

**Remarks of Amy E. Smithson, PhD**  
**NSABB Public Consultation on Personnel Reliability**  
**Among Individuals with Access to Select Agents**  
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Many of the people in this room are comfortable with working with highly infectious and/or lethal pathogens. This comfort stems in large part from personal experience with or extensive knowledge of the laboratory procedures and physical barriers that can be taken to prevent accidents and protect the safety of researchers and of the public. For many policy makers and the public, however, the mere mention of diseases like anthrax and plague is enough to bring palpable fear into view.

I know this from the frequent interactions that I have had with non-subject matter experts (e.g., policy makers, the media, the public) over the years. For example, in mid-October 2001 I was being seated to testify before the Senate Governmental Affairs Subcommittee on International Security, Proliferation, and Federal Services when news broke that anthrax had supposedly been released in the ventilation system of the House of Representatives. The hearing was suspended and people literally scattered for the exits. Dr. Margaret Hamburg, who was also testifying, and I were among the few not in panic mode. As Peggy and I waited for a determination of whether the hearing would resume, we discussed the likelihood that the alarm was false because the initial detection system might have been a SMART ticket, which has very high false positive rates; that a ventilation system delivery would have been a very sharp departure and escalation from the previous method used, namely letters; and the fact that the House of Representatives office building were, well, on the other side of Capitol Hill. The moral of this story is that fear is not conducive to sound policy making, a point underscored by many of the programs and policies launched in the aftermath of the 2001 anthrax attacks. I trust I am not the only person here that has questioned the utility of how many taxpayers dollars have been spent in the name of defense against bioterrorism. Mindful of this fear factor and the recent revival of concerns about an insider threat due to the FBI's revelations about Dr. Bruce Ivins' mental health and substance abuse problems, I would like to thank the NSABB for broaching this sensitive and challenging topic and for the opportunity to comment on it.

As previous panelists have stated, the good news is that there are several models for personnel reliability programs (PRPs) that can serve as important reference points for the Board's consideration. Whatever recommendations the Board makes regarding PRPs for laboratories working with high-risk pathogens, it is critical that the resulting program(s) be meaningful and credible. By meaningful, I mean that it would be counterproductive to institute a toothless PRP just for the sake of "doing something," and scientists are unlikely to accept such programs unless presented with data that shows that PRPs indeed help reduce the risks of worker misbehavior. Next, PRPs at high-containment laboratories must be credible to policy makers and the public, for loss of trust in either of those communities could well bring the imposition of PRPs and other tightened security measures that are less well thought out than what the NSABB has the

opportunity to craft through its careful, informed deliberations. In other words, the Board would be well-advised to be proactive on this matter.

My recommendations regarding what might be appropriate for the mental health and coercion aspects of a PRP are drawn on more than one PRP model. The first principle that needs to be integrated into a prospective PRP is that candor about mental health and life style elements should be required of all job applicants and everyone once on the job. Second, the mental and emotional stability of scientists who work in high-level biosafety containment laboratories should be evaluated as part of the employment application process and periodically throughout an individual's job tenure. A combination of professional evaluation and a layered system of accountability among laboratory personnel will help provide a safety net to assure that the physical health problems (e.g., a chemical imbalance, brain tumor), stress at home or on the job, or other events that can create emotional instability do not grow into unattended mental health problems that could negatively affect workers' judgment and reliability.

Exceeding the select agent rule provisions, in this instance job applicants would be required to reveal past and present psychological and emotional difficulties even if such circumstances did not result in an adjudication of mental deficiency or institutionalization. They would also be required to reveal potentially controversial life style elements at this juncture, a point I'll return to later. Among other job fitness tests (e.g., physical fitness, substance abuse), job applications would then undergo an in-depth exam with a psychologist that relies on more than one mental health screening test. Mental health professionals are more qualified than I to stipulate which standard screening tests should be employed. If hired, employees would receive follow-on exams with a psychologist. Whether the appropriate interval for follow-on testing is every three years, five years, or annually would again be a matter for mental health professionals to advise the Board on, once they are acquainted with the stresses that come with working in biosafety level 3 and 4 laboratories.

