

# The State of Immunizations in Kentucky

Kathleen Winter, PhD, MPH

May 10, 2023



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KENTUCKY CABINET FOR  
HEALTH AND FAMILY SERVICES



**Kentucky Public Health**  
Prevent. Promote. Protect.

# Routine childhood vaccines off track

- 41.3% of parents of children  $\leq 12$  years of age reported missing at least one routine medical visit for their child due to the pandemic.
- Missed visits most common among Hispanic children (48.5%).
- >20% of parents whose child missed a visit stated that their child did not subsequently make-up the visit.

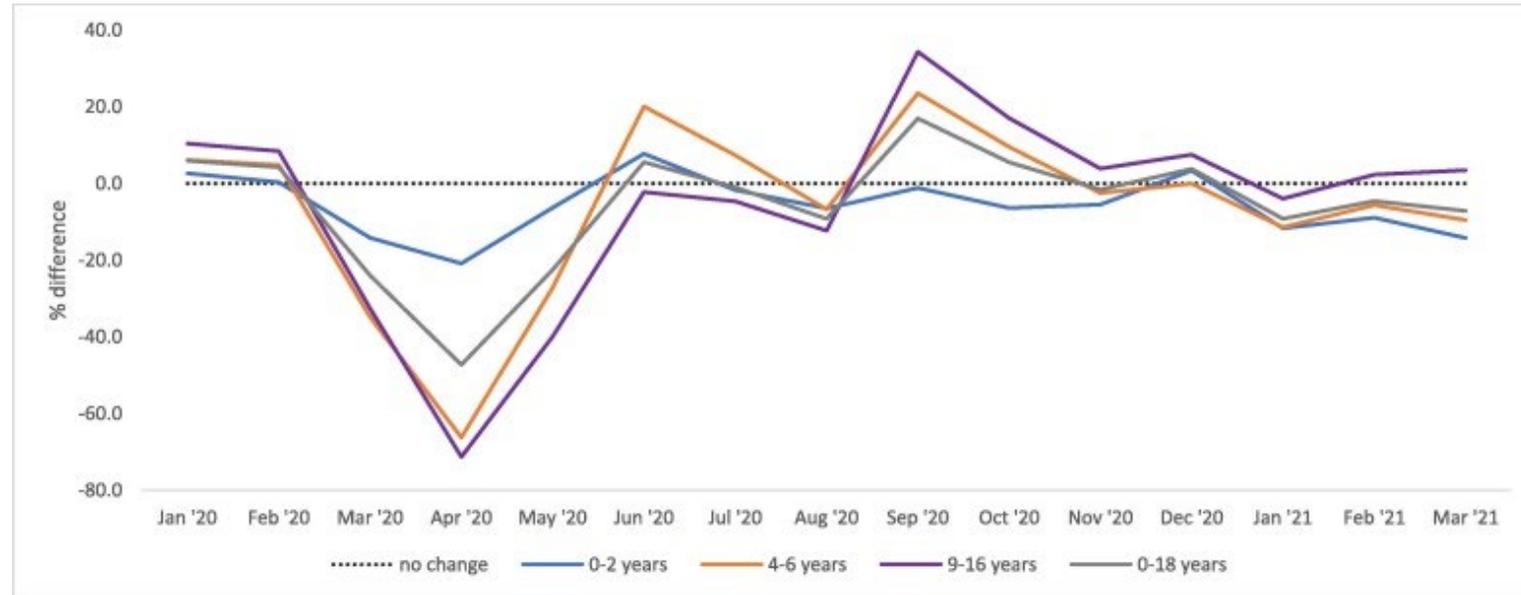


Teasdale CA, et al. Missed routine pediatric care and vaccinations in US children during the first year of the COVID-19 pandemic. Prev Med. 2022 May.

# Routine childhood vaccines off track

- 72%-84% decline in routine vaccination rates among adolescents 9-16 years of age.
- Rebound increases in vaccinations & well child visits are likely not enough to reach pre-pandemic levels.

Percent difference of well child visits, 2020 and 2021 vs. 2018–2019, IBM MarketScan Commercial Database with Early View



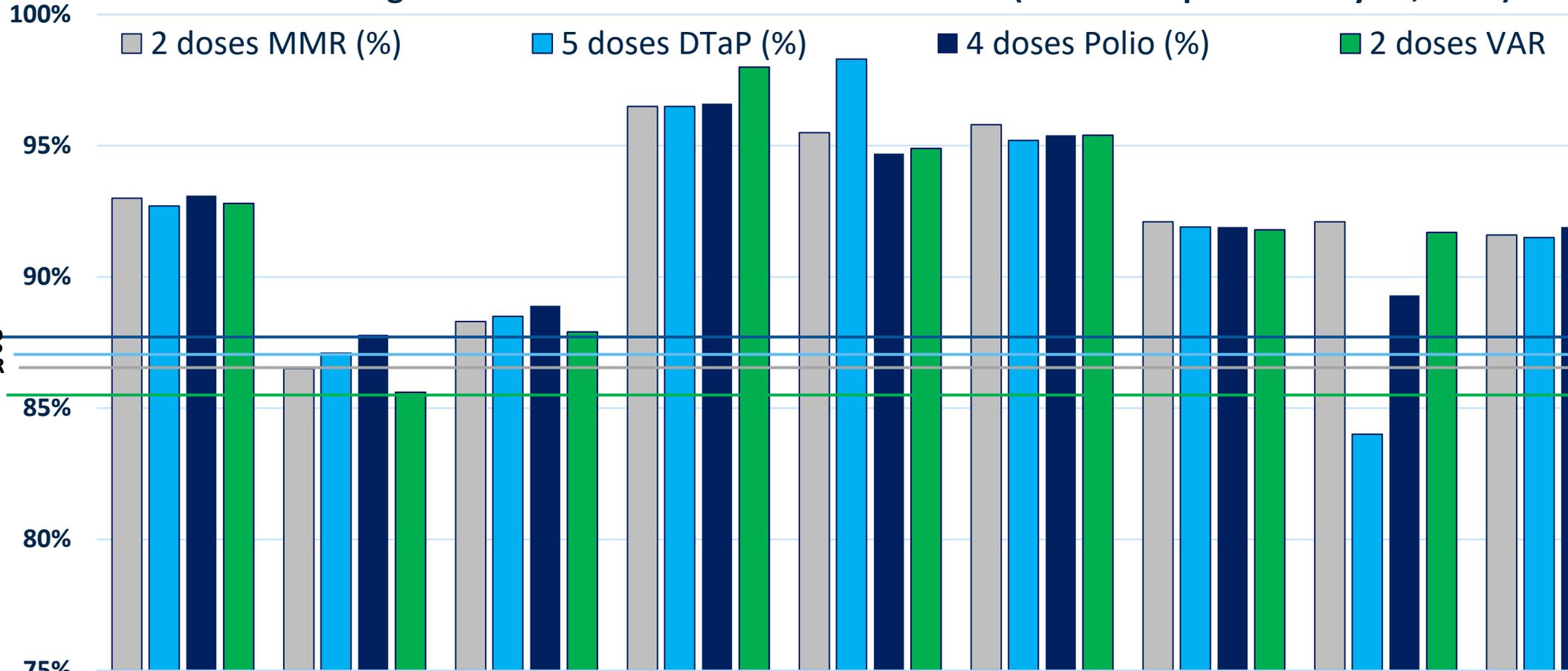
Kujawski SA, Yao L, Wang HE, Carias C, Chen YT. Impact of the COVID-19 pandemic on pediatric and adolescent vaccinations and well child visits in the United States: A database analysis. Vaccine. 2022 Jan.

# So what's happening in Kentucky?

## ➤ 2021-2022 School Immunization Assessment

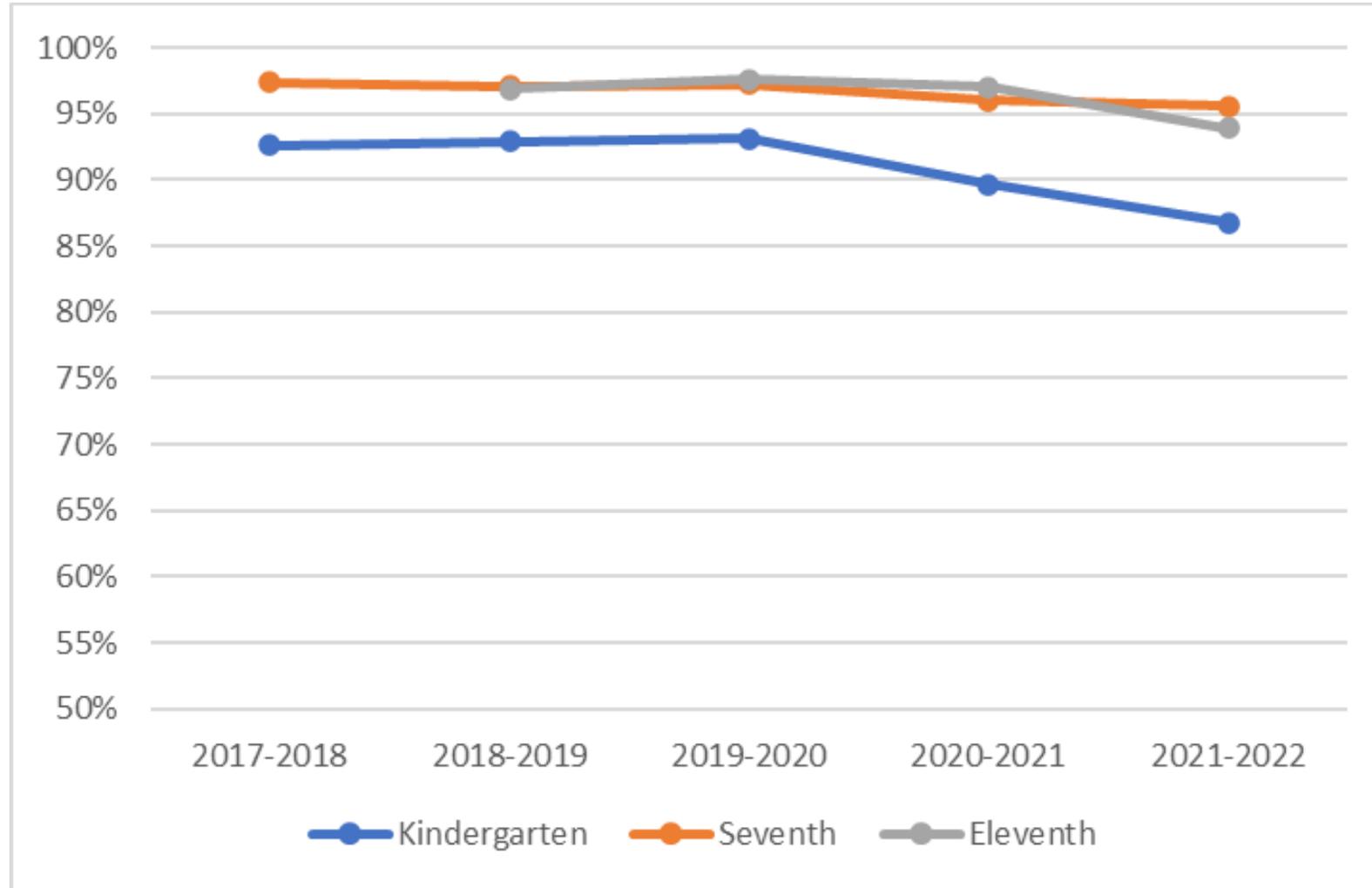
- Public and private elementary and secondary schools are required to report immunization information to KDPH under 902 KAR 2:055.
- Aggregate counts at the school level.
- Data are shared with CDC for comparison with other states.
- 3 grade checkpoints are assessed:
  - Kindergarten
  - 7<sup>th</sup>
  - 11<sup>th</sup>

# Kindergarten Assessment 2021-2022 School Year (MMWR Report January 13, 2023)



	National estimate	Kentucky	Ohio	West Virginia	Virginia	Tennessee	Illinois	Indiana	Missouri
2 doses MMR (%)	93.0%	86.5%	88.3%	96.5%	95.5%	95.8%	92.1%	92.1%	91.6%
5 doses DTaP (%)	92.7%	87.1%	88.5%	96.5%	98.3%	95.2%	91.9%	84.0%	91.5%
4 doses Polio (%)	93.1%	87.8%	88.9%	96.6%	94.7%	95.4%	91.9%	89.3%	91.9%
2 doses VAR	92.8%	85.6%	87.9%	98.0%	94.9%	95.4%	91.8%	91.7%	91.2%

