



# Mpox Vaccine Work Group

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Chair, ACIP Mpox Work Group**

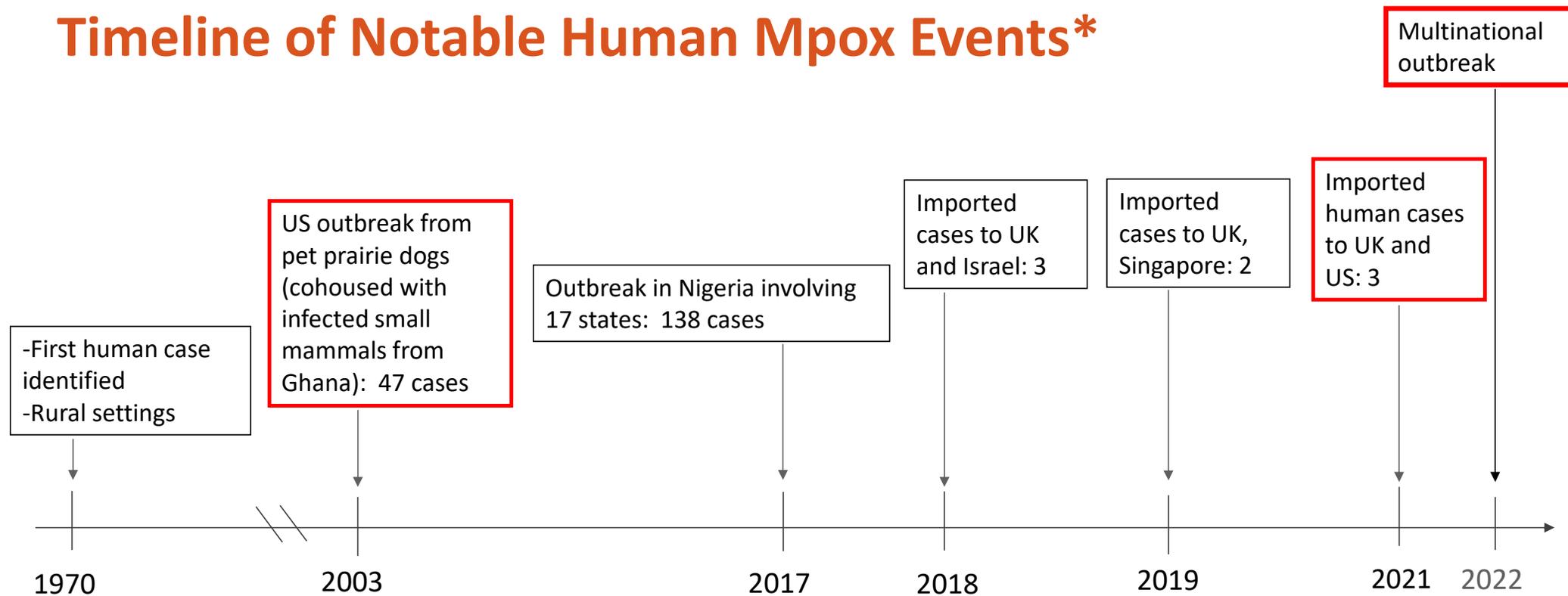
**ACIP Meeting**

**February 22, 2023**

## Mpox – Historical Context

- Rare, sometimes life-threatening infection
- Endemic in parts of west and central Africa
- Caused by monkeypox virus (which is an orthopoxvirus)
  - Clade I (previously Congo Basin Clade)
  - Clade II (previously West African Clade)
- Can spread from infected animals to people and then person-to-person
  - Respiratory secretions
  - Skin-to-skin contact with infected bodily fluids (e.g., fluid from lesions)
  - Fomites (e.g., shared towels, clothing, and bedding)

# Timeline of Notable Human Mpox Events\*



\*During 1970-2021, mpox was known to be endemic in 9 African countries: Cameroon, Central African Republic, Cote d'Ivoire, Democratic Republic of Congo, Gabon, Liberia, Nigeria, Republic of Congo, and Sierra Leone; during recent years, there has been a re-emergence of human cases after decades of no reported cases

