Response to the NSABB Document

"Proposed Biosecurity Oversight Framework for the Future of Science"

January 26, 2023

Dear NSABB members,

We are writing in response to the NSABB document **"Proposed Biosecurity Oversight Framework for the Future of Science"** recently posted on the National Institutes of Health (NIH) website. In early July 2022, we and 29 other signatories (the 'Signatory Group') submitted a document titled *Recommendations to Strengthen the US Government's Enhanced Potential Pandemic Pathogen Framework and Dual Use Research of Concern Policies* to the NSABB, NIH, and White House. In September, a subset of this group submitted this letter in response to your preliminary draft report.

The purpose of this letter is to commend recommendations made in the new NSABB draft document, including significant improvements since the September draft. It is also to express continued concern about remaining policy gaps that we believe should be addressed in the final NSABB report to the US government (USG).

We commend the NSABB for its recommendations to the USG to:

- ***Modify the definitions of potential pandemic pathogens (PPP) and enhanced potential pandemic pathogens (ePPP)*** to place the focus on what can be reasonably anticipated regarding the resulting pathogen, and to include transmissible pathogens that have low or moderate virulence, as well as less transmissible pathogens that have higher virulence, while focusing on the reasonably anticipated end state rather than the approach.
- ***End the exclusion for surveillance and vaccine-related work.***
- ***Articulate specific roles, responsibilities, and expectations for all institutions*** involved in the proposed research, including requiring local entities to conduct ePPP reviews before submitting for USG review and requiring the same level of oversight throughout the course of the research (not only at the start).
- ***Develop principles and guidelines*** applicable to substantiating the claims that:
    1. There are no feasible, scientifically sound alternative methods of obtaining the benefits sought in the research in a manner that poses less risk.
    2. Unnecessary risks have been eliminated and an overall assessment of remaining risks finds they are justified by the potential benefits to society.
- ***Share a summary of key determinants and decisions*** resulting from USG review.
- ***Designate a USG office with adequate technical and financial support*** to run this oversight and evaluation process.
- ***Consider developing similar frameworks for pathogens*** that could pose severe threats to human health or food security via impact on animals and/or plants.

Even with these many important recommendations made in the **"Proposed Biosecurity Oversight Framework for the Future of Science"** document, we are seriously concerned the document does not yet address several of the most important recommendations from our July document, which can be summarized as:

- ***Within the ePPP Framework, establish oversight of sequence information*** about ePPPs, the risks related to computational methods for designing PPPs, and biosafety measures related to the synthesis of ePPPs, which would address the information hazards that are created as part of this work.
- ***Distinguish between practical benefits and unsupported claims*** of benefit.
- ***Improve transparency throughout the approval process*** by using a model such as Registered Reports to allow for the public to see risk-benefit assessments and any dissenting views prior to the research commencing.

Fundamentally, we also remain concerned that the new NSABB draft recommendations do not spell out who decides, and at what stage, which proposals need to be subject to department-level review. We note that only three projects have been referred to the Department of Health and Human Services (HHS) for department-level review in the lifetime of the existing ePPP Framework. This is a period during which, for example, experiments were being performed on mpox virus that some in the community considered potential ePPP work, (https://www.science.org/content/article/u-s-weighs-crackdown-experiments-could-make-viruses-more-dangerous) even after it was clear that this virus in its naturally occurring form was capable of global spread.

Likewise, during the same period, government funds partially supported experiments on recombinant SARS-CoV-2 that, likewise, were judged by some experts to constitute ePPP work (https://www.science.org/content/article/was-study-created-hybrid-covid-19-virus-too-risky). The fact that these experiments did not get reviewed under the ePPP Framework is evidence that the existing guidelines are inadequate. We remain strongly concerned that while the changes proposed in the current NSABB draft document are big steps forward, there may still be too many loopholes exempting research that should be reviewed within this Framework.

NSABB should strongly advise the USG to ensure that oversight of this work will encompass all research falling within the scope of the policy, including research such as the recent concrete examples above.

Along these lines, we have concerns about one new stipulation that was added to the new NSABB draft document—Recommendation 1 now states that this policy only applies to research that "likely poses a severe threat to public health, the capacity of public health systems to function, or national security." In practice, this shifts the responsibility to the government program manager for determining whether the proposed research poses a severe public health threat at the start of the process, instead of where that judgment should reside, which is at the department-level review at the end of the review process. It is not clear why this new stipulation was added.

In addition to the above concerns, there are other challenges in current USG policy not yet addressed in the NSABB's **"Proposed Biosecurity Oversight Framework for the Future of Science."** To that end, we urge the NSABB to recommend both new and revised USG policy do the following:

- ***Articulate the risks that must be considered*** in the ePPP Framework process, including accident, deliberate misuse, and insider threat.
- ***Define the process for the "responsible communication of results."***
- ***Expand the stakeholders*** involved in the review and approval processes and recuse those whose agency is funding or participating in the research.
- ***Broaden the ePPP Framework to apply to non-federally funded research.***

- ***Require all USG agencies to implement*** the ePPP Framework.
- ***Strengthen USG outreach to other governments*** to catalyze ePPP Framework and Dual Use Policy development.
- ***Expand the types of experiments*** included in USG Dual Use Policy.

The recommendations noted above are highly important elements of a strong and clear governance framework for ePPP research and dual use research of concern (DURC) experiments. Incorporating these recommendations into the final NSABB document will help ***diminish the risk*** that US science could inadvertently initiate epidemics or pandemics while ***minimizing disruption*** of scientific work that does not pose this risk; ***clarify the scope and decision-making*** process; and ***increase transparency*** around US policy and decision-making on these issues.

We remain very hopeful that as the NSABB considers their current draft document and this additional feedback, these concerns will be addressed in the final recommendations to the USG. We are greatly appreciative of the NSABB's careful consideration of these issues and value the importance of the constructive impact they will have on US policy.

Sincerely,

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