



**MMAC**  
METROPOLITAN MILWAUKEE  
ASSOCIATION OF COMMERCE

  
MEDICAL  
COLLEGE  
OF WISCONSIN

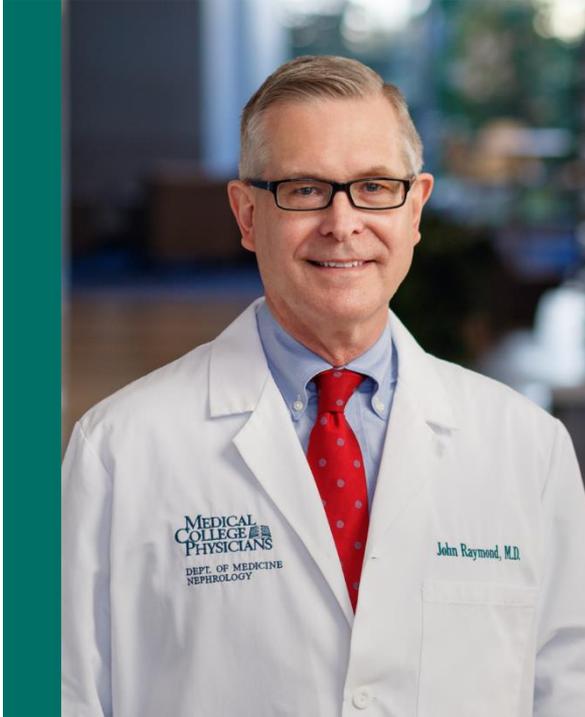
# MMAC COVID-19 Update

06.14.2022

**PRESENTED BY:**

John R. Raymond Sr., MD

PRESENTED BY:



## John R. Raymond Sr., MD

President and CEO  
Medical College of Wisconsin

Analytics by Ali Nemati  
*MCW Institute for Health and Equity*



1,531

**7-DAY AVERAGE**

1,043 REPORTED ON  
06.13.2022  
TRENDING FLAT

WISCONSIN

11.8%

**POSITIVITY BY TEST**

WISCONSIN 7-DAY  
AVERAGE TRENDING FLAT

0.95

**R**

WISCONSIN

1,699,869

TOTAL CASES IN WI  
06.13.2022

260,085

TOTAL CASES IN  
MILWAUKEE COUNTY  
06.13.2022

301

**7-DAY AVERAGE**

175 REPORTED ON  
06.13.2022  
TRENDING FLAT

MILWAUKEE

13.8%

**POSITIVITY BY TEST**

MILWAUKEE 7-DAY  
AVERAGE TRENDING  
FLAT

0.9

**R**

MILWAUKEE

7,989

PREVIOUS HIGHEST 2020  
DAILY POSITIVE CASES IN  
WISCONSIN  
11.18.2020

18,798

PREVIOUS HIGHEST 7-  
AVERAGE DAILY POSITIVE  
CASES IN WISCONSIN  
01.19.2022

## WISCONSIN

3

**7-DAY AVERAGE DAILY DEATHS**  
WISCONSIN TRENDING FLAT

388

**HOSPITALIZATIONS**  
WISCONSIN TRENDING FLAT TO UNFAVORABLY

61

**ICU CENSUS**  
WISCONSIN TRENDING UNFAVORABLY

84.5%

**ICU OCCUPANCY**  
TRENDING FLAT

88.1%

**% HOSPITAL BED OCCUPANCY**  
TRENDING FLAT

38

**ICU CENSUS HERC-7**  
TRENDING FLAT

14,690  
TOTAL WI COVID-19 DEATHS AS OF 06.13.2022

2,278  
PEAK WI COVID-19 HOSPITAL CENSUS 01.12.2022

488  
PEAK ICU CENSUS 01.12.2022

104  
PREVIOUS HIGHEST DAILY COVID-19 DEATHS WISCONSIN 11.23.2020

- COVID-19 vaccines for children under 5
  - Possible authorization this week
  - Pfizer: 3 doses for 6 mos. - 4 years (1/10 of adult dosage)
  - Moderna: 2 doses for 6 mos. -5 years (1/4 of adult dosage)
- Moderna bivalent COVID-19 vaccine booster generated a stronger antibody response against Omicron variant than the original Moderna vaccine.
- FDA vaccine advisory panel will meet June 28 to discuss modified COVID-19 vaccine compositions for Fall 2022.
- Novavax COVID-19 vaccine likely to enter US market soon.



