



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

CFA Tools and Products

Emily Ann Meyer, JD, MBA
Center for Forecasting & Outbreak Analytics

CFA Website

- <https://www.cdc.gov/forecast-outbreak-analytics/resources.html>



CFA in Action

- › About Us
- › Careers
- › History of CFA
- › CFA Leadership
- › Partners
- › 2023 Annual Report
- › Functions & Goals
- › News, Updates & Events
- › Publications & Resources



Publications and preprints

[Mpox Technical Report #4](#)

[Multi-National Mpox Outbreak Technical Report 3](#)

[Multi-National Mpox Outbreak Technical Report 2](#)

[Technical Report: Multi-National Mpox Outbreak, United States, 2022](#)

[Acute Hepatitis of Unknown Cause](#)

[COVID-19: COVID-19 Forecasting and Mathematical Modeling](#)

[Hospitalization and Emergency Department Encounters for COVID-19 After Paxlovid Treatment](#)

[NCIRD Technical Report: Acute Hepatitis of Unknown Cause](#)

Technical Reports

- Four reports on Mpox
- One supplemental report on Mpox
- Mpox risk assessment
- Acute Hepatitis of Unknown Cause



Derivative Products

CFA created “Quick Look” overviews of the technical reports for non-technical audiences.

MONKEYPOX TECHNICAL REPORT #4 

27 October 2022 [LINK TO REPORT](#)

BLUF: CDC released its fourth Monkeypox Technical Report, which provides timely updates regarding CDC's ongoing response to the monkeypox outbreak in the United States and shares preliminary results of new analyses that can improve understanding of the outbreak and inform further scientific inquiry. **The October 2022 report shows that the monkeypox outbreak in the U.S. is slowing. The number of new cases is projected to decline or plateau over the next two to four weeks, though sporadic sub-national clusters may continue to occur in this scenario.**

Dynamics of U.S. Outbreak:
Based on analysis through October 24, 2022, the growth rate of the monkeypox outbreak in the United States is slowing. The United States is mostly experiencing spread within a defined sub-population, currently among gay, bisexual, and other men who have sex with men (MSM). We have high confidence in this assessment.

The slowing growth of the outbreak is likely due to a combination of many factors, including vaccination, behavior change, and possibly increases in infection-acquired immunity among a segment of affected sexual networks. As we noted in [Technical Report 3](#), the timing of this slowing suggests it is unlikely to be due to vaccination alone.

An [online survey](#) of gay, bisexual, and other MSM conducted in early August found half of respondents reported that they had changed their behavior and reduced sexual partners and encounters due to the monkeypox outbreak. Therefore, continued effective health communication and protective behavior messaging, coupled with strong and equitable vaccination uptake, are necessary to sustain declines in cases. If these efforts are not sustained, there is a possibility that the declining trends could be reversed, and the incidence of new cases could increase again.

Vaccination remains an important tool as the outbreak evolves and vaccination coverage, especially of second doses, increases. As of October 21, 2022, 989,533 doses of JYNNEOS vaccines have been administered. An analysis comparing monkeypox incidence in vaccinated and unvaccinated individuals is underway using surveillance data for individuals in the group recommended to be vaccinated. Studies to further evaluate vaccine effectiveness are underway.

Potential Future Outbreak Trajectory:
Possible outbreak growth scenarios for the United States over the next two to four weeks are the following:

- Daily cases will continue to decline or plateau
- Very slow growth with daily cases rising slowly
- Exponential growth with daily cases rising

MONKEYPOX TECHNICAL REPORT #3 

29 September 2022 [LINK TO REPORT](#)

BLUF: CDC released its third Monkeypox Technical Report, which provides timely updates regarding CDC's ongoing response to the monkeypox outbreak in the United States and to share preliminary results of new analyses that can improve understanding of the outbreak and inform further scientific inquiry. **The September 2022 report shows that the monkeypox outbreak in the U.S. is slowing, and the number of new cases is projected to decline or plateau over the next two to four weeks.**

Dynamics of U.S. Outbreak:
Based on analysis through September 23, 2022, the growth rate of the monkeypox outbreak in the United States is slowing. We have high confidence in this assessment. We assess with moderate confidence that the United States is likely experiencing spread within a defined sub-population, currently among gay, bisexual, and other men who have sex with men (MSM).

The slowing growth of the pandemic is likely due to a combination of many factors, including (1) vaccination, (2) behavior change, (3) and possibly increases in infection-acquired immunity among men having sex with men. Continued effective health communication and protective behavior messaging, coupled with strong and equitable vaccination uptake, are necessary to sustain declines in cases. If these efforts are not sustained, there is a possibility that the declining trends could be reversed, and the incidence of new cases could increase again.

