

Massachusetts State Immunization Update

29th Annual Massachusetts Adult Immunization Conference
April 4, 2024

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Director, Immunization Division

Massachusetts Department of Public Health

Disclosure

I, Pejman Talebian, have been asked to disclose any relevant financial relationships with ACCME-defined commercial entities that are either providing financial support for this program or whose products or services are mentioned during this presentation.

I have no relevant financial relationships to disclose.

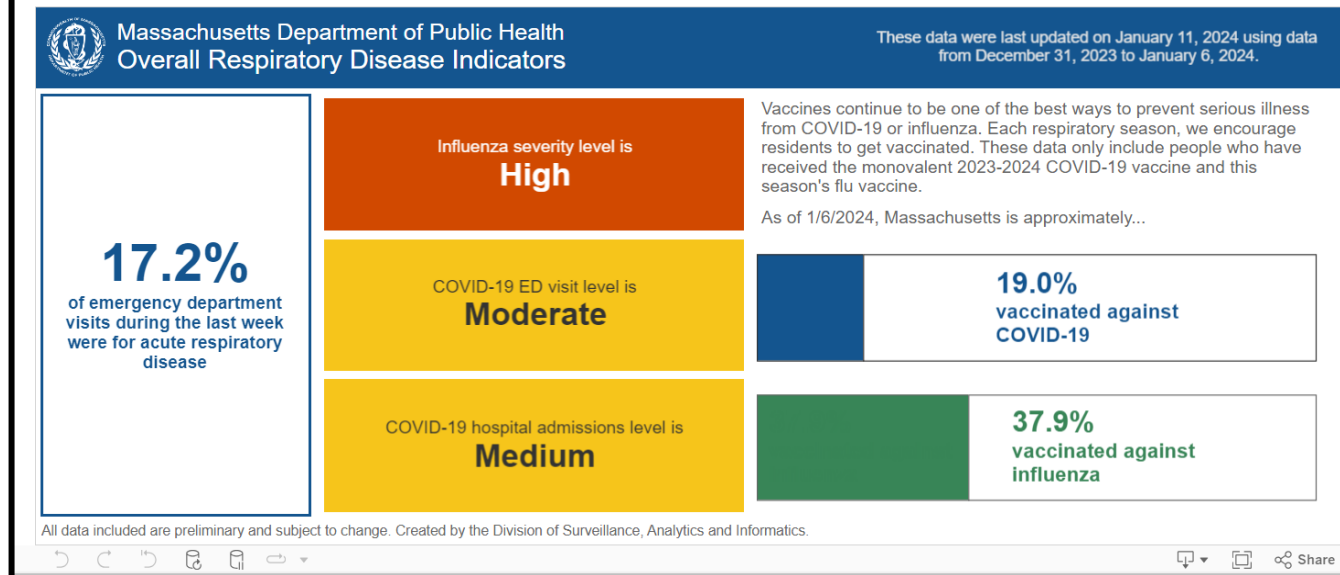
I may discuss the use of vaccines in a manner not approved by the U.S. Food and Drug Administration, but in accordance with ACIP recommendations.

Status of Vaccine Preventable Diseases

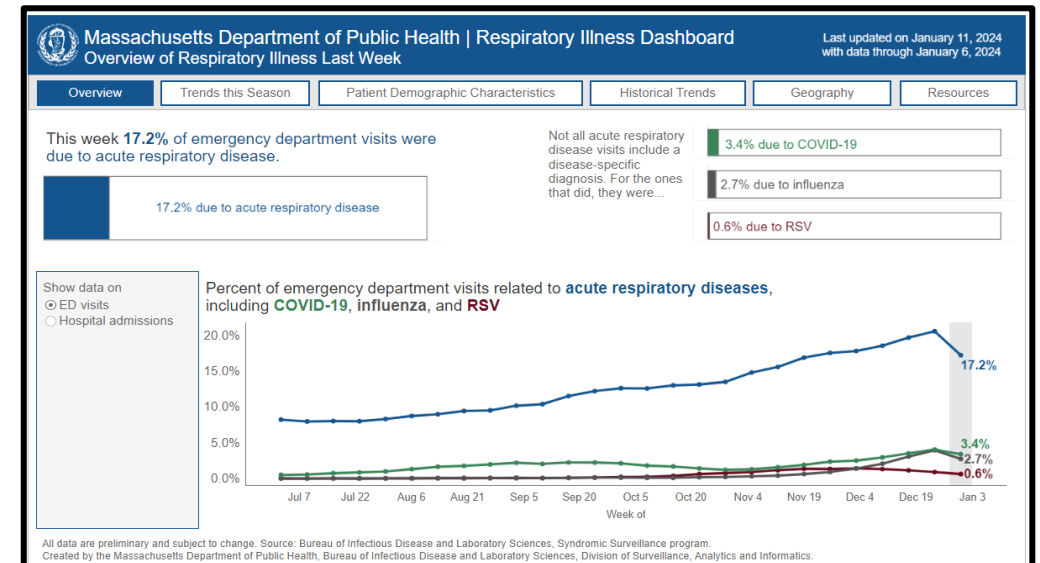
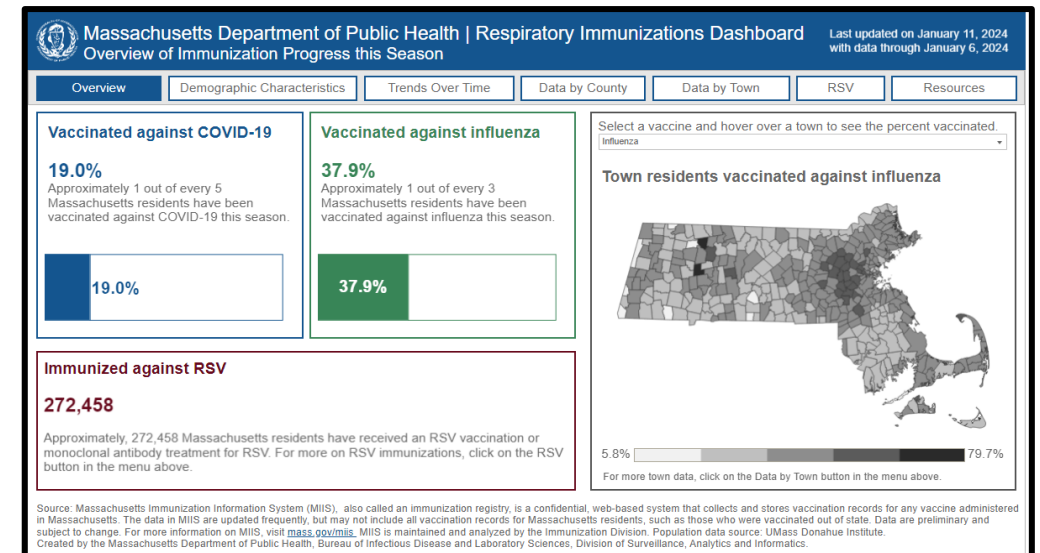
Respiratory Illness Dashboard

- Includes: Influenza, COVID-19, RSV, wastewater (COVID-19 only) and immunization data