## 5-step US Vaccine Authorization Process

1. Independent FDA advisory panel
2. FDA Commissioner
3. Independent CDC advisory panel
4. CDC Director
5. State Department of Health Services

# About the Novavax COVID-19 Vaccine

- Novavax vaccine uses the protein cassette method:
  - Direct injection of manufactured COVID-19 spike protein + an adjuvant (a separate ingredient that stimulates the immune system further)
- Older technology with similar vaccines on the market
  - GSK's shingles vaccine (Shingrix)
  - Papillomavirus/cervical cancer vaccines (GSK's Cervarix; Merck's Gardasil)
  - Various DTaP vaccines (diphtheria, tetanus, and pertussis) .
- Novavax is the first “classic” option to be offered in the US that may be preferred by some over the less-established vector (J&J) and mRNA (Pfizer, Moderna) options.

<https://www.science.org/content/blog-post/novavax-vaccine-finally>

Uses an older protein cassette technology.

May provide an option for people who cannot take J&J or mRNA vaccines.

Likely to be authorized soon.

# Monkeypox Background

- Monkeypox is a member of the orthopox virus family, which also contains smallpox (*Variola*), cowpox, camelpox, and horsepox.
- First discovered in 1958, monkeypox is endemic in some west and central African countries.
- Outbreaks have been reported previously in the US
  - Wisconsin in 2003 associated with prairie dogs.
  - Two US cases in 2021.

Monkeypox is not from the same family of viruses as chickenpox.

Monkeypox is related to smallpox, but is less contagious and causes less severe disease.

Monkeypox virus is a double-stranded DNA virus; unlike coronaviruses, which are RNA viruses.

# Monkeypox Background

- Monkeypox resides in animal reservoirs; for example, monkeys and rodents (Gambian pouched rat) in African countries.
- Animal to human (zoonotic) spread is common, but it can be transmitted from human to human, primarily through prolonged close contact or exposure to contaminated clothing/bedding, but also by large respiratory droplets.

Monkeypox is endemic to west and central African countries.

Monkeypox is a zoonotic virus, usually spreading from animals to humans.

Monkeypox is spread from human to human by close physical contact or by large respiratory droplets.

- Monkeypox can kill as many as 1 in 10 people who contract it.
- There are two predominant variants of monkeypox in Africa.
  - West African clade has a mortality rate of 1-4%
  - Congo Basin clade has mortality rate of about 10%
- The variants circulating in non-endemic countries of Europe, North America and Australia are derived from the West African clade.

Thus far, the monkeypox cases reported in non-endemic countries of Europe, North America and Australia are caused by the less pathogenic West African clade of the monkeypox virus.

- Widely dispersed cases in Europe and North America.
- >1,300 confirmed cases in 31 countries thus far.
- About 50 cases of monkeypox have been reported in 2022 in more than a dozen US states.
- Largest numbers of confirmed US cases have been reported in California, Illinois, New York and Florida.
- At least 75% of US cases have been associated with international travel; some with secondary contacts; and a smaller number with no known contact.

Widespread outbreak reported May and June 2022.

Initial cases associated with raves and sauna parties.

Some cases have defied contact tracing, suggesting silent community spread.

# Monkeypox Signs and Symptoms

- Usually self-limiting but may be severe in some individuals.
- **Not contagious during incubation phase.**
- Monkeypox symptoms emerge 5-21 days after exposure, usually 7-14 days.
- Monkeypox symptoms are similar to those of smallpox but usually less severe:
  - fever, headaches
  - myalgias/muscle aches
  - swollen lymph nodes (different from chickenpox)
  - chills and rigor
  - exhaustion and fatigue
  - rash

Most cases to date have been mild.

