Massachusetts Department of Public Health

ACIP Updates in Adult Immunizations

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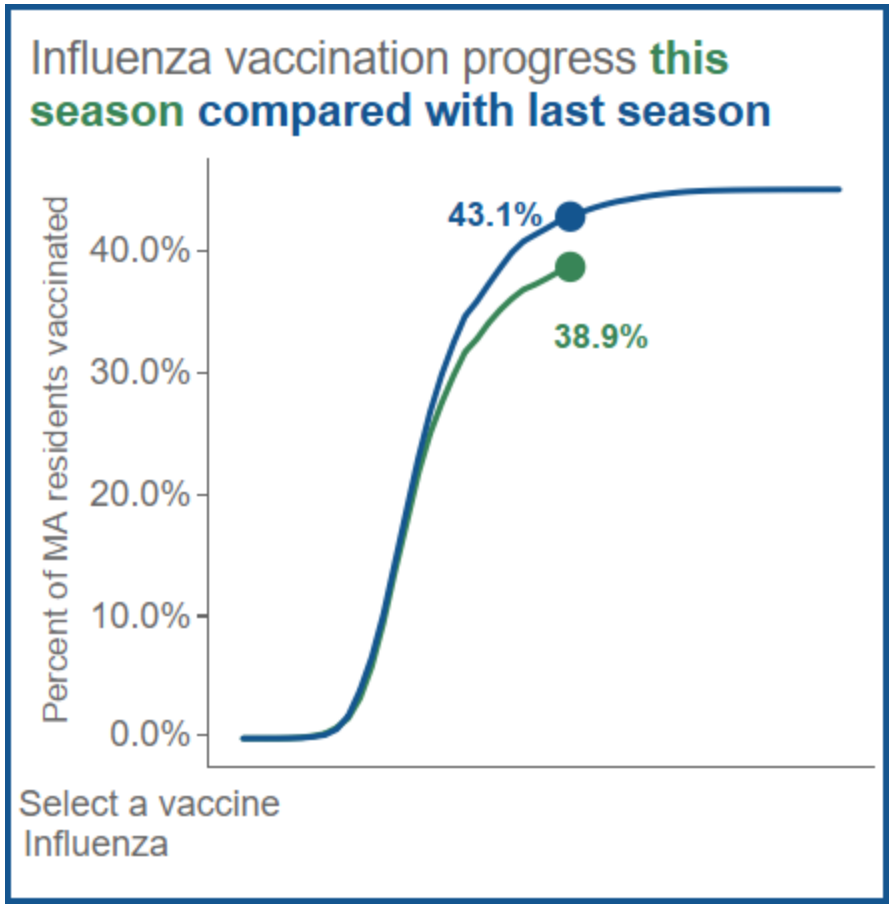
January 30, 2024

