

Public Response to Infectious Disease Research: The UC Davis Experience

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Abstract

This summary of the experience of the University of California, Davis, in public communications describes the course of applying for funds to build a National Biocontainment Laboratory. Opponents of the project put forward a wide range of arguments falling into two main areas: (1) the safety of the facility and the perceived risk of release of biological agents by accident, theft, or terrorist acts; and (2) concerns that the laboratories would be used for military or secret research beyond the control of the university. The communications strategy in support of the proposal used a number of different tools, including public workshops, direct mail, web sites, and proactive media relations. Communicating in this type of environment is challenging and requires long-term commitments of time and effort, as well as efficient cooperation across departments within the university and externally with local, county, and regional governments, agencies, elected officials, and community members.

Key Words: biocontainment; biosafety laboratory; infectious diseases; media; public communications

Introduction

Biodefense and the use of animals in medical and other types of research are topics of significant public interest and, in some cases, controversy. The University of California (UC¹), Davis, home of a major School of Veterinary Medicine, and National Primate Research Center, is characterized by a major emphasis on the biological sciences. The institution has had extensive experience with managing issues related to animal research. More recently,

the campus has dealt with public communications related to biodefense and emerging infectious diseases, especially in response to an application to build a National Biocontainment Laboratory (NBL¹) with biosafety level (BSL¹)-4 facilities. During the application process, we encountered reactions ranging from enthusiastic support to outraged hostility, and dealt with a number of arguments against locating such facilities on campus. The aim of this article is to describe the arguments that arose around this issue and the communications tools and messages that were used by the university. Although some of these factors may be applicable only locally, to our city or region, some may be applicable generally.

BSL-4 Laboratory Proposal

Discussions between officials at UC Davis and at the California Department of Health Services related to construction of a BSL-4 facility on campus were first disclosed publicly in June 2001 (Dalton 2001). The proposal was reported by the *Sacramento Bee*, the *San Francisco Chronicle*, and local television, but the reports attracted little or no public response. After the anthrax attacks of October 2001, follow-up reports appeared in regional newspapers (Hall 2001) and on local television, again with no negative public reaction.

In October 2002, the National Institutes of Health (NIH¹) issued a formal request for proposals for grants to build NBLs. Two public meetings, one on campus and one in the form of a town hall meeting before the Davis City Council, were held in mid-January. The application was submitted in February 2003. The major phase of public communications activities thus lasted from mid-January until the end of September 2003, when campus authorities were notified that the application had not been funded.

During the summer and fall of 2002, faculty and campus administrators involved in the project gave a series of briefings to local and regional groups, including editorial boards, elected representatives, government officials, and community groups such as Rotary. As a result of these activities, local and regional newspapers published supportive editorials that reflected our communications messages (Editorial 2002a,b, 2003). The major phase of public communications, beginning with the public meetings held in mid-January, was timed to follow these briefings of key officials, stakeholders, and other groups.

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¹Abbreviations used in this article: BSL, biosafety level; CDC, Centers for Disease Control and Prevention; NBL, National Biocontainment Laboratory; NIH, National Institutes of Health; RCE, Regional Center of Excellence; UC, University of California.

Key Messages

Communications throughout were based on several key messages that had been developed by the communications group in collaboration with faculty and administrators working on the project. These messages are described below.

- There is a pressing need for such facilities both nationally and on the west coast.
- These laboratories are built with multiple safety features and have an excellent safety record.
- The mission of the laboratory is to carry out open, published research on emerging diseases that are of local and national importance, and to develop diagnostic tests, vaccines, and treatments for diseases such as West Nile virus, severe acute respiratory syndrome (SARS¹), anthrax, and hantavirus.

Arguments Advanced Against the Laboratory

Throughout the public phase, opponents of the project expressed a range of concerns and questions that fell into two broad areas: safety and security, and the potential for use of the laboratory for military, weapons-related, or “secret” research. Opponents repeatedly advanced the following, typical arguments (Anonymous 2003; Block et al. 2003):

- An accident could release a devastating microbial epidemic.
- Such an important national facility could be the target of a terrorist attack.
- Criminals or terrorists could steal deadly microbes from the laboratory.
- Biological materials in transit to or from the laboratory could be stolen or released by accident.
- Security precautions at such a laboratory would change the atmosphere of the town and of the campus.
- The laboratory is part of a secret US government plan to pursue biological weapons research, or could become part of such a plan in the future.
- The laboratory would conduct classified (secret) research, in contradiction of UC policy.
- The federal government/Department of Homeland Security/Department of Defense could take over the laboratory for their own purposes.

People opposed to the proposed laboratory evidently occupied a range of positions, from those who acknowledged the need for such facilities but thought they should be located in remote areas or on military bases, to those who opposed building such laboratories anywhere in the United States.

Safety was often raised as a concern, with the idea expressed that an accident or leak from the laboratory would devastate the town and surrounding area. The university was

criticized for locating the proposed laboratory on campus rather than in a remote area. This issue was perhaps the easiest to counter because BSL-4 laboratories have an extremely good safety record. For example, we were able to point out that existing US laboratories at the Centers for Disease Control and Prevention (CDC¹) (Atlanta, GA) and the US Army Institute for Infectious Diseases (Fort Detrick, MD) have operated close to population centers for decades. Furthermore, the new Canadian Science Centre for Human and Animal Health (Winnipeg, Manitoba), a model for the UC Davis project, was built in a downtown area. We emphasized the benefits of locating such a laboratory on campus adjacent to researchers at the School of Medicine, the School of Veterinary Medicine, and other departments.

We were also able to detail the extensive safety and containment features that are included in the design of these laboratories. However, some responded to this information with the argument that “the risk is not zero,” and that even an infinitesimal degree of risk was unacceptable.

A second set of issues concerned physical security and terrorism. Some residents expressed fears that a NBL, and therefore the university campus and adjacent town, would be a target for terrorists who wanted either to destroy the laboratory or to steal microbes from it (Davis 2003; Editorial 2002a). Indeed, some imaginative scenarios were put forward in this area.

Our communications stressed the extensive security precautions that would be in place at the laboratory, including multiple layers of security and background checks on employees. Again, we were able to draw on the experience of other such laboratories in the United States and Canada in this regard (Martineau 2003a). However, some individuals expressed concern that a facility with such stringent security precautions would clash with what is perceived to be the open, low-security atmosphere of a university campus.

The idea that research programs on biodefense are a cover for work on offensive biological weapons was raised numerous times (Divis and Horrock 2003; Elias 2003). This idea seems to have considerable force even within the scientific community (Brainard 2003; Roth 2003). We emphatically contradicted this allegation whenever it arose, stressing that such work would be not only unethical and illegal, but also repugnant to the faculty engaged in the project. There was also concern that federal funding for biodefense research was distorting public health and research priorities (Gallagher 2003; Miller 2003). One repeated rumor alleged that the laboratory was funded by the Department of Homeland Security, not the NIH. In response, we pointed to the congressional approval of this spending by the NIH. It is also a matter of record that the legislation creating the Department of Homeland Security was only passed in November 2002.

The issue of classified research at the laboratory was initially raised by university faculty (Wells 2003). UC policy stresses that research carried out on campus should be open to publication. The UC President may exempt research from these requirements on grounds of national se-

curity, although this situation has rarely occurred. Opponents claimed that because of the role of the NBLs in responding to terrorist acts, UC would be called upon to invoke the national security exemption and carry out classified research on campus. It was apparent that even faculty members who were neutral or not strongly opposed to the laboratory were concerned on this point. In response, the UC Davis Vice Chancellor for Research, Barry Klein, wrote two successive open letters to all faculty in which he reiterated that the mission of the laboratories was to conduct open, publishable research; that the plans of the NIH did not include classified research, and that no plans were contemplated or foreseen (Klein 2003a,b).

Opponents pointed to language in the Public Health Security and Bioterrorism Preparedness Act of 2002 (“Bioterrorism Act”) (PL 107-188), which they interpreted to mean that the university would not be able to disclose information about select agents held on campus, even in the event of loss, theft, or accident. Initially, our response was that these federal regulations based on the Bioterrorism Act would not apply to the university campus, because the law makes specific reference to “federal agencies.” However, in August 2003, following specific media inquiries, campus counsel received advice that the campus should consider itself bound by the stricter provisions of the act. After consulting with the senior officials involved, the communications group decided that we should communicate this information to the reporters who had raised the issue, to explain the context as clearly as possible.

This disclosure caused a significant public outcry and caused some city officials to distance themselves from the project (Dunning 2003; Martineau 2003c; O’Hara 2003d). After seeking clarification from NIH officials, campus counsel confirmed that our original position was correct. We then took steps to publicize the confirmed position through personal briefings for reporters and direct written responses to email from concerned faculty (O’Hara 2003e). In retrospect, it is likely that the double reversal damaged the credibility of the institution in this area.

Opponents also interpreted some language in the NIH original Request for Proposals for National and Regional Biocontainment Laboratories to mean that these facilities would be “controlled” by the NIH for the next 20 yr, and that in the event of an emergency, federal agencies such as the Department of Homeland Security could “take over” the laboratories. In response, we pointed out that the 20-yr requirement is standard contractual language to ensure that federal funds are spent on the purpose for which they are intended. We stressed that the NIH expects these laboratories to act as a resource to state and federal agencies such as the CDC in the event of a bioterrorist attack or emerging disease outbreak.

Communication Tools and Vehicles Used

The committee that organized and developed the application represented the following campus academic and adminis-

trative units: Public Communications, Government and Community Relations, Office of Research, Office of the Provost, School of Medicine, School of Veterinary Medicine, UC Davis Fire Department, and Environmental Health and Safety. Also represented were the California Department of Health Services and the Yolo County Public Health Department. A subcommittee led by the Assistant Vice Chancellors of Public Communications and of Government and Community Relations managed communication issues by developing the messages and the vehicles to deliver and circulating them to the wider group for review. Initially, one of us (P.J.B.) coordinated public and media relations on a day-to-day basis. As the workload increased, A.H.F. became more heavily involved. We were supported by representatives from the public relations agency Hill & Knowlton, which provided writing support and helped carry out “best practice” research on similar facilities in North America.

As a public university in the land-grant tradition, UC Davis places a high priority on communicating with the public in an open and accessible way. We endeavored to provide as much information as reasonable, and to answer questions and concerns promptly and as fully as possible. Whenever possible, we arranged for reporters to speak directly to faculty and administrators in charge of the proposal, while campus spokespeople answered more routine or straightforward requests. The wide range of communications tools used in the course of the proposal included the following:

- Briefings to elected representatives and community groups;
- Informational video of visit to Canadian laboratory;
- Public meetings and workshops;
- Direct mailings to local residents;
- Press releases and work with the external news media;
- Articles in campus media;
- Web site and email listservs; and
- Open letters to faculty members.

As described above, briefings of elected officials and others began in 2002, and the first public meetings were held in early 2003. Campus officials and Davis Mayor Susie Boyd took a fact-finding trip to Winnipeg, Canada, to visit the Canadian national biocontainment facility in January 2003. An informational video was prepared about this trip and was used in small-group briefings and early public meetings. The video included interviews with Winnipeg residents about the laboratory. Opponents criticized this video as being “slick” and “propaganda,” and Mayor Boyd subsequently asked to be cut from the video.

Early public meetings, especially those held before the Davis City Council, were dominated by laboratory opponents and were noisy and contentious. Campus representatives, elected officials, and public health officers were booed and jeered. A few residents at these meetings ex-

pressed support for the proposal, but these participants were mostly ignored in media reports (O'Hara 2003a).

Despite the difficulties, we felt that public workshops were an important tool for the community to learn about the project, but that a more structured format was needed. In April, the campus organized four informational workshops with speakers representing the campus, the architects, and an expert in biosafety management. An independent facilitator from outside UC was engaged to conduct the meetings, and it was decided that questions would be submitted on cards during the session.

Four sessions were held at two different times (late afternoon and early evening) on consecutive mid-week days. The workshops were publicized through campus and local press and through a mailing to every household in the city of Davis and every campus mail address. Despite this advance publicity, attendance was poor. The largest session attracted perhaps 50 attendees; the smallest, approximately 15, including the speakers and news media representatives.

An evening rally organized by the main opposition group in early April (but not in conflict with the campus workshops) attracted a crowd of about 150 to 175, according to media reports (Martineau 2003b; O'Hara 2003c). Also in April, the UC Davis division of the Academic Senate organized a town hall style meeting at which faculty members discussed the proposal (UC Davis 2004).

