Session III
Analysis of the Current Policy Landscape and Potential Policy Options for Gain-of-Function Studies

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Overview of the Current Policy Landscape

Purpose

NSABB WG analyzed current USG policies and guidelines for oversight of pathogen research to:

- Identify existing oversight policies relevant to the funding, conduct, and communication of research involving pathogens and GOF studies
- Analyze whether and how existing policies apply to and manage risks associated with GOF studies of concern

Overview of the Current Policy Landscape

- Biosafety guidelines
- Federal Select Agent Program
- Oversight of Dual Use Research of Concern (DURC)
- Pre-funding Review of Certain GOF Studies (HHS Framework)
- Export control regulations

USG Oversight of Life Sciences Research Involving Pathogens

Biosafety Guidelines

BMBL Manual & NIH Guidelines

- Funding Agency proposal review and evaluation for scientific merit and appropriate biosafety and biosecurity procedures
- Biosafety guidance may be part of terms and conditions of award
- Institutional review and implementation of biosafety practices and risk mitigation procedures
- Funding Agency reviews progress reports
- Ongoing communication between Investigators, Institution, and Funding Agency

Institutional & Federal DURC Policies

- Funding Agency review of proposals for DURC
- Institutional review and assessment of project for potential DURC
- Communication and cooperative development of risk mitigation plan between Institution and Funding Agency
- Classification as option for risk mitigation
- Institutional monitoring; adjustment of risk mitigation procedures as needed
- Funding Agency review of progress reports
- Guidance provided on responsible communication of DURC

Proposal & Funding Stage → **Research Conduct** → **Communication of Results**

- Registration of individuals and entities involved in the possession, use, or transfer of select agents and toxins
- Entities required to have incident response plans in place for natural and/or man-made disasters

HHS Framework

- HHS-level decisional review of certain HPAI H5N1 and LPAI H7N9 influenza GOF proposals
- Risk/benefit assessment
- Risk mitigation strategy development

Export Controls

- Review and licensing of requests for international transfer of material, data, and information
- Provides for national security and addresses proliferation by limiting access to the most sensitive technologies

Select Agent Regulations

- Federal review of certain restricted experiments involving select agents and toxins
- Inspections and annual verification of physical, personnel, and operational biosecurity & biosafety procedures and containment capabilities

BMBL – Federal guidance on biosafety and containment practices for life science research involving biological infectious agents or hazardous material

NIH Guidelines – Federal guidance for oversight of biosafety and containment for research involving recombinant or synthetic nucleic acid molecules

