

USA ill-equipped for a swine flu pandemic, experts fear

By [Liz Szabo](#), USA TODAY

Though health officials say the swine flu outbreak appears relatively mild, some medical experts say the USA is unprepared in many ways to handle a severe pandemic.

States, cities and public health agencies have made enormous progress in preparing for health crises such as bioterrorism and a flu pandemic since the anthrax attacks in 2001, says Neal Cohen of Hunter College's School of Urban Public Health, who was New York City's health commissioner from 1998 to 2002.

More recent threats, such as SARS in 2003, have given doctors and nurses a "dress rehearsal" for a pandemic, Cohen says, allowing them to test strategies for dealing with dangerous new viruses.

The world is "better prepared for an influenza pandemic than at any time in history," said Margaret Chan, director general of the World Health Organization, last week.

Yet even before the flu outbreak, emergency rooms could barely handle all the patients coming through their doors, says Katherine Heilpern, chair of Emory University's Department of Emergency Medicine in Atlanta. "Most emergency rooms are working at or above capacity," she says.

Equipment in limited supply

Hundreds of ERs have shut down over the past 15 years, largely because of financial pressures, including declining reimbursements from insurance programs such as Medicare, Heilpern says.

But the number of emergency room patients grew 32% from 1996 to 2006, according to the American College of Emergency Physicians. Emergency rooms have little "surge capacity," the ability to gear up to treat many more patients, Heilpern says.

Even hospital equipment could be in short supply. In a pandemic, hospitals might not have enough mechanical ventilators — used when patients have severe trouble breathing, Heilpern says.

Up to 80,000 of the nation's 105,000 ventilators are being used for everyday medical care, and nearly all of them are used during a normal flu season, according to a 2007 editorial in *The New England Journal of Medicine*.

Even if hospitals were able to order more machines, many hospitals don't have enough critical care nurses, respiratory therapists or intensive care doctors to open up more beds in their intensive care units, Heilpern says.

In a pandemic, doctors could be forced to ration ventilators, using them on patients who have the most to gain, such as those who — though severely ill in the short term — are otherwise healthy enough to recover, she says.

In a crisis, Heilpern says, hospital beds might be reserved for the sickest patients; others would be treated at outpatient clinics.

Health workers also might have to set up triage centers in public places, such as parking lots, to decide which patients are well enough to recuperate at home and which need medical attention. At Emory, Heilpern has even raised the idea of "drive-through" flu triage, with health workers performing quick assessments of heart rate, breathing and mental status through the window.

And pandemics can be like marathons, according to an article published last week in *The New England Journal of Medicine*, which notes that they can continue taking lives for two to five years.

Will vaccines, antivirals work?

Other experts say the world could have trouble manufacturing enough vaccine.

Because viruses can change rapidly, a vaccine produced today might not match the viral strain circulating next winter, Cohen says. The Centers for Disease Control and Prevention has not yet decided whether to make a vaccine for H1N1, a manufacturing process that could take

months.

The World Health Organization has said manufacturers could produce 1 billion to 2 billion doses. That's enough to protect 17% to 33% of the population with one dose. If it takes two doses to produce that immunity, only half as many would be protected.

"Clearly, we need a major initiative in the vaccine area," says Michael Osterholm, director of the Center for Infectious Disease Research and Policy at the University of Minnesota.

In the USA, health professionals, emergency workers and people at high risk for complications, such as babies and pregnant women, would be vaccinated first, according to the national vaccine plan.

Osterholm commends the federal government for building a robust stockpile of antiviral drugs. Between national, state and military supplies, the nation can treat 80 million people, or about 25% of the population, with antivirals, which can lessen the flu's severity if given within 48 hours of the appearance of symptoms and even prevent the flu if given to household members of flu patients.

Considering that influenza often has an "attack rate" of 25% to 40%, those supplies may be enough, Osterholm says. But in a very severe outbreak, a person might need four times the usual amount of Tamiflu, leaving enough drugs for about 6% of the population, says John Bartlett, a professor in infectious diseases at Johns Hopkins University School of Medicine.

Antiviral medications might not work at all if the flu virus becomes resistant to it, Bartlett says. A strain of seasonal flu that caused about 45% of the infections this past winter was resistant to Tamiflu, he says. That resistance developed very quickly. Two years ago, only 1% of that flu virus strain was resistant. Now, 99% of that strain is resistant, Bartlett says.

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