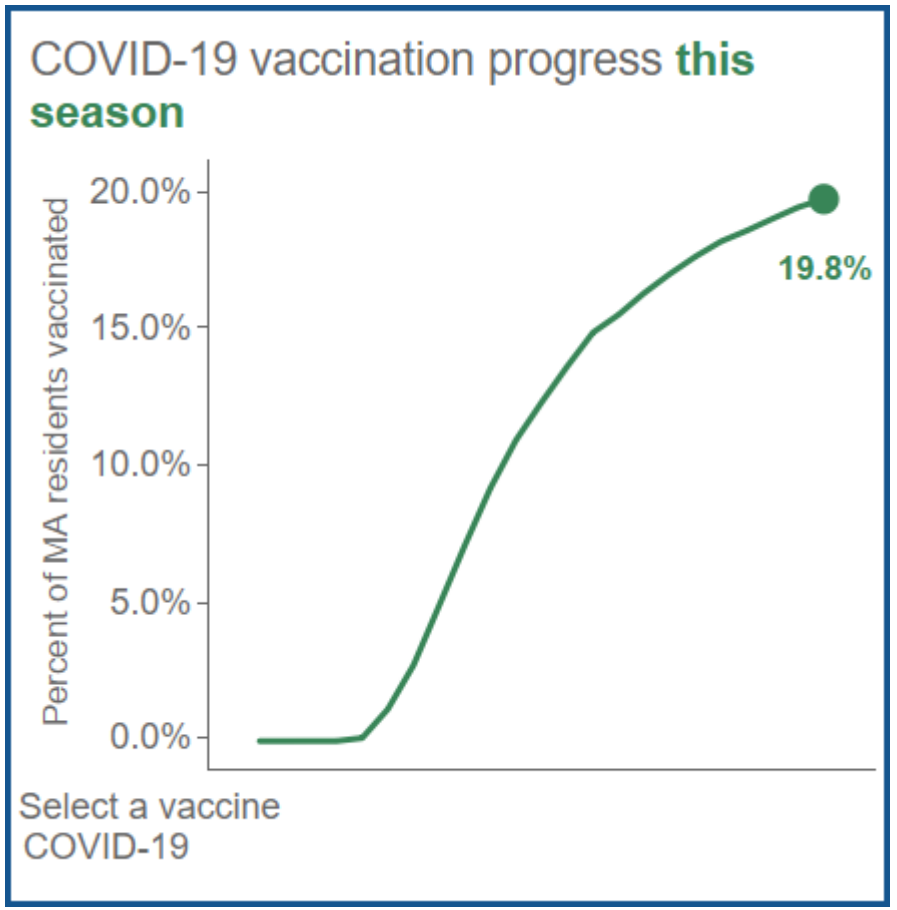
ACIP Updates

There were many ACIP updates over the past year.

Prior meeting update focused on the ACIP updated vaccine recommendations for respiratory virus vaccines – COVID-19, RSV, and flu

Low Vaccine Uptake





Massachusetts Department of Public Health | Respiratory Immunizations Dashboard
Data on RSV Immunizations

Last updated on January 25, 2024
with data through January 20, 2024

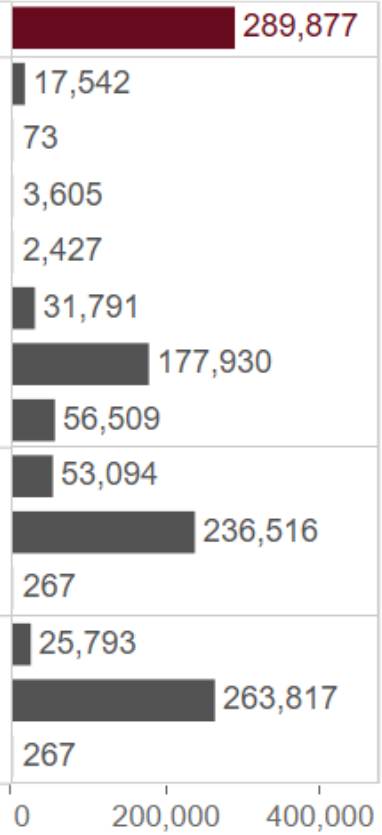
RSV monoclonal antibody and vaccine are indicated for different patient populations: the monoclonal antibody is recommended for newborns and the RSV vaccine is recommended during pregnancy. For adults aged 60 years and older, RSV vaccine recommendations include shared decision-making with their healthcare provider.

Additional patient populations may be eligible for RSV monoclonal antibody or vaccine based on clinical or demographic information.
For more information, visit the Resources tab.

Click here to open town report

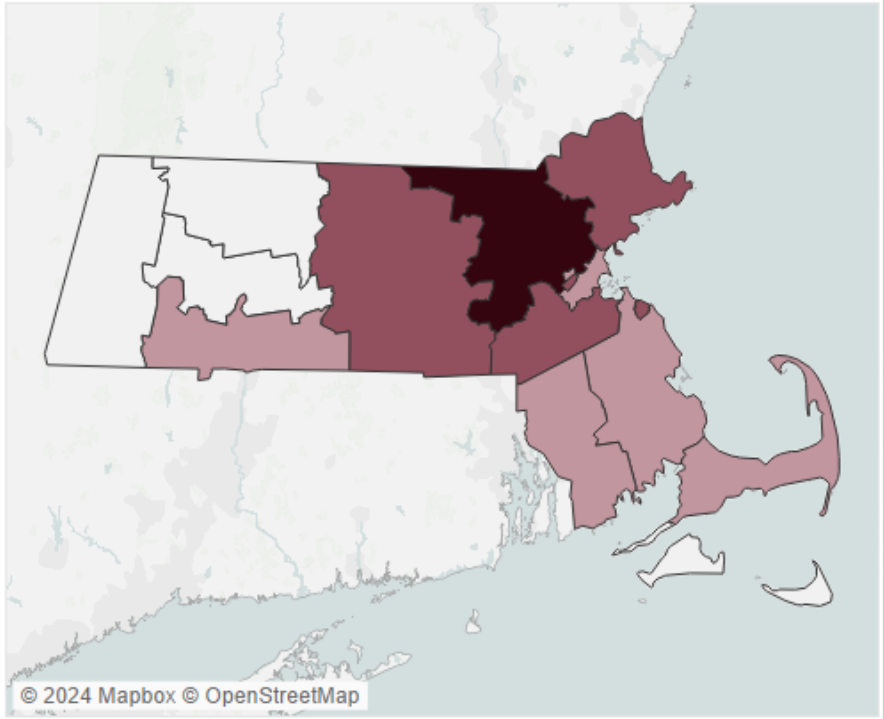
Massachusetts residents who have been immunized against RSV this season