Topline Indicators



<https://www.mass.gov/info-details/viral-respiratory-illness-reporting>



Vaccine Preventable Diseases in MA, 2014-2024

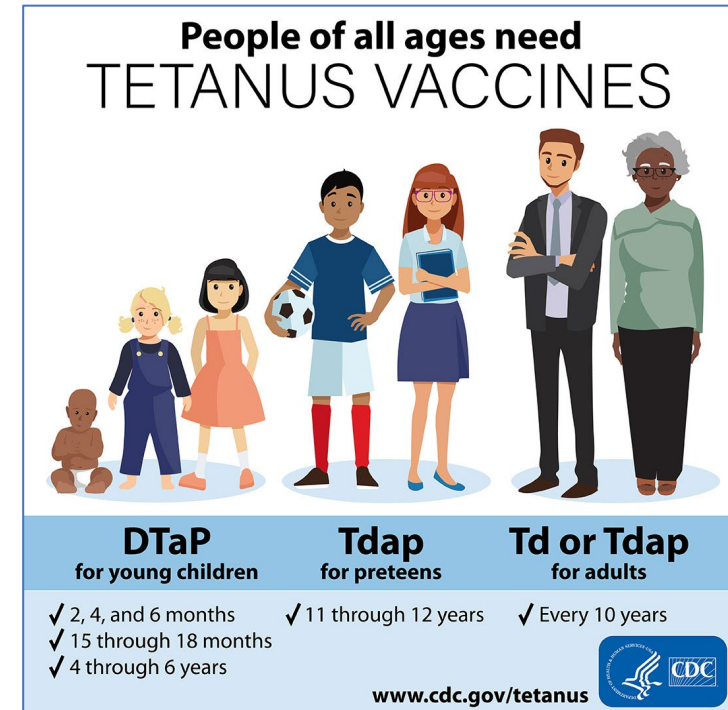
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023 ¹	2024 ¹
Measles*	8	0	1	0	2	3	1	0	0	0	0
Mumps*	5	6	258	192	44	64	19	2	10	7	2
Rubella*	0	0	0	1	0	0	0	0	0	0	0
Meningococcal Disease	11	12	11	10	21	15	10	9	13	10	0
Pertussis	298	253	198	383	262	287	42	5	5	14	5
Diphtheria	0	0	0	0	0	0	0	0	0	0	0
Pneumococcal Disease <5	27	20	31	21	26	23	14	19	30	18	2
Hib <5 (Type B)	1	0	1	2	1	0	0	0	1	2	0
Varicella*	469	356	289	380	293	299	93	99	101	155	23
Tetanus	0	0	0	0	0	1	1	1	0	1	0
Polio	0	0	0	0	0	0	0	0	0	0	0
Hepatitis A	42	35	64	53	373	193	32	19	27	38	10
Hepatitis B (acute)	36	34	32	52	48	37	16	14	21	34	3

¹2023 and 2024 YTD data are preliminary as of March 8, 2024 and are subject to change.

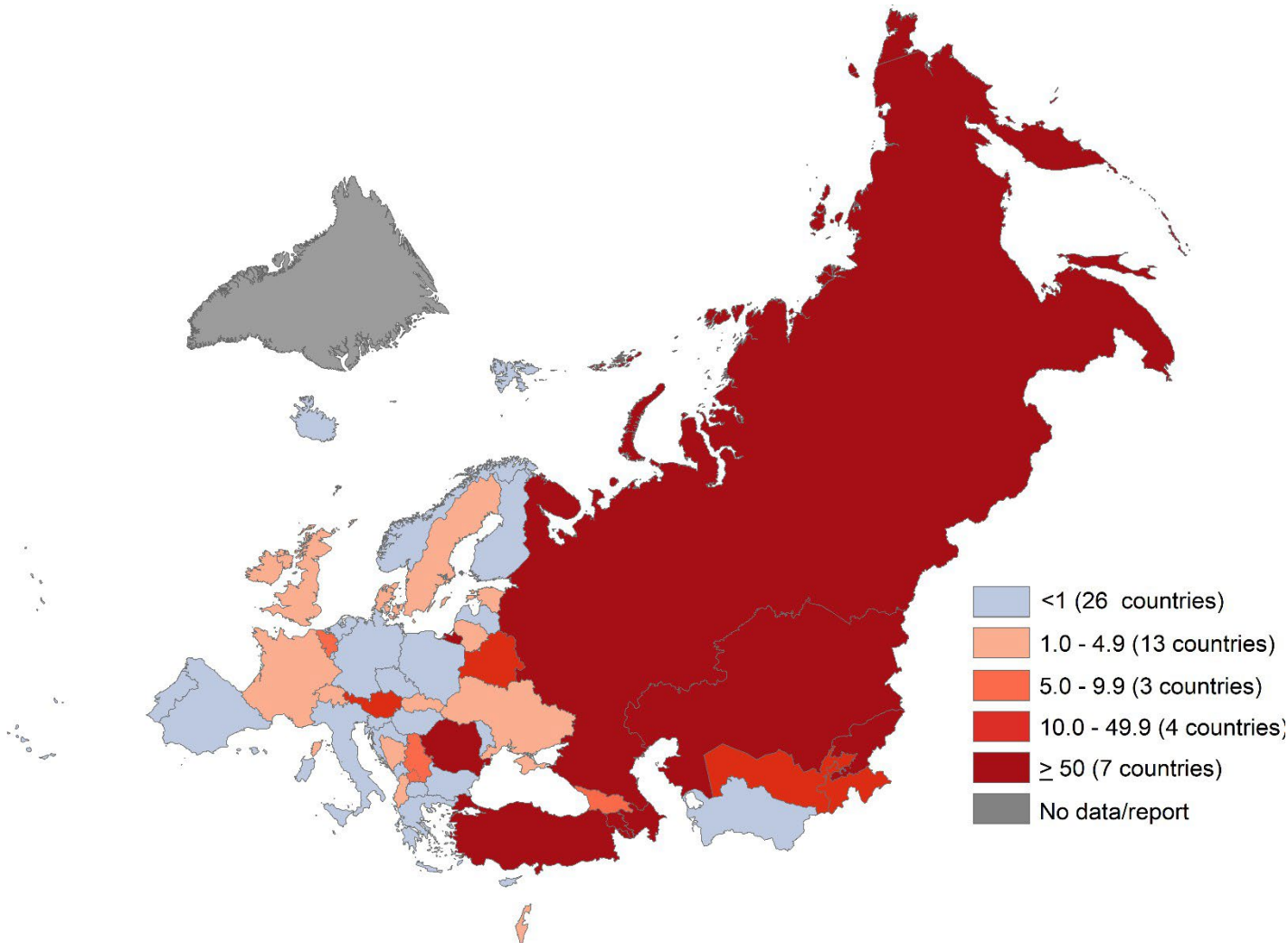
*Measles, Mumps, Rubella and Varicella numbers include confirmed and probable cases to better reflect disease burden. All other diseases include confirmed cases only.

Tetanus: Recent Fatal Probable Case

- During the fall of 2023, DPH was notified about an elderly adult hospitalized with suspected tetanus.
 - Case initially seen by PCP after a fall, given Tdap as part of wound care.
 - No record of previous tetanus vaccination.
 - A few days later, presented to PCP with dysphasia, throat discomfort and fevers. Case worsened and presented to the ED with pain, difficulty swallowing, inability to speak, grimacing, lock jaw, back pain, and muscle spasms.
 - Individual died five days later.
- **This is the fourth case of tetanus in an adult in MA since 2019.**
- Please continue to offer tetanus vaccination to your patients during routine visits.



