

D.A.Henderson MD, MPH

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A Discomforting New Era for Medicine and Ourselves

The world's last case of smallpox was documented in October 1977; vaccine production ceased and surveillance measures diminished. A new era began on September 11, 2001, inaugurated by the terrorist attack on the World Trade Center. There was a legitimate threat that biological weapons might follow. The two most feared organisms were anthrax and smallpox. Within months, the Congress had provided 3 billion dollars to build and strengthen a public health infra-structure that had steadily eroded. A primary focus was these two agents.

However, it has gradually become apparent that there are an increasing array of biological organisms, previously unknown to our industrialized world and, indeed, some organisms not previously known to medicine. Populations have proliferated throughout the world, especially in densely populated, unsanitary cities. At the same time, people have become ever more mobile, able to travel long distances in apparent good health within the incubation period of most diseases. And the organisms themselves have adapted to new hosts and climates as they spread throughout the world. Major outbreaks of previously unknown diseases have become ever more frequent. The words "preparedness" and "response" have begun to be part of the discussion of the public health world. Emergency projects and products have begun to yield some few experimental vaccines and drugs for diseases in which the need is urgent. Licensure is another story.

Scarcely a decade has passed since an emergency program delivered 200 million doses of a new, freeze-dried, cell-culture smallpox vaccine to the U.S. stockpile. It required 36 months. I will note without comment that it was produced in Austria. Today, the world has only one such production facility and it is located in Kumamota, Japan.

Let me offer at least a partial roll call of organisms that garnered widespread and deserved attention by the press in just the past decade.

SARS, MERS, DENGUE, LASSA FEVER, H5N1 INFLUENZA, EBOLA, CHIKUNGUNYA, ZIKA

For how many of these have we a tested vaccine or drug that is available for immediate use?

