases of Guillain-Barré syndrome, a rare and sometimes fatal neurological disease). But a study conducted by the CDC in the nineties exhaustively searched for any correlation between seasonal flu vaccines and Guillain-Barré, and found none; one of the collaborators was a Tulane University doctor named Thomas A. Farley. And in the case of H1N1, "certainly, getting the infection is far more dangerous than getting the vaccine," the health commissioner says. Palese puts it more bluntly: "If you wanna get sick, don't take the vaccine."

One of the biggest surprises about H1N1 is that a lot of people already seem to have some immunity to it, especially those 50 and older. Palese believes that anyone born before 1957 has in fact probably seen versions of H and N similar to what the current flu wears on its surface. "In 1957, H1N1 stopped circulating for twenty years," he explains. "So people older than 50 saw these earlier versions of H1N1, and saw them more often. If you get bombarded many more times, you get more immunity to it."

Over the summer, city epidemiologists surveyed the households of infected St. Francis children to see if the virus had spread to other family members. What they discovered, according to Farley, "was a steadily declining attack rate with increasing age." Indeed, the fact that a single dose of the new H1N1 vaccines appears to be protective, Palese said, suggests that many people already have some "cross-reactive" immunity to the current strain.

So with the lessons of St. Francis, Mexico, and crowded springtime ERs firmly in mind, city health officials have embarked upon the following strategy: They plan to keep schools open. They hope to blunt the spread of the expected fall resurgence by vaccinating students. And they vow to be nimble in the face of changing information. In a bid to keep the public informed (and, one suspects, to provide an alternative to media sources of information), the Health Department is posting its surveillance data on the city's flu portal (nyc.gov/flu), including daily reports of influenza-like illnesses in schools. If you can read a graph, you should be able to tell when, or if, the fall surge of H1N1 is taking off (check out the graph charting the spring outbreak; it looks like an Alp in the middle of Kansas).

Back in the epi shop, they're still peering into their computer screens, still looking at the same data, still searching for signs that the virus is making a comeback in the city. "And when we don't see anything," Weiss said last week, "we just shake our heads and say, 'Good, we've lived for another day.'" ■