# MMR coverage among Kentucky children\*



2 doses of MMR  
or MMRV

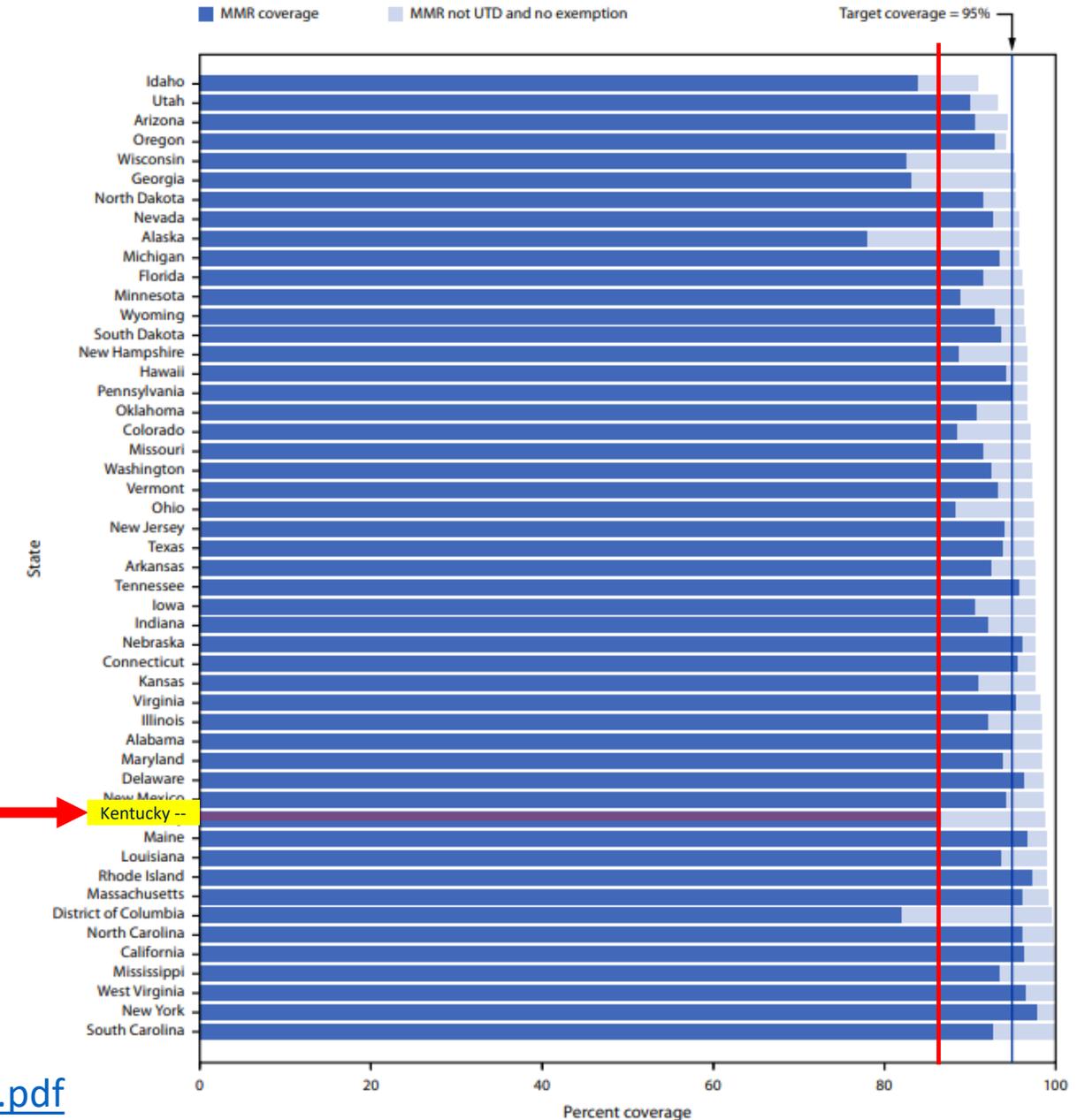
\*Kentucky school immunization survey

# Kindergarten Assessment 2021-2022 school year

- Coverage rate for 2 MMRs:
  - HP 2030 goal: 95%
  - National estimate: 93.5%
  - Kentucky: **86.5%**

Seither, et al. Vaccination Coverage with Selected Vaccines and Exemption Rates Among Children in Kindergarten — United States, 2021–22 School Year. MMWR 2023.

FIGURE 2. Potentially achievable coverage\*† with measles, mumps, and rubella vaccine among kindergartners, by state — United States, 2021–22 school year



Abbreviations: MMR = measles, mumps, and rubella vaccine; UTD = up to date.  
 \* States are ranked from lowest to highest potentially achievable coverage. Potentially achievable coverage is estimated as the sum of the percentage of students with UTD MMR and the percentage of students without UTD MMR and without a documented vaccine exemption.

# Jefferson County Public Schools



ECONOMY ENVIRONMENT GOVERNMENT HEALTH

HEALTH

## Thousands of Kentucky kids need measles vaccines

Single Kentucky measles case in 2023 poses no further transmission risk

BY SARAH LADD - FEBRUARY 4, 2023 2:24 AM



A child receives a vaccine. Thousands of Kentucky children are not up to date on their measles vaccines. (Getty Images)

One case of measles has been reported to the Kentucky Department of Public Health in 2023.

A Cabinet for Health and Family Services spokeswoman said “there does not appear to be any risk of further transmission to the community” with the case.

However, experts encourage people to be up to date on their measles vaccines for the best protection.

CHES reports that around 87% of Kentucky’s kindergarteners had

### Where to find measles vaccinations in Kentucky

JCPS is hosting a [vaccine clinic](#) on Feb. 4 from 9 a.m. to 2 p.m. with a \$20 incentive for students who

- “We have nearly 12,000 students in JCPS who show they're not current on measles, mumps and rubella vaccine.”
  - “We’re not making any forward progress on increasing access to vaccinations for students, which are primarily kids living in poverty and children of color.”
- Dr. Eva Stone, JCPS Health District Manager

## *'Woodstock' for Christians: Revival Draws Thousands to Kentucky Town*

Over two weeks, more than 50,000 people descended on a small campus chapel to experience the nation's first major spiritual revival in decades — one driven by Gen Z.

- Measles exposure at Asbury University in Wilmore, KY in February
- Estimated 20K attendees on the dates of the exposure.
- Attendees were mostly non-students including some families with children.
- An “unofficial registration board” recorded attendees from >250 colleges and universities.

# Asbury student project tracks visitors from around the globe



By: Rachel Richardson

Posted at 6:00 PM, Feb 23, 2023 and last updated 6:15 PM, Feb 23, 2023

WILMORE, Ky. (LEX 18) — Asbury University's now 16-day revival, or what the university is calling an outpouring, is winding down. Tonight, the weeks-long gathering will end with the National Collegiate Day of Prayer service.

Asbury University's Abby Laub says, "Something a lot bigger than Asbury has been going on and we are just so excited to have been stewarding what God is doing."

<https://www.lex18.com/news/asbury-student-project-tracks-visitors-from-around-the-globe>

# National Immunization Surveys

- Telephone surveys sponsored/conducted by CDC
- Population-based random sampling
- Primary modules include:
  - NIS- Child: U.S. children 19-35 months of age
  - NIS- Teen: U.S. adolescents 13-17 years of age

The screenshot shows the ChildVaxView website. At the top, the CDC logo and name are visible, along with the tagline "CDC 24/7: Saving Lives, Protecting People™". A search bar and a dropdown menu for "Vaccines site" are also present. The main navigation bar is green and contains the "ChildVaxView" title. Below this, there is a sidebar with a "ChildVaxView Home" button and a list of links: "ChildVaxView Interactive!", "Publications and Resources", "Data Source", "Objectives, Targets, and Indicators", and "For Specific Groups". The main content area features the "ChildVaxView" logo with a teddy bear icon. Below the logo, there is a paragraph explaining the importance of vaccination and how ChildVaxView is used. A "ChildVaxView Interactive!" section provides a brief description of the tool. A "For Specific Groups" section lists a link to "Health Care Professionals".

CDC Centers for Disease Control and Prevention  
CDC 24/7: Saving Lives, Protecting People™

Search Vaccines site

## ChildVaxView

[ChildVaxView Home](#)

ChildVaxView Interactive!

Publications and Resources

Data Source

Objectives, Targets, and Indicators

For Specific Groups +

# ChildVaxView

Vaccination is an important part of keeping children healthy and protected from potentially serious diseases like measles and whooping cough. CDC's recommended immunization schedule helps protect children from 14 serious diseases by the time they reach 2 years old.

Local, state, and federal health departments use surveys and other data sources such as [immunization information systems \(IISs\)](#) to estimate vaccination coverage (the proportion of children receiving vaccinations) and identify where additional efforts are needed to increase vaccination coverage. ChildVaxView is designed to help you access survey data collected by CDC and translate data into action.

**ChildVaxView Interactive!**  
Find national, regional, state, and selected local area data using interactive maps, trend lines, bar charts, tables, and more.

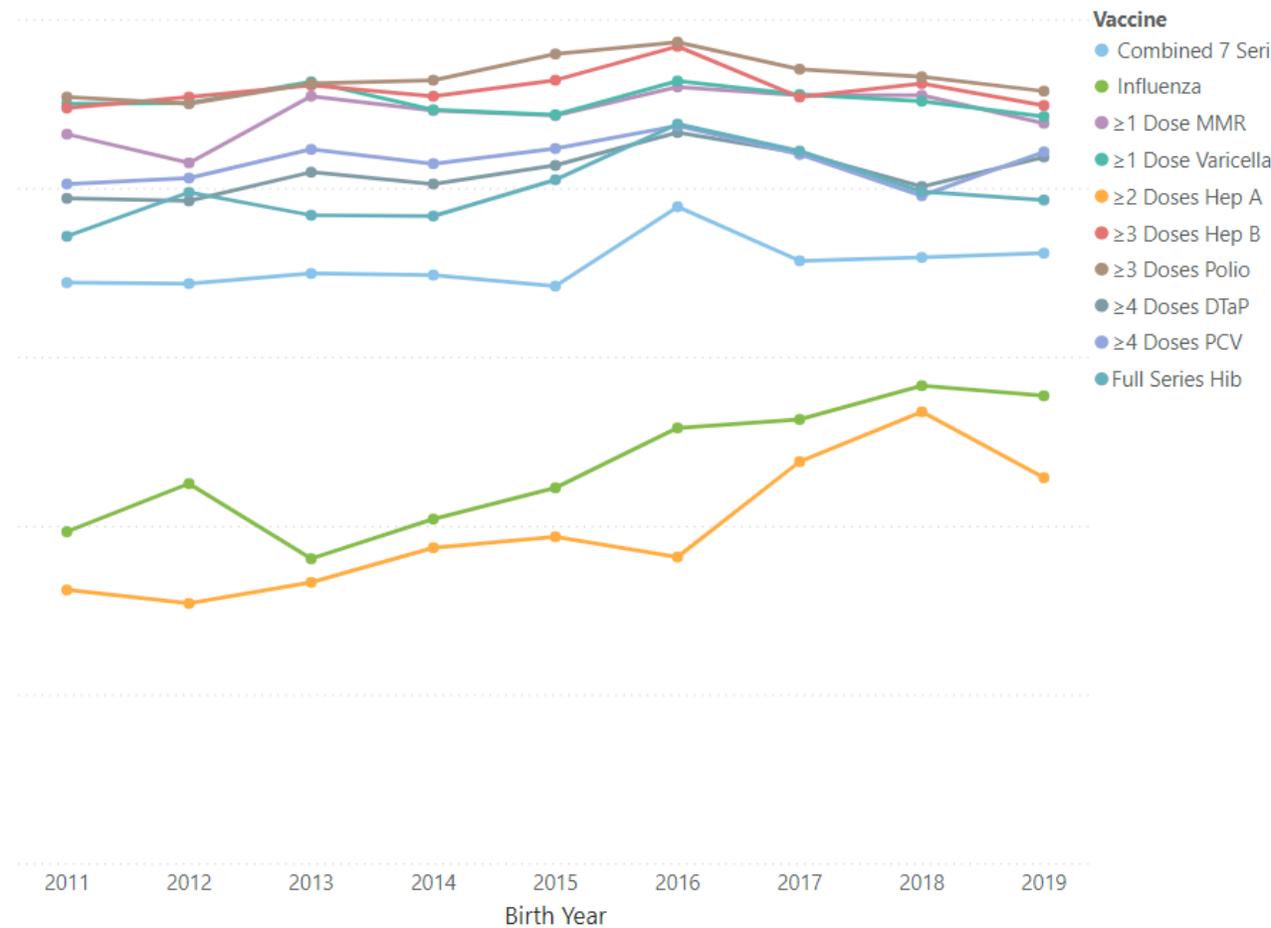
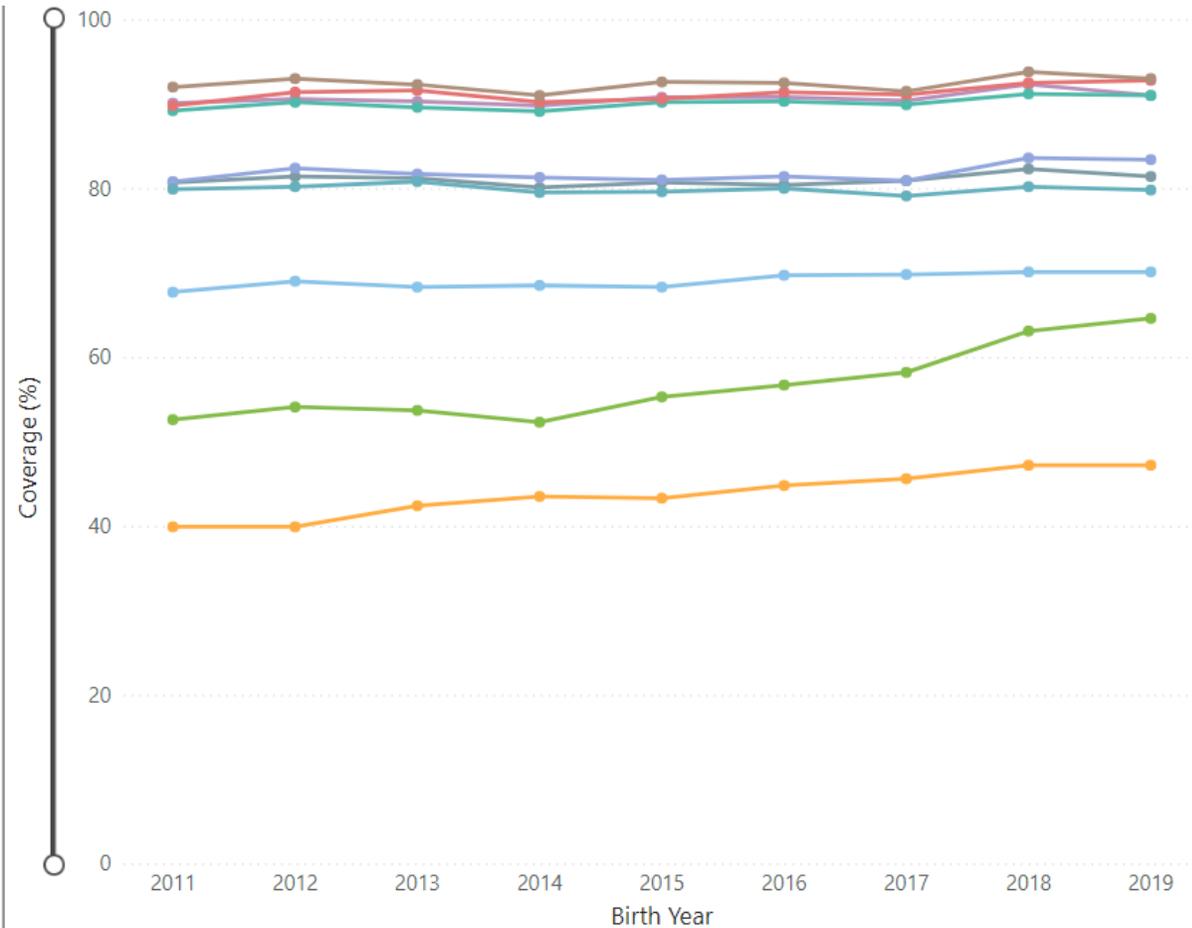
**For Specific Groups**