Measles incidence per million population— WHO European Region, January–December 2023



Top 10 countries		
Country	Cases	Incidence
Azerbaijan	13735	1319.07
Kyrgyzstan	7044	1045.83
Kazakhstan	15111	770.71
Armenia	554	199.43
Romania	1753	88.12
Russian Federation	12723	88.08
Türkiye	4559	53.13
Uzbekistan	1107	31.48
Tajikistan	294	28.98
Austria	186	20.76

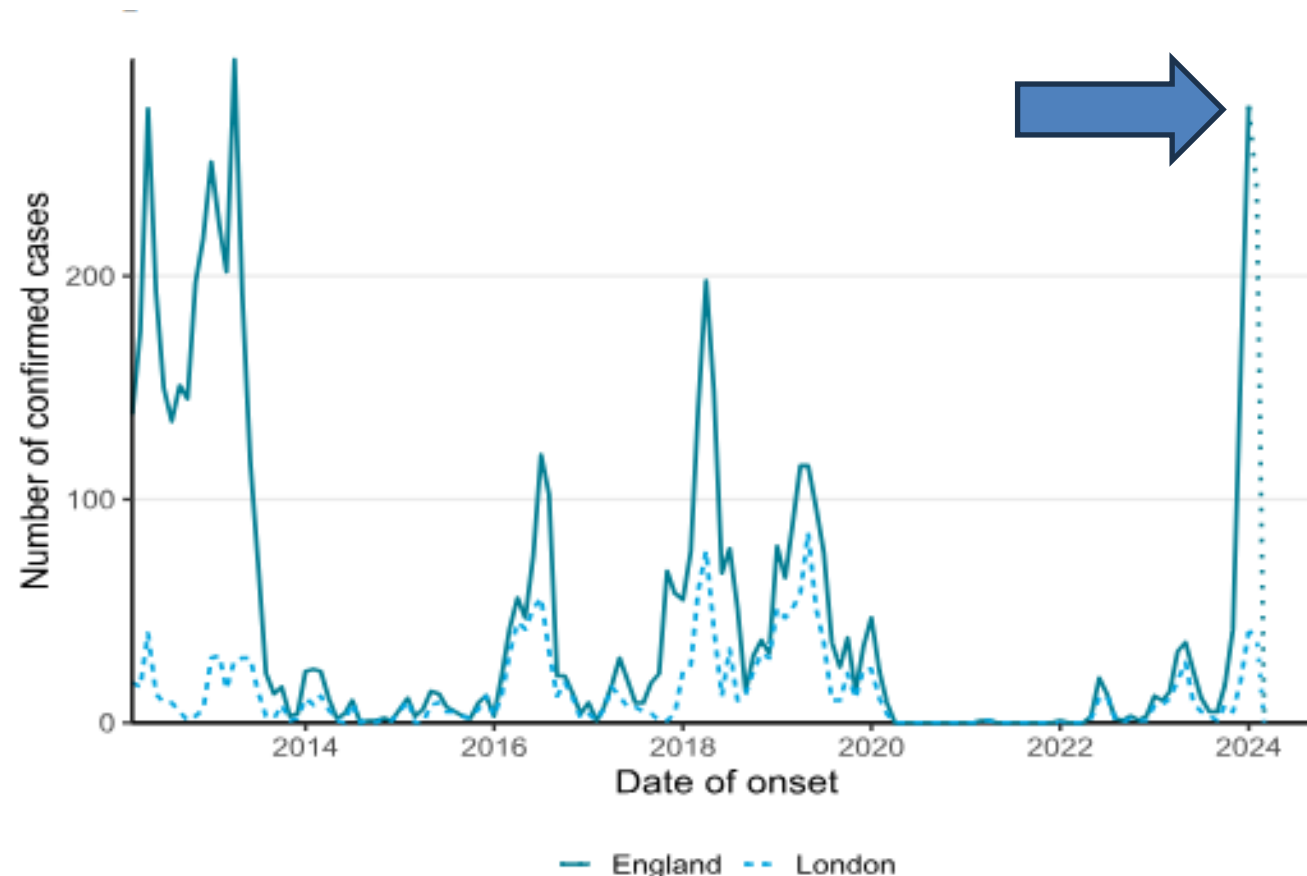
Disclaimer: The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. © WHO 2024. All rights reserved.

Population source: United Nations, Department of Economic and Social Affairs, Population Division. World Population Prospects: The 2022 revision.

Data source: Monthly aggregated and case-based data reported by Member States to WHO/Europe directly or via ECDC/TESSy data as of 09 February 2024

Measles in England 2012 to 3/4/2024

Laboratory confirmed cases of measles by month of onset of rash or symptoms reported, London and England, March 2012 to March 4, 2024.

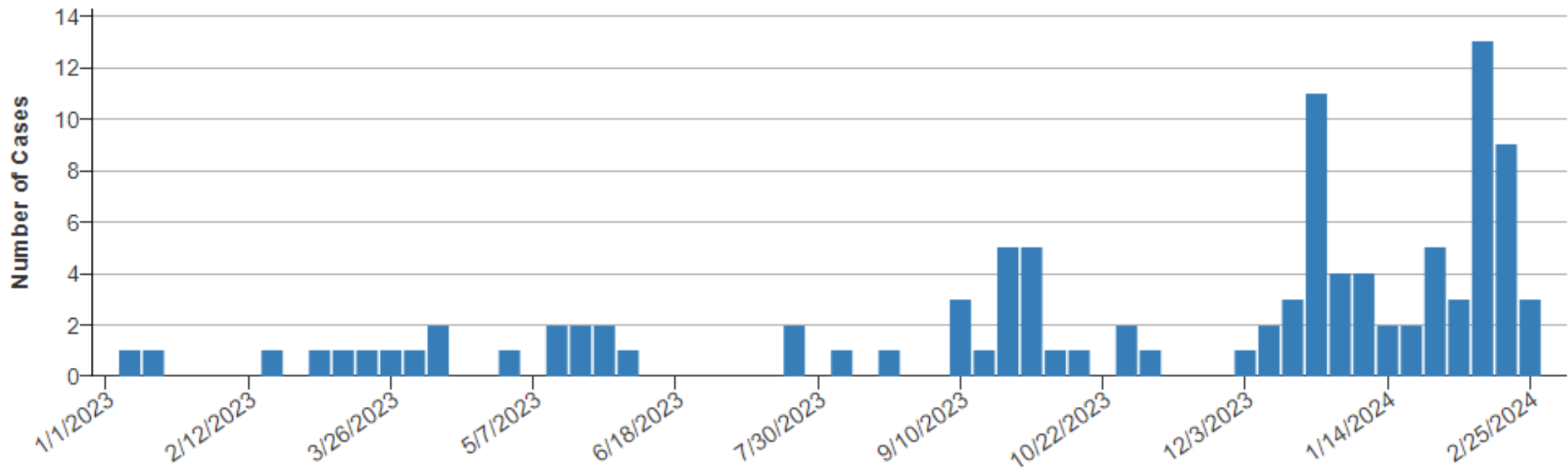


<https://www.gov.uk/government/publications/measles-epidemiology-2023/national-measles-standard-incident-measles-epidemiology-from-october-2023>

Measles Cases in the US 2023 – 3/7/24

Number of measles cases reported by week

2023-2024* (as of March 7, 2024)



Measles in Massachusetts: Cases vs. Investigations 2014 - 2024 to date

- Last confirmed measles case in MA at the beginning of 2020 before COVID-19.
- Most suspect cases for measles are eventually ruled out, however even one case can lead to several hundred exposures and extensive follow-up.
- Contact DPH **ASAP** at **617-983-6800** if you want to rule out measles or believe you are evaluating a suspect case.

