Approved: 6/26/2023

Boston University
Guidelines on Potential Pandemic Pathogens Care and Oversight (P3CO) in Research

1. Purpose

The purpose of these guidelines is to outline Boston University's (BU) plan for monitoring the care, oversight, and review of research that include potential pandemic pathogens (P3CO).

2. Covered Parties

These guidelines apply to all individuals engaged in work conducting, receiving support, or planning to conduct or support, the creation or use of pathogens of pandemic potential at or under the auspices of BU or under the auspices of Boston Medical Center (BMC).

3. Definitions

According to the recommendations (*See Section 4*), a potential pandemic pathogen is one that results from both the enhancement of a pathogen's transmissibility and/or virulence. This pathogen also meets the following criteria:

- It is likely highly transmissible and likely capable of wide and uncontrollable spread in human populations.
- It is likely highly virulent and likely to cause significant morbidity and/or mortality in humans.

4. Regulatory Background

These guidelines are being implemented by BU in accordance with the "Recommended Policy Guidance for Departmental Development of Review Mechanisms for Potential Pandemic Pathogen Care and Oversight (P3CO)" released on January 2017 and most recently in response to the March 2023 National Science Advisory Board for Biosecurity (NSABB) report, "Proposed Biosecurity Oversight Framework for the Future of Science" regarding *enhanced* potential pandemic pathogens (also referred to as "ePPP"). At the time of posting these guidelines, the final version of federal regulation on this type of research is being revised.

5. Scope of Research Requiring Oversight Under this Policy

Research that uses one or more of the agents or toxins listed below, as well as emerging diseases, newly- discovered agents (including wild-type, recombinantly-modified or created by genetic manipulation), that can cause serious harm to the public or the environment as defined above (*See Section 3*), and produces, aims to produce, or can be reasonably anticipated to produce one or more of the effects listed in the following categories of experiments will be evaluated for P3CO:

Agents and toxins (not limited to the following):

1. Avian influenza virus (highly pathogenic)
2. *Bacillus anthracis*
3. Botulinum neurotoxin (For the purposes of this policy, there are no exempt quantities of botulinum neurotoxin. Research involving any quantity of botulinum neurotoxin should be evaluated for DURC potential.)
4. *Burkholderia mallei*

5. *Burkholderia pseudomallei*
6. Ebola virus
7. Foot-and-mouth disease virus
8. *Francisella tularensis*
9. Marburg virus
10. Reconstructed 1918 Influenza virus
11. Rinderpest virus
12. Toxin-producing strains of *Clostridium botulinum*
13. Variola major virus
14. Variola minor virus
15. *Yersinia pestis*

Categories of experiments:

- Has the potential to enhance the harmful consequences of the agent or toxin.
- Has the potential to disrupt immunity or the effectiveness of an immunization against the agent or toxin without clinical and/or agricultural justification.
- Has the potential to confer to the agent or toxin resistance to clinically and/or agriculturally useful prophylactic or therapeutic interventions against that agent or toxin or facilitates their ability to evade detection methodologies.
- Has the potential to increase the stability, transmissibility, or the ability to disseminate the agent or toxin.
- Alters the host range or tropism of the agent or toxin.
- Enhances the susceptibility of a host population to the agent or toxin.
- Generates or reconstitutes an eradicated or extinct agent or toxin listed above.

PLEASE NOTE: These guidelines may be revised in accordance with updates to the federal regulations.

Investigators shall consider whether their research requires review under this guideline throughout the lifecycle of the project. They shall initiate a review of the research for P3CO (and DURC) potential whenever any of the following criteria is met:

- The research directly involves the creation of high consequence pathogens by recombinant or synthetic nucleic acid technology, or the generation of chimeric pathogens of those agent classes by gene swapping or making specific mutation on a gene.
- The research produces, aims to produce, or can be reasonably anticipated to produce one or more of the listed experimental effects.
- The research *may* meet the definition of P3CO and should be evaluated for P3CO potential.

