If terrorists or a foreign nation dropped a couple of pounds of anthrax bacteria over one of America's largest cities, more than 120,000 people would die for lack of access to drugs and doctors, according to computer models run by three influential experts.

The three academicians -- all scholars of operations, health policy and logistics -- suggest federal authorities consider doling out Cipro to Americans to keep at home as a pre-emptive defense and take other, more aggressive steps than currently envisioned to deal with a potential attack.

"The point is, we're just not well set up for this," said Edward Kaplan, a professor of management science and public health at Yale.

"The genie's already out of the bottle," said Lawrence M. Wein, the Stanford business school professor who led the study. "There's already been the 2001 (anthrax letter) attack, and that's proof the risk is not negligible."

Their analysis, reported in the Proceedings of the National Academy of Sciences, concluded the government could save more lives and money by investing in faster distribution of antibiotics than by deploying biodetectors.

Biosensor systems, such as the Bush administration's fledgling Bio-Watch network, devised in part by Lawrence Livermore and Los Alamos labs, are costlier than getting drugs quickly to infected people and pose some risk of missing the anthrax.

"It's a much more expensive and much less reliable substitute for rapid antibiotic distribution," Wein said. If the nation invests in quicker drug delivery to attack victims, having biodetectors could hasten the distribution but only lower the death toll from 60,000 to 50,000.

The analysis by Wein, Kaplan and MIT graduate student David Craft is likely to get the administration's attention. Last year, their simulation of smallpox attack and vaccination strategies became required reading at the White House within a week. It prompted a massive smallpox inoculation program.

None of the three planned their anthrax report to debut on the eve of war with Iraq and government warnings of increased risk for terrorist attacks.

In the big picture, we think there are three things terrorists could do on U.S. soil that could cause incredible harm, and those would be attacks with smallpox, anthrax or a nuclear weapon, Wein said. And we think, for smallpox and anthrax, those options need to be taken off the table.

Anthrax isn't contagious, as smallpox is, but its greater resistance to explosives and environmental factors make its use as a weapon easier. It also has a shorter incubation period and requires a faster public health response to keep infected people from slipping beyond the reach of antibiotic treatment to fatality.

Federal health authorities say they can fly pallets of antibiotics anywhere in the nation within seven hours. When Wein, Kaplan and Craft find a problem is in the delivery from the airport to infected individuals. It's a problem, they said, better suited to Federal Express than public health officials.

It's not a question of getting medications from a stockpile to a city, but being able to get them into people's mouths, Kaplan said.
Said Wein: Much like McDonald's has it down to an art form how to deliver hamburgers quickly, the U.S. government needs to get down to an art form how to deliver antibiotics and aggressive health care.

Public health experts are skeptical about giving powerful, general antibiotics such as Cipro, the brand name for ciprofloxin, to the public. They reason that people will take them for ordinary ailments and so lower their effectiveness when truly needed.

Wein and Kaplan said those risks need to be weighed against the potential loss of life. Federal authorities should examine each city's risk for attack and its ability to deliver antibiotics quickly.

The government needs to come in and assess how quickly San Francisco can distribute the antibiotics and weigh that against the likelihood the city will get hit, as well as the downside risk, which is that people will take these for another reason and develop antibiotic resistance.

They also argue for creating a small mobile army of medical volunteers to travel to a city under attack and help treat patients. If the ratio of doctors and nurses to victims rises to one in 700, they found, the death toll in their attack scenario declines to 1,000.

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