

Decade after anthrax attacks, worry over stockpile

September 26 2011, By LAURAN NEERGAARD , AP Medical Writer

(AP) -- Anthrax vaccine - check. Antibiotics - check. A botulism treatment - check. Smallpox vaccine - check.

Ten years after the anthrax attacks brought home the reality of bioterrorism, the nation has a stockpile of some basic tools to fight back against a few of the threats that worry defense experts the most.

These defenses are not just gathering dust awaiting the next attack. In August, a Minneapolis hospital dipped into the stockpile to treat a critically ill patient - a tourist who, somewhere on his Midwest vacation, had the extraordinary bad luck to breathe anthrax spores that naturally linger in the dirt in parts of the country. The man, who survived, received a kind of medication not available in October 2001 when anthrax spores sent through the mail killed five people and sickened 17.

But there's wide concern that the nation's arsenal hasn't grown fast enough. A decade later, there are no treatments for a number of bugs on the worry list, and little to offer for other threats like a radiation emergency. Even a long-promised next-generation anthrax vaccine, that would be easier to produce, hasn't arrived yet. Nor is there information on how to treat children.

"Where are the countermeasures?" advisers to the Department of Health and Human Services asked in a critical report last year.

There are some: There's enough [smallpox vaccine](#) for everyone, plus

some of a specially formulated version safe for [cancer patients](#) and others with weak immune systems. There's an improved version of the decades-old [anthrax vaccine](#) used in 2001. There are a few treatments for the toxins produced by anthrax and [botulism](#), and a [smallpox](#) treatment is due soon.

But [federal health officials](#) are working to jumpstart production of more countermeasures and they say that more than 80 candidates are in advanced development. Over the past year, the goal has evolved into a push for more multiuse therapies, products that work not just for [biodefense](#) but for everyday health problems, too.

That's a major shift that should entice more big drug companies to the field, says Dr. Robin Robinson, who heads the federal Biomedical Advanced Research and Development Authority, or BARDA. It funds late-stage research of promising countermeasures.

Consider: BARDA just agreed to help pay for drug giant GlaxoSmithKline's testing of a novel antibiotic that might fight bioterrorism germs like plague - as well as certain hospital-spread bacteria that cause such problems as pneumonia in the already seriously ill.

So-called broad-spectrum antibiotics that can kill more than one kind of bacteria aren't unusual - this one just targets some hard-to-treat types in a new way.

The next step: Scientists are beginning to create the first broad-spectrum antivirals, medicines that would treat more than one kind of virus. Rather than having an anti-flu drug and a separate anti-AIDS drug, the goal is to have a single injection that could treat those viruses plus the gruesome Ebola virus and a few more for good measure.

It's early work, still years away, cautions Dr. Michael Kurilla, biodefense research chief at the National Institute of Allergy and Infectious Diseases. But one of the antivirals is a direct result of biodefense research to understand how viruses infect - specifically, the Nipah virus that was the model for the even-scarier fictional bug in the new movie "Contagion."

And these multipurpose antivirals are a huge goal because if they pan out, the next time a brand-new virus emerges - like the respiratory SARS bug in 2003 - treatments might not have to be started from scratch.

"We feel very excited and confident that what we're working on ... can change the whole paradigm of how we approach infectious diseases," Kurilla says.

The U.S. has invested \$67 billion in biosecurity since 2001, according to research by the Center for Biosecurity at the University of Pittsburgh Medical Center.

Most of that wasn't solely for biodefense but went to broader health programs that are as crucial for dealing with natural crises - like the 2009 swine flu global epidemic - as for dealing with manmade ones, says center director Dr. Thomas Inglesby. These include scientific research, beefing up struggling public health departments to better detect and treat emerging outbreaks, and training hospitals in disaster preparedness.

Inglesby worries that the economic crisis imperils those gains - public health funding already has been cut - and will further slow the countermeasure hunt. A program named BioShield that buys countermeasures for the stockpile expires in 2013 unless Congress reauthorizes it. It's time, he says, for the government to spell out its countermeasure priorities and how to reach them.

Meanwhile, what if another anthrax attack happened? No more scrambling to buy antibiotics: 60 million 60-day treatment courses are stockpiled, Robinson says, and the plan is for the post office to get the first doses to people's homes.

Sometimes antibiotics aren't enough. In a severe infection, the germs can produce dangerous toxins that spread in the bloodstream. So also in the stockpile are two experimental toxin-clearing treatments, to be used if the [immune system](#) alone can't battle the toxin.

In August, Minnesota's sick tourist became the 19th person in the world ever treated with one of them - immune globulin culled from the blood of anthrax-vaccinated soldiers, says Dr. Mark Sprenkle of Hennepin County Medical Center. It's hard to know how much the drug contributed to the man's recovery, Sprenkle says, but his patient's toxin levels did drop more quickly after he began using it.

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