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024 ¹
Confirmed & Probable Cases	8	0	1	0	2	3	1	0	0	0	0
Total Suspect Investigations	111	119	62	55	74	196	24	16	17	38	23

¹YTD data are preliminary and subject to change, as of 3/8/24.

Measles Vaccination and International Travel

Teenagers and adults who do not have presumptive evidence of immunity against measles should get two doses of MMR vaccine separated by at least 28 days.

Acceptable presumptive evidence of immunity against measles prior to international travel includes at least **one** of the following:

- written documentation of two doses of a measles-containing vaccine
- laboratory evidence of immunity
- laboratory confirmation of measles
- birth before 1957



<https://www.cdc.gov/measles/hcp/index.html#immunity>

MDPH Reminders about Measles Vaccination 2024

- Reminder to schools with lower MMR vaccination rates
- Reminder to schools, local health departments and clinicians about Massachusetts vaccination requirements applying to visiting students

To: School Health and School Nurses
Local Boards of Health
Exchange and Visiting Student Program Administrators
School Administrators
Healthcare Providers

From: Angela Fowler, MD, MPH
Associate Medical Director for Vaccine Preventable Diseases
Bureau of Infectious Disease and Laboratory Sciences

Date: March 1, 2024

Subject: Immunization Requirements

Measles is a highly contagious, potentially severe disease that can be spread through the air. Although measles has been eliminated in the US, there is a substantial rise in the number of measles cases worldwide. The CDC recently issued an [alert](#) about several cases of measles occurring in the US related to international travel. To date, 11 states have reported measles cases in 2023.

Measles is one of the world's most contagious diseases. Community-wide vaccination is the most effective way to prevent measles. The CDC recommends that all children receive two doses of MMR vaccine to ensure they are immune. A second dose is given at ages 4 to 6 years. Teenagers and adults who were not vaccinated as children should also receive two doses of MMR vaccination. The CDC suggests that all adults should receive two doses of MMR vaccine to achieve herd immunity to protect individual health.



Low MMR Immunization Rate Amongst Your Childcare/Preschool Students



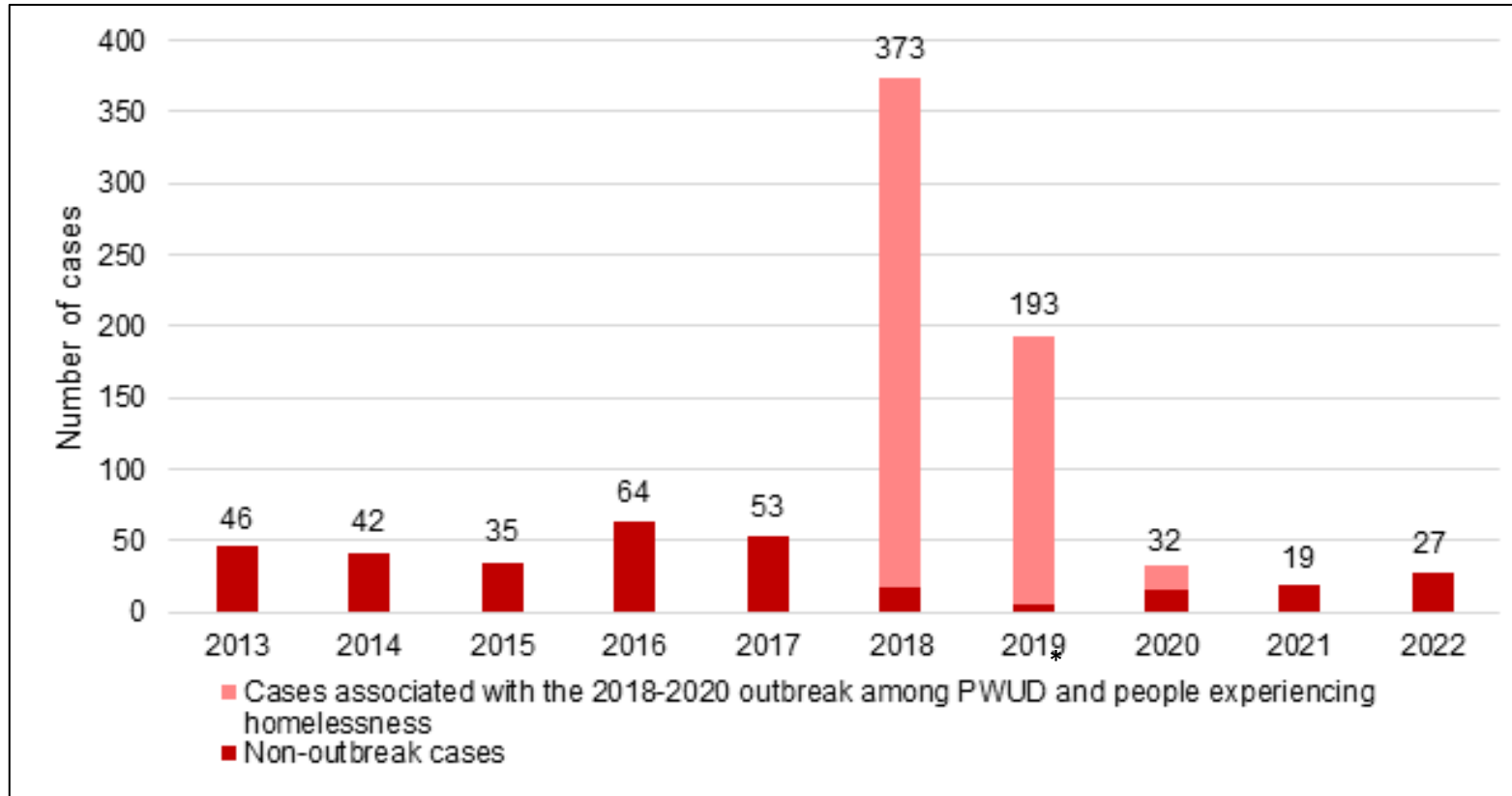
We write to bring to your attention an issue of significant public health concern. In reviewing the data from the 2023-2024 School Immunization Survey, **we noted low immunization coverage rates (<90%) reported for the measles, mumps, and rubella (MMR) vaccine among the students in your school.** These data are very concerning because low MMR vaccination rates put your school community at risk for outbreaks of contagious illness, in particular measles.

Although measles has been eliminated in the US, international travelers continue to bring measles into the United States. Currently, there is a substantially increased threat of measles importation to the US related to a dramatic rise in the number of measles cases worldwide. Notably, the Centers for Disease Control and Prevention (CDC) recently issued an alert about several cases of measles occurring in the US related to international travel - to date, ten states have reported measles cases in their jurisdictions since December 1, 2023.