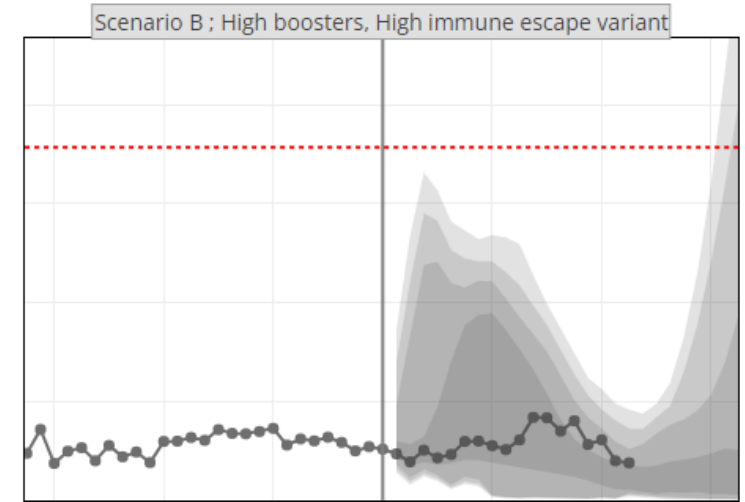
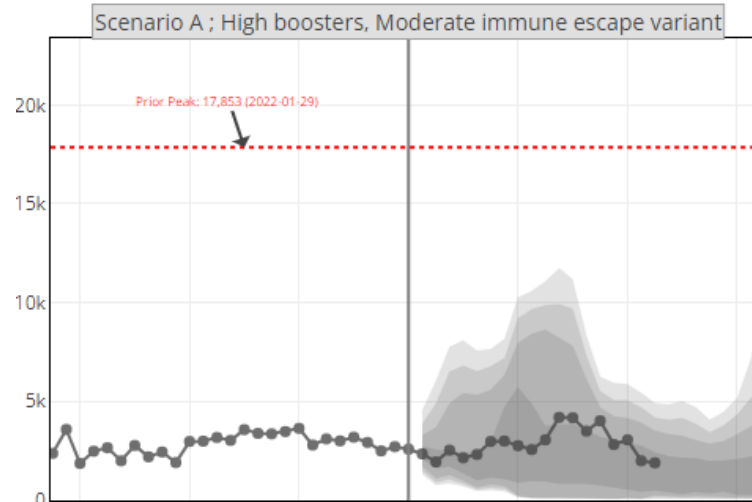
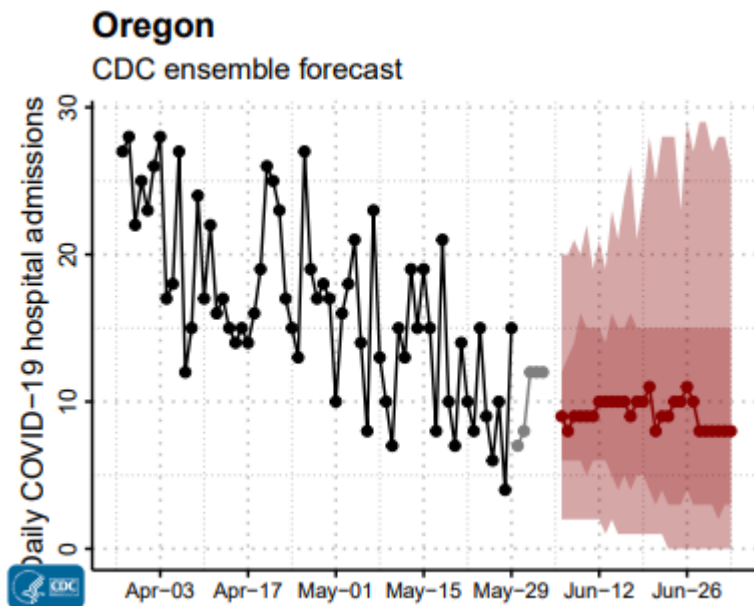
Our analysis finds rates of outbreak growth began slowing at a time when vaccine coverage was still very low. However, vaccination remains an important tool as the outbreak evolves and vaccination coverage, especially of second doses, increases. As of September 20, 2022, 648,980 doses of JYNNEOS vaccines have been administered and studies are underway to evaluate their effectiveness.

Potential Future Outbreak Trajectory:
Possible outbreak growth scenarios for the United States over the next two to four weeks are the following:

- Daily cases will continue to decline or plateau
- Very slow growth with daily cases rising slowly
- Exponential growth with daily cases rising

Forecasts

- Hospitalization forecasts posted weekly
- No longer producing mortality forecasts
- COVID-19 long-term scenario projections



Training

- Coursera in conjunction with Johns Hopkins – Infectious Disease Transmission Models for Decision-Makers

About this Course

39,579 recent views

During the COVID-19 pandemic, both the promise and perils of using infectious disease transmission models to make public health policy decisions became clearer than ever. Optimal use of modeled output requires that public health policy makers be informed consumers of models, that they understand the strengths and limitations of possible approaches, and they know the right questions to ask about the vulnerabilities of the model results.

[SHOW ALL](#)

WHAT YOU WILL LEARN

- ✓ Review the basics of infectious disease epidemiology and transmission and key components of infectious disease models
- ✓ Describe how to assess whether or not a model is “good” or useful for informing policy
- ✓ Present questions that can be answered by infectious disease transmission models and types of models used to answer each type of question
- ✓ Identify the most important considerations for making decisions based on infectious disease transmission models



Summary

Product	Category	Audience	Notes
Weekly short-term COVID-19 Hospitalization Forecasts	Forecast	Federal decision makers and the public	
Weekly short-term COVID-19 Death Forecasts	Forecast	Federal decision makers and the public	No longer published, given the end of the public health emergency
Mpox Technical Report #1	Technical Report	Technical/scientific audiences	Technical reports provide timely updates regarding CDC's ongoing response to the mpox outbreak and share preliminary results of new analyses that can improve understanding and inform further scientific inquiry.
Mpox Technical Report #2	Technical Report	Technical/scientific audiences	
Mpox Technical Report #3	Technical Report	Technical/scientific audiences	
Mpox Technical Report #4	Technical Report	Technical/scientific audiences	
Mpox Technical Report #4 – Supplementary Analysis	Technical Report	Technical/scientific audiences	
NICRD – Technical Report on Acute Hepatitis of Unknown Cause	Technical Report	Technical/scientific audiences	
Infectious Disease Transmission Models for Decision Makers	Training Course	STLT-level decision makers	
COVID-19 Long-term scenario projections	Scenario Projections	Federal decision makers and the public	



PROTECTING AMERICA'S SAFETY, HEALTH, AND SECURITY

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Center for Forecasting & Outbreak Analytics



For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention