

The potential danger of global bioterrorism

Opinion

Extremist groups world-wide are focused on acquiring methods or weapons to inflict mass casualty incidents to extend their agenda for maximum effect. They seek weapons of mass destruction which they would deploy without hesitation into densely populated regions anywhere in the world. Fortunately; historically, the level of security guarding a nation's nuclear arsenal is high; and, the close intensity of security clearances and ongoing government surveillance over key personnel in the nuclear weapons industry is also high. This level of control over nuclear weapons; and close control over the raw materials needed to build a nuclear weapon, makes it difficult; but not impossible, for a determined extremist group to acquire the materials and the technical skills to build a nuclear device or buy an operational one on the black market.

However, a far less secured and less government regulated industry with equal potential for high mass casualty incidents exist in modern virology laboratories throughout the world today. Advances in biosyn virology have far surpassed existing public policy controls and government regulatory safeguards that would serve to secure laboratories at the same level as nuclear devices. These laboratories are not closely regulated; and, key scientists have not been vetted and cleared by extensive background screening procedures or kept under close surveillance protocols. Simply, it is not known to any government internationally who is operating virology laboratories; and, what they are working on in those laboratories.

Some readers may dismiss this commentary as alarmist. It is nonetheless important to understand that the advanced technology to create deadly novel viruses is available to virtually anyone who has a modestly equipped laboratory facility and the requisite skills. Dangerous pathogens could be under development now in any of the many unregulated laboratories operated by unsupervised scientists. International public policy and global multinational government regulations have not kept pace with the advances in biological sciences. It is dangerous to global public health to assume that scientists regulate themselves; however, if any scientist who is also a religious or political extreme is engineers a novel virus or reanimates an extinct virus as scientists have been doing with the 1918 Spanish Flu virus that killed an estimated 100 million people worldwide; they will have created a weapon of mass destruction in terms of inflicting mass casualties. Ask the U.S. CDC why they keep the deadly smallpox virus alive in their laboratories in Atlanta, Georgia, USA? Further, what security clearances are required on all U.S. CDC scientists; and, what security surveillance protocols have been implemented to supervise scientists to ensure compliance with high level bio-hazard security risk procedures?

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Scientists who are working in biosyn research are now designing novel viruses in laboratories as small as a single car garage that have the potential for high infectious rates (virulence) and high case fatality rates. CRISPR cas9 technology is available now without regulatory restrictions or licensing; and this new technology makes it possible for scientists to manipulate the genome of existing or newly bioengineered organisms altering them to become designer pathogens posing a dangerous public health threat risk. The laboratory equipment and technology is available at reasonable cost without government regulation controlling the means to create new viruses with the possible intention for release on populations. It is easier to buy this new technology today than it is to buy a gun in America. Who is minding the store today?

The population health risk threat is high; and, nations must begin now to prepare for a viral storm not of natural origin. The clinical concept of gain of function in virology terms also means that the intentionally created novel virus designed in the laboratory could be far more virulent and far more fatal than the same virus as it occurs in nature. The numbers of deaths in a populated region of the world would be incalculable; and, that result is exactly what an extremist group is seeking in their effort to extend their agenda. This is not science fiction; rather, it is the reality of science as the double edged sword; to heal illness using biosyn research in precision medicine or kill populations massively.

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Conflict of interest

The author declares no conflict of interest.