Proponent Testimony re: SB 441, Bio Lab Transparency
Senate Committee on Public Health and Welfare
David Manheim, Guarding Against Pandemics
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Thank you, Chairman and members of the committee, for the opportunity to testify today as a proponent of SB441 - enacting the biological laboratory accident transparency act.

Laboratory science and clinical laboratory work is a critical part of promoting and protecting national health and economic competitiveness in the future. At the same time, protecting laboratory workers and the public is imperative. Infectious diseases can be dangerous, and must be diagnosed and studied so that new treatments and cures can be developed. As in any area, dangerous work and dangerous work practices should be avoided. When that work is necessary, as in the case of much biosecurity research, it must be made safe to the greatest possible extent.

Biological laboratories that work with infectious agents are of particular concern, because accidents can have impacts which spread far beyond the laboratory itself. Outbreaks of SARS-1 occurred multiple times during the 2000s, in Taiwan and in China. In both of those two countries, the laboratory escapes led to at least one death. Accidental spread of Bovine Spongiform Encephalitis, or mad-cow disease, has occurred from labs in the UK, with devastating impacts on the country's agriculture industry. The last death from smallpox occurred in the United Kingdom in the late 1970s, due to another laboratory leak - and how the non-laboratory hospital worker who died was infected is still unclear to this day.

There are a variety of tools which exist for reducing the risk of otherwise dangerous but necessary tasks. These were developed for and are used by what are referred to as high-reliability organizations, such as hospitals, airlines, and nuclear power plants – where mistakes can lead to disaster. One key tool used for reducing those dangers is the documentation of past errors, near-misses, and causes. This allows everyone to learn from (thankfully) rare accidents, and prevent their recurrence. That documentation and transparency is followed by a variety of process improvement methods that standardize protocols in order to reduce risks.

However, unlike many other dangerous areas, laboratory work cannot be fully standardized and automated. The very nature of research is to try new things, where the outcomes are unknown. This means that strict rules and rigid enforcement of policies is far more difficult. At the same time, learning from past errors has already been critical – for example, practices like "mouth-pipetting," where a worker sucks a substance into a tube to get the correct amount of a liquid, have long been identified as key causes of exposure to pathogens, and have been banned. More recently, needle-sticks were identified as a major cause of laboratory accidents, and new tools like safety needles have been developed to mitigate the risk.

In both of these cases, the first step to finding a solution was to make the facts of these accidents, and the causes, known to the broader scientific community and to the public. Laboratory safety guidelines already suggest documenting accidents in exactly this fashion - but the additional step of sharing them publicly to allow future improvements has, in general, yet to occur. While laboratory biosecurity has improved in the past decades, without clear data on accidents, it is unclear how this improvement will continue.

Science thrives on transparency and public investigation - but laboratories have not yet widely embraced the standard of openness in this particular domain, despite calls from biosecurity experts to do so, and the benefits to both researcher and public safety. By providing flexibility in the form of disclosure, allowing use of accident records (which labs should already be keeping), this bill makes it possible to promote laboratory safety without creating undue or unnecessary burden on laboratories.

Thank you for your time,
David Manheim

About Dr. Manheim:

David Manheim holds a PhD in public policy from the RAND Corporations' Pardee Graduate School, focused on risk analysis. He is also a lead researcher at 1Day Sooner, an organization which advocates for participants in human challenge trials for research that can speed up the end of infectious diseases, as well as a visiting researcher at the Technion, Israel Institute of Technology. He has authored or co-authored dozens of articles and research reports on biosecurity issues, technological risks, and other topics. Part of his current research, which started with his PhD dissertation, includes how policy can reduce risks, especially biological and other global catastrophic risks, and on how scientific research can mitigate or contribute to those risks. His work on these topics includes consulting for several organizations, including the Council on Strategic Risks, the World Bank, and Guarding Against Pandemics, which supports this bill.