The MMR vaccine is very safe and effective. **All children should receive two doses of MMR vaccine to ensure they are immune.** The first dose is usually given at 12-15 months, and the second dose is given at 4-6 years of age. For more information, please visit [www.mass.gov/dph](#).

Hepatitis A: Surveillance

Confirmed Hepatitis A Cases Reported in Massachusetts, 2013-2022



* PWUD=People who use drugs

Data source: Bureau of Infectious Disease and Laboratory Sciences. Data as of 8/1/23 and are subject to change.

Hepatitis A Outbreak Under Investigation

In late 2023, MDPH detected an increase in Hep A among people who are unstably housed and people who use drugs (PWUD). These cases are similar to a large outbreak that began in MA in 2018 and ended in 2020, eventually involving 563 cases and 9 deaths.

As of Feb 26, 2024, there are 17 confirmed cases in outbreak (since Sep 1, 2023)

Age (years)

Range: 19-60

Median: 42

Gender

Female: 9 (53%)

Male: 8 (47%)

Massachusetts Department of Public Health

Clinical Advisory – Hepatitis A Among Persons Experiencing Homelessness and Who Use Injection and Non-injection Drugs

Between November 1 and November 29, 2023, six cases of hepatitis A infection have been reported in Suffolk, Norfolk, Hampden, and Plymouth counties; additional suspect cases are under investigation. Some of these illnesses have been severe with four individuals requiring hospitalization. No deaths have been reported. Four of the six individuals are male with ages ranging from 36 to 60. Several individuals reported recent homelessness/unstable housing, injection drug use, and/or other drug use, and reported recently seeking services at Boston-area clinics, shelters, and substance use treatment facilities. These cases have no history of travel outside of Massachusetts and there are no common sources of food, beverages or drugs identified with this cluster.

These cases are similar to a large [outbreak](#) that began in Massachusetts in 2018 and ended in 2020, eventually involving 563 cases with 9 deaths. At that time, there were additional large Hepatitis A infection clusters in California, Indiana, Kentucky, Michigan, Tennessee, Utah, and West Virginia.

<https://www.mass.gov/info-details/hepatitis-a-infection-among-persons-experiencing-homelessness-and-persons-who-use-drugs>

Advisory dated 12/11/2023

Hepatitis A: Current Outbreak

- Clinical advisory issued by DPH in December 2023
- Push to vaccinate people who are unstably housed and/or PWUD
- Pre-vaccination serology not required
- Offer vaccine at any point-of-care setting
- State-sponsored vaccines available through the DPH Immunization Division for uninsured or underinsured adults
 - DPH 24/7 Epi Line: (617) 983-6800

Immunization Coverage

MA Adult Vaccination Rates, BRFSS 2019-2022

Vaccine/Group	2019	2020	2021	2022
Tdap ≥ 18 y/o	45%	43%	42%	47%
Zoster ≥ 60 y/o	42%	45%	53%	52%
HPV females 18-26 y/o (1+ doses)	74%	70%	62%	62%
HPV males 18-26 y/o (1+ doses)	45%	51%	54%	42%
Influenza vaccine ≥ 65 y/o	68%	76%	75%	74%
Pneumococcal vaccine ≥ 65 y/o	75%	76%	71%	69%
Hep B ≥ 18 y/o	43%	44%	41%	41%
Hep B High Risk ≥ 18 y/o	60%	67%	61%	70%

Source: Behavioral Risk Factor Surveillance Survey (BRFSS)

MA Adult Vaccination Rates, BRFSS (2022) vs. MIIS (2023)

Vaccine/Group	BRFSS - 2022	MIIS - 2023
Tdap ≥ 18 y/o	47%	54%
Zoster ≥ 60 y/o	52%	61%
HPV females 18-26 y/o(1+ doses)	62%	44%
HPV males 18-26 y/o (1+ doses)	42%	45%
Influenza vaccine ≥ 65 y/o	74%	72%
Pneumococcal vaccine ≥ 65 y/o	69%	>99%*
Hep B ≥ 18 y/o	41%	22%

Source: 2022 BRFSS and Massachusetts Immunization Information System as of 3/13/24, UMass Donahue Institute 2020 Population Estimates

MA Flu Vaccination Rates, NIS 2021-2023

	MA 2021-22	MA 2022-23	US 2022-23
Everyone 6 mos+	63%	65%	49%*
Children 6 mos – 17 yrs	78%	75%	57%
o Children 6 mos – 4 yrs	81%	80%	66%
o Children 5 – 12 yrs	80%	77%	59%
o Adolescents 13 – 17 yrs	71%	69%	49%
Adults 18 +	59%	62%*	47%*
o Adults 18 – 64 y/o	54%	57%	40%*
o Adults HR 18 – 64 y/o	59%	65%	49%
o Adults 50 – 64 y/o	67%	65%	50%*
o Adults 65+	77%	80%	70%*

Source: 2021-22 and 2022-23 National Immunization Survey (NIS) – Flu, and BRFSS

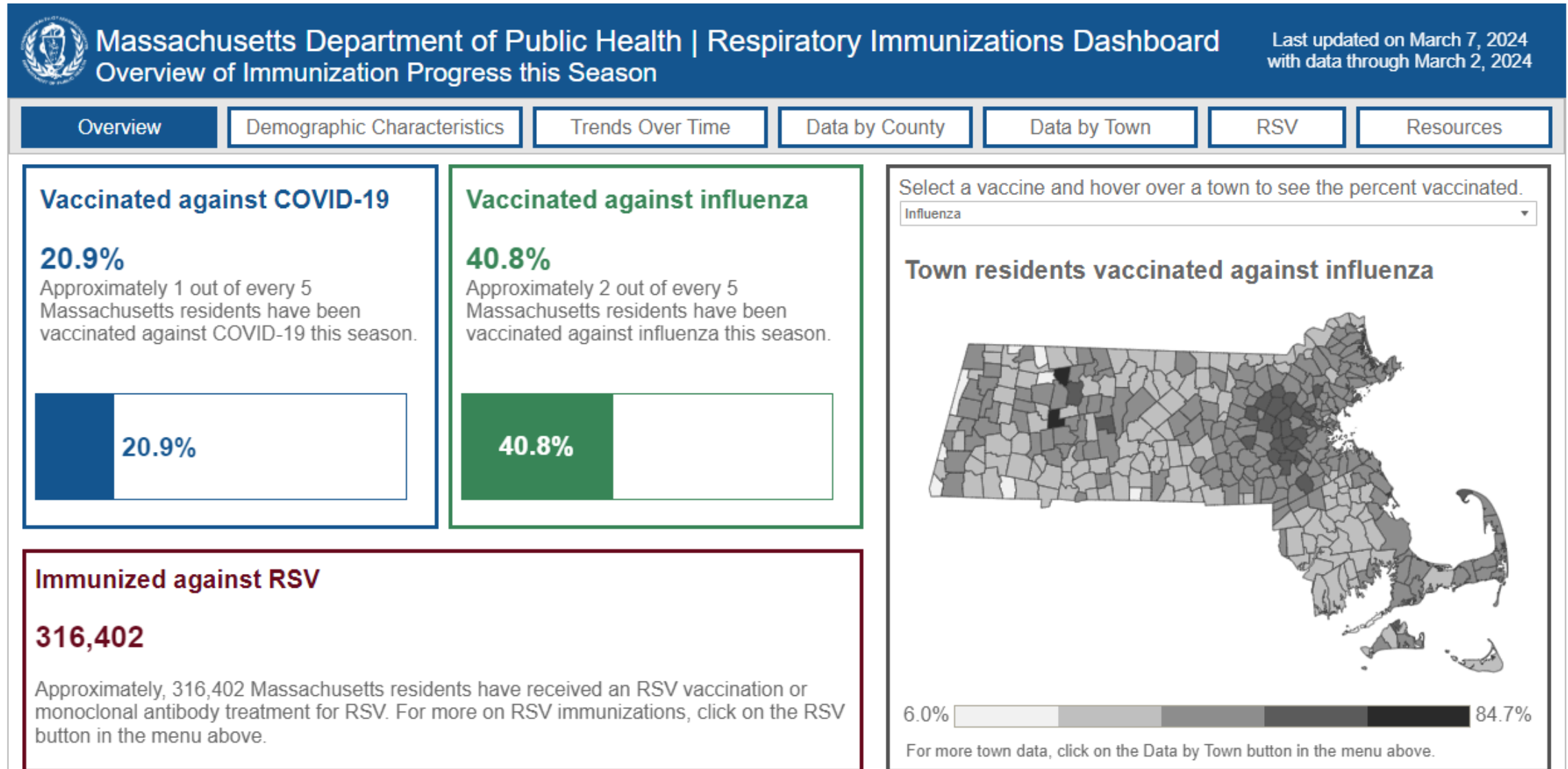
*Statistically significant change compared to prior year