- [Health Care Professionals](#)

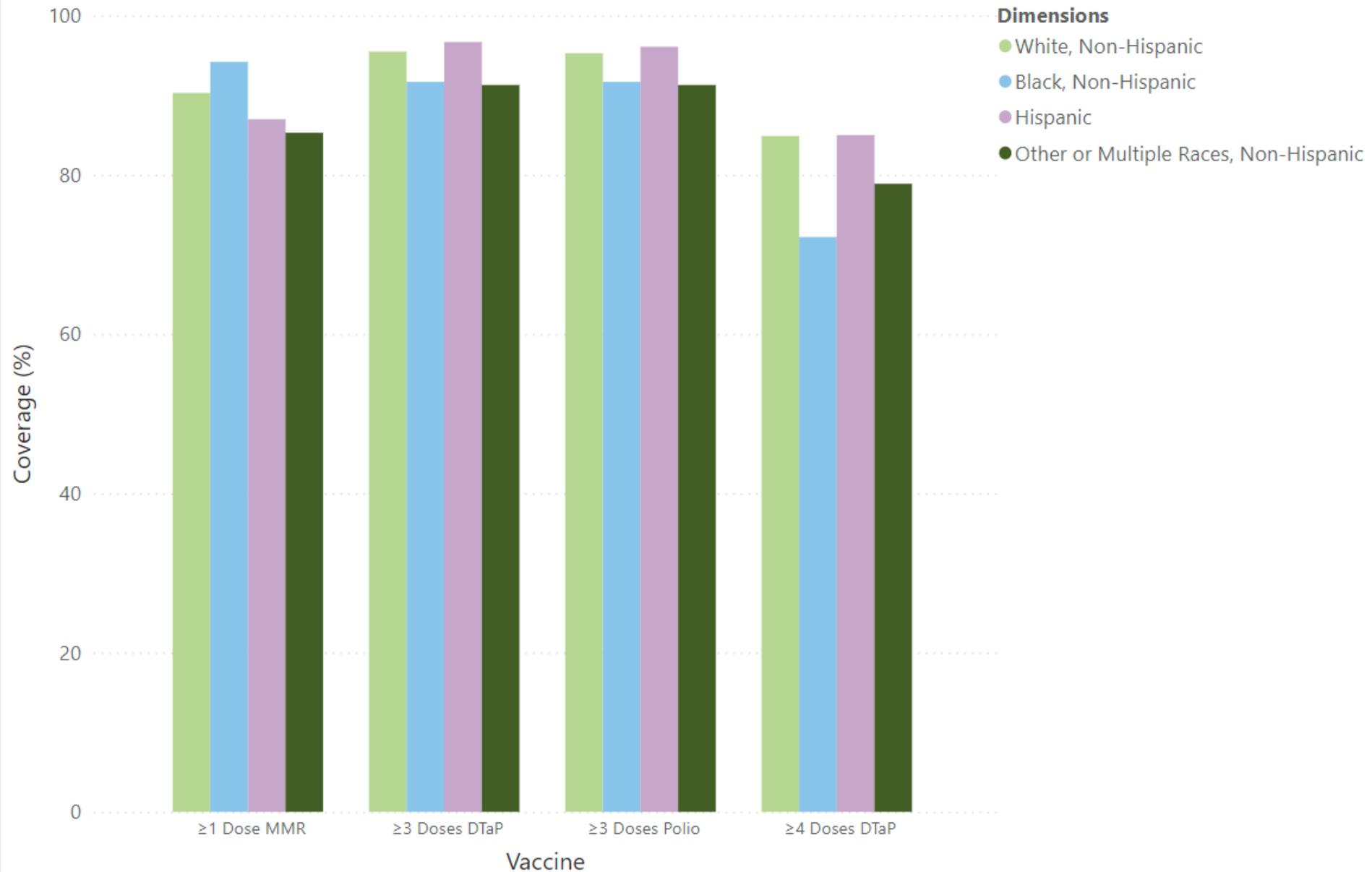
# Vaccination Coverage by 24 months of age, by year of birth – NIS Child

## United States

## Kentucky



# Vaccination Coverage by Age 24 Months among Children Born 2014–2017, Kentucky, National Immunization Survey-Child



# Vaccination coverage by 24 mos of age (born 2018-2019)

	Private	Medicaid	Uninsured
DTaP $\geq$ 4 doses	88.6%	77.1%	57.0%
Polio $\geq$ 3 doses	96.2%	92.4%	84.8%
MMR $\geq$ 1 dose	95.1%	89.2%	79.7%
Hib (primary series)	96.7%	92.3%	83.4%
PCV $\geq$ 3 doses	94.6%	79.8%	69.9%
Combined 7-vaccine series*	78.0%	64.3%	45.2%

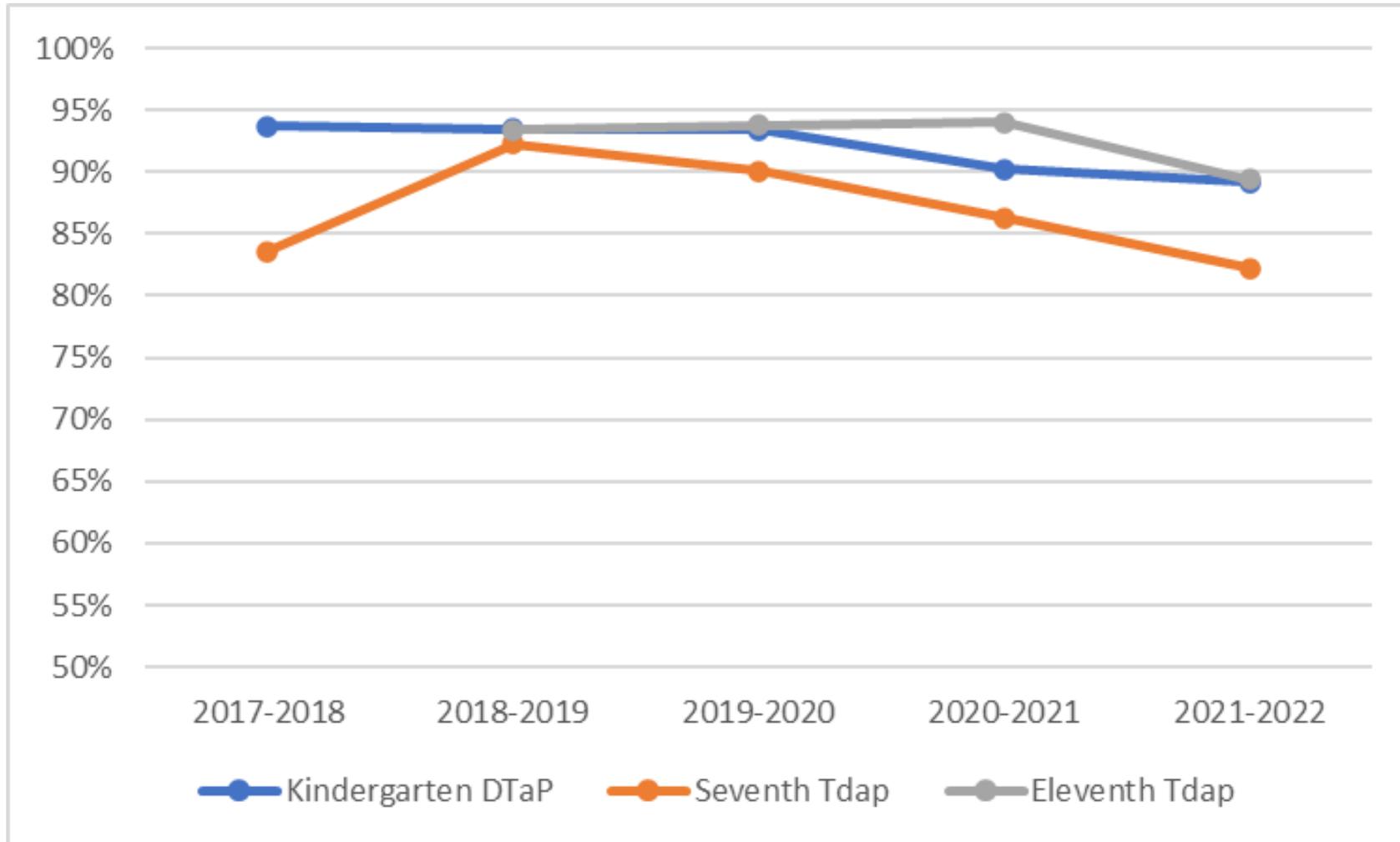
\* $\geq$ 4 doses of DTaP,  $\geq$ 3 doses of polio,  $\geq$ 1 MMR, Hib ( $\geq$ 3 or  $\geq$ 4 doses, depending on product type),  $\geq$ 3 doses of HepB,  $\geq$ 1 dose of VAR, and  $\geq$ 4 doses of PCV

Hill HA, Chen M, Elam-Evans LD, Yankey D, Singleton JA. Vaccination Coverage by Age 24 Months Among Children Born During 2018–2019 — National Immunization Survey–Child, United States, 2019–2021. MMWR Morb Mortal Wkly Rep 2023;72:33–38. DOI: <http://dx.doi.org/10.15585/mmwr.mm7202a3>