# Person-to-person spread

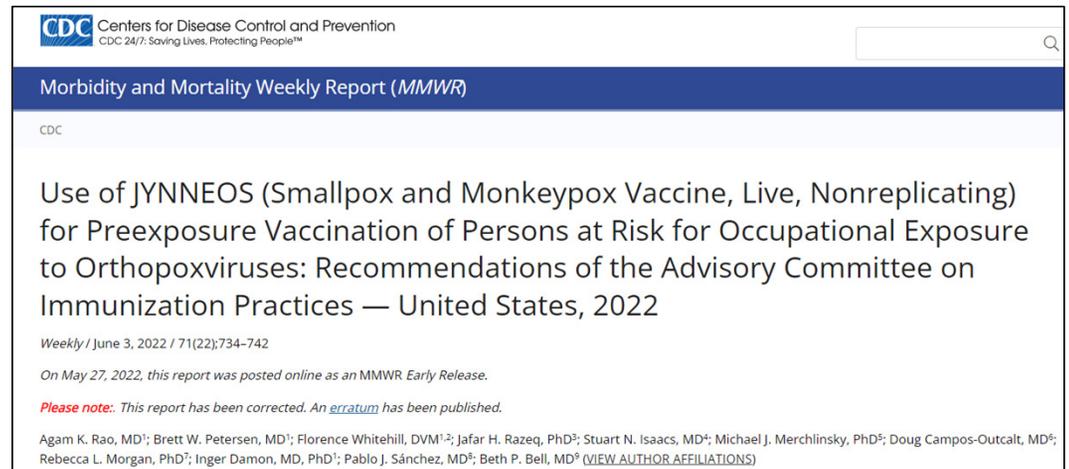
- Historical outbreaks in Africa
  - Associated with close skin-to-skin contact and contact with fomites
  - Zoonotic exposure cause of most cases
  - Few secondary cases among close contacts (e.g., household contacts)
- US outbreaks
  - 2003: No secondary cases → no vaccinations offered
  - 2021: No secondary cases → ACAM2000 offered to some contacts\*
  - 2022: Many secondary cases → >1 million doses of JYNNEOS administered

\*ACAM2000 was offered through a CDC Investigational New Drug Protocol that allows for vaccination after mpox exposure. Only contacts with high-risk exposures were offered vaccine; none accepted.



# 2021 ACIP Orthopoxvirus Vaccine Vote

- Use of orthopoxvirus vaccine, JYNNEOS, (licensed in 2019) for pre-exposure vaccination of people at occupational risk for orthopoxvirus exposures
- 2-dose series, subcutaneous administration
- Recommendations published June 3, 2022\*



The screenshot shows the CDC website header with the logo and tagline "Centers for Disease Control and Prevention CDC 24/7: Saving Lives. Protecting People™". Below the header is a blue navigation bar for the "Morbidity and Mortality Weekly Report (MMWR)". The main content area displays the title "Use of JYNNEOS (Smallpox and Monkeypox Vaccine, Live, Nonreplicating) for Preexposure Vaccination of Persons at Risk for Occupational Exposure to Orthopoxviruses: Recommendations of the Advisory Committee on Immunization Practices — United States, 2022". It also includes the issue information "Weekly / June 3, 2022 / 71(22);734–742", a note that the report was posted online as an MMWR Early Release on May 27, 2022, and a "Please note" section stating that the report has been corrected and an erratum has been published. At the bottom, the authors are listed: Agam K. Rao, MD<sup>1</sup>; Brett W. Petersen, MD<sup>1</sup>; Florence Whitehill, DVM<sup>1,2</sup>; Jafar H. Razeq, PhD<sup>3</sup>; Stuart N. Isaacs, MD<sup>4</sup>; Michael J. Merchilnsky, PhD<sup>5</sup>; Doug Campos-Outcalt, MD<sup>6</sup>; Rebecca L. Morgan, PhD<sup>7</sup>; Inger Damon, MD, PhD<sup>1</sup>; Pablo J. Sánchez, MD<sup>8</sup>; Beth P. Bell, MD<sup>9</sup> (VIEW AUTHOR AFFILIATIONS).