Total	Total individuals	289,877
Age	Under 5 years	17,542
	5-19 years	73
	20-34 years	3,605
	35-49 years	2,427
	50-64 years	31,791
	65-79 years	177,930
	80+ years	56,509
Vaccine Equity Initiative (VEI)	VEI town residents	53,094
	Non-VEI town residents	236,516
	Unknown town of residence	267
Town urban/rural classification	Rural	25,793
	Urban or suburban	263,817
	Unknown town of residence	267



RSV immunizations by **county**

2023-2024 season to date, 7/2/2023 to 1/20/2024



Switch to town map

*Cells with small numbers have been suppressed. Some cells are suppressed secondarily to prevent back-calculation. For the statewide reports, numbers < 30 are suppressed. Source: Massachusetts Immunization Information System (MIIS), also called an immunization registry, is a confidential, web-based system that collects and stores vaccination records for any vaccine administered in Massachusetts. The data in MIIS are updated frequently, but may not include all vaccination records for Massachusetts residents, such as those who were vaccinated out of state. Data are preliminary and subject to change. For more information on MIIS, visit mass.gov/miis MIIS is maintained and analyzed by the Immunization Division. Population data source: UMass Donahue Institute.
Created by the Massachusetts Department of Public Health, Bureau of Infectious Disease and Laboratory Sciences, Division of Surveillance, Analytics and Informatics.

ACIP Updates in Adult Immunizations Outline

Mpox

Polio

Meningococcus

Mpox

Mpox

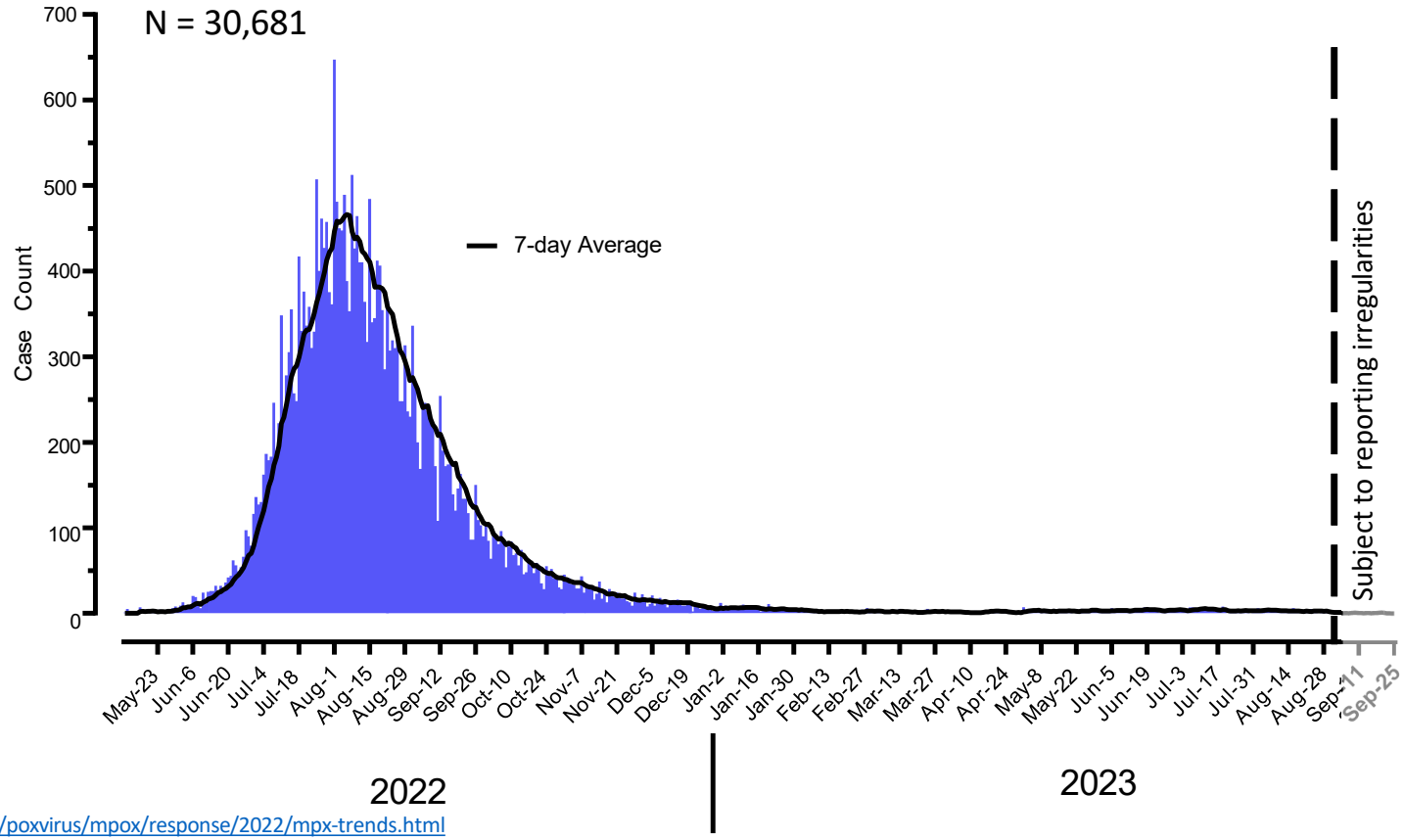
- Caused by infection with mpox virus - orthopoxvirus

