Science, Censorship, and Public Health

In the aftermath of last fall's bioterrorism attacks, the wisdom of imposing restrictions on scientific publications has been widely discussed in the U.S. press. Debate about U.S. security interests and scientific communication is timely and worthwhile. It is critical, however, that we not overreact to these issues, especially if that overreaction puts scientific progress and the public health at even greater risk in any future bioterrorist action.

Current U.S. policy stipulates that no restriction may be placed on the conduct or reporting of federally funded unclassified research. Communication of research results forms a foundation for rapid and effective response to infectious diseases as well as to bioterrorism. The development of so many life-saving and life-improving therapeutics, including antibiotics and vaccines, has been possible because researchers can exchange information freely.

Censorship of scientific communication would provide a false sense of protection. For example, deleting methods sections from scientific publications, with the rationale that a terrorist could benefit from knowing the methodology, would certainly compromise our ability to replicate results, one of the cornerstones of scientific research. Scientific colleagues' scrutiny and replication of research studies reduces the likelihood of errors that can misdirect scientific activities.

Moreover, such secrecy could also increase the risks faced by the public. For example, lack of access to knowledge about the infectious capability of a small number of anthrax spores treated with anti-clumping agents contributed to the delay in responding effectively to the earliest cases of inhalation anthrax last fall.

Biohazard transport containers are used to transport suspect biohazardous materials to the lab for analysis.

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The best protection against the possibility of future bioterrorism incidents is the unfettered ability of our scientific community to collaborate openly and move forward rapidly in the conduct of scientific research. Timely communication of new knowledge and technological innovation accelerates the rate of scientific progress. For example, the rapidly accumulating new information from microbial genome sequences points toward new targets for therapeutic agents. With open access to these sequences, scientists can now translate the information into products that benefit human health.

Although scientists themselves are well aware of the importance of the free exchange of information within the research community, a community that transcends national boundaries, the public may not necessarily be convinced that scientists can be trusted to this extent. There remains an undercurrent of public discomfort with what is seen by some, however wrongly, as freedom without responsibility. This generalized discomfort has been evident during the debates on the safety of genetically modified foods and the ethics of stem cell research.

All of us in the scientific community, either individually or through our professional societies, must be prepared to make a strong and well-documented case for the importance of the free flow of information if such a defense becomes necessary. It is no longer sufficient to tell the public: "Trust us, we know what is good for you." We need to be able to explain why our position is in the public interest.

Terrorism feeds on fear, and fear feeds on ignorance. Our need to know the potential risks and consequences associated with bioterrorism agents is vital to the development of effective measures to ensure public safety. Placing major new barriers in the path of the free flow of scientific information will ultimately undermine our best defenses against bioterrorism and, ironically, compromise the public health that we are trying to protect.

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