

Early detection and quick response are key to defense against anthrax attack

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A large attack on a major metropolitan area with airborne anthrax could affect more than a million people, necessitating their treatment with powerful antibiotics. A new study finds that in order for a response to be effective, quick detection and treatment are essential, and any delay beyond three days would overwhelm hospitals with critically ill people.

The results of a computer simulation study appear in the July/August edition of the journal *Medical Decision Making* -- one of two studies by Dr. Nathaniel Hupert of Weill Cornell Medical College in the issue.

"No matter how well-organized and prolonged a treatment program is, it must be quickly implemented. In fact, our analysis shows that time-to-treatment is roughly twice as important as the duration of the distribution program," says lead author Dr. Nathaniel Hupert, associate professor of public health and medicine at Weill Cornell Medical College.

"Crucial to rapidly implementing a treatment program is early detection, including thorough use of advanced biosurveillance technologies and live, person-to-person communication," continues Dr. Hupert, who is also director of the new Preparedness Modeling Unit at the U.S. [Centers for Disease Control and Prevention](#) (CDC). "But most important of all are multilateral diplomatic efforts to prevent bioterrorist attacks from ever happening."

The study predicts that a campaign initiated two days after exposure would protect as many as 87 percent of exposed individuals from illness

-- a rate considered successful by the CDC. Each additional day needed to complete the campaign would result in an average of up to 2.9 percent more hospitalizations in the exposed population. And each extra day of delay to the start of the program beyond two days would result in up to 6.5 percent more hospitalizations.

Anthrax attack scenarios typically involve the release of one kilogram of weaponized anthrax from a small airplane flying over a major city. The invisible powder could be inhaled by thousands or hundreds of thousands, who would start becoming sick anywhere from 24 hours to a week or more after the attack. With appropriate and timely administration of an antibiotic treatment program, exposed individuals would be spared from developing inhalational anthrax infection.

More information: The study can be found at <http://mdm.sagepub.com/cgi/rapidpdf/0272989X09341389v1>

Source: New York- Presbyterian Hospital ([news](#) : [web](#))

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