- Painful rash
- Fever
- Headache
- Muscle aches and backache
- Swollen lymph nodes
- Chills
- Exhaustion
- Respiratory symptoms (e.g. sore throat, nasal congestion, or cough)

Global mpox outbreak, 2022

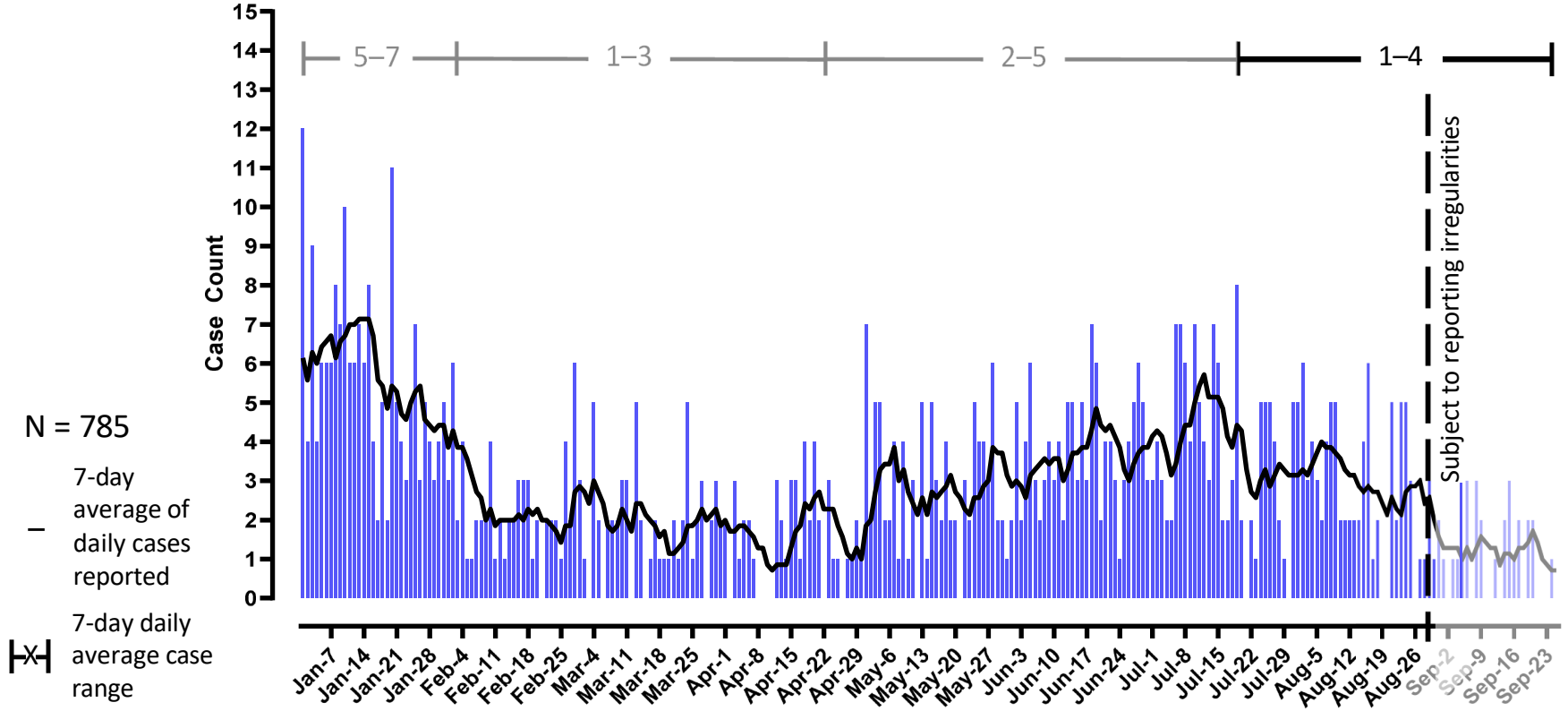
- First case in this outbreak identified in the United Kingdom in May 2022
- Primarily affecting gay, bisexual, and other men who have sex with men (MSM)
- Associated with person-to-person spread via close skin-to-skin contact including sex
- Deaths have occurred, primarily among persons with severe immunocompromise from advanced HIV
- U.S. case counts and deaths comprising 1/3 of cases and deaths
  - >30,800 cases
  - 54 deaths from mpox in the US since May 2022, with 2 occurring this past September

