



The Vital Role of Research in Mpox Response: A Model for Other Diseases and Future Outbreaks

The White House and the Department of Health and Human Services recently convened a gathering to discuss mpox (monkeypox) research.

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On March 31, The White House Office of Science and Technology Policy (OSTP), the White House Mpox Response Team, and the Office of the Assistant Secretary for Health and the U.S. Department of Health and Human Services convened nearly 800 federal and non-federal researchers, advocates, and partners to discuss mpox (formerly known as monkeypox) research in the United States.

The [mpox research gathering](#) provided an opportunity to share the latest science and discuss opportunities to fill critical knowledge gaps in order to ensure the United States and countries across the globe are prepared for future mpox outbreaks.

Since mpox first emerged in the United States last May 2022, accelerating mpox research has been a core component of the Biden-Harris Administration's response. Research played—and continues to play—a critically important role during outbreaks by filling gaps in our knowledge. The Administration's work to accelerate mpox research and make research products and processes supported by American taxpayers publicly available to strengthen the active public health response, and also prepares us to respond to future mpox outbreaks.

Over the past year, accelerating mpox research generated a tremendous amount of new knowledge and information that helped guide response activities, including:

- defining the incidence and prevalence of U.S. and global mpox cases;
- understanding clinical signs and symptoms of mpox infection, particularly for communities and populations in non-endemic countries;
- determining mpox epidemiological features, including how long it takes after infection to show

symptoms and how long it takes to test positive after symptoms begin;

- demonstrating the Modified Vaccinia Ankara-Bavarian Nordic (MVA-BA) smallpox vaccine's ability to prevent human mpox infection, and determining how best to administer the vaccine, including dosing, administration route, and strategies for reaching communities at high risk of infection;
- assessing how well tecovirimat, which is FDA-approved to treat smallpox, works to treat mpox in endemic and non-endemic countries; and
- generating outbreak forecasts to guide federal and international decision-making.

To support and accelerate the U.S. national mpox response, OSTP worked with federal partners to pilot the development of tools to improve mpox research visibility on federal research priorities and processes. This effort produced:

- the first-ever [U.S. research agenda](#) and [U.S. research inventory](#) published in the context of an active outbreak, which deepened collaboration across federal agencies and catalyzed stronger research coordination with the U.S. and global scientific community;
- a [global call to action](#) from leading government scientists to scholarly publishers to immediately open access to mpox research that resulted in open access to mpox research in more than 5,700 journals worldwide; and,
- a [series of publicly-posted, topically-focused presentations](#) developed by federal agencies on the current state of research in key response areas that created new opportunities for federal and non-federal research collaboration, including the mpox research gathering.

Infectious disease threats are whole-of-society threats and demand whole-of-society responses. The work the Administration did to accelerate mpox research provides a replicable model for future federal action that has the potential to unleash federal and non-federal science capabilities to combat infectious disease threats. Immediate public access to research and results accelerates scientific discovery, and ensures researchers, clinicians, advocates, and the public have access to the knowledge and resources needed to respond to the crisis.

In order to achieve the Administration's bold vision of preventing pandemics, we are working to identify and develop new and creative approaches that will tap the full power of science in government, civil society, industry, and around the world. These efforts underscore our commitment to the foundational values of open science and a continued effort to replicate these actions in other diseases and future outbreaks will lead to accelerated future responses.

Summary of Mpox Research Gathering

The mpox research gathering focused on four key topics: 1) vaccines and other prevention strategies, 2) treatment, 3) diagnostics, and 4) surveillance and population science. A crosscutting theme was the importance of increasing research transparency for sexually transmitted infections, HIV, and in the context of future disease outbreaks.

Key themes include:

Vaccines: There are important opportunities to consider mpox booster strategies and use of tools like Vaccine Safety Datalink and V-safe to strengthen future outbreak response. Supporting implementation science and behavioral surveys can provide insights into approaches that improve vaccine equity and equitable access. Participants identified related opportunities to advance basic social research on public understanding of science, including how best to communicate scientific uncertainty, better understand concepts of trust and trustworthiness, and address mis- and disinformation during outbreaks.

Treatment: Given the intersection of mpox with other interacting epidemics of HIV and sexually transmitted infections, there is a need to capitalize on a “syndemic” approach to combat mpox whereby stopping mpox will also support broader public health goals for interacting epidemics. Participants emphasized the need and opportunities to: complete the Study of Tecovirimat for Human Monkeypox virus (STOMP) clinical trial and strengthen clinical trial infrastructure through community input, leverage innovative technologies to accelerate patient enrollment, and improve international collaboration on clinical trials (including with the World Health Organization). To mitigate future outbreaks, there are opportunities to better understand tecovirimat [resistance] and accelerate development of mpox (and pan-orthopox) monoclonal antibodies.

Diagnostics: Diagnostics are a fundamental component of outbreak response. Participants identified the need to accelerate development of mpox diagnostics generally, including tests that are capable of differentiating between natural infection and vaccination as well as multiplex screening tests capable of simultaneously screening for mpox and other sexually transmitted infections (STIs). New artificial intelligence and other technologies have the potential to support and accelerate image-based diagnostics development.

Surveillance and Population Science: Discussion focused on mpox surveillance data, including forecasting models and data visualizations to help support community-driven public health response to lower mpox disease transmission. Participants highlighted novel strategies to track disease spread (such as wastewater surveillance), the role for population based behavioral science, and enhancing capacity-building at STI clinics to enable rapid detection of emerging or re-emerging diseases. Other key themes included: improving vaccine confidence and community confidence in government response, increasing access for individuals with severe mpox to the healthcare system, understanding implications of mental health, and, sustaining engagement with community during and beyond the response, including to assess the effectiveness of outbreak interventions.

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