MA Flu Vaccination Rates, MIIS 2023-2024

	MA 2023-24
Everyone 6 mos+	41%
Children 6 mos – 19 yrs	40%
○ Children 6 mos – 4 yrs	47%
○ Children 5 – 19 yrs	38%
Adults 20+	41%
○ Adults 20 – 64 y/o	32%
○ Adults 50 – 64 y/o	39%
○ Adults 65+	72%

Source: Massachusetts Immunization Information System as of 3/7/23, UMass Donahue Institute 2020 Population Estimates

New: Interactive Respiratory Immunization Dashboard



Source: Massachusetts Immunization Information System as of 3/7/23, UMass Donahue Institute 2020 Population Estimates

Municipality-Level Reports



Massachusetts Department of Public Health | Respiratory Immunizations Dashboard
Data by Town

Last updated on March 7, 2024
with data through March 2, 2024

Overview

Demographic Characteristics

Trends Over Time

Data by County

Data by Town

RSV

Resources

Select a type of vaccine
Influenza

Select a town
Framingham

For statewide analyses, proportions are not presented for groups without population denominators (e.g., other, unknown, etc.). For the town-level reporting, proportions for these groups are presented using the total town population as a denominator. Cells with small numbers have been suppressed.

Back to town map

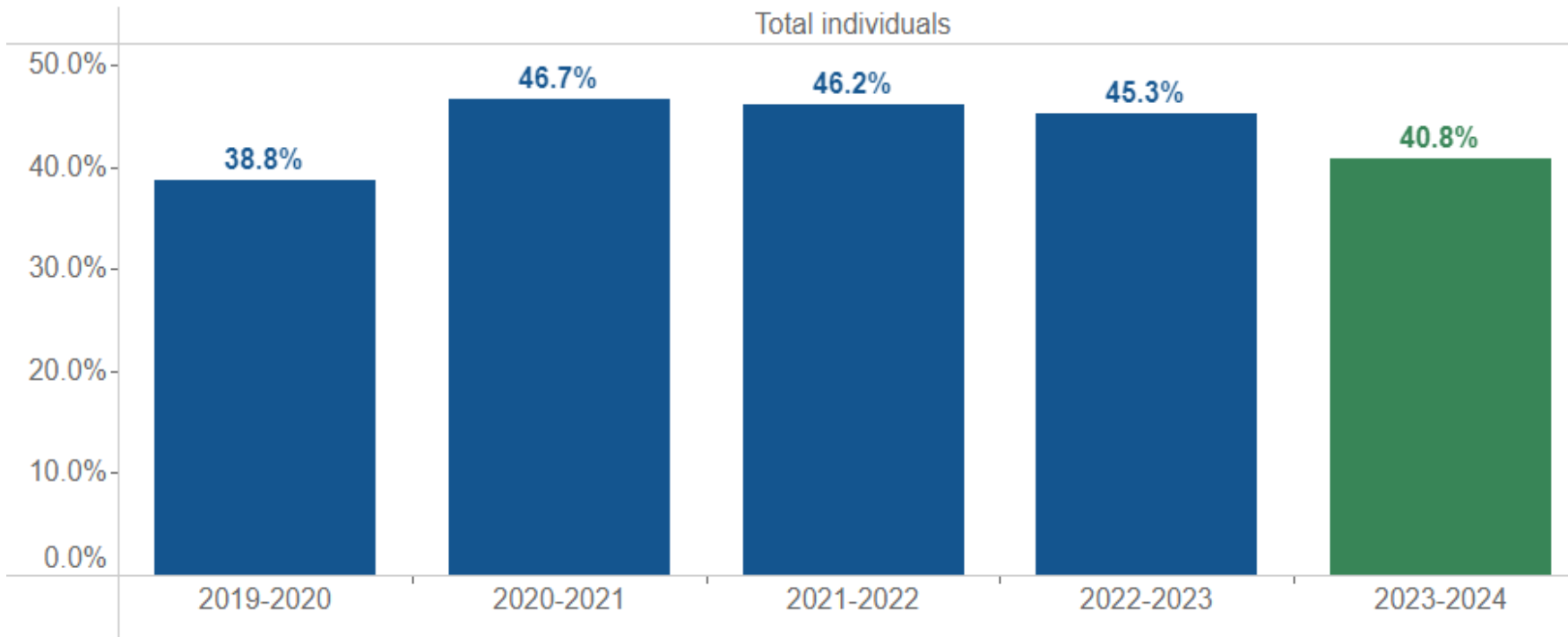
Framingham residents vaccinated against influenza
2023-2024 season to date, 7/2/2023 to 3/2/2024

Total	Total individuals	42.7%	40.8%
Age	Under 5 years	40%-60%	46.9%
	5-19 years	40%-60%	38.1%
	20-34 years	20%-40%	26.0%
	35-49 years	20%-40%	32.3%
	50-64 years	40%-60%	38.8%
	65-79 years	80%-95%	71.3%
	80+ years	60%-80%	74.1%
Hispanic ethnicity	Hispanic	40%-60%	32.1%
	Non-Hispanic	20%-40%	39.2%
	Unknown or missing ethnicity	< 20%	*
Race	American Indian or Alaska Native	< 20%	13.1%
	Asian	20%-40%	39.6%
	Black or African American	20%-40%	32.9%
	Multiracial	20%-40%	25.4%
	Native Hawaiian or Pacific Islander	20%-40%	63.7%
	Other race	< 20%	*
	Unknown or missing race	< 20%	*
	White	40%-60%	39.6%
Sex	Female	40%-60%	44.7%
	Male	20%-40%	36.5%
	Other, unknown, or missing sex	< 20%	*