United States Mpox Case Counts May 2022–Sept 28, 2023



https://www.cdc.gov/poxvirus/mpox/response/2022/mpx-trends.html

United States Mpox Case Counts Jan 1–Sept 28, 2023

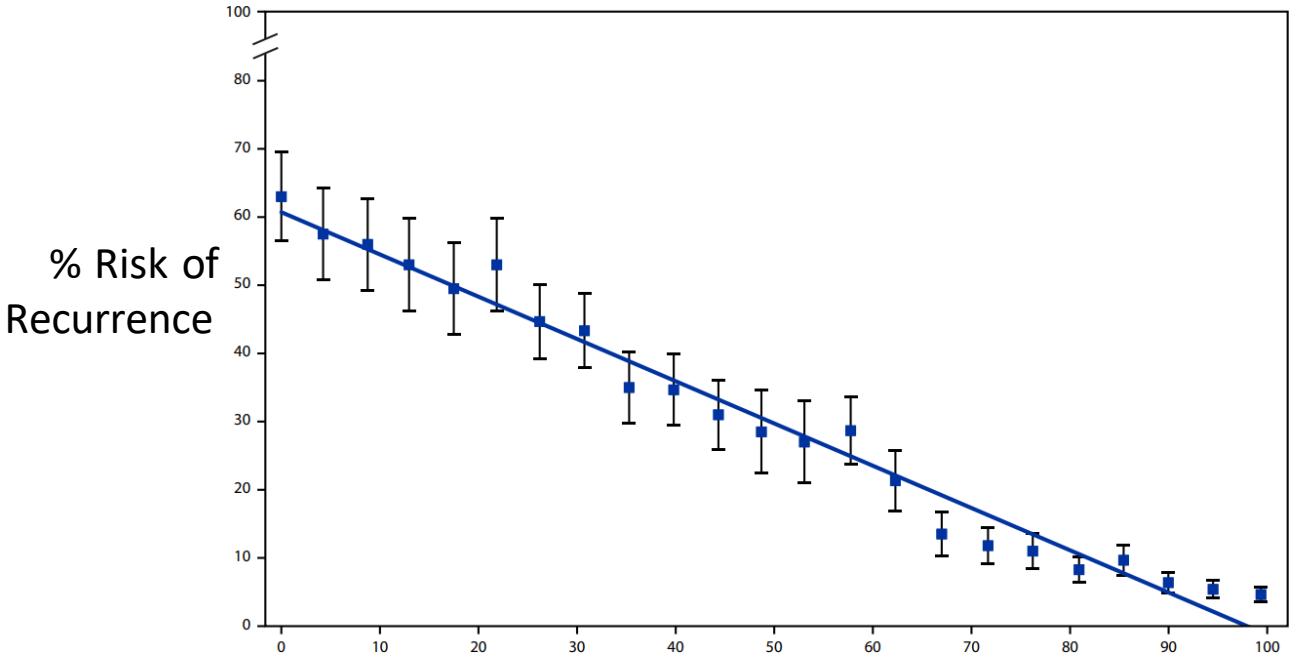


https://www.cdc.gov/poxvirus/mpox/response/2022/mpx-trends.html

Cases still occurring in the US – not epidemiologically related, suggesting ongoing community spread

Cases also occurring in other parts of the world, such as China and parts of Europe

Risk for Recurrent Mpox Outbreak Lasting >3 Months, by Immunity Level — United States, 2023



Risk of recurrence increases linearly as the percent of the high-risk population with full or partial protection decreases

>50% is needed to significantly decrease the risk of large outbreaks

Pollock ED. MMWR Morb Mortal Wkly Rep 2023;72:568–573.

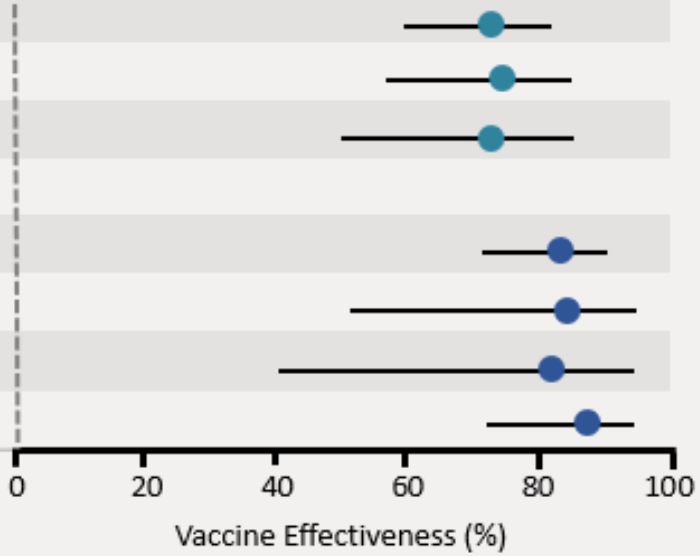
JYNNEOS Vaccine

- Smallpox and Monkeypox Vaccine
- Developed by Bavarian Nordic/supported by the National Institute of Allergy and Infectious Diseases
- Approved by the FDA in 2019 for the prevention of smallpox and mpox
- Attenuated form of live vaccinia virus that is incapable of replicating

