



CLADE X EXERCISE: IMPROVING POLICY TO PREPARE FOR SEVERE PANDEMICS

EXECUTIVE SUMMARY DOCUMENT

Clade X is a pandemic tabletop exercise hosted by the Johns Hopkins Center for Health Security in May 2018 to identify important policy issues and preparedness challenges that could be solved with sufficient political will and attention. The Center designed the Clade X scenario by mixing aspects of actual past events with well-researched fictional elements to illustrate some of the difficult decisions that national leaders could face in a severe pandemic. It is presented through a day-long series of simulated National Security Council–convened meetings of 10 US government leaders, played by individuals prominent in the fields of national security or epidemic response.

Similar to findings from the Center's 2 previous exercises, [Dark Winter](#) and [Atlantic Storm](#), key takeaways from [Clade X](#) will educate senior leaders at the highest level of the US government, as well as members of the global policy and preparedness community and the general public. Clade X is distinct from Dark Winter and Atlantic Storm in that it addresses a severe pandemic caused by a novel pathogen.

This document provides an overview of the exercise format and scenario, and concludes with recommendations from the Center on high-level strategic decisions and policies needed to prevent a severe pandemic or diminish its consequences should prevention fail.

EXERCISE FORMAT

The Clade X exercise was conducted in front of a live audience of government officials, academics, and members of the health security community and [streamed live on Facebook](#).

The day-long exercise consists of 4 segments, each representing a meeting of an ad hoc group the US President has asked to provide advice on an unfolding epidemic crisis. The group, called the Executive Committee (EXCOMM), represents many of the members of the President's National Security Council and a few additional members whose expertise is relevant to this extraordinary crisis. EXCOMM is chaired by the National Security Advisor. During the 4 meetings that occur over the course of several months in the scenario, the players are faced with 10 difficult policy questions for which they must make recommendations to the President. Information is provided to the players via pre-produced news clips, staff briefings, and updates from each player's respective agency.

EXERCISE SCENARIO

The scenario begins with an outbreak of novel parainfluenza virus that is moderately contagious and moderately lethal and for which there are no effective medical countermeasures. The virus is called



“parainfluenza clade X.” Outbreaks of disease first appear in Frankfurt, Germany, and Caracas, Venezuela, and are spreading person-to-person. The disease is spread primarily by coughing and causes severe symptoms requiring hospitalization and intensive care in about half of the people infected. Overall, 20% of the severely ill patients die.

As the narrative continues, the disease spreads within countries and internationally at an accelerating rate, overwhelming medical facilities. Outbreaks overseas start to infect US soldiers. The first US cases occur on a small college campus in New England after the return of a foreign exchange student. As the pandemic becomes increasingly severe, the EXCOMM must deal with a variety of diverse issues that have policy, political, and ethical dimensions.

IMPORTANT POLICY DEBATES

The players are confronted with several complex problems, including:

- Inadequate global health security;
- Lack of sufficient US capacity for isolation, transportation, and care of highly infectious patients;
- The decisions about whether and how to conduct large-scale screening, monitoring, and quarantine of potentially exposed individuals;
- The complex, often limited, and sometimes unclear, lines of US government authority with regard to public health and medical response resulting from the US federal system of government and the nearly entirely private healthcare system;
- The complicated, and sometimes competing, interests of international relations, US foreign policy, military strategy, and health security; and
- The challenges inherent in medical countermeasure development, manufacture, and dispensing in a crisis.

POLICY RECOMMENDATIONS

Clade X demonstrates how an outbreak of disease caused by a moderately contagious and moderately lethal novel pathogen can reasonably lead to potentially catastrophic global outcomes. To prevent or reduce the worst outcomes possible in future pandemics like [Clade X](#), the Johns Hopkins Center for Health Security recommends that the United States commit to these 6 strategic policy goals:

1. Develop capability to produce new vaccines and drugs for novel pathogens within months not years.
2. Pioneer a strong and sustainable global health security system.
3. Build a robust, highly capable national public health system that can manage the challenges of pandemic response.



4. Develop a national plan to effectively harness all US healthcare assets in a catastrophic pandemic.
5. Implement an international strategy for addressing research that increases pandemic risks.
6. Ensure the national security community is well prepared to prevent, detect, and respond to infectious disease emergencies.

RESOURCES FOR POLICYMAKERS

The Johns Hopkins Center for Health Security invites the national and international health security community to [watch the Clade X exercise](#) and [review exercise materials](#), and to use lessons learned to inform considerations for how best to prevent or mitigate large-scale and potentially catastrophic epidemics. Ultimately, we hope proactive leaders propose feasible approaches for making progress toward our proposed policy goals so that the world is better prepared to avoid and respond to significant global outbreaks.

Government officials—US and international—and other stakeholders who are interested in learning more may direct inquiries to Nick Alexopoulos, the Center’s director of communications, at nalexopoulos@jhu.edu or 443-573-3318.