Statewide
Percent vaccinated statewide for comparison

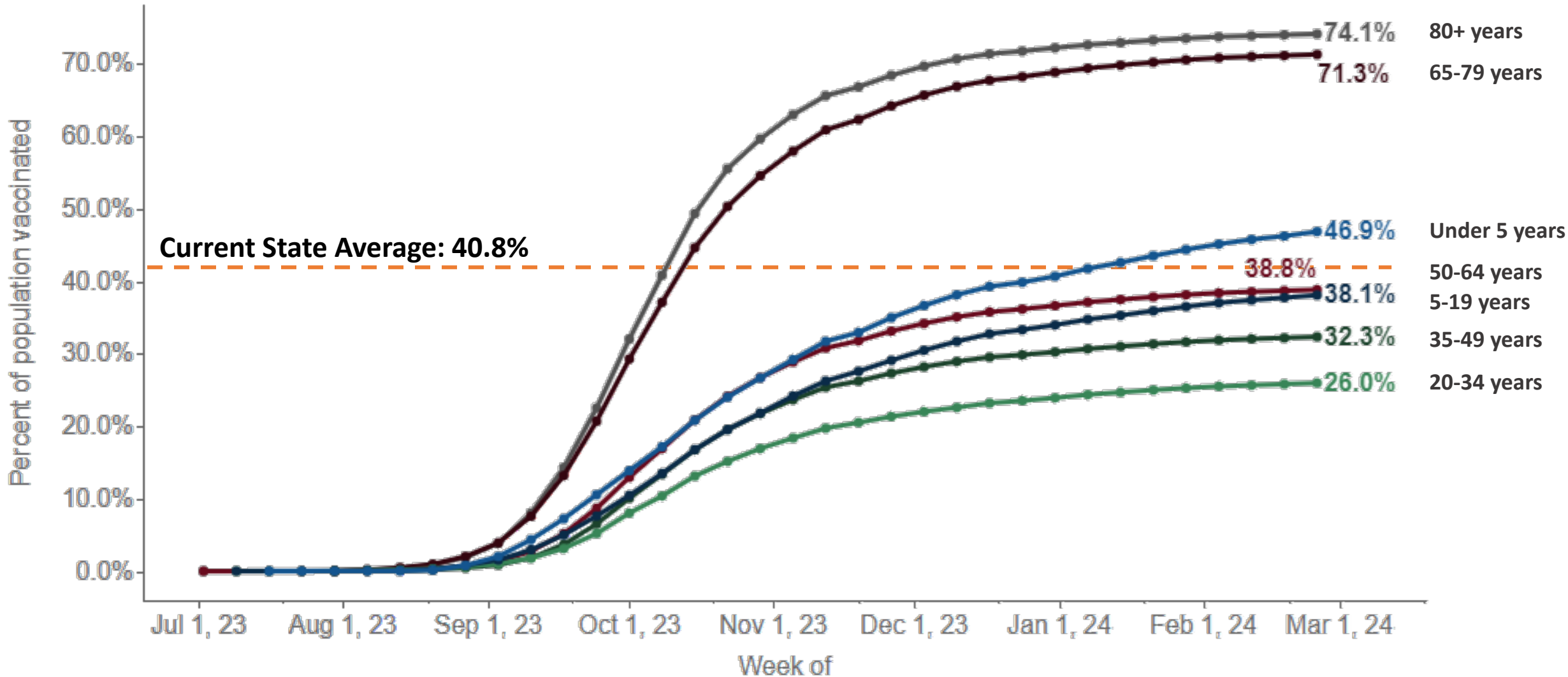
Influenza Immunization: 2023-24 Season

Comparing the estimated percent of Massachusetts residents who **have been vaccinated for influenza this season*** to the percent vaccinated during previous seasons