\*<https://www.cdc.gov/mmwr/volumes/71/wr/mm7122e1.htm>

Currently no ACIP recommendation for use of JYNNEOS  
during outbreaks



## Current U.S. national mpox vaccination strategy\*

Vaccination before exposure to mpox virus	Post-exposure prophylaxis
<p>-Gay, bisexual, and other MSM, transgender or nonbinary people (including adolescents who fall into the aforementioned categories) who in the past 6 months have had:</p> <ul style="list-style-type: none"><li>• New diagnosis of <math>\geq 1</math> sexually transmitted disease</li><li>• More than one sex partner</li></ul> <p>-People with the following in the last 6 months:</p> <ul style="list-style-type: none"><li>• Sex at commercial sex venue</li><li>• Sex in association with large public event in geographic area where mpox transmission is occurring</li></ul> <p>-Sexual partners of people with the above risks</p> <p>-People who anticipate experiencing above risks</p> <p>-People with HIV or other causes of immunosuppression who have had recent or anticipate potential mpox exposure</p>	<p>-People who are known contacts to someone with mpox and identified by public health authorities (for example, via case investigation, contact tracing, or risk exposure assessment)</p> <p>-People who are aware that a recent sex partner within the past 14 days was diagnosed with mpox</p> <p>-Gay, bisexual, or other MSM, and transgender or nonbinary people (including adolescents who fall into any of the aforementioned categories) who have had any of the following within the past 14 days: sex with multiple partners (or group sex); sex at commercial sex venue; or sex in association with an event, venue, or defined geographic area where mpox transmission is occurring</p>

\*<https://www.cdc.gov/poxvirus/monkeypox/interim-considerations/overview.html>

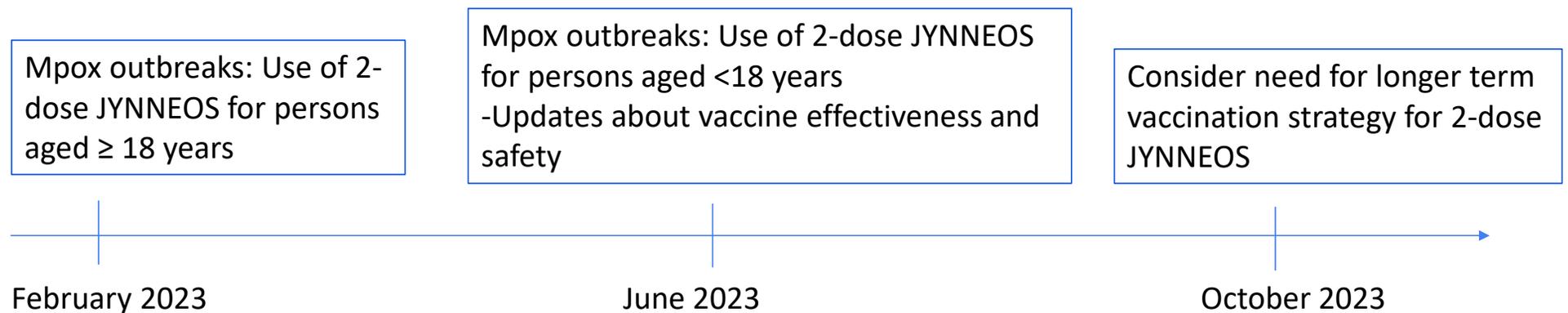
## U.S. strategy for vaccination with JYNNEOS during current outbreak

- Intradermal preferred but subcutaneous can be administered for persons aged  $\geq 18$  years
- Subcutaneous for persons aged  $<18$  years\*
- 2-dose series with second dose administered 1 month after first dose

\*<https://www.cdc.gov/poxvirus/monkeypox/interim-considerations/overview.html>



# Tentative timeline for ACIP discussions and votes\*

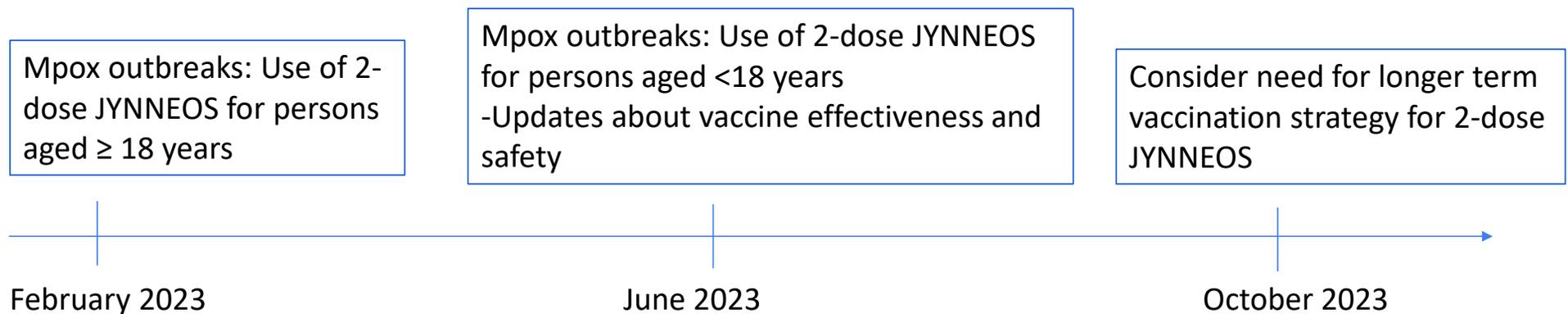


\*February 2023 and June 2023 votes do not impact existing recommendations for the current mpox outbreak.