We decided to follow up on the mailer advertising the April workshops by sending a regular newsletter to all households in Davis and to every campus mail address. Printed on nonglossy paper with minimal use of color, this four-page document was intended to look professional but not "slick." Two editions were issued (May and July), and each carried a letter from Provost Virginia Hinshaw outlining progress in the application process. The May issue contained a set of "frequently asked questions" about the NBL and Regional Center of Excellence (RCE¹) proposals, as well as a timeline for the process. The July issue carried an article describing how the NBL could act in response to outbreaks of emerging diseases such as West Nile virus, hantavirus, and SARS, or in response to another attack with biological weapons (UC Davis Update 2003a,b).

Throughout the process, we adopted a proactive strategy of engaging the media and responding as promptly and fully as possible to reporters' requests for information and interviews. Briefings and interviews with reporters were always regarded as "on the record." Principal coverage was in the *Davis Enterprise* and the local metropolitan paper, the *Sacramento Bee*. State and national newspapers and specialist media also covered the story from time to time. Local television covered major events such as public meetings.

Overall, we concluded that the media coverage was fair. In one or two cases (neither involving local media), we felt that mistakes or misrepresentation had occurred. In those cases, we responded with letters to the editor.

To reach the campus community, we published articles on the proposal and the process in the campus faculty/staff newspaper, *Dateline*, which our office publishes weekly.

For example, the biocontainment laboratory proposal was included in a July 2002 article as one of several projects making up the Provost's public health initiative (Bailey 2002). Throughout the application process, *Dateline* carried articles on progress of the application and promoting and reporting events such as the campus workshops.

The UC Davis student newspaper, the *California Aggie*, is an independent publication over which the university exerts no editorial control. We followed our usual policy of treating the student paper exactly as we would treat any other media outlet.

A web presence was an integral part of our communications plan, and a web site for information about the NBL proposal was launched in January 2003. Information available on the site included the following: descriptions of the NBL and RCE proposals; frequently asked questions and answers; documents on issues such as safety and security, potential benefits to the campus, and economic impact; and a news section with updates on both the progress of the application and news items on emerging infectious diseases culled from other news outlets.

Flyers, newsletters, and other printed documents created for public meetings and workshops were made available on the web site. After the public workshops in April, digitized video of some of the presentations was also posted on the site.

The site featured an e-mail address to which members of the public could send comments and questions. These e-mails were reviewed by members of the communications group and, where appropriate, personalized replies were sent to the respondents signed by Provost Hinshaw. These questions, and the replies, did not appear on the web site itself, although questions posed did influence the choice of "frequently asked questions" posted on the site. Writing individual replies is relatively time consuming, although it could be assumed that the recipient will forward the e-mail to others. However, the actual number of legitimate (non-spam) messages received was fairly low—about 40 by August 30, including messages of support.

As described above, on some specific issues it was believed appropriate to prepare an open letter from senior administrators to the campus community. Such issues were whether the NBL might conduct classified research, and the potential restriction under federal law of disclosures about "select agents" (dangerous pathogens the CDC considers to pose substantial potential harm to human health [Gonder 2005]).

Local Events

Any communications program conducted over several months must be able to respond to events at the local, national, or international levels that affect public perceptions. At the local level, the UC Davis application for an NBL was affected by two significant unanticipated events: changes in position related to the legal restrictions on disclosures about

select agents on campus, described above; and the loss of a rhesus macaque monkey from the California National Primate Research Center in February 2003.

The animal, which was part of an indoor breeding colony, went missing during cage cleaning February 13. After a thorough search, it was concluded that the monkey had gotten into an open drain and most likely perished there. After some discussion, it was decided not to release information about the incident to the media immediately, on the grounds that it was thought the animal had not left the site of the Primate Center.

The *Davis Enterprise* broke the story February 20 based on an anonymous tip, noting that the incident was likely to fuel opposition to the NBL proposal (O'Hara 2003b). The story also received extensive coverage in state and national media (AP 2003; Davila 2003; Fernandez 2003), with many reports drawing a link between the missing monkey and the NBL proposal. Opponents criticized the delay in releasing information and asked how the university could guarantee the security of biological agents if a large animal could go missing.

