I was 45 years old before I really grasped the Spanish flu. My entire family is medical, and medicine has been a family profession for generations. I mention this because one would expect that, in such a family, the occurrence of major medical events and trends would be discussed. Yet I have no memory from when I was a child of hearing anyone speak of the pandemic of 1918. They talked about polio and smallpox and measles. As I grew older, the conversations around me shifted to “Civil Rights,” the “60s,” “Viet Nam—the pill, women’s rights, gay rights, and abortion.

But nowhere in this mix, across what for me is now four generations, was there much about an event that killed an estimated 675,000 Americans, and as many as 30-50 million people worldwide, all in the course of a single year, 1918 and 1919. I, Nor, as far as I can tell, have there been many such conversations on this subject in the lives of my friends and their families. I had to learn about the Spanish flu in a book bought at a jumble sale early one Sunday morning.

My mother, then in her late 80s, who became a nurse not long after the Spanish flu swept through America, when its effects were still palpable, never mentioned it to me, and, when I went to her appalled at what I had just read, she didn’t really want to talk about it. “I remember men went to the edges of towns, and stood there with shotguns to keep strangers out. They wouldn’t let the trains stop, and they put out the dead like cordwood for the carts to pick up.” To her, it was “an awful time best put away.”

It made me wonder whether this cataclysmic event was so awful—in the original sense of that word—such an act of God, a sort of ultimate legal force majoro—that, as a culture, we edited it out of our collective memory.

I ask this question because our societal response to the potential lethality of the flu strain H5N1 seems almost pathological at the political and social level, while the research community, in the vernacular of the day, is running around “with its hair on fire” as they see a trend emerging.

In a rare coordinated publishing event, both Nature and Science simultaneously published major papers on the avian flu strain H5N1. The Nature team headed by Dr. Neil Ferguson from Imperial College London modeled the potential spread should an outbreak occur among Thailand’s population of 85 million. Dr. Ira Longini of Emory University, in Georgia, led the team that published in Science; their focus was the effect of an outbreak occurring in Thailand’s Nang Rong region, with a population of 500,000.

These papers stress that the relevant question about an outbreak of H5N1 is no longer “if” but “when.” For the researchers, the focus shifted then to “what might an outbreak be like?”

How lethal is this virus? If H5N1 mutates into an aerosol form that can be easily transmitted among humans and an outbreak crosses the “40 infected people” line, it could lead to a global pandemic. Within a year, 50% of the world’s population would be infected. With a projected mortality rate of 50%, 25% of our species, roughly one-and-a-half billion people, could perish. In contrast, the Spanish flu was far milder and less contagious. Only 28% of the U.S. population became infected, with a worldwide mortality estimated to have been between 2.5 and 5%.

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The critical assumption in both studies, used for all modeling scenarios, was very conservative. Because the H5N1 virus has low virulence, both Ferguson and Longini assumed its basic reproductive number, R0 (the number of people that each infected person, in turn, infects = R), was just two. That is, each person would only infect up to two others.

Both researchers seem to repress confidence that they have overestimated the R value of H5N1 as it currently exists, that it is actually lower. Why do epidemiologists care about this arcane statistic? Because if the international response can push the reproductive number below one, each vic-
Each new case must be isolated and treated immediately, which requires massive and detailed preparation.

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gan and Omsk. To stop the spread of bird flu, Russia has culled and killed over 10,000 birds in the few days prior to my writing this article. The number will probably be far greater by the time of reading.

Meanwhile, officials in neighboring Kazakhstan have come forward with confirmations of bird flu in the Pavlodar region, which borders Novosibirsk. So far no human cases have been reported in the Russian and Kazakhstan outbreaks, but officials fear it is only a matter of time.

The Russian Agriculture Ministry in the brief statement identified the virus as avian flu type H5N1 and said, “That raises the need for undertaking quarantine measures of the widest scope.”

As this goes to press the spread has reached Turkey and Great Britain. Mercifully, it has not achieved human-to-human transmission. But it has demonstrated how fast a pandemic could spread. H5N1 has taken no longer than from July to September to move from Asia, across Russia, and into Europe—death on the wing.