# Adolescent vaccinations



# DTaP/Tdap coverage among Kentucky children\*

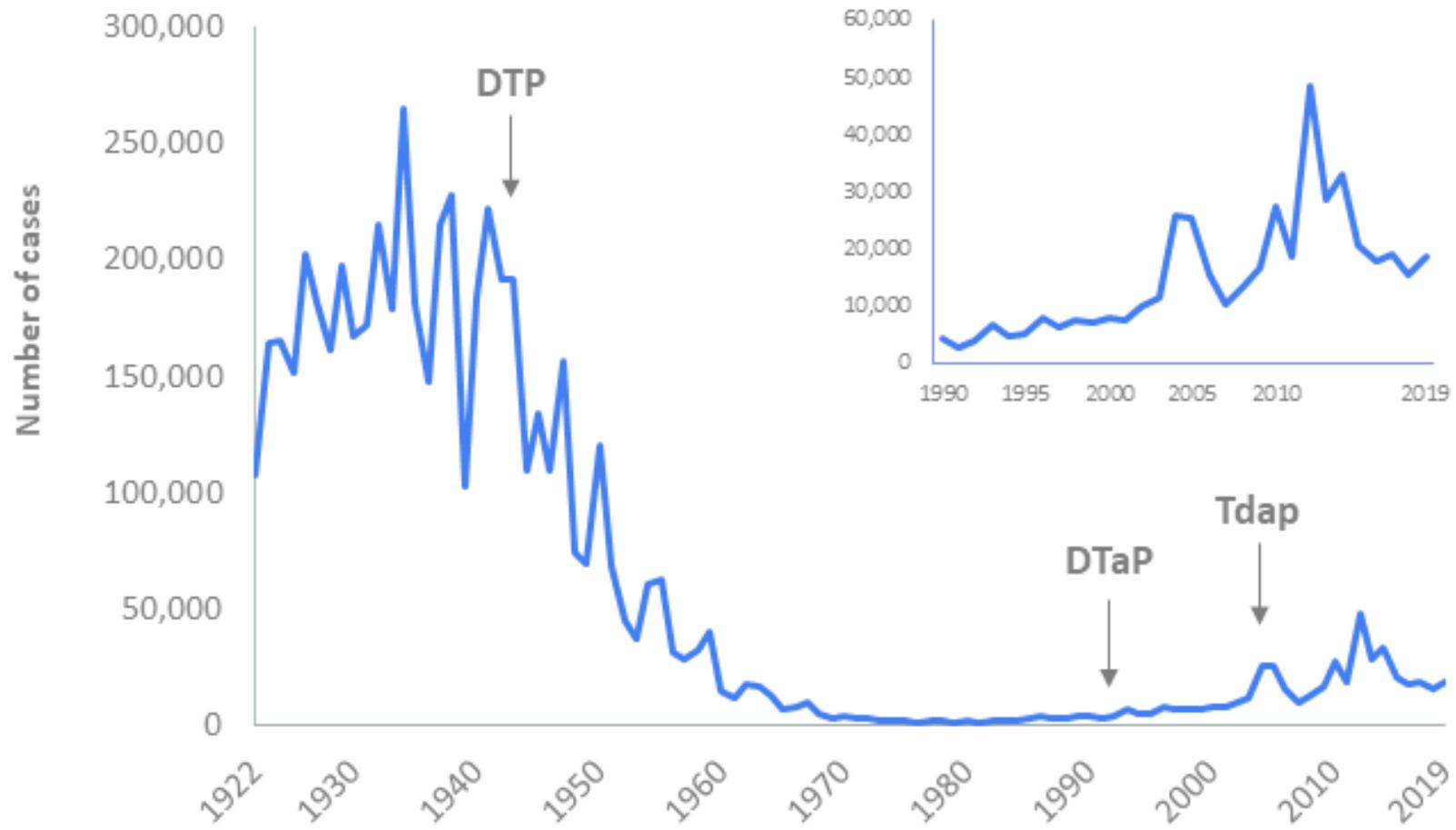


Kinder: 4+ DTaP  
7<sup>th</sup> grade: 1 Tdap  
11<sup>th</sup> grade: 1 Tdap

**Outbreaks of pertussis have been reported in several counties in 2023**

\*Kentucky school immunization survey

# Reported NNDSS pertussis cases: 1922-2019

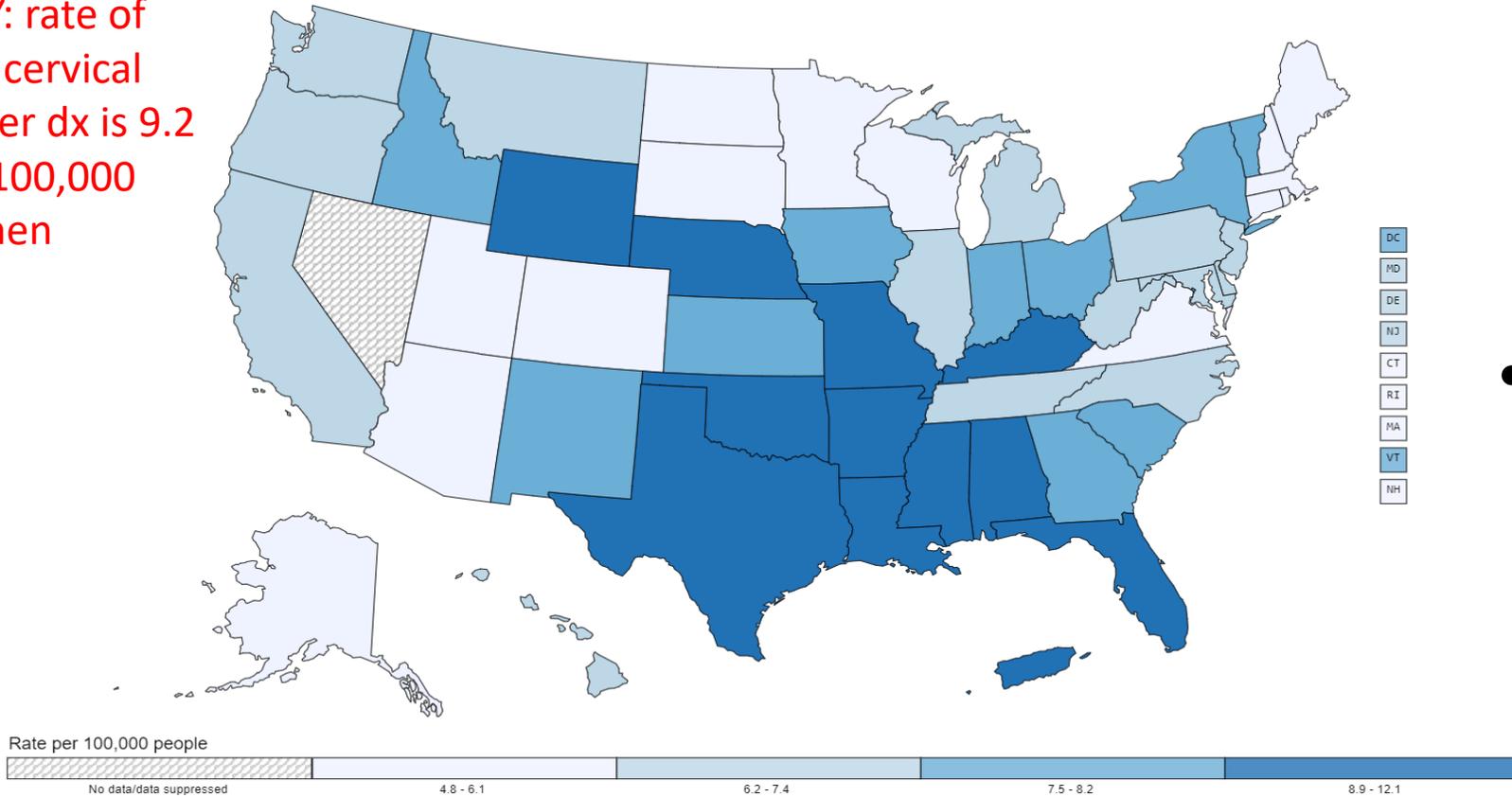


SOURCE: CDC, National Notifiable Diseases Surveillance System

# HPV Vaccine

Rate of New Cancers in the United States, 2019  
Cervix, All Ages, All Races and Ethnicities, Female

In KY: rate of new cervical cancer dx is 9.2 per 100,000 women

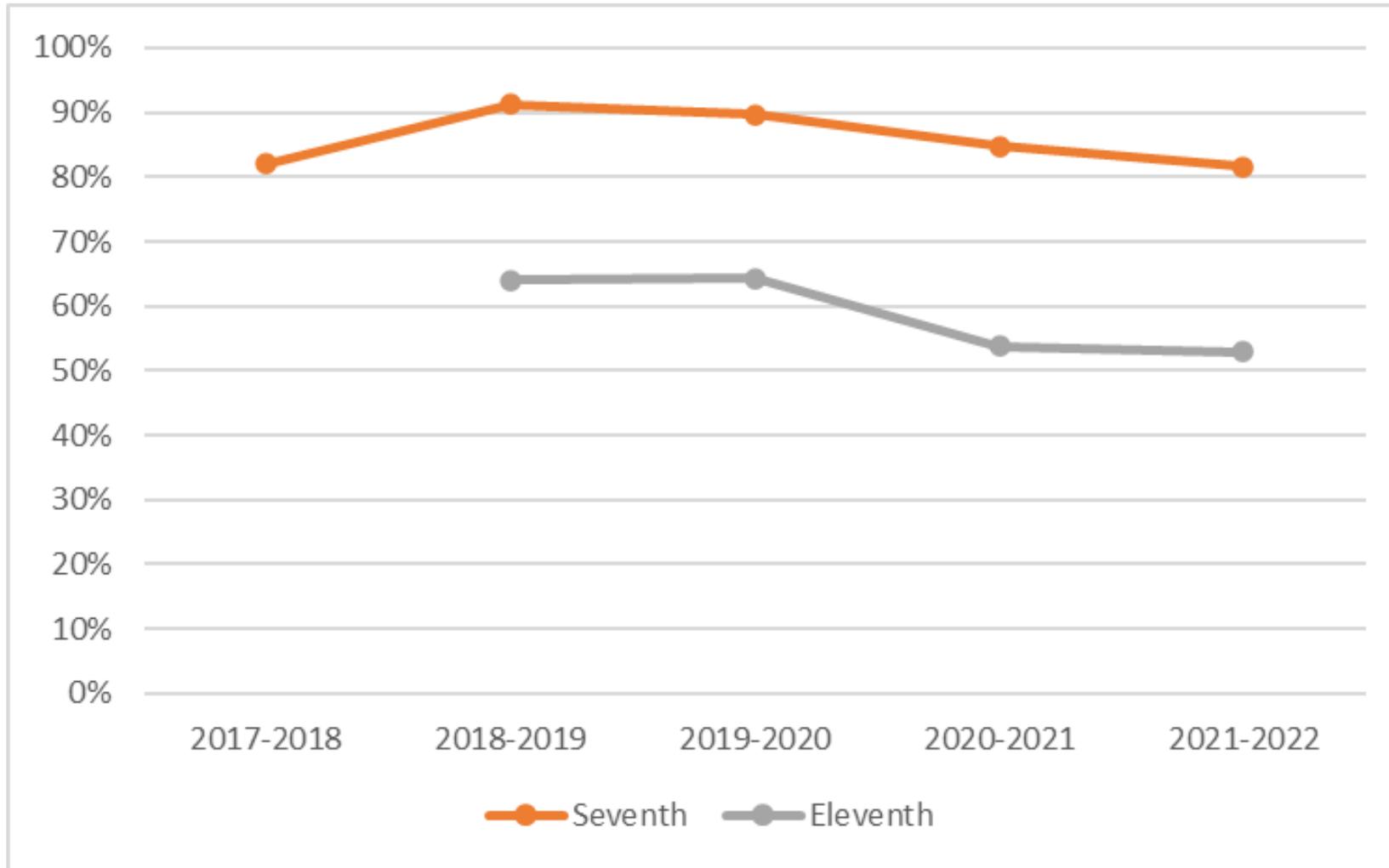


- Only **57%** of KY teens 13-17y are up-to-date on their HPV vaccine (U.S. average 62%)
- Among KY females:
  - **48.9%** up-to-date (U.S. avg 64%)
  - **<67%** have had 1 dose

Sources - U.S. Cancer Statistics Working Group. U.S. Cancer Statistics Data Visualizations Tool, based on 2021 submission data (1999-2019): U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute; <https://www.cdc.gov/cancer/dataviz>, released in November 2022.