Multi-jurisdictional Case-Control Study

Both partial and full vaccination with JYNNEOS showed effectiveness against mpox, regardless of administration route

	Cases	Controls	Adjusted* VE (95% CI)
Overall VE, partial vaccination (1 dose)	**73**	**262**	**73% (59–82)**
Subcutaneous administration	41	162	75% (57–85)
Intradermal administration	30	97	73% (50–85)
Overall VE, full vaccination (2 doses)	**36**	**209**	**83% (71–90)**
Subcutaneous administration	9	27	85% (51–95)
Intradermal administration	7	30	82% (40–95)
Heterologous administration	19	151	88% (72–95)



*Adjusted for age, race/ethnicity, immunocompromised status, reported close contact with a confirmed/suspected mpox case in 3 weeks prior to index event

JYNNEOS Vaccine Safety Findings Summary

- The adverse events most commonly reported to VAERS have been injection site symptoms (redness, swelling, pain, itching)

- Myocarditis and pericarditis were adverse events of special interest
  - Known risk after ACAM2000, a different orthopoxvirus vaccine; mechanism unknown

  --Theoretical risk with JYNNEOS has not been ruled out

  -- Observed rates are consistent with expected background rates

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JYNNEOS (risk based) recommended for:

People aged 18 years of age or older at increased risk of mpox, including:

Persons who are gay, bisexual and other men who have sex with men, transgender or nonbinary people who in the past 6 months have had:

- At least 1 sexually transmitted disease
- More than 1 sex partner
- Sex at a commercial sex venue
- Sex in association with a large public event in a geographic area where mpox transmission is occurring
- Persons who are sexual contacts of the persons described above

Licensed for persons ≥ 18 years of age; an NIH trial is underway to evaluate safety and immunogenicity for persons 12-17 years of age

JYNNEOS - Recommended Vaccination Schedule and Intervals

- Two doses, 28 days apart

Contraindications

- Severe allergic reaction (e.g., anaphylaxis) after a previous dose or to a vaccine component as listed in the package insert.

Precautions

- Moderate or severe acute illness, with or without fever
- Simultaneous administration of mpox vaccine with COVID-19 vaccine

Summary

- Mpox cases and deaths continue to be reported domestically and globally
- Need to improve our overall vaccine coverage; <25% of the eligible population is fully vaccinated with 2 doses
- Modeling suggests that without vaccination, transmission of mpox will continue with sporadic outbreaks
- No new safety signals from VAERS or VSD
- VE appears stable for immunocompetent people
- ACIP will reassess epidemiology of the outbreak and reevaluate vaccine recommendations in 2 years