All too slowly, the US Department of Health and Human Services (HHS) began to engage the implications of H5N1. The Senate has just voted $4 billion to the Centers for Disease Control and Prevention to underwrite the cost of stockpiling anti-flu medicine to protect people against H5N1 and prepare for a potential outbreak. Most of this money, $3 billion, would be used to buy the anti-flu drug Tamiflu. By comparison, according to the Congressional Budget Office, the Iraq War is running a tab of six to nine billion dollars a month.

“If we have learned anything from the recent disasters on the Gulf Coast, it is that we must confidently prepare for disasters before they strike so that we are not left picking up the pieces,” said Sen. Tom Harkin, (D-Iowa) who sponsored the measure. It was also Harkin who was responsible for creating the complementary and alternative medical program at the National Institutes of Health.

“The secretary or the chief of staff—we have a discussion about flu almost every day,” said Bruce Gellin, head of HHS’s National Vaccine Program Office. As I write this article, the HHS committee is scheduled to deliver to its secretary, Mike Leavitt, a revised plan for confronting a pandemic. The White House has just announced it will stockpile $100 million of the still experimental vaccine as part of this new plan.

In spite of these increases, however, America’s and the world’s ability to truly respond if H5N1 mutates or merges with an extant human virus is very much in question. Not least, would it be politically possible for a democracy to sacrifice its own stock to treat some developing nation, particularly if it is a state with which it is in conflict? Would the United States turn over its vaccine stocks to North Korea if the virus crossed over and achieved human-to-human transmission there? Could the world watch the population of another country die by the millions? Rowanda, while obviously not the result of a disease process, is not an encouraging example.

“The only reason nobody’s concerned the emperor has no clothes is that he hasn’t shown up yet,” Harvey V. Fineberg, president of the National Academy of Sciences’ Institute of Medicine, said recently of the world’s efforts to prepare for pandemic flu. “When he appears, people will see he’s naked.”

If the Spanish flu was so traumatic that people stopped talking about it, one can only wonder what something that has the potential to kill a billion men, women, and children within a year would do. The Black Death killed approximately a third of Europe. H5N1 has the power to do this just as capriciously. The medieval plague changed the course of every nation it touched and depopulated large swaths in the lands that now make up the European Union. Midway through the first decade of the 21st century, H5N1 is believed by the scientists and physicians who have studied it to hold the same potential for death.

Dr. Irwin Redlener director of the National Center for Disaster Preparedness at Columbia University’s Mailman School of Public Health, echoes these sentiments saying, “If we had a significant worldwide epidemic of this particular avian flu, the H5N1 virus, and it hit the United States and the world, because it would be everywhere at once, I think we would see outcomes that would be virtually impossible to imagine.”

Meanwhile, in Britain, the Blair government is trying to stockpile enough oseltamivir (Tamiflu) to protect “a quarter of the population,” with special priority being given to senior government officials so that they will survive to maintain government stability. An order has been placed for nearly 15 million doses to be completed by April 2007. At the same time, ABC News reports that the government is also quietly making plans for extra morgue space to handle the massive death numbers the British medical research community anticipates.

Even as these measures are being taken, however, H5N1 may be outflanking human efforts. Two papers in The Lancet report resistance to anti-flu drugs is growing worldwide. Experts in Hong Kong say the H5N1 strain which surfaced in northern Vietnam this year was resistant to Tamiflu.

“There are now resistant H5N1 strains appearing, and we can’t totally rely on one drug (Tamiflu),” William Chui, honorary associate professor with the department of pharmacology at the Queen Mary Hospital in Hong Kong, told Reuters. And in China, drug resistance reportedly exceeded 70 percent, suggesting that not only may Tamiflu be compromised but drugs like amantadine and rimantadine will no longer be useful. Asian medical researchers are urging drug companies to also focus on Relenza, another antiviral shown to be effective in battling H5N1.

And, if it is not H5N1, it will be something else. Pandemics are part of our history, and one of the unintended consequences of globalization is the vast increase of vectors by which disease can spread globally. This is not a happy conjoining. After 1918, pandemics occurred again in 1957 and 1968, albeit not with the same dire consequences. If we have billions of dollars to spend on a war against terrorism, which has killed in the thousands, how can we do less on a threat like this that can kill billions of people?

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