Teen Vax View – CDC - <https://www.cdc.gov/vaccines/imz-managers/coverage/teenvaxview/data-reports/index.html>

# MenACWY coverage among Kentucky teens\*



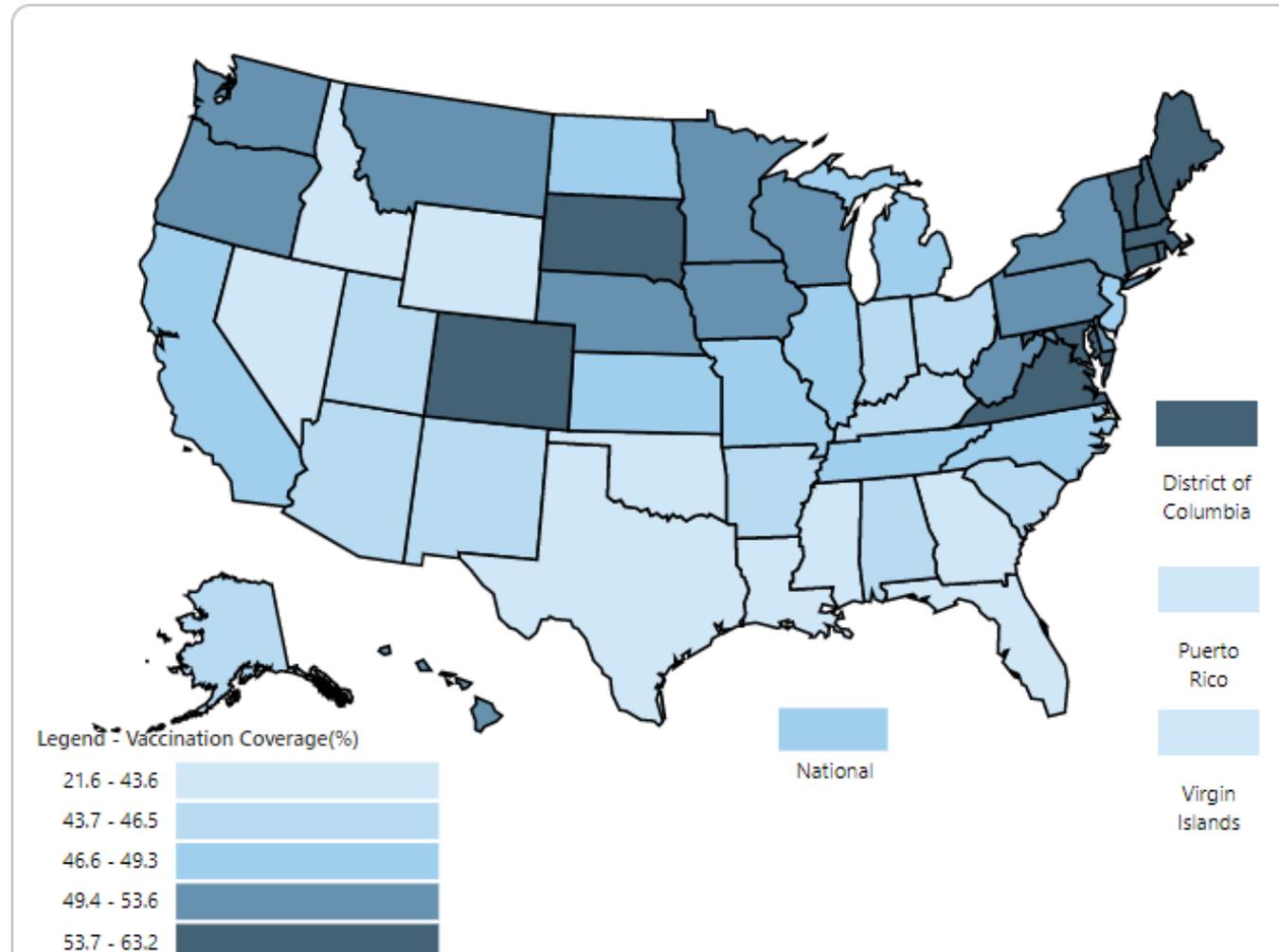
7<sup>th</sup>: 1 doses of MenACWY

11<sup>th</sup>: 2 doses of MenACWY

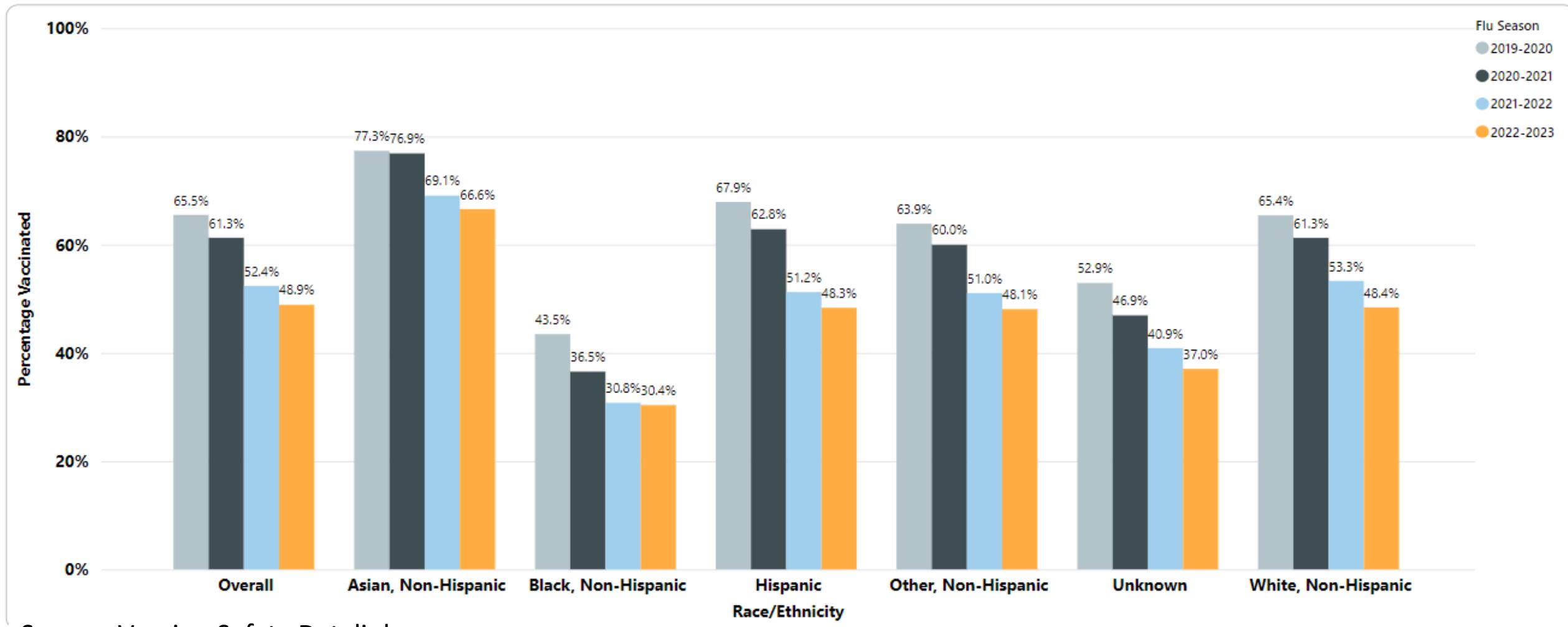
\*Kentucky school immunization survey

# Influenza Vaccination Coverage among Adults by Jurisdiction – Feb/March 2023

- KY similar to national average
  - KY: 46.5% (USA: 47.4%)
- Racial/ethnic disparities
  - 52.9% White, non-Hispanic
  - 49.3% Asian, non-Hispanic
  - **39.3%** Black, non-Hispanic
  - **35.2%** Hispanic
- Trends persist among Medicare beneficiaries



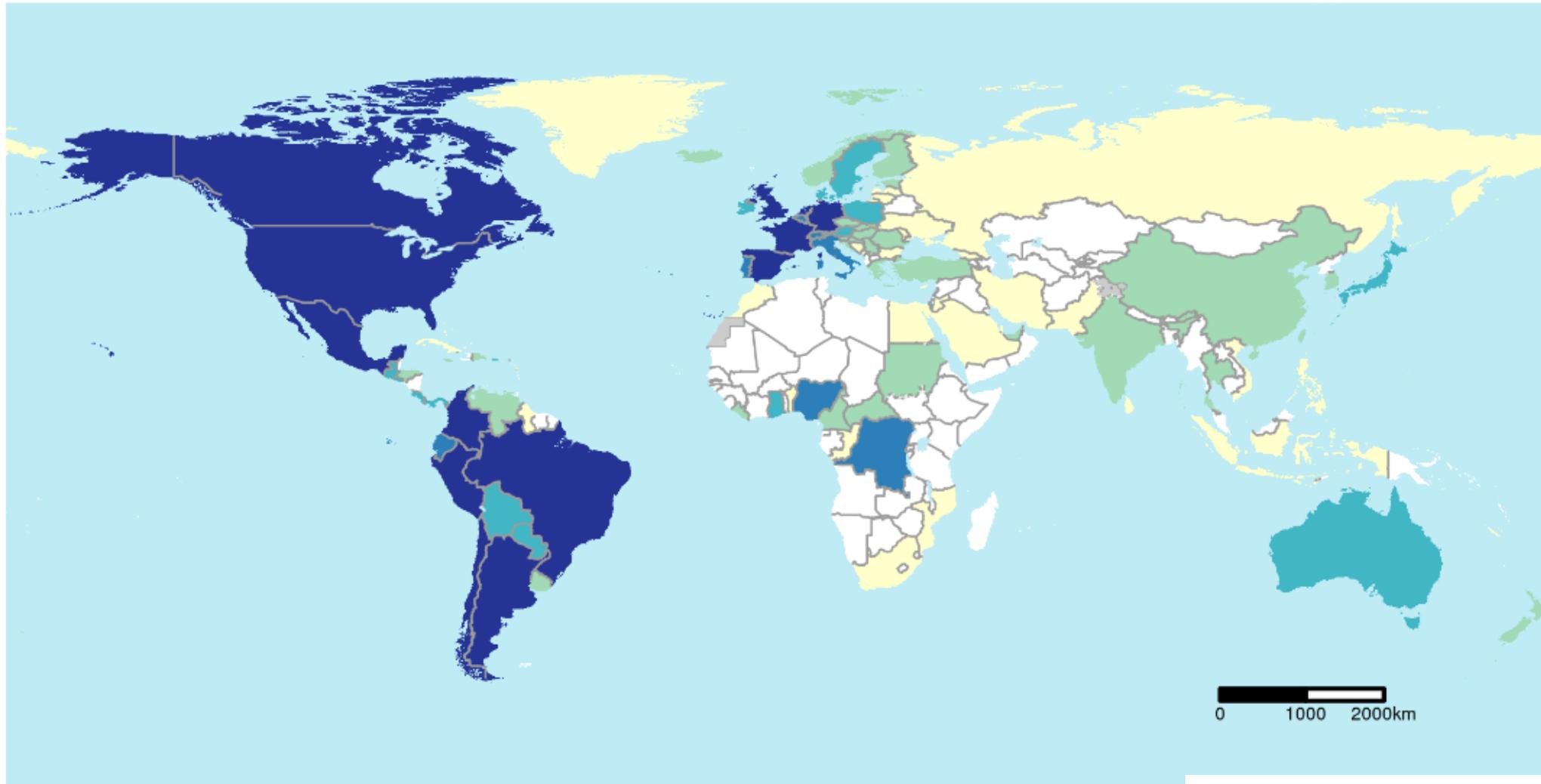
# Influenza Vaccine Coverage among Pregnant People 18-49 years of age, by Race/Ethnicity – 2019-2023



Source: Vaccine Safety Datalink

# Confirmed cases of mpox

from 1 Jan 2022, as of 02 May 23



Not applicable  
No data

### Confirmed cases

0  
1-9  
10-99  
100-499  
500-999  
1000+

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization  
Map Production: WHO Health Emergencies Programme  
© WHO 2023. All rights reserved.