In responding, we pointed out that the security and containment precautions would be much greater at the NBL than they were at the primate facility at that time, and that the monkey had not been used for experiments in infectious diseases. Nevertheless, it was clear that this incident handed opponents of the NBL an easy means to attack the project and the university. The decision not to announce the incident earlier was clearly a misstep, although it is likely that project opponents would have taken full advantage of the incident in any case. Monkey masks (and sometimes monkey suits) became prominent features of activities organized by the main opposition group.

National and International Events

The first public disclosure of UC Davis officials' interest in building a BSL-4 laboratory was in June 2001. However, as described above, significant opposition did not emerge until around the time UC Davis was preparing to submit the project proposal, in January 2003. The most vigorous public discussion therefore took place more than 1 yr after the terrorist attacks of September 11, 2001, the anthrax attacks of October 2001, and the events and prosecution that preceded the war in Iraq. Such events inevitably affected the public perception of issues surrounding biodefense, terrorism, biological and chemical weapons, and national security.

It might have been expected that the advent of a fatal bioterrorist attack in the United States would increase support for facilities such as the BSL-4 laboratories. Although many people might be influenced in that way, it was clear that at least in the Davis community, a real or perceived association with the "War on Terrorism" increased negative views of the project, at least among the most vocal opponents. If anything, arguments based on concerns about the

use of the NBL for classified or secret research, or on speculation that it would be "taken over" by the Department of Homeland Security or would actually increase the risk of future terrorist attacks, became more prominent over time, while concerns expressed about safety lessened. We note that these views are still being raised in regard to other biocontainment- and biodefense-related projects (Elias 2004). Heightened awareness of the threat of terrorism may have increased fears cited above that the NBL would make Davis a target for terrorists.

Naturally emerging infectious diseases were also a topic of high media interest in the winter, spring, and summer of 2003. The outbreak of SARS caused the World Health Organization to issue its first-ever global travel alert, with more than 8000 cases and almost 800 deaths (WHO 2004). West Nile virus continued its progress across the United States, with the detection of infected birds and the identification of one human case in southern California by the fall of 2003. The research plan for the NBL and the related RCE application emphasized that emerging infectious diseases were a threat to the western United States, and we emphasized this point in our communications. As one of the principal investigators, Frederick Murphy, said: "Something like SARS is exactly what the biocontainment laboratory is for" (UC Davis 2003b).

Community Support

The debate in the city of Davis was not one sided. Numerous faculty and staff members, students, and local residents expressed support for the project, and at least two supportive petitions were collected. However, during the time it took for this support to appear, opponents had established themselves as a vocal presence.

Assessing the true feelings of the majority in a town of more than 60,000 residents is difficult without carrying out precise opinion polling, which we did not do on this subject. Those who were most vocal on either side probably accounted for a few hundred people at most, so the majority of residents presumably either fell in the middle or had no strong feelings about the project.

The project did not appear to have a significant effect on the reputation of UC Davis in the community. Opinion research undertaken for the university between August 2003 and March 2004 on general attitudes toward the institution among key stakeholders (faculty, students, alumni, parents, and local residents) indicated that 89% of residents in the region and 92% of Davis residents had a "somewhat positive" or "very positive" opinion of the university (PHA 2004). The survey questions did not address the NBL proposal specifically.

Lessons Learned

Although unsuccessful, the NBL proposal experience yielded some useful lessons for future efforts. We briefly summarize those lessons as follows:

Provide administrative support for multidisciplinary grant proposals. The NBL team was assembled on a relatively informal basis. Although this structure worked quite well in making decisions quickly, it is possible that an established team or committee would engender greater credibility or authority. With federal agencies showing a trend toward funding centers and programs directed at attacking large-scale problems, the university has now established a permanent unit to support faculty applying for large, complex grants.

Flat structure was effective. Similar to the overall planning team, the communications team was assembled ad hoc and worked together as a “flat” structure, with members sharing information rather than passing it up and down a hierarchical chain. This approach was successful in formulating strategy and tactics, developing and approving materials, and responding quickly to an evolving situation. On the other hand, working on such a large and demanding proposal did affect our ability to work on other projects within our office during this time.