Symptoms are mostly non-specific, such as fever, headache, muscle aches, fatigue, chills, and reddish rash.

The rash evolves and changes over 7-10 days.

# Monkeypox Lesions



Top row: UK Health Security Agency. Gov.UK

Bottom row: Federación de Asociaciones Científico Médicas Españolas

Presented on 6/14/2022

Skin lesions begin with reddish rash. Rash often begins on face and spreads to trunk, arms and legs, and then to hands and feet.

Typical monkeypox patient can have about 200 lesions (below).



In current outbreak, many patients only have 5-10 visible lesions (see at left)

- There is no specific treatment for monkeypox.
- Some recommend topical antiviral creams such as 3%-5% cidofovir.
- US government is preparing to distribute stocks of smallpox vaccines.

- **ACAM2000** – live *Vaccinia* virus inoculated into skin once.

Individuals are considered to be vaccinated 28 days after inoculation. Must take precautions to avoid spread of *Vaccinia*.

- **JYNNEOS** – (modified vaccinia Ankara, MVA) non-replicating virus administered by subcutaneous injection x 2 four weeks apart.

Individuals are considered vaccinated two weeks after second dose.

There is no risk of spreading the infection.

JYNNEOS is approved for monkeypox and smallpox in the US.

US has 72,000 doses of JYNNEOS available and will receive another 300,000 doses within weeks; and has ordered another 500,000 doses of JYNNEOS.

ACAM2000 is approved in US for smallpox. US has >100 million doses. ACAM2000 has side effects.

- CDC raised travel warning from level one to level two... when traveling outside the US to avoid close contact with sick people, wild animals and contaminated materials.
- Unlikely to cause COVID-19-like pandemic.
  - Not contagious during incubation.
  - Requires close contact.
- Concern about silent community transmission.
- Could become endemic in US and other currently non-endemic countries.
- Could establish animal reservoirs in US... concern about pets.

Unlikely to cause COVID-19-like pandemic.

There are some concerns about silent community spread.

There are concerns that monkeypox could become endemic in the US, especially if it establishes reservoir in domestic animals or pets.

# Monkeypox – Domesticated Animal Reservoirs?



**Established Monkeypox vectors or reservoirs**



**Potential Monkeypox vectors or reservoirs?**

Monkeypox has established reservoirs or has used exotic pets such as rats, prairie dogs and monkeys as vectors for human transmission.

There are concerns that monkeypox could establish reservoirs in domestic animals or pets.

## WE USE MULTIPLE EXTERNAL DATA SOURCES FOR THESE PRESENTATIONS

- Wisconsin Hospital Association: [wha.org/COVID-19Update](http://wha.org/COVID-19Update)
- Wisconsin Department of Health Services: <https://www.dhs.wisconsin.gov/covid-19/index.htm>
- Milwaukee County: <https://county.milwaukee.gov/EN/COVID-19>
- <https://covidtracking.com/>
- New York Times: <https://www.nytimes.com/interactive/2020/us/coronavirus-us-cases.html>  
and <https://www.nytimes.com/interactive/2020/science/coronavirus-vaccine-tracker.html>
- Wisconsin Electronic Disease Surveillance System (secure access required)
- Milwaukee County Unified Emergency Operations Center (secure access required)
- Centers for Disease Control and Prevention: <https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>
- Worldometers: <https://www.worldometers.info/coronavirus/>
- Johns Hopkins: <https://coronavirus.jhu.edu/vaccines>
- Kaiser Family Foundation Vaccine Monitor Dashboard <https://www.kff.org/coronavirus-covid-19/dashboard/kff-covid-19-vaccine-monitor-dashboard/>

## MEDICAL COLLEGE OF WISCONSIN ANALYTICS

- Institute for Health and Equity
- Division of Epidemiology
- Epidemiology Data Resource Center and Geographic Information System