In the interim, a system of layered accountability, which would lean heavily on team culture and the buy-in of scientists, would be in place. The first layer of this system is the individual scientist. Workers who experience undue stress, for example from the death of a loved one or a divorce, would be obligated to report this or any other matter that could erode their judgment or reliability to their supervisor. After discussion, a decision would then be made as to whether medical evaluation was in order. If a course of professional treatment for depression or any other mental health problem ensues, the employee's access to high-risk pathogens would be suspended until a mental health professional certifies their fitness to return to full-scope duties. A worker who is able to work during treatment would be assigned other duties. Put another way, the situation is handled with professionalism and compassion. As needed, an employee resuming work with high-risk pathogens may be required to undergo maintenance treatment to prevent a relapse and they should be regularly checked to ensure against a reversion to problematic behavior. An individual's failure to self-report emotional instabilities or other mental health problems would be considered a punishable breach of fundamental job obligations.

The exception to this principle would be if an individual did not realize they were succumbing to the effects of stress or experiencing a mental health problem. To illustrate, allow me to pose the question: Is there a bridezilla in your laboratory? In my experience, a bride rarely recognizes when she morphs into a zilla. However, for the colleague who is listening to her rant for the umpteenth time about how one of her attendants simply insists on wearing drop earring instead of studs, as she has directed, or to the revelation that she has just canned her fourth florist because they could not supply just the exact color she wanted in the flowers for her bouquet, these are indications that the bride is consumed with her wedding to the point where she might make errors in judgment in her work.

The second layer of accountability would address that situation by requiring scientists to look out for each other and therefore the safety and security of the laboratory. Peers would be obligated to report to a supervisor any unusual behavior that they detect in their colleagues so that it can be addressed before it worsens and compromises others and/or national security. Earlier, I heard a questioner use the term “to rat out” when commenting on the practice of asking scientists to express concerns about a colleague’s behavior to the lab manager, which suggests a mindset in need of serious adjustment. One need look no further than the headlines for incentive for scientists to be on the lookout for and to report their colleagues’ unusual behavior. Recent decades have seen a steady rise in incidents where disturbed, unbalanced employees have engaged in violent behavior in the work place, whether it be a nurse in Dallas sprinkling shigella dysenteriae on breakfast foods in the hospital break room or a mail carrier on a gun-wielding rampage in the post office. Sadly, people have “gone postal” at office buildings, shopping malls, fast food restaurants, highways, churches, and even senior citizens homes. Are laboratories somehow immune from this phenomenon? In today’s high-stress world, keeping a watchful eye on one’s colleagues is a matter of practical personal safety, not to mention public safety in the event that a scientist might decide to wreak havoc with high-risk pathogens outside of the lab.

Not every behavioral change is an indicator of trouble; coworkers need to look for the severity or frequency of a behavioral change in the context of an individual’s typical behavior. With that in mind, a colleague who has heard the bridezilla obsess repeatedly about her wedding should be required to mention to the laboratory manager that this individual appears to be under considerable stress. Subsequently discussing the matter with her supervisor, the bridezilla might recognize her changed behavior and accept the need to find ways to reduce her stress load, to restrict her duties until after the wedding, or to find some other solution acceptable to both parties to ensure that laboratory safety and security are not diminished by her pending nuptials. The objective is not to place a black mark on someone’s record but to handle a festering emotional problem professionally and compassionately.

The final layer of the accountability system involves the laboratory supervisor. For this nation’s laboratories to be operated safely and securely, we cannot afford to have managers who are detached or derelict in the oversight of their labs. Not so long ago, when law enforcement officials approached the managers of a very prominent US

biosafety level-3 lab with evidence that the lab's employees were engaged in illegal activities, the managers responded that whatever the employees did outside of normal working hours was of no concern. As it turned out, the police later arrested laboratory personnel, who went so far as to store illegal drugs in the laboratory, and these individuals were convicted of illegal drug trafficking. Surely, everyone can agree that evidence of an employee's engagement in illegal activities should give a manager strong reason to question whether that individual's trustworthiness and judgment.

Accordingly, a laboratory supervisor's evaluation of an employee's fitness to remain on the job should not just be a "how have things been going lately" chat. Rather, this evaluation, which should be conducted annually, should be a serious attempt by the supervisor to assess whether an employee can be trusted to exercise sound judgment and handle duties reliably. The nuclear surety program, for example, uses a 16-point question list to guide this process and requires the supervisor to provide a yes/no answer to each question. Among the questions posed are:

- Have there been concerns about the worker being insensitive, bossy/pushy, or self-centered at work?
- Insubordinate or uncooperative in response to work directives?
- Noticeable changes in emotions, concentration, memory, or social interactions?
- Any displays of deceitful or dishonest behavior at work or at home?
- Of persistent disgruntlement about work or home issues?
- Threats to destroy property or harm a person?

