

IMPACT OF SEPTEMBER 11th ON FUNDING PRIORITIES AND CAMPUS PROGRAMS

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The tragedy of September 11th has had a significant impact on the functions of American government and society. University operations are clearly being changed by legislation that was either passed or enforced after that date. Historically, the university has been loath to tolerate external regulations, particularly those suppressing freedom of interactions among faculty and students. New legislation not only affects our research and teaching, it carries requirements for implementation without necessarily providing the resources to accomplish the government's mandates. This circumstance occurs at a time when many public universities are experiencing significant cuts in financial support from their state legislatures. Nevertheless, the resolve of the government to implement new rules and regulations as soon as possible ensures that compliance will not be optional! Furthermore, the war against terrorism will not be short lived. Consequently, universities will have to develop strategies to cope with these new costs. We must determine the costs of new security mandates and biomaterials regulations and then acquire the additional funding necessary to implement them.

Rules, Regulations and Guidelines

In the state of Iowa, new regulations were initially specified by the National Guard in collaboration with and based on the guidelines of the Center for Disease Control (CDC) for use of select agents and the security required in the laboratories investigating them. The lists to be used nationally will soon be announced by the Department of Homeland Security (DHHS) and will undoubtedly reflect the well-recognized categories and guidelines established by the CDC. Most relevant to the research universities are the high security lists based on the CDC's B list and the maximum-security list encompassing most of the agents on the CDC A list. Both lists contain agents commonly employed in research laboratories across the country. Tetrodotoxin, certain viral pathogens, and E. coli are among the frequently used items on the B list. The A list includes anthrax, botulinum toxin, and Ebola virus. Of critical importance to this discussion is the spectrum of security required for laboratories using these agents. Based on the guidelines specified by the National Guard for use at Iowa State University, laboratories using agents on the B list must have these security requirements: card or key controlled access, electronic building access, batter-proof doors and windows, and motion detectors in research areas. The requirements for laboratories using agents in the maximum-security list (the A list) are even more stringent. In addition to the requirements for securing

laboratories using items on the high security list, a perimeter fence or comparable structure is required. A 24-hour guard or doubly secured facility that would include a monitored camera system is also necessary.

The costs for generating these changes are significant. In preliminary estimates at our university, securing a corridor of laboratories with a key card system and camera exceeds \$130,000. This excludes any modifications to the doors or windows themselves. The cost for personnel to monitor a facility using agents on the maximum-security list would exceed \$150,000 per year. This does not include the cost of any perimeter fencing, which undoubtedly would be extremely expensive, particularly if aesthetics were considered in the design.

In addition to physical facilities, the new DHHS regulations include a requirement to monitor and control all personnel involved in the research with any of the select agents. This will require methods for obtaining background checks and a plan for educating our personnel. Estimated personnel costs for managing and implementing this system, excluding the educational component, approximates \$100,000, although the exact amount will depend upon the extensiveness of the background checks required by the new mandates.

Other rules and regulations have significant implications for traditional interactions that occur in research laboratories across our universities. One of the most notable is the so-called “deemed export rule.” Based on both ITAR (International Traffic in Arms Regulations) and EAR (Export Administration Regulations), any release of information to foreign nationals from specific countries requires an export license. This includes release of information not only through formal mechanisms such as presentations and publications but also through casual interactions such as telephone conversations, discussions in the laboratory, laboratory tours, etc. Since half of the graduate students at Iowa State University are from foreign countries, the new rule could pose problems especially in those areas of research focused on software development, communication hardware, and certain areas of electronics. Because these regulations are intended primarily for investigations producing classified data for federal agencies or research in which there are mandated restrictions on publications, only a limited portion of research on most campuses will be affected. A useful guideline in determining the applicability of the deemed export rule is whether or not the data resulting from the study will be publicly disseminated. If so, the deemed export rule would not apply.

Funding Opportunities

We must also recognize that many funding opportunities are now available because of the shift in research priorities toward disciplines that are critical to homeland security. This trend embraces a variety of topics that are well suited to the mission of a land-grant university. Iowa State University has responded by forming a committee (a marvelous university tradition!) to evaluate requests for

proposals and other announced funding opportunities that are optimally suited for research by collaborative teams at our institution. This strategy should ensure that campus resources are focused on initiatives that are well received by our faculty and appropriate to their areas of expertise. In addition, our approach enhances the formation of effective collaborative teams – an important factor for competing optimally for these awards. Our campus has also refocused attention and resources on existing areas of expertise that fit well with the funding priorities that have evolved since September 11th. Our strengths include: an information assurance program, applications that combine quantitative expertise in engineering and agriculture, applications involving the Virtual Reality Applications Center, as well as activities in the Center of Scientific Forensics sponsored by the Department of Energy. Interest in homeland security has stimulated a number of programs in both the National Institutes of Health (NIH) and the National Science Foundation (NSF) to consider applications in these areas. Very recently the National Institute of Allergy and Infectious Diseases (NIAID) announced a large program supporting research “leading to the prevention, detection, diagnosis, and treatment of diseases caused by agents with the potential to be used for the purpose of bioterrorism.” Some funds for infrastructure are intermittently available from the Technology Support Working Group, which identifies, prioritizes, and coordinates interagency and international research and development requirements for combating terrorism. NIH continues to award matching grants for animal facilities. Finally, some private foundations such as the MacArthur Foundation provide some funds for proposals focused on antiterrorism research.

In conclusion, it is already very apparent that the aftermath of September 11th will have a significant impact on the research environment in major research universities, particularly those with a strong land grant heritage. Some of the changes will reduce openness with regard to our physical facilities as well as personal interchange and contact. Our universities will meet this challenge just as we have met several others. Collectively, we must make every effort to ensure that the government provides funds that enable us to comply without negatively impacting current programs on our campuses. We must also minimize the intrusion of rules, such as the deemed export rule and those related to personnel and student screening. To accomplish this, universities should develop campus strategies that minimize the impact of regulations without decreasing compliance. We should also prepare our faculty for the evolution in funding priorities at the federal level. If developed correctly, new initiatives could have very positive, long-term consequences for the research programs on our campuses. Furthermore, some federal funding will be particularly conducive to multiple institutional awards. This opportunity may provide a valuable framework for enhancing collaborations between our universities in the heartland of the United States.