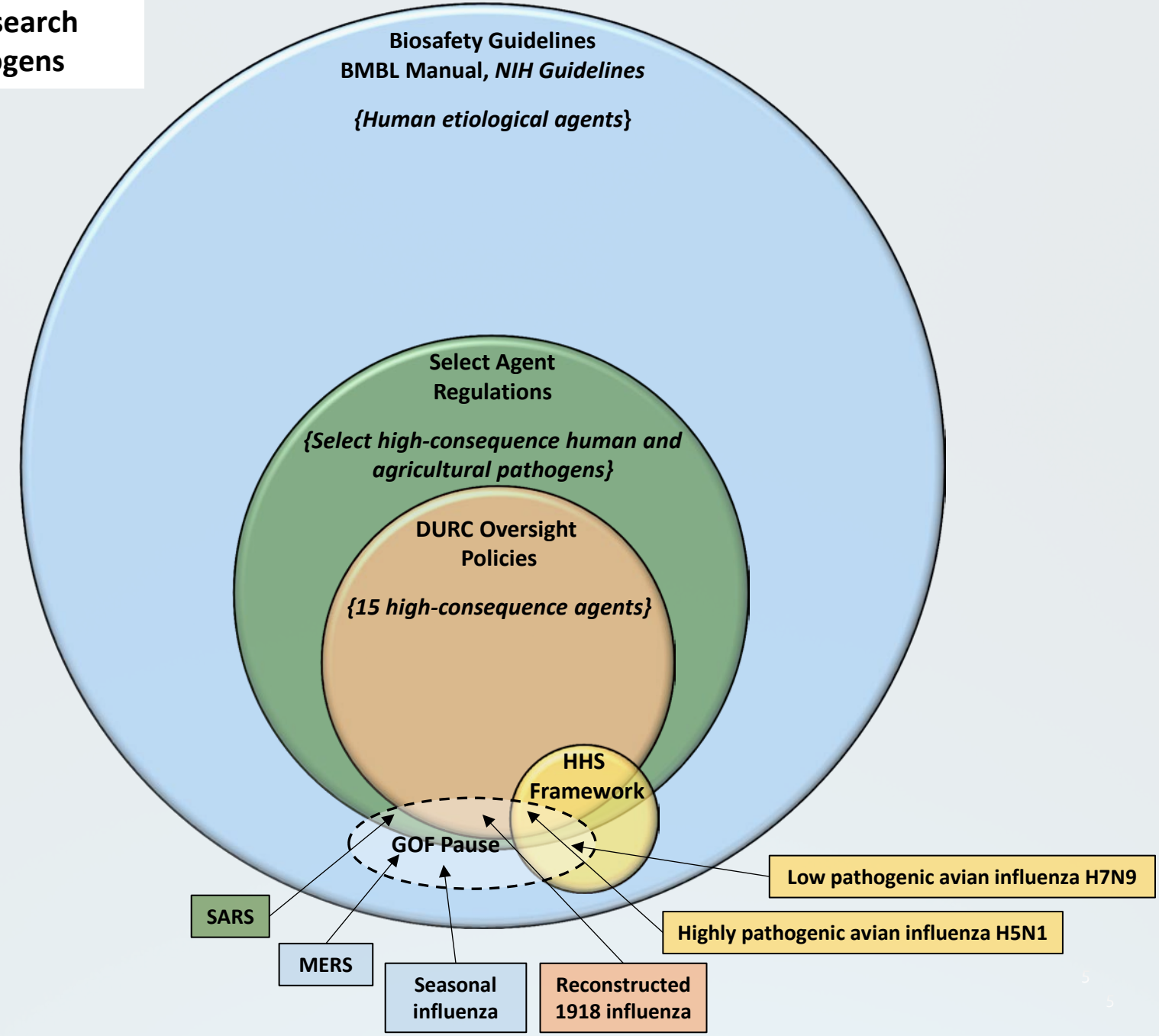
DURC Policies – Federal & Institutional oversight of biosecurity risks, particularly involving the misuse of research information, products, and technologies

Select Agent Regulations – Federal & Institutional oversight of biosecurity and biosafety risks associated with the use and transfer of high-consequence agents & toxins

HHS Framework – HHS department-level review and approval of proposed gain-of-function experiments involving HPAI H5N1 & LPAI H7N9

Export Controls – Federal oversight to limit access to, and international proliferation of, sensitive material and technologies

Scope of USG Oversight of Life Sciences Research Involving Pathogens



Potential Approaches and Options

The WG is considering a number of approaches that could be applicable to decisions and oversight of the types of GOF studies that have raised concerns.

- **Permissive approach:** in general, allows an activity unless the environment, health, or security are clearly compromised
- **Precautionary approach:** in general, limits an activity unless the environment, health, or security are clearly protected
- **Planned adaptation or risk-based approach:** provides a systematic, iterative approach to deal with managing risks in the face of uncertainty
- **Threshold approach:** would entail creating a risk threshold beyond which certain studies are given special attention or subject to additional scrutiny or oversight
- **Point-source approach:** involves controlling where and under what conditions certain studies are conducted

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Discussion Panelists:

- Gigi Kwik Gronvall, Ph.D., UPMC Center for Health Security
- Michael Imperiale, Ph.D., University of Michigan Medical School
- Barbara Jasny, Ph.D., Science Magazine
- Regine Aalders, M.Sc., Embassy of the Kingdom of the Netherlands

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Analysis of the Current Policy Landscape – Discussion

Questions for Discussion

- What are the major drivers of risks associated with GOF studies of concern? Are there any deficiencies with current policies in managing those risks?
- If risks are not currently adequately managed, what policy options or oversight might be available to help manage the risks? What should that oversight entail? Should that oversight occur at the federal or institutional level, or both?
- What challenges are associated with managing risks at the stage where research results are being communicated or published? What would journal editors find most helpful upstream to manage risks prior to publication?
- How can oversight measures be developed and employed in ways that would allow the benefits associated with GOF studies of concern to be realized?

Policy Landscape for GOF Research – Issues for Further Deliberation

<u>Issues for further deliberation</u>

- Adequacy of existing policies, guidelines, frameworks and programs for managing the potential risks associated with GOF research
- Rigor and thoroughness of review processes within each
- Are there provisions for updating policies/guidelines?
- Is there a robust mechanism for gathering and considering public input about proposed updates changes?
- Is there one current guideline or framework that is amenable to revision that would be sufficient to address current concerns surrounding GOF studies?