87,301

Confirmed cases

130

Deaths

111

Countries reporting cases

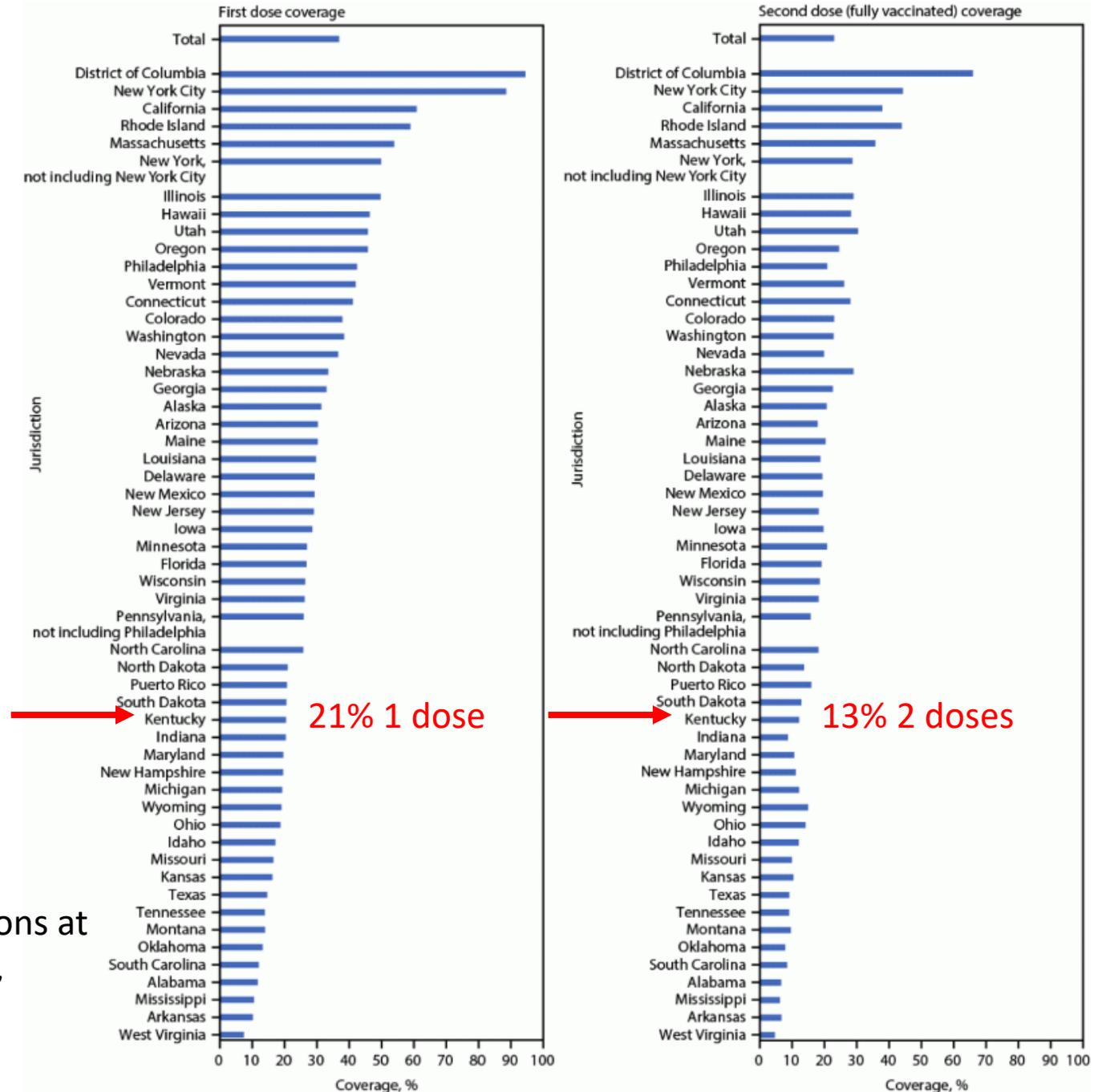
# Jynneos vaccination for Mpox

➤ From 2022 – present, **104 Mpox cases** have been reported in KY

- 99% male
- 50% HIV+
- Most 26-40 years of age

➤ KY estimated population at-risk ~20K people

FIGURE 2. First and second\* JYNNEOS vaccination coverage estimates, by jurisdiction† — United States, May 22, 2022–January 31, 2023<sup>§</sup>



Owens, et al. JYNNEOS Vaccination Coverage Among Persons at Risk for Mpox — United States, May 22, 2022–January 31, 2023. MMWR. 2023

# Rise of mpox cases in Chicago raises concern about possible summer spread

Diagnosed cases have been “increasing slightly” in eight countries the past three weeks, some in vaccinated people, the World Health Organization said.



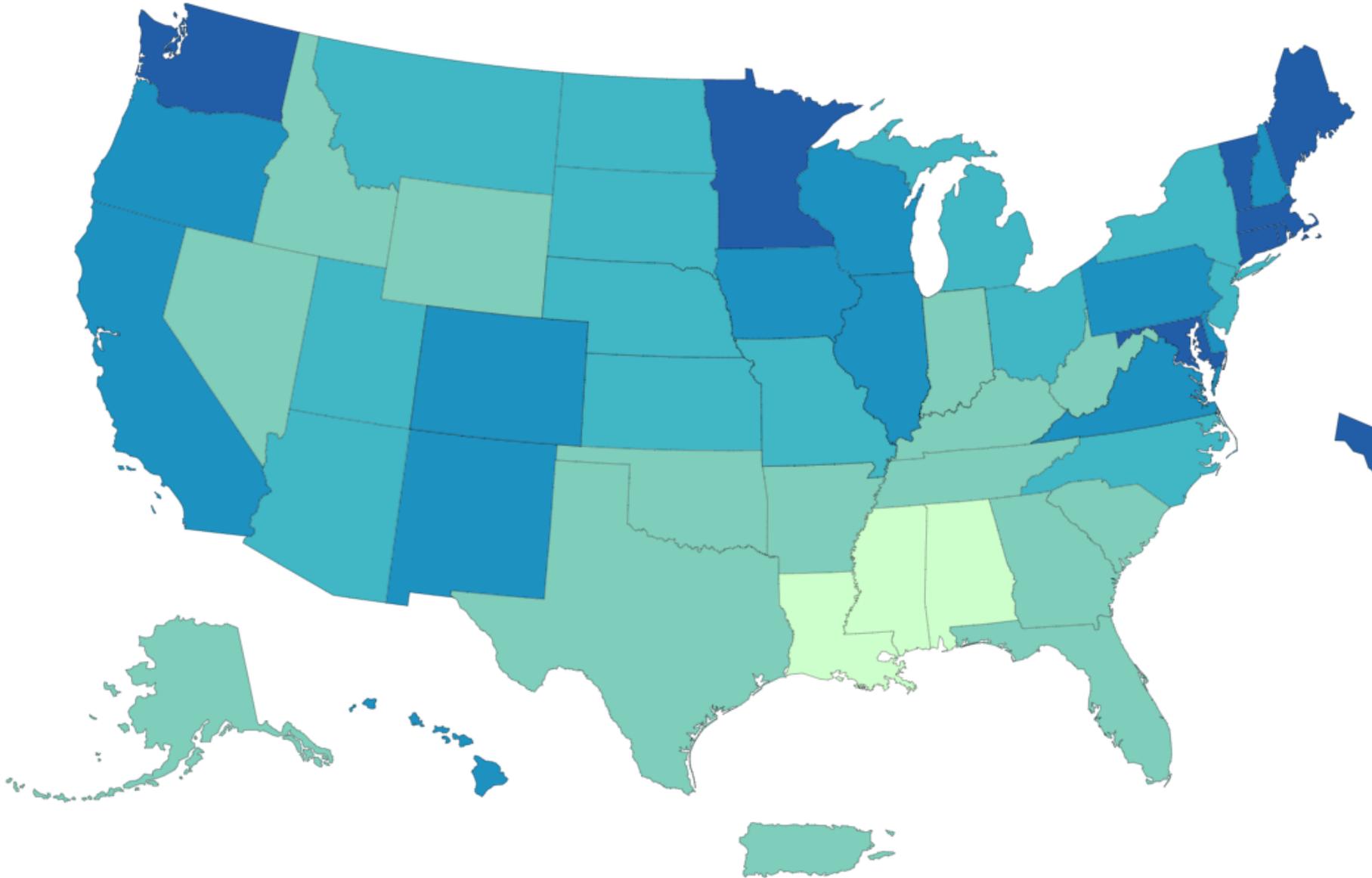
Monday, May 8, 2023

# COVID-19 vaccine updates

- Tomorrow marks the **end of the Public Health Emergency for COVID-19**.
- COVID-19 vaccines are recommended as part of the **routine childhood immunization schedule** starting at 6 months of age.
- COVID-19 vaccines have been added to the VFC program.
- **Streamlined recommendations for use of bivalent vaccines**; monovalent use discontinued.
- Commercialization of COVID-19 vaccines is anticipated to occur this year but **is not** directly tied to the end of the Public Health Emergency on May 11.
- Additional bivalent booster doses recommended for some risk groups, including adults 65+.
- Future recommendation for annual/fall COVID-19 boosters **still TBD**.

Percent of the Population 5 Years of Age and Older with an Updated (Bivalent) Booster Dose Reported to CDC by Jurisdictions and Select Federal Entities

○ No Data   ● 0 - 9.9%   ● 10.0 - 14.9%   ● 15.0 - 19.9%   ● 20.0 - 24.9%   ● ≥ 25%



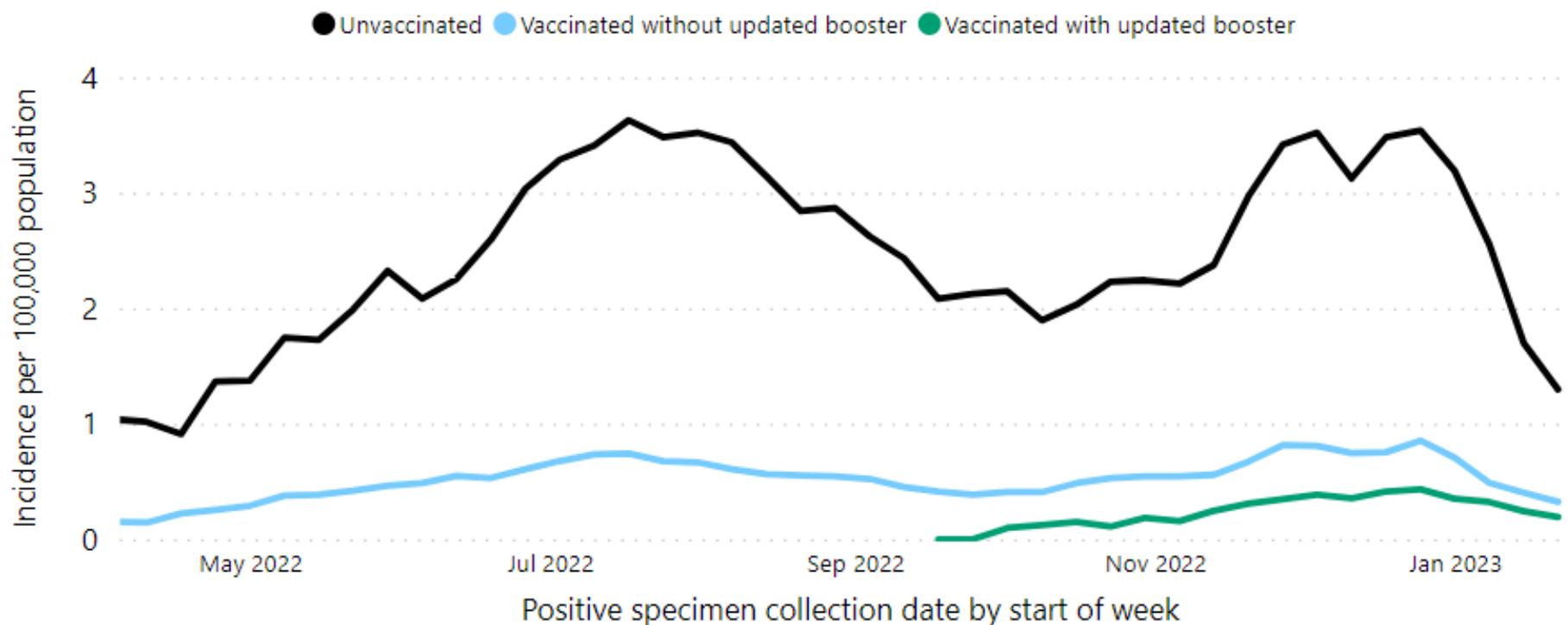
# COVID-19 Vaccine

**More than 3 million Kentuckians have received a COVID-19 vaccine**

13.1% of Kentuckians  $\geq 5y$  have received a bivalent booster

## Rates of COVID-19 Deaths by Vaccination Status in Ages 18 and Older

April 03, 2022–January 28, 2023 (24 U.S. jurisdictions)



