

November 3, 2022

Lyric Jorgenson
Acting Assistant Director, Office of Science Policy
National Institutes of Health
Bethesda, MD DC

Dear Dr. Jorgenson:

The American Society for Microbiology (ASM), one of the oldest and largest life science societies with 30,000 members in the U.S. and around the world, supports and appreciates the work of the National Science Advisory Board for Biosecurity (NSABB). We thank you for your commitment to reviewing and revising policies governing Enhanced Potential Pandemic Pathogen (ePPP) research and Dual-use Research of Concern (DURC). The ASM recognizes the importance of cutting-edge research on human, animal, and plant microbes as well as our responsibility as scientists to minimize the likelihood that results of experiments with microbes of concern are misused or that these pathogens accidentally escape laboratory containment.

We are pleased to provide input on the preliminary draft findings and recommendations highlighted at the September 21, 2022 meeting and our perspective on publishing considerations discussed at the meeting.

Response to the Preliminary Draft Findings and Recommendations of the NSABB Working Group to Review and Evaluate P3CO Policy

ASM concurs with many of the proposed recommendations, and we thank you for considering the input ASM provided earlier this year to the Board and working group. We offer our strong support for recommendations three through five, which speak to the areas on which ASM has focused its attention.

Specifically, we concur with and wish to elaborate on the following:

- Recommendation 3: We agree that the federal process would benefit from more engagement from institutions and subject matter experts (SMEs), where investigators, institutional safety and review boards are the first line of oversight of proposed research. We believe that a strong “bottom up” approach to evaluating the risk-benefit of the research by those closest to the where it is taking place, coupled with “top down” oversight is most effective. Federal policies should complement local and institutional policies to ensure comprehensive and transparent oversight and review, which would avoid duplicative and lengthy reviews, or unnecessarily burdensome policies that create uncertainty and discourage investigators from proposing potentially life-saving research projects. For those institutional biosafety committees (IBCs) and review boards that do not have sufficient expertise to evaluate this research, having an NSABB-approved cohort of experts who could assist in the review and also train reviewers would be helpful. Furthermore, a set of standard questions for use by all IBCs could be developed to ensure consistency. We should be cautious about placing additional burdens on an already highly regulated system. There is a lot that can be done at the laboratory and institutional level.
- Recommendation 4: We agree that principles and guidelines across U.S. government agencies should be developed that specifically address consideration of alternative approaches to riskier experiments, especially as science and technology advance, ensuring that risks at all stages of the research have been

mitigated. We also acknowledge that this recommendation addresses expectations and standards for responsible communication of the research in question. Clear guidelines and expectations for communication between researchers, institutions, and federal funding agencies are imperative to avoid conflicts of interest and misunderstandings that have the potential to reduce the trust level not only between stakeholders, but also with the public. The Board might consider a special task force with subject matter experts to develop this plan, or these communications requirements could be considered a charge to the Board.

- Recommendation 5: We agree that increased transparency at all levels is essential to build trust and enable greater policymaker and public understanding of the value of DURC and its governing policies. In addition to accomplishing this through the development and release of an implementation plan and guidance, we agree that summaries of key determinants and reviews should be made available. Having said that, it is important to ensure this is done in a way that both protects scientists doing the research from being targeted maliciously, and those who are doing the evaluation. We think it is an imperative to consider a more regular NSABB meeting schedule, especially as critical situations arise (e.g. COVID-19 pandemic) as well as more regular reporting to Congress on the work of the Board and the policies. There is currently no requirement for regular review of the policies and currently no ongoing feedback loop to Congress. Given the recent COVID-19 experience, periodic reporting to Congress at an appropriate level of detail is needed to build trust and avoid misperceptions of secrecy., and policies should be reviewed and revised on a regular basis and as appropriate.