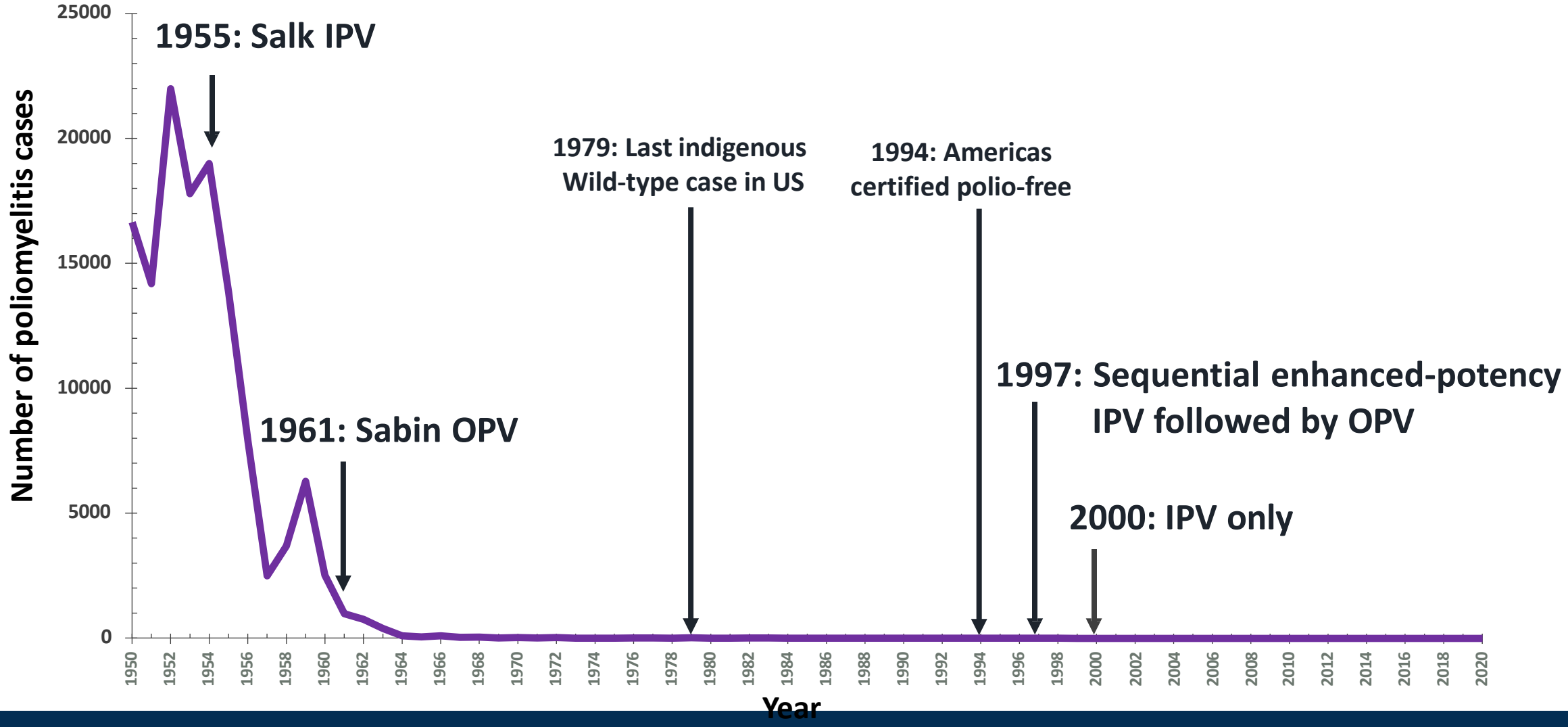
Polio

Polio

Poliomyelitis is a highly contagious disease caused by 3 serotypes of poliovirus.

Infection with poliovirus results in a spectrum of clinical manifestations from inapparent infection to nonspecific febrile illness, aseptic meningitis, paralytic disease, and death.

Paralytic polio decreased rapidly in the US after introduction of polio vaccine



The New York Times

First Polio Case in Nearly a Decade Is Detected in New York State

A man who lives in Rockland County was infected by someone who received the oral polio vaccine, which is no longer used in the United States, officials said.

The New York Times

Polio Has Been Detected in New York City Wastewater, Officials Say

The detection of the virus in sewage suggests it is circulating in the city, Health Department officials said.

- A case of paralytic polio caused by vaccine-derived poliovirus was confirmed in an unvaccinated young adult from Rockland County, New York, on July 21, 2022
- Genetic sequencing has indicated a linkage to polioviruses collected in wastewater in Israel, United Kingdom, and Canada
- Likely indicative of ≥1–2 thousand mostly asymptomatic infections
- Rockland County, NY – Only 60% of children under 2 years of age had received 3 doses of IPV (some zip codes as low as 37%)
- Poliovirus genetically linked to the case detected in wastewater samples in New York (Rockland, Orange, Sullivan, and Nassau counties and New York City)

Polio vaccination

Standard Childhood Vaccination:

Four doses total, with one dose at each of the following ages:

- 2 months old
- 4 months old
- 6 through 18 months old
- 4 through 6 years old

Previously, catchup vaccination recommended only up to age 17 years

2000 Recommendations for Inactivated Polio Vaccine (IPV) Vaccination of Adults

- Vaccination is recommended for certain adults who are at greater risk for exposure to polioviruses than the general population
- Unvaccinated adults who are at increased risk of exposure should receive a primary vaccination series with IPV
- Adults who have had a primary series of oral polio vaccine (OPV) or IPV and who are at increased risk of exposure can receive another dose of IPV

Poliomyelitis Prevention in the United States (cdc.gov)

2000 Statement on IPV Vaccination for Adults-- Questions that arose in 2022

- 2000 statement focused on adults at **increased risk of poliovirus exposure**
- Uncertainty about how to define increased risk in setting of circulating vaccine-derived poliovirus (cVDPV) in US
- Unclear guidance for **unvaccinated** adults who were **not** known to be at increased risk of exposure

Poliomyelitis Prevention in the United States (cdc.gov)

Factors considered

- US remains at risk of poliovirus importations as long as there is ongoing transmission of poliovirus globally
- Data indicate that most US adults have serologic immunity to poliovirus types 1–3
- However, unvaccinated and incompletely vaccinated adults remain susceptible to paralytic polio if exposed to poliovirus

Pros and Cons of a Uniform Recommendation for Unvaccinated and Incompletely Vaccinated Adults

Pros:

- Allows unvaccinated adults and their health care providers to take advantage of opportunities to get vaccinated before they are at increased risk of exposure
- Brings adult polio vaccination policy closer in line with other routine childhood vaccines, e.g., MMR and varicella vaccines
- Is less complicated policy to communicate and understand (i.e., recommendation
  doesn't change based on latest wastewater data)