And the list goes on, making this review anything but a wink-wink, nod-nod exercise. Worth considering is that at least one US national laboratory has successfully adopted the nuclear personnel surety program for the staff of its high-level containment laboratory.

The success of a personnel reliability program lies chiefly in two factors. First, the likelihood that such screening will indeed serve a preventative purpose. Earlier, Jerry Epstein referred to "Let's Pretend Security," indicating that scientists would be unlikely to embrace a program with no proven value. I agree. The NSABB should be able to find data regarding the utility and track record of personnel reliability programs from disciplines and organizations that have long employed such tools, such as US nuclear facilities and law enforcement agencies. The second key to buy-in rests in the scientists' assurance that they will not be unduly penalized should they suffer illnesses and frailties that typify the human condition. Today, because such assurances are not in place in most US laboratories, self-reporting is considered the equivalent of career suicide and reporting a colleague an act of betrayal.

Whatever recommendations the Board makes, ideally they will propel significant change in the culture that prevails in many US laboratories, fostering instead a team culture that promotes work with high-risk pathogens as a responsibility, not a right, and personnel reliability screening as a reasonable investment in everyone's safety and security. Thus, a PRP will be more likely to succeed in creating this all-for-one culture if

scientists do not fear that reporting treatable health problems will unduly setback or ruin a valuable career. This approach is also key to destigmatizing the reporting of unusual behavior or emotional problems, in keeping with recent strides made to disassociate shame from mental illness.

Similarly, the matter of life style elements that might make someone vulnerable to coercion can be handled in a manner that makes it a “non-issue,” except when facility managers consider a particular life style element to be an automatic disqualifier for employment. If individuals are required to declare possibly controversial life style elements, for example, a proclivity to vacation at nudist beaches, during the application process, then it inoculates them against coercion later because their “secret” has been revealed in confidence to their supervisor and others involved in certifying their fitness for employment. Thus, the response to a coercion attempt can be a straightforward, “my employer already knows about this.” To illustrate, a consultant for a US intelligence agency was granted a security clearance after declaring up front a leadership role in the Black Rose Society. For those unfamiliar with this organization, its purpose, quoting the Black Rose website, “is to provide a forum for the many different expressions of power in love and play,” including “dominance and submission, bondage and discipline, fetishism, and cross dressing, to name a few.” Even with a declare-up-front requirement, a worker could remain susceptible to coercion if someone threatens to reveal a life style element publicly, in effect to “out” them. Scientists should be required to report such circumstances to their supervisor so that an agreeable plan of action can be devised to preserve security and safety and, ideally, the individual’s privacy.

As to which matters might constitute potential vulnerabilities to coercion and which types and degrees of mental illness or emotional disturbance should warrant concern about an employee’s job fitness, the NSABB has rightly sought the counsel of mental health professionals. Scientists are renown for—indeed, many take pride in—their eccentricities. Mental health professionals should be able to provide indicators—not guarantees, but indicators—that can help distinguish between eccentric behavior and mental illness in need of treatment. Scientists themselves will also be helpful barometers for when the line from everyday eccentricity to mentally disturbed has been crossed. The Board might consider consolidating these indicators into guidelines that would help non-mental health professionals understand and handle their roles in a system of layered accountability that charges all lab workers with the responsibility of detecting behavioral anomalies and makes supervisors, with the assistance of mental health professionals, as needed, answerable for charting a sound and compassionate course to address behavioral problems. Again, experience gained in other personnel reliability programs will provide useful guideposts for the NSABB on these matters as well.

In closing, research with high-risk pathogens is essential for public health and safety and for US national security. The establishment of a PRP, perhaps of graduated intensity the higher the biosafety level of the lab, will provide important assurances to the public that this research is being conducted in a safe, secure, and responsible manner. Many professions and organizations require screening and continuing certifications that confirm employees’ fitness to perform their jobs responsibly. The time has come for

such requirements to also be in place for scientists entrusted with the responsibility of research with high-risk pathogens. Some may argue that this is just overkill, that laboratories overseas are not burdened with such precautions. In which case, I would advise them to look a bit closer because some, although not all, countries and laboratories use some form of personnel screening. I would also add that the United States, which has long been a leader in scientific innovation, should step up to mantle of promulgating procedures and policies that enhance the safe, secure, and responsible conduct of science.