With respect to Recommendation two, ASM concurs with the inclusion of an “urgent” review path in this recommendation during a public health emergency or when national security is at risk. A thorough but “fast track” approach is essential in those situations. We also appreciate the need to ensure there are not blanket exemptions for certain activities and close potential biosafety and biosecurity loopholes, including surveillance and activities associated with vaccine development or production. However, we have concerns about the impact that potential overregulation of surveillance and vaccine development activities would have, and therefore we urge you to proceed carefully when considering means to strengthen oversight of this work. Experiments focused on antimicrobial escape mutants, vaccine escape mutants, and research to understand new mutations in field isolates are just a few examples of the types of research that are critical for public health and therapeutic development, and that fall in this category.

If surveillance is defined too broadly under these policies or stricter guidelines implemented incorrectly, we risk inhibiting our ability to detect novel pathogens as they emerge and known pathogens when they re-emerge in the U.S. and around the world and rapidly develop countermeasures to address them. In terms of vaccine development, we must be sure that work to understand vaccine “escapes” can be conducted and the use of lab models to ensure vaccines are effective against novel strains of pathogens is allowed. This is especially true when addressing seasonal and potentially pandemic influenza, and this work already is tightly regulated and conducted under strict biosafety parameters. For example, data derived from “gain of function research of concern” studies have been used to rapidly assess other recent emerging influenza strains such as A(H7N9) emergence in China, A(H5N1) in Egypt/Africa, as well as A(H5Nx) emergence in North America. “Gain of function” approaches which reveal pathways for evasion of therapeutics can also help with the timeliness rapid development of treatment guidelines for emerging antiviral resistance.

A One Health Approach is Needed

ASM is pleased to see the working group is giving strong consideration to animal and plant pathogens under an oversight framework. We believe strongly in a One Health approach, and we believe HHS and NIH have an important leadership role to play with other science agencies in the US. We understand there are roles beyond a

specific agency for work on pathogens (for example, Department of Energy-funded super-computing; USDA funded work on animal and plant zoonoses; basic science through NSF.) and if we are to truly protect the U.S. and the world from the harmful impact of pathogens that target plants and animals, we must have analogous policies and processes for review that are harmonized with those already in place.

Publishing Considerations

As one of the largest publishers of microbial science research in the world, ASM has a rigorous process for assessing publications involving ePPP and DURC. We recognize that publishers play an important role in this space and we encourage harmonized activities that establish best practices in publishing. A case study published by the Visibility Initiative for Responsible Science (VIRS) in September 2022 highlighted ASM's multiple parallel mechanisms for flagging potential concerns in manuscripts, and reliance on extensive in-house expertise for its ultimate evaluations.¹

ASM journals use multiple parallel mechanisms for flagging potential concerns in manuscripts and rely on extensive in-house expertise for its ultimate evaluations. We are fortunate to have former NSABB members in our membership who have formed the ASM Responsible Publications Committee (ARPC). The steps we take include the following:

- Manuscripts are automatically screened for keywords and phrases of concern, including the presence of agents on the US Department of Health and Human Services (HHS) Select Agents and Toxins List (SATL).
- Manuscripts are also manually reviewed using a set of questions to evaluate their dual-use potential.
- If flagged, manuscripts are further reviewed by the editor-in-chief, and potentially also by the ARPC.

Importance of International Collaboration

In all of science, including in terms of support of enhanced potential pandemic pathogens research, ASM believes international collaboration is essential. We risk overregulating scientists in the U.S., and not providing leadership, training and mentoring to those in other countries seeking to establish biocontainment labs. Diplomacy is essential to success, and we encourage the NSABB and working group to consider these aspects in its continued deliberations and recommendations.

Thank you for your attention to our views. If we can be of further assistance or if you have any questions, please contact Mary Lee Watts, ASM Director of Federal Affairs at mwatts@asmusa.org or 571-228-8345.

Sincerely,



Stefano Bertuzzi, PhD, MPH
ASM Chief Executive Officer

¹ Visibility Initiative for Responsible Science. "American Society for Microbiology Journals." *VIRS Case Study Collection*, September 15, 2022.