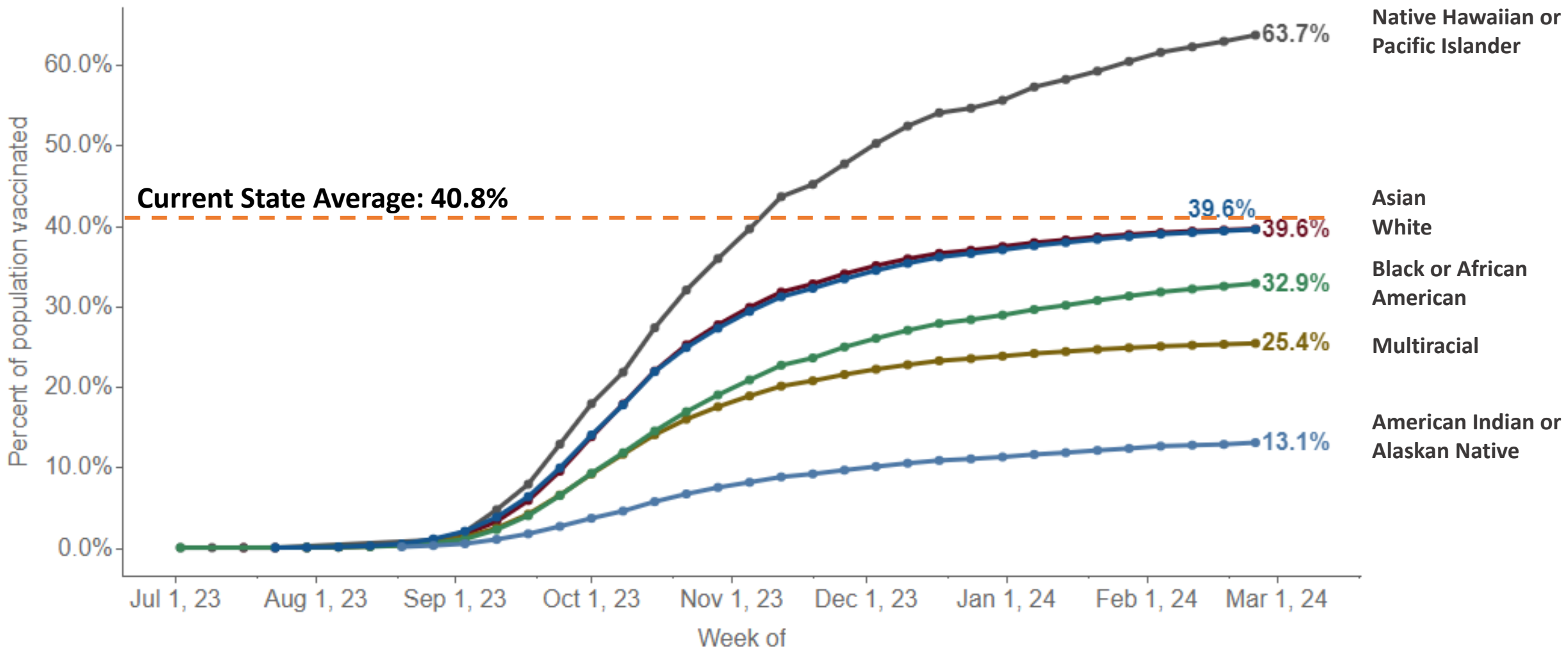


Total Flu
Vaccines
Administered:
2,949,991

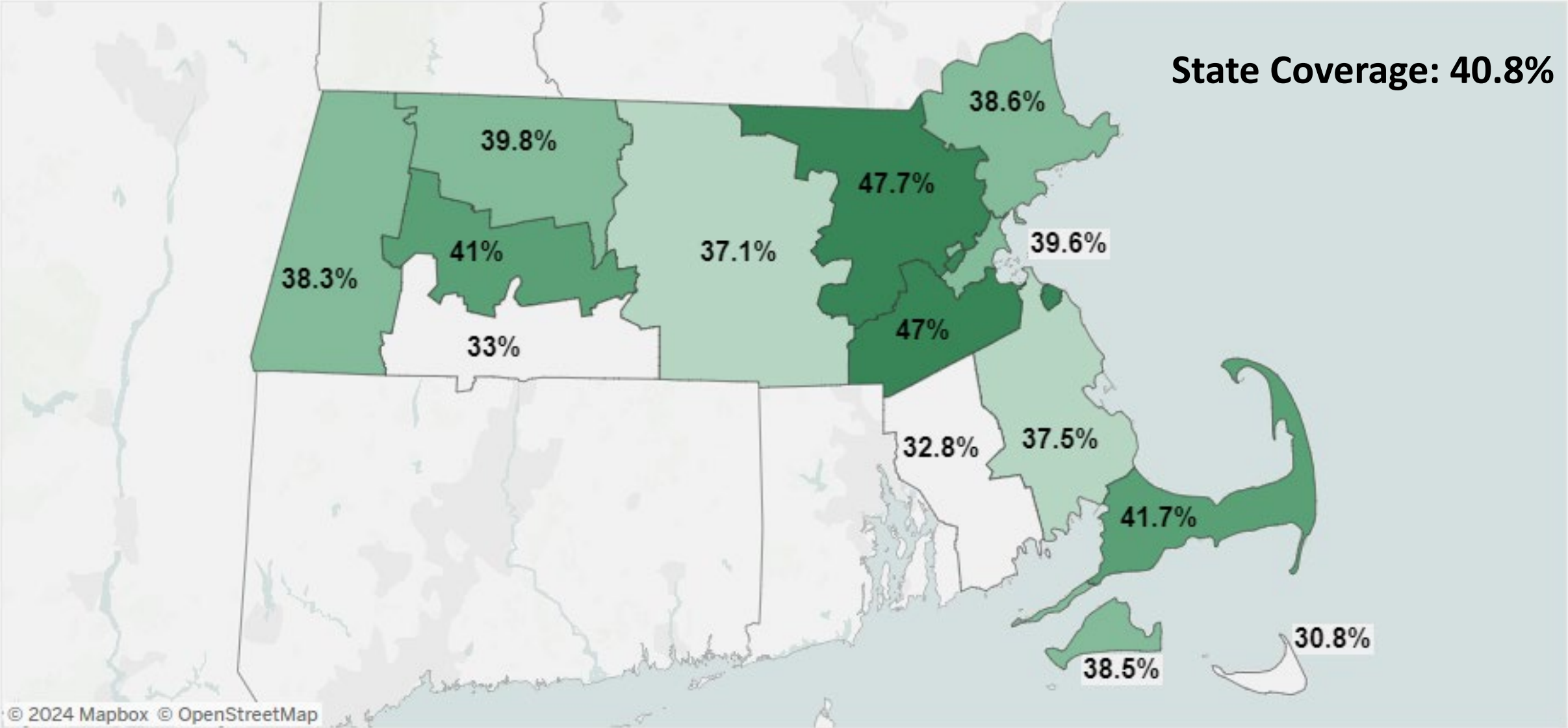
Trends in influenza vaccination during the 2023-2024 season by age*



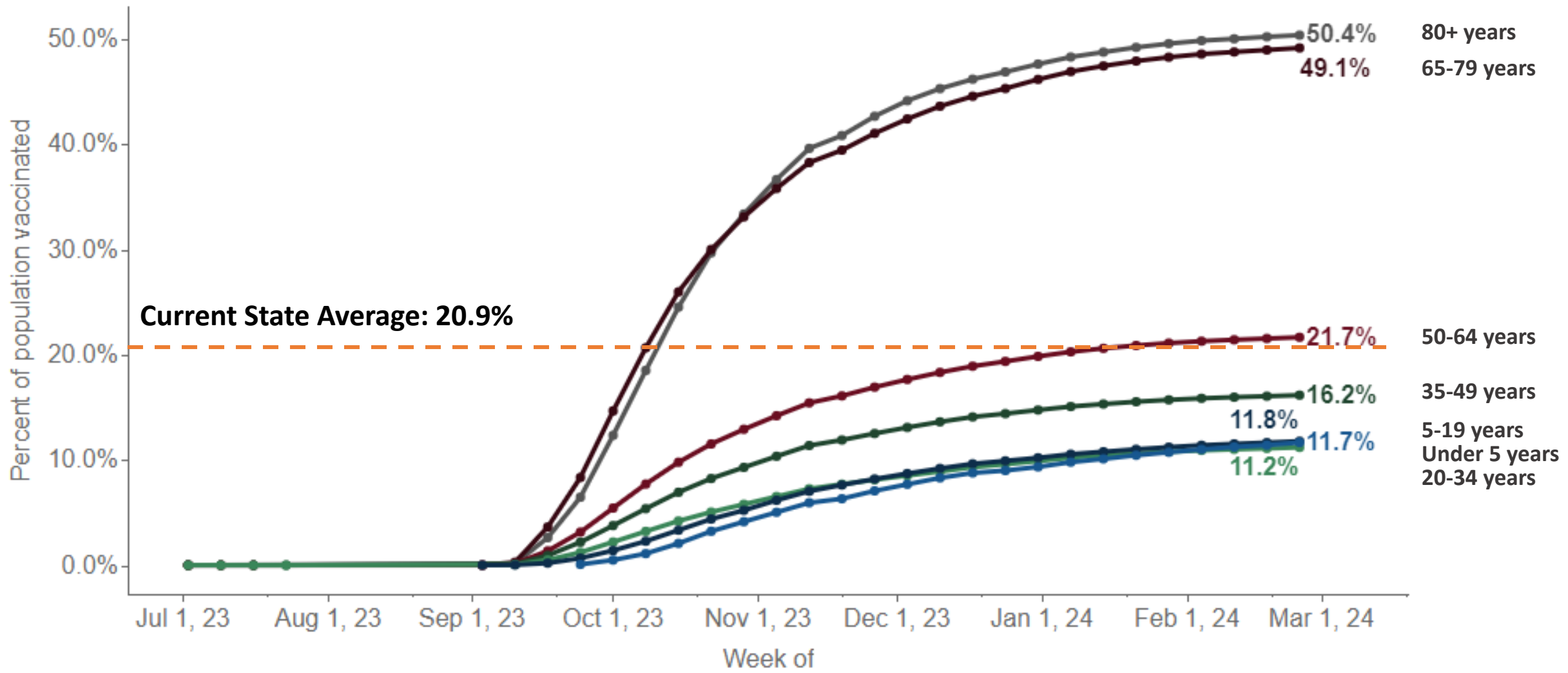
Trends in influenza vaccination during the 2023-2024 season by race*



