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Bioterrorism and fire-fighting

Joshua Lederberg

Bioterrorism, with a call for prudent preventive and countermeasures, has been highlighted in recent announcements from several levels of government. On June 8, President Clinton asked the Congress for an additional \$294 million to deter and respond to terrorist incidents involving the use of biological or chemical weapons. The president stated "Because we live in an age where technology and terrorism can be combined to deadly effect, it is vital that we take measures to safeguard the health and safety of our civilian population". These measures solidify "an integrated plan for the Federal Government to combat and defend against terrorist threats." For some time, the Marine Corps has had a ready force, the CBIRF or Chem-Bio Incident Response Force, which could be deployed to assist in victim-rescue and cleanup for incidents involving US naval, marine, or embassy stations anywhere in the world. It would also stand ready to assist in civil defense if authorized by the president for a dire emergency.

In fact, most of the remedial measures would be lodged in local and state authorities. Secretary of Defense William Cohen has initiated equipment and training for several National Guard units to support local consequence management plans.

Of greatest interest and reassurance to New Yorkers, the Times last Friday reported details of the City's well-developed response plans, mounted by the Mayor and by Jerry Hauer, director of the city's Office of Emergency Management. As reported then, officials are "torn between reassuring the public by revealing the defensive preparations and panicking people with doomsday scenarios...." The news media also face a dilemma about their potential culpability in emphasizing our vulnerabilities to mischief makers, and thus inspiring them to greater

technical perfection in their future assaults.

Nevertheless, there is no way to avoid public notice of the obligatory fire drills, involving emergency responders and health professionals from the entire metropolitan area, needed to sharpen our planning and readiness. The stockpiling of medications and vaccines, and the protocols for their efficient use, are equally important.

In one sense, the threat is purely hypothetical: large scale bio-warfare (BW) attacks are unknown in the 20th century. Since many nations have had large scale BW offensive arms programs at least up through the 1975 BW disarmament treaty, and some few continue in violation thereof, we can look to deterrence by other means as governing the threat among states. However, the scale of violence by terrorists has steadily escalated during the past decade -- note the World Trade Towers, the Oklahoma City, the Tokyo subway attacks -- we are approaching an era in which individuals and small terrorist groups would make war on the state. Such actors are hard to deter; and it is equally perplexing that their motivations defy our rational imagination. For them, BW is bound to have the greatest appeal. We can take some comfort that the technological hurdles are not trivial, and the odds are better than even that their early attacks will fizzle, if only on account of the complexities of weather and atmospheric turbulence. And sheer moral repugnance against the use of such weapons may still play a role -- if only to drive home to the sociopath the vehemence of retribution. So, we might infer that we are dealing with a modest odds, but very high stakes, level of threat. The stakes are so high: they reach the life of a city, with an outer limit measured in, yes, millions of casualties, that the proposed levels of investment, a fraction of a percent of the national security budget, are still disproportionately low. We also face new territory in the allocation of responsibility and authority among agencies and levels of government; BW defense hardly

fits the mold of law-enforcement, public health, armed forces taken separately. The coordination which is being welded locally in New York will be an excellent prototype for our national requirements.

All this is akin to fire-fighting where arson plays some but not a major role. Casual pyromaniacs or natural accidents could wreak havoc on a whole city if we did not have well-trained professionals. Conversely, our preparations for BW defense will stand us in good stead to deal with natural epidemics, that may threaten to reach our shores time and again: this week, consider the infant polio-like enterovirus now sweeping across Taiwan. The plain fact is we already have our hands full in dealing with such alarms, but we can be doubly armored to cope with these and with malicious attack.

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