**In January 2023, people ages 18 years and older and vaccinated with an updated (bivalent) booster had:**

**7.9X**

*lower risk of dying from COVID-19*

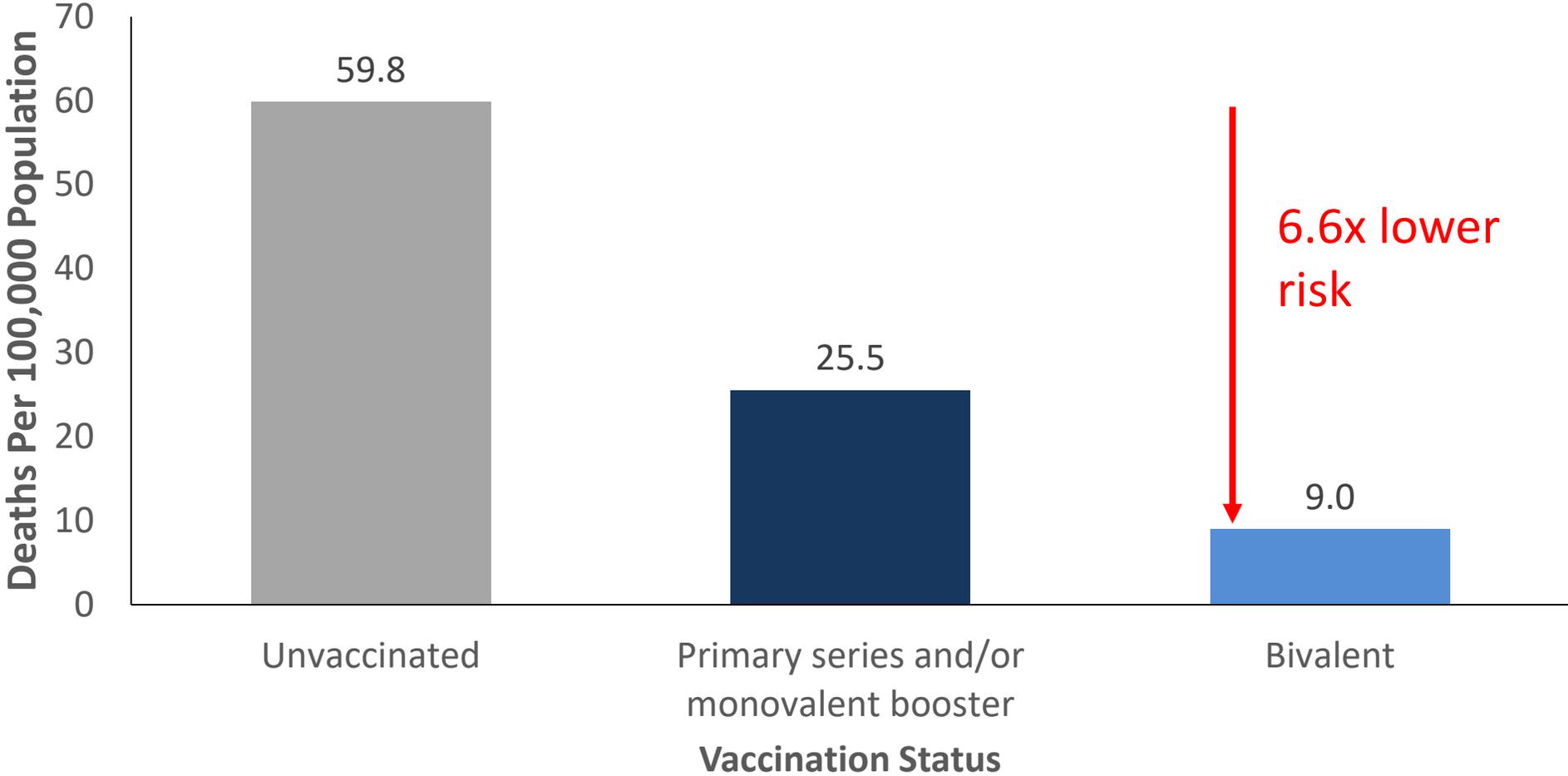
**compared to unvaccinated people, and**

**1.7X**

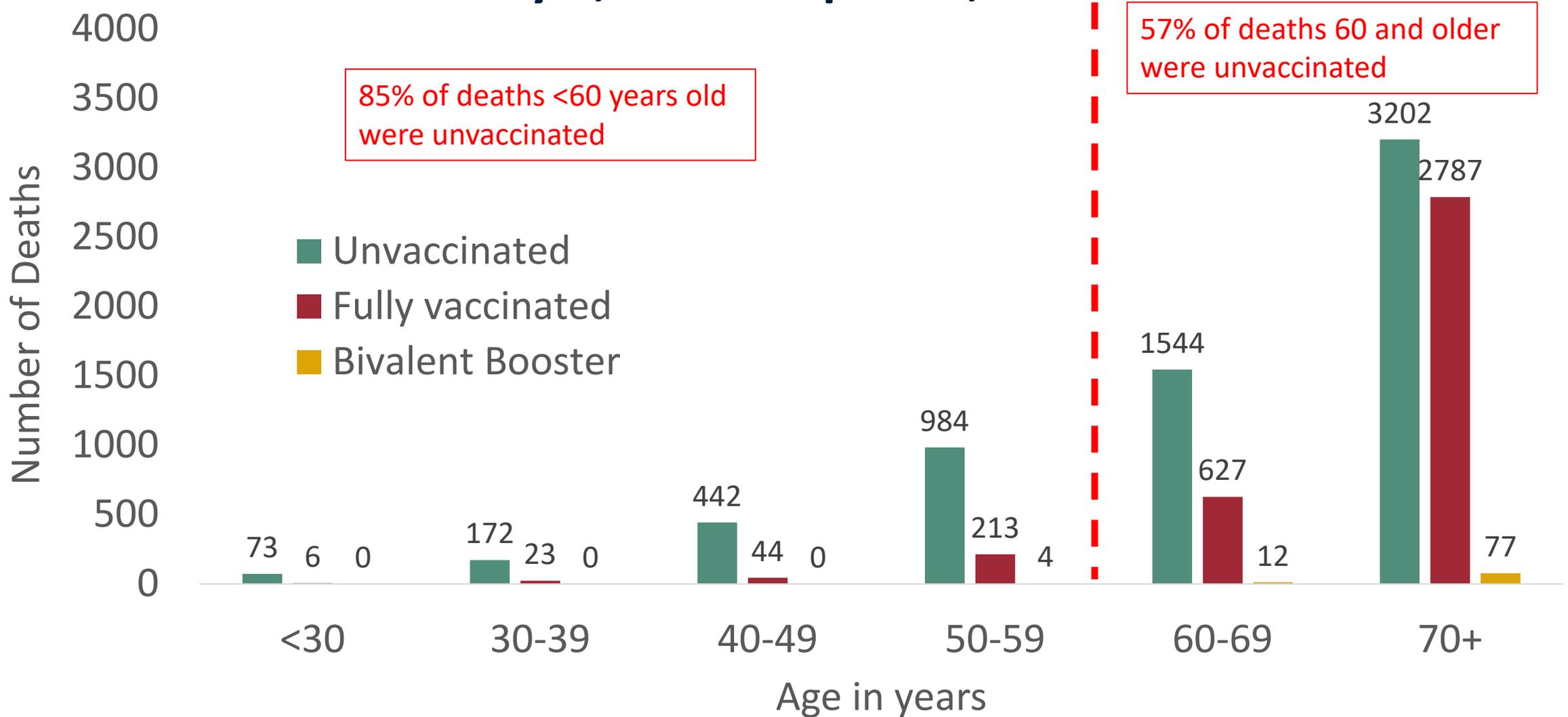
*lower risk of dying from COVID-19*

**compared to people vaccinated without the updated (bivalent) booster.**

# COVID-19 Age-standardized mortality rates by vaccination status in Kentucky – Oct 1, 2022-April 28, 2023



# Age and vaccination status of COVID-19 deaths in Kentucky – July 1, 2021 – April 28, 2023



# COVID-19 vaccines among children still lacking in KY

	Unique Kentuckians Vaccinated	Bivalent Vaccinations
Age (years)	Number (Percent of Population)	Number (Percent of Population)
0-4	15,057 (5.5%)	1,214 (0.4%)
5-11	99,165 (25.5%)	6,932 (1.8%)
12-15	114,916 (50.3%)	7,729 (3.4%)
16-17	61,083 (54.1%)	3,754 (3.3%)
18-24	248,232 (60.0%)	12,720 (3.1%)
25-39	573,186 (66.0%)	49,426 (5.7%)
40-49	408,605 (74.1%)	46,540 (8.4%)
50-64	733,339 (83.2%)	136,426 (15.5%)
65-74	442,552 (98.8%)	151,649 (33.9%)
75+	286,390 (94.6%)	114,026 (37.7%)
Unknown	26,557 (n/a)	28,789 (n/a)
<b>Total</b>	<b>3,009,082 (67.4%)</b>	<b>559,205 (12.5%)</b>

- 94% of children <5 years of age have never been vaccinated.
- 74% of children 5-11 years of age have never been vaccinated.

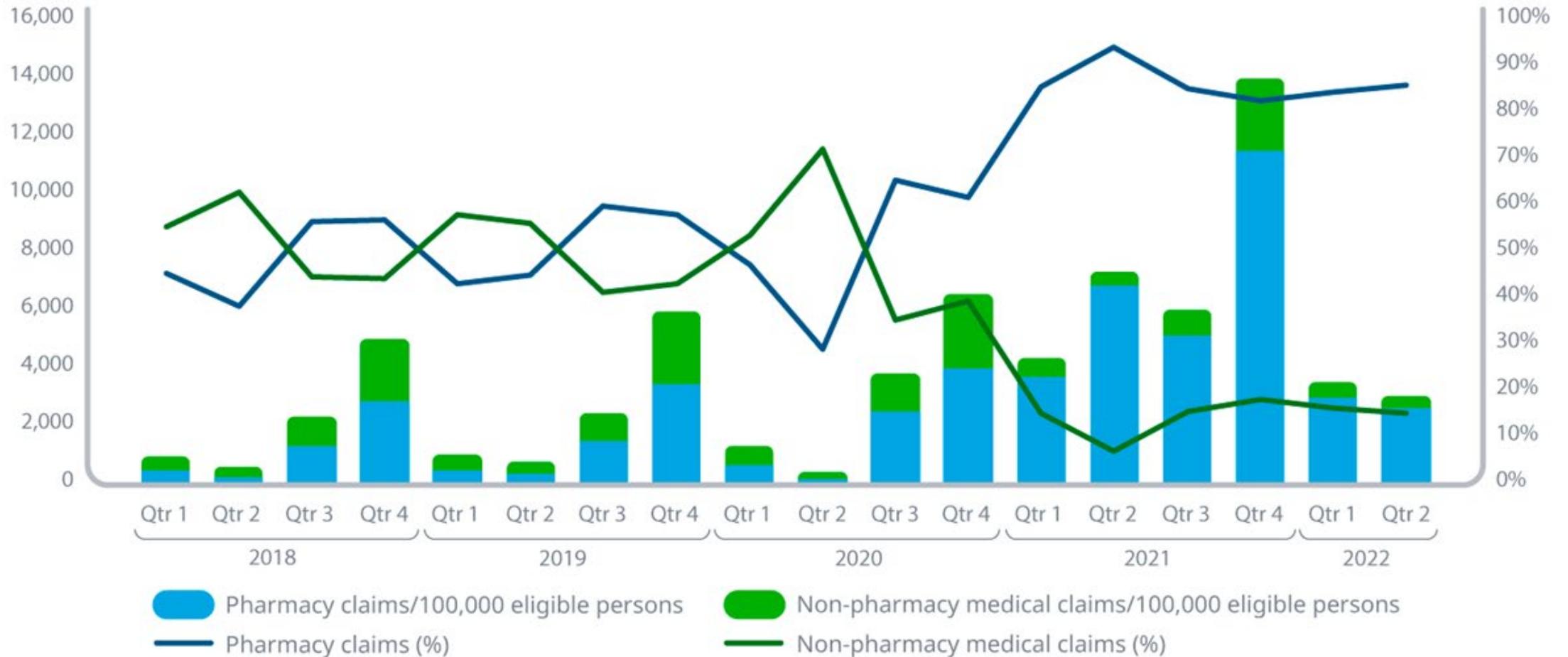
# Getting back to the basics



Let's RISE is a CDC initiative to provide actionable strategies, resources, and data to support getting all Americans back on-schedule with their routine immunizations to protect everyone from vaccine-preventable disease and disability.

- Recalling patients who are not up-to-date.
- Routinizing vaccine conversations and administration at every opportunity.
- Providing a strong recommendation and on-site administration.
- Improving and maintaining access to vaccines in a variety of locations.

## Number of claims/100,000 eligible persons and % share of adult\* vaccines in pharmacy vs. non-pharmacy medical settings

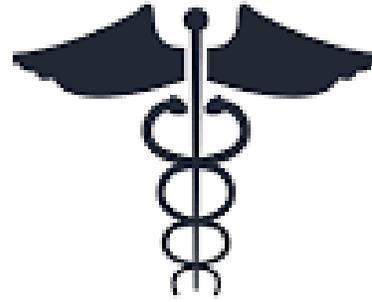


Sources: IQVIA LRx and Dx, Aug. 2022; U.S. Census Dec. 2022

Includes COVID-19, influenza, HPV, pneumococcal, shingles, Tdap; based on pharmacy and medical claims.