Pros and Cons of a Uniform Recommendation for Unvaccinated and Incompletely Vaccinated Adults

Cons:

- Most adults in the United States have a low risk of poliovirus exposure and paralytic polio, and most adults received primary polio vaccination series as children
- Demand for IPV could potentially exceed supply, particularly if a large number of adults without documentation of polio vaccination status assume they were not vaccinated
  - However, this issue can be mitigated by providing guidance for this group in the clinical considerations

ACIP Polio vaccine recommendations

- Unvaccinated or Incompletely Vaccinated Adults

  --Adults aged ≥18 years who are known or suspected to be unvaccinated or incompletely vaccinated against polio should complete a primary vaccination series with IPV.

- Vaccinated Adults Who are at Risk for Exposure to Poliovirus

  --Adults who have received a primary series of tOPV or IPV in any combination and who are at increased risk for exposure to poliovirus may receive another dose of IPV. Available data do not indicate the need for more than a single lifetime booster dose with IPV for adults.

Meningococcus

Meningiococcal disease

Meningococcal disease is a serious and potentially life-threatening infection caused by the bacterium *Neisseria meningitidis*.

N. meningitidis can be classified into 12 serogroups based on its capsular polysaccharide; serogroups A, B, C, W, X, and Y are the primary causes of meningococcal disease worldwide.

Three types of meningococcal vaccines

- Quadrivalent - Meningococcal conjugate or MenACWY vaccines (Menveo® and MenQuadfi®)
- Monovalent - Serogroup B meningococcal or MenB vaccines (Bexsero® and Trumenba®)
- Pentavalent - MenABCWY vaccine (Penbraya™)

ACIP Recommendations for Meningococcal Vaccines

- **Routine schedule**
  - MenACWY: dose 1 at age 11–12 years, booster dose at age 16 years
  - MenB (shared clinical decision-making): two doses at age 16–23 years (preferred age 16–18 years)
- **Special situations**

Indication		MenACWY (age ≥2 months)	MenB (age ≥10 years)
Medical conditions	Asplenia	X	X
	Complement Deficiency	X	X
	Complement inhibitor use	X	X
	HIV infection	X	
Other	Some microbiologists	X	X
	Exposure during an outbreak	X	X
	Travel to hyperendemic areas	X	
	First-year college students	X	
	Military recruits	X	

MenABCWY Vaccine - Penbraya

- Pfizer
- Licensed as a 2-dose series (6-month interval) for individuals aged 10–25 years
- Comprised of Trumenba (serogroup B) and Nimenrix (serogroups ACWY)
  - Trumenba
    - Consists of two purified recombinant lipidated FHbp antigens, one from each FHbp subfamily (A and B)
    - Currently licensed and available in U.S. (10–25 years)
  - Nimenrix
    - Meningococcal group A, C, W, and Y polysaccharide tetanus toxoid conjugate vaccine
    - Not licensed in U.S. but used extensively in Europe and elsewhere for more than a decade

ACIP MenABCWY recommendations

The ACIP voted to recommend the use of Penbraya (MenABCWY) as an option when both MenACWY and MenB are indicated at the same visit.

- Healthy 16- to 23-year-olds who choose to receive MenB vaccination in shared decision-making

- Patients 10 years and older who are at increased risk for meningococcal disease because of certain health conditions (such as complement inhibitor use or functional or anatomic asplenia) and who are due to receive both vaccines.

MenABCWY Vaccination as an Option for Patients Aged 10 Years or Older

- If a patient is receiving MenACWY and MenB vaccines at the same visit, MenABCWY may be given instead.

- If a patient receives MenABCWY vaccine, which includes Trumenba®, then administer:
  - Trumenba® for additional MenB dose(s) when MenACWY isn't indicated
  - Any MenACWY vaccine when MenB isn't indicated

- The minimum interval between MenABCWY doses is 6 months.

- MenABCWY vaccine can be used only when both MenACWY and MenB vaccines are indicated at the same visit. Otherwise, MenACWY and MenB vaccines should be given separately as appropriate.

Upcoming

- Meningococcal vaccine guidance - ACIP Meningococcal Vaccine Work Group expects to consider changes to the adolescent meningococcal vaccine schedule next year. A vote is planned for early 2025
- New Pentavalent meningococcal - GSK is developing new pentavalent vaccine.
- Pneumococcal vaccines - ACIP Pneumococcal Work Group is reviewing information on additional vaccines in various stages of development. These vaccines contain serotypes that are not included in currently available pneumococcal vaccines and could prove beneficial in certain patient populations.
- RSV vaccines - ACIP discussed lowering the eligible age range for the RSV vaccine to include adults ages 50 through 59 at increased risk for severe RSV disease.

Thank you!!