Practice due diligence repeatedly. We were surprised by issues that arose during the proposal, such as concerns about effects of federal restrictions on select agents, the missing monkey, and concern about the potential for classified research. Although we could not have avoided all of these problems, some anticipation of potential problems might have helped in our response. In the case of restrictions on select agents, we could have avoided some problems if we had been able to clarify the situation with federal agencies before it was necessary to respond to media inquiries.

Maintain communication. Sustaining a communications program over several months in the face of vocal opposition takes time and effort. It is important to engage readers and viewers in the issues continually for the benefit of the broad, undecided public. Regardless of when you think you rolled out your communications program, many people begin to take note of an issue only when it has become controversial.

Do not expect a quiet life. The city of Davis has a tradition of community activism on issues such as city planning, growth, and the environment. We were not surprised that the NBL proposal was somewhat opposed in the community and on campus, and we developed our communications plan accordingly. Although our experience is limited to the city of Davis, events at other sites (Goozner 2003; Joy 2004; MacDonald and Smith 2004) indicate that proposals to build BSL-4 facilities are often controversial, at least in their early stages, whereas established facilities such as the Winnipeg laboratory and the CDC generally appear to have a smoother relationship with the community. In our opinion, it is unrealistic to expect any communications program to quiet all public concerns and discussion within a few months. This endeavor is especially challenging in a highly charged political environment, as during the winter, spring, and summer of 2003.

Measure the outcomes. We did not conduct formal opinion research on the NBL proposal before, during, or

after the application process. Such information might have added some information to our planning and could have provided useful reinforcement or correction regarding which vehicles and messages were working well. However, recent general polling conducted for the university indicates that stakeholders, including local residents, retain a high level of approval for the university.

Discussion

The proposal to build a biocontainment laboratory, including a BSL-4 laboratory, on the UC Davis campus provoked strong feelings and controversy among local residents, despite support from newspaper editorials as well as elected officials and members of community bodies, who had been briefed on the project at an early stage. Although safety concerns were often cited, other arguments were equally prominent and perhaps more significant for some groups, such as university faculty. Other arguments identified the laboratory as a “front” for biological weapons work, claimed that it would carry out secret or classified research, and purported that it would fall under the control of federal authorities or the military. Opponents making these arguments generally sought to dismiss or belittle the importance of research on emerging infectious diseases and biodefense. We note that similar arguments have been raised around other biocontainment projects in Montana and Boston, and around the entire biodefense program of the federal government (Goozner 2003; Joy 2004; MacDonald and Smith 2004). Because these opponents are attacking biodefense initiatives at both local and federal levels, we believe that it would be appropriate for federal funding agencies, local institutions, and their partners at the state and regional to explore ways to coordinate communications programs that support these programs.

In this commentary, we have outlined only the public communications aspects of this proposal, with which we were intimately involved. It is important to note that the public communications program was closely related to a program of communications and outreach with government officials and elected representatives at all levels, and to communications and liaison with the UC Office of the President, other UC campuses, and non-UC campuses involved in the NBL or RCE proposals. Effective communications at all of these levels were critical to the overall proposal.

The objective of a communications plan in support of a controversial project such as a BSL-4 laboratory is to convey the advantages and benefits of the project while acknowledging the risks and putting them in perspective. It is important to bear in mind that communications on this and any other controversial topic should be directed not to the vocal opponents of the project, who are not likely to change their minds, but to the broad majority of the public. Most people in the United States have very little knowledge of or experience with serious infectious diseases, so these dis-

eases may be seen as both scary and remote. Thus, opponents of biosafety laboratories can put forward extreme worst-case scenarios in the event of an accident, while dismissing emerging infectious diseases as minor threats to public health. Opposition groups, moreover, represent a wide range of views and are under no obligation to be consistent in their arguments. They will, however, seize any inconsistency or inaccuracy in the arguments of those who represent an institution.

Communicating effectively on controversial topics over an extended period of time is challenging. Features of an effective campaign include openness with information, responsiveness to media requests, willingness to work with the media, careful planning and early assessment of issues that might arise, and above all, persistence. In the long term, we hope that more informed public discussion will lead to a greater comfort level and general community acceptance of the very real benefits of infectious disease research.

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