6. DURC Committee (DURCCom) Review and Risk Mitigation

6.1 Dual Use Research of Concern Committee/Subcommittee

The Dual Use Research of Concern Committee (DURCCom) serves to fulfill the responsibility of conducting the review of any potential P3CO research, as identified and determined by the Principal Investigator, IBC staff, IBC membership, members of EHS staff, as well as these guidelines. *See DURC policy for membership requirements, policies, and procedures of the Committee.*

6.2 Screening for P3CO

IBC Program staff is responsible for initial screening of IBC protocols to identify whether the PI has

marked "Yes" to any of the seven (7) screening questions, or whether the research involves the use of non-attenuated forms of one or more of the currently listed agents or toxins, as well as any emerging diseases and/or newly- discovered agents, produces, aims to produce, can be reasonably anticipated to produce one or more of the listed experimental effects (*See Section 5*), or may meet the aforementioned criteria for the evaluation of P3CO research.

The screening questions in the IBC protocol typically used to monitor DURC potential will also be used for evaluation of P3CO concerns. These questions are not restricted to the above 15 listed agents but are applicable to any other agent used in the protocol that can cause serious harmful events to researchers, the public, or the environment. When the answer to any of the screening questions is "Yes" or when the research utilizes nonattenuated forms of one or more of the listed agents or toxins, or any other agent that can cause serious harmful event, the IBC Office will forward the protocol to the DURC Subcommittee, a subcommittee of the DURCCom, and the protocol will be reviewed to determine whether the study may fall under evaluation for P3CO and require DURCCom review. The IBC may also forward protocols to the DURC Subcommittee when the PI may have replied "No" to all seven (7) questions, and/or a member of the IBC believes the study should be reviewed by the DURC Subcommittee. At the discretion of the IBC, a research submission may also be referred to the Subcommittee if there are concerns related to a novel research activity.

6.3 Stages of the Review of P3CO Research

Stage 1: The DURC Subcommittee will determine if the research has the potential for meeting the criteria for the further review of P3CO concerns:

- If the DURC Subcommittee determines that the research does not meet the criteria for P3CO monitoring, the Subcommittee will determine any steps necessary for the ongoing monitoring of the research project. The research is not subject to additional reviews of pandemic pathogen potential oversight; however it is expected that the PI will continue to assess their research for these criteria on a continuous basis. The PI shall notify the IBC of their evaluation as soon as possible if there is a potential for the research project to become a P3CO concern or otherwise at least every six (6) months. The PI shall also communicate any such noted change to the IBC via amendment and/or protocol renewal in RIMS.

- If the DURC Subcommittee determines that the research should be further reviewed as research with P3CO potential, then the study will be referred to the DURCCom and Stage 2 will commence.

Stage 2: If a study has been recommended for further monitoring regarding P3CO, then the DURCCom will conduct a review according to the established criteria and will determine the frequency of review, post approval monitoring, and/or risk mitigation plan, as appropriate.

The DURCCom will discuss in its meeting, and with the PI(s), as appropriate, whether the research should proceed as planned. During these meetings, various aspects of the research will be reviewed, including: a risk mitigation plan, determination of the frequency of review of project, security management, specific plans for containment, and a post-approval monitoring plan. Internal and external experts may be consulted on any of these steps. Possible risk mitigation and security plans could include limiting access to the research protocol and limiting information that will be publicly disclosed (e.g., in publications, presentations at scientific forums), and potentially curtailing certain aspects of the research. Research projects that need to be evaluated for components of P3CO may not be initiated

until all components of the project and approved risk mitigation plans are in place.

6.4 Monitoring of P3CO Research

It is critical that the PI, IBC program staff, EHS staff, and the DURC Committee/Subcommittee members maintain active communication and continuously review the progress of the research. Depending on the research, this review may take different forms (e.g., annual or more frequent submission of self-assessments, check-ins by a designated committee member, or reassessment of the research), as determined by members of the DURCCom. Any changes in the categories of experiments (*See Section 5*) that may have occurred should be reported by the PI to the IBC. The success of this continued monitoring is based on a culture of responsibility where all participants accept the importance of their role in ensuring that scientific progress and adequate and appropriate management of any security risks associated with P3CO research are achieved.

7. Recordkeeping

For each research project that is categorized as requiring P3CO monitoring, the records of all communications to PIs shall include P3CO review(s) and all relevant documentation related to any additional review requirements and/or risk mitigation plan(s) for the term of the research. IBC staff will maintain records of DURC Subcommittee and DURCCom meetings and findings.

8. History:

Original Date Approved: June 6, 2023
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