<https://www.iqvia.com/insights/the-iqvia-institute/reports/trends-in-vaccine-administration-in-the-united-states>

# Pharmacist vaccinators in Kentucky



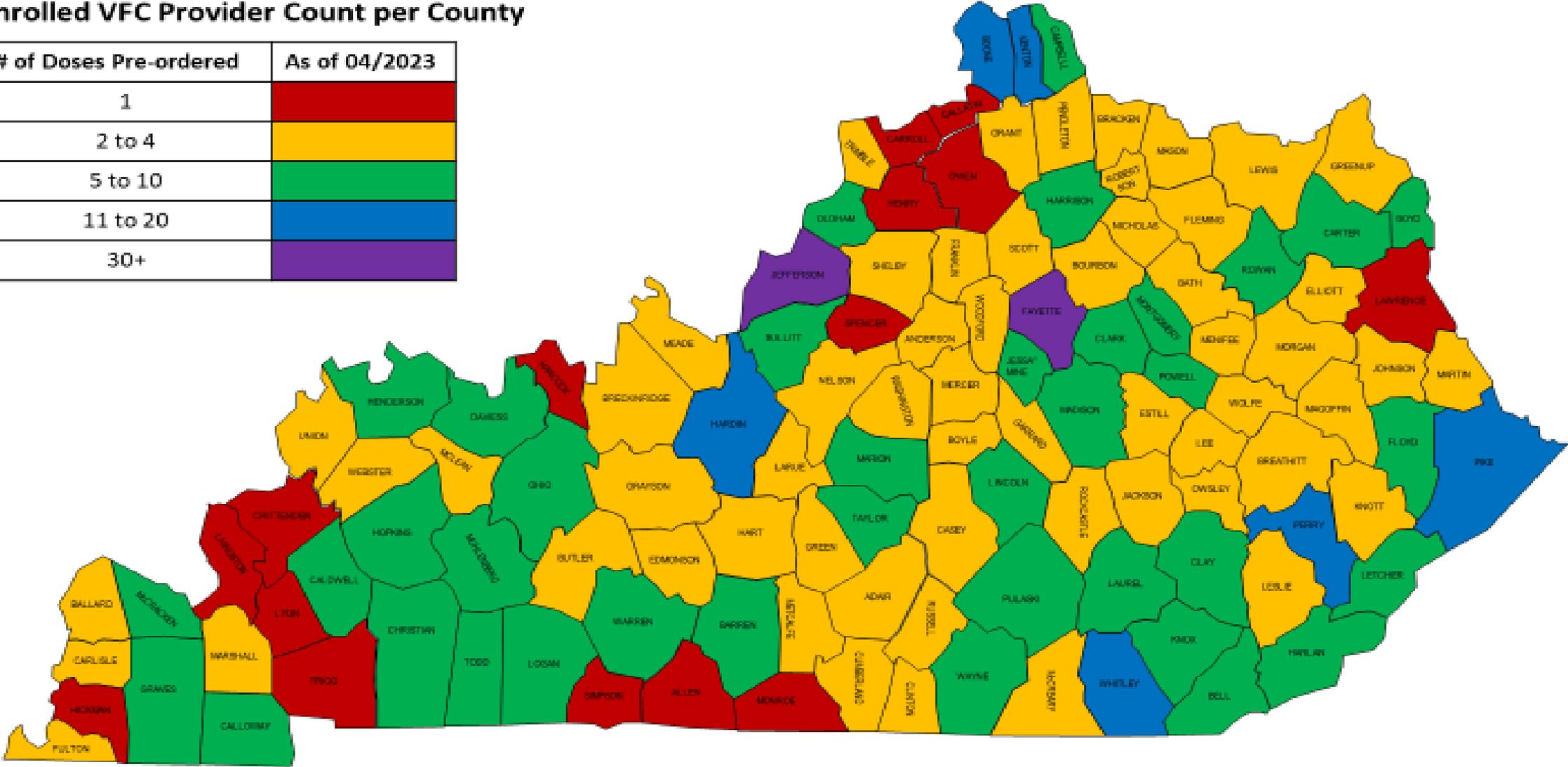
- Pharmacists can administer any CDC/ACIP-recommended vaccine to persons 9 years of age and older.
- Pharmacists can administer any CDC/ACIP-recommended vaccine to persons 8 years of age and younger with a patient-specific prescription.
- Pharmacy technicians can administer the same vaccines as pharmacists.

# Vaccines For Children Program

2019: 560 active VFC provider  
 2023: 633 active VFC providers

Enrolled VFC Provider Count per County

# of Doses Pre-ordered	As of 04/2023
1	Red
2 to 4	Yellow
5 to 10	Green
11 to 20	Blue
30+	Purple



Only **57%** of active VFC providers administering **COVID-19 vaccines**

# Kentucky Immunization Registry

Pandemic progress:

- 15% increase in active HL7 connections since 2019
  - 1,931 => **2,212**
- 40% increase in clinics enrolled and reporting vaccine administration data since 2019
  - 1,552 => **2,169**

WEBIZ

Kentucky  
Immunization  
Registry

# Kentucky Immunization Registry (KYIR) Public Portal

ON THE KYIR PUBLIC PORTAL, YOU CAN ACCESS:



## DIGITAL COPY

A digital copy of your immunization records.



## SCHOOL CERTIFICATE

For students under 18 years of age a digital copy of school certificates can be obtained.



## COVID-19 SMART HEALTH CARD

A copy of your COVID-19 vaccination records or a SMART Health Card: A digital copy of your COVID-19 vaccination records that can be stored on a phone.

To access a copy of your immunization records from the KYIR Public Portal scan the QR code provided or visit:

[chfs.ky.gov/KDPHMyVaxRecord](https://chfs.ky.gov/KDPHMyVaxRecord)



If you are unable to access your immunization records through the KYIR Public Portal please contact the KYIR Helpdesk at:

# Back to School Outreach Toolkit



Vaccines are the most effective means of protecting children from potentially serious infectious diseases and stopping the spread of disease.

Help your parents, students, and staff be prepared and protected at the start of the school year! By utilizing this toolkit, you can help promote the importance of school vaccination.

## Preschool & Kindergarten

[Sharable Social Media Graphics and Flyers](#)  
[KY Immunization Requirements for Childcare-PreK](#)  
[Summary of Immunizations for Pre-K & Kindergarten Attendance](#)

## 6th Grade

[Sharable Social Media Graphics and Flyers](#)  
[KY Immunization Requirements for School-Age Children](#)  
[Summary of Immunizations for School Attendance](#)

## High School

[Sharable Social Media Graphics and Flyers](#)  
[KY Immunization Requirements for School-Age Children](#)  
[Summary of Immunizations for School Attendance](#)

## Additional Resources

### KDPH

[Sample Outreach Call Script](#)  
[Commonwealth of KY Certificate of Immunization Status](#)  
[Parent or Guardian's Religious Declination \(ENG\)](#)  
[Parent or Guardian's Religious Declination \(SPN\)](#)  
[Notice of Noncompliance for Immunizations](#)



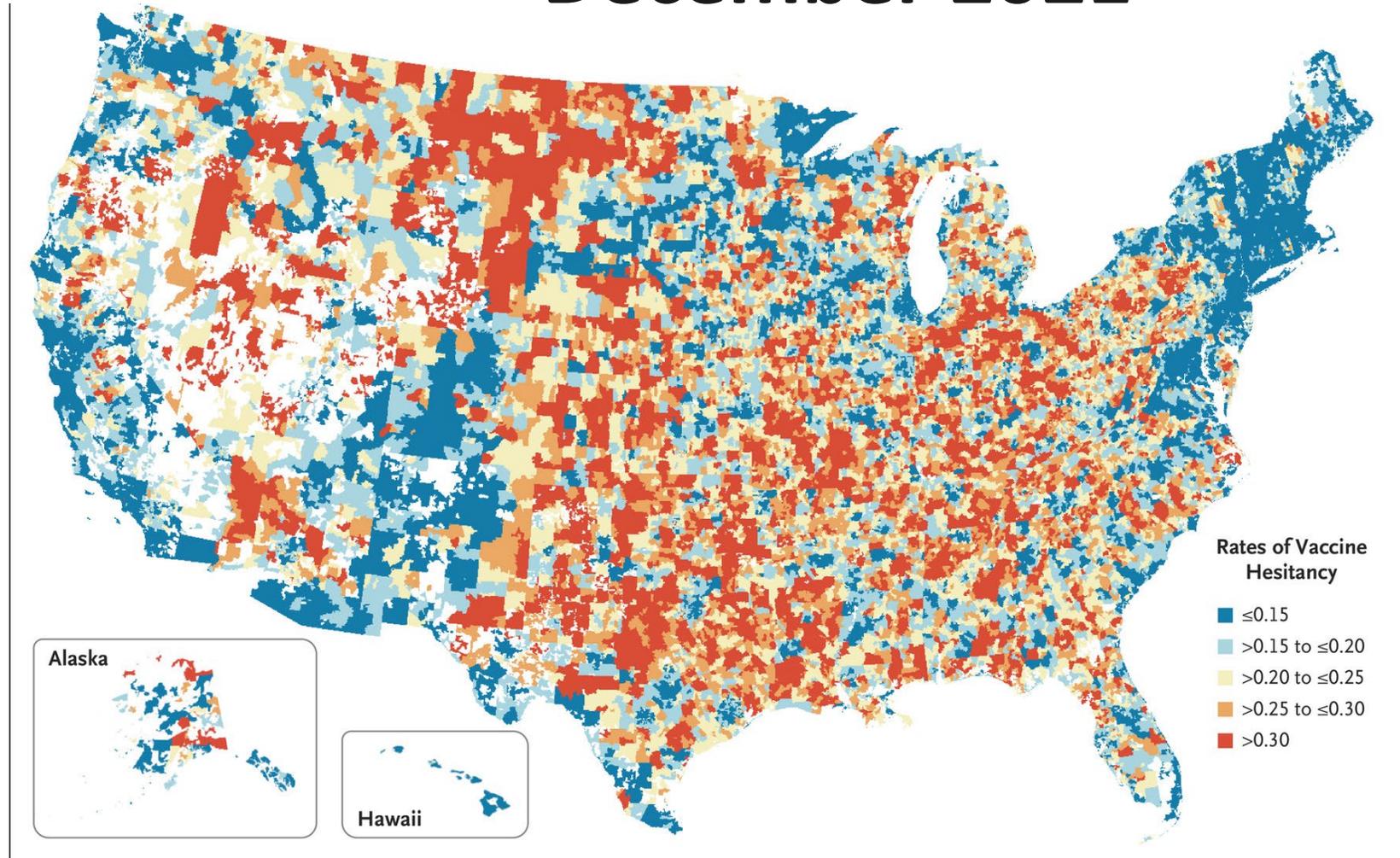
[Relevant KRS/KAR: Including Summaries](#)  
[Notice of Incomplete Health Requirements](#)  
[Immunization Action Coalition \(IAC\): Vaccine Information](#)  
[Immunize Kentucky Coalition \(IKC\)](#)

[Printable School Ready Sticker](#)

### CDC

[Vaccine Information Statements \(VIS\) | CDC](#)  
[Immunization Schedules for Healthcare Professionals | CDC](#)  
[U.S. Vaccine Names | CDC \(Trade Names\)](#)  
[ACIP Vaccine Recommendations | CDC \(Advisory Committee on Immunization Practices\)](#)  
[Manual for the Surveillance of Vaccine-Preventable Diseases | CDC](#)

# Rates of Vaccine Hesitancy across U.S. ZIP Codes, December 2021



Salomon JA, Reinhart A, Bilinski A, et al. The US COVID-19 Trends and Impact Survey: continuous real-time measurement of COVID-19 symptoms, risks, protective behaviors, testing, and vaccination. Proc Natl Acad Sci U S A 2021;118(51):e2111454118-e2111454118.

# “Trust the Public with More of the Truth”

## Peter Sandman

➤ Risk = Hazard + Outrage

➤ “The problem isn’t that the public doesn’t trust [public health]. The problem is that [public health] expects the public to trust them. They keep asking to be trusted, instead of working to be accountable so they don’t need to be trusted. And the problem is that [public health] doesn’t trust the public.”

# Thank you!

## Acknowledgements

- Kentucky Local Health Departments
- KDPH Immunization Branch
  - Carolyn Parry, Dr. Amy Herrington, Kimberly Sanders, Ida Taylor, & Laura Barrett
- Dr. Eva Stone & JCPS

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