§ <https://www.cdc.gov/poxvirus/monkeypox/interim-considerations/overview.html>

# Tentative timeline for ACIP discussions and votes\*

Current US mpox vaccination strategy remains active: Populations at high risk should continue to be vaccinated<sup>§</sup>



\*February 2023 and June 2023 votes do not impact existing recommendations for the current mpox outbreak.

<sup>§</sup> <https://www.cdc.gov/poxvirus/monkeypox/interim-considerations/overview.html>

## Goal for today's meeting

- Updates from the ongoing outbreak
    - Epidemiology: Sascha Ellington
    - Vaccine effectiveness: Anna Chard
    - Vaccine safety: Jonathan Duffy
    - Community engagement: Kevin Delaney
    - Equity and implementation: Rosalind Carter
  - Discuss use of 2-dose JYNNEOS (subcutaneous) during mpox outbreaks
    - Evidence to recommendations (EtR) framework: Agam Rao
    - ACIP vote
- 

## Proposed wording for today's vote

ACIP recommends the 2-dose\* JYNNEOS vaccine series for persons aged 18 years and older at risk of mpox during an mpox outbreak<sup>§</sup>

\*Dose 2 administered one month after dose 1

§ Public health authorities determine whether there is an mpox outbreak; a single case may be considered an mpox outbreak at the discretion of public health authorities. Other circumstances in which a public health response may be indicated include ongoing risk of introduction of mpox into a community due to disease activity in another geographic area.

## **WG members**

### **ACIP Member**

*Pablo Sánchez*

*Beth Bell*

### **Ex Officio and Liaison Members**

*CSTE: Chris Hahn / Paul Cieslak*

*ASTHO: Ericka McGowan*

*NACHO: Philip Huang*

*FDA: Sixun Yang, Clement*

*Meseda & Alonzo García*

*ACOG: Howard Minkoff*

*AAP: Jim Campbell*

*AIM: Rob Schechter / Jane Zucker*

*APHL: Jafar Razeq*

*NIH: Janet Lathey / Kimberly Taylor*

*IHS: Matthew Clark*

*NACI: Nicole Forbes / Oliver Baclic*

*IDSA: Shireesha Dhanireddy / Rajesh Gandhi*

### **Invited Consultants**

*Subject matter experts: Inger Damon, Stuart Isaacs, Mike Merchlinsky & Amanda Zarrabian (HHS/BARDA)*

*Clinician experts in STIs, HIV, pediatrics, maternal vaccination, vaccine safety, health equity, smallpox vaccination strategies, occupational health*

# Clinician experts

## STIs, HIV, and mpox (adult and peds):

*Jason Zucker*

*Jeanne MARRAZZO*

*Pablo Tebas*

*Vince Marconi*

*Kim Workowski*

*Bonnie Maldonado*

## Immunizations (including for special populations) and vaccine safety:

*Ruth Karron*

*Flor Munoz-Rivas*

*Kathy Edwards*

## Health equity, vaccination strategies including for smallpox:

*Joel Breman*

*Gerard Vong*

## Occupational Medicine and worker safety:

*Mark Russi*



# CDC contributors

## Mpox epi, lab, and vaccine experts

*Brett Petersen*

*Andrea McCollum*

*Christy Hutson*

## Laboratory Response Network:

*Julie Villanueva*

## Infection control, worker safety:

*Marie de Perio*

*David Kuhar*

## Special populations (e.g., Persons experiencing homelessness)

*Emily Mosites*

## Vaccine safety

*Michael McNeil*

*Jonathan Duffy*

## Regulatory Affairs

*Yon Yu*

## STIs and HIV

*Laura Bachmann*

*Leandro Mena*

*John Brooks*

*Alexa Oster*

## Drug Services

*Julian Jolly*

## Vaccine implementation

*Liz Velasquez*

*James Lee*

## DoD Liaison to CDC

*Alan Lam*

## Work group lead

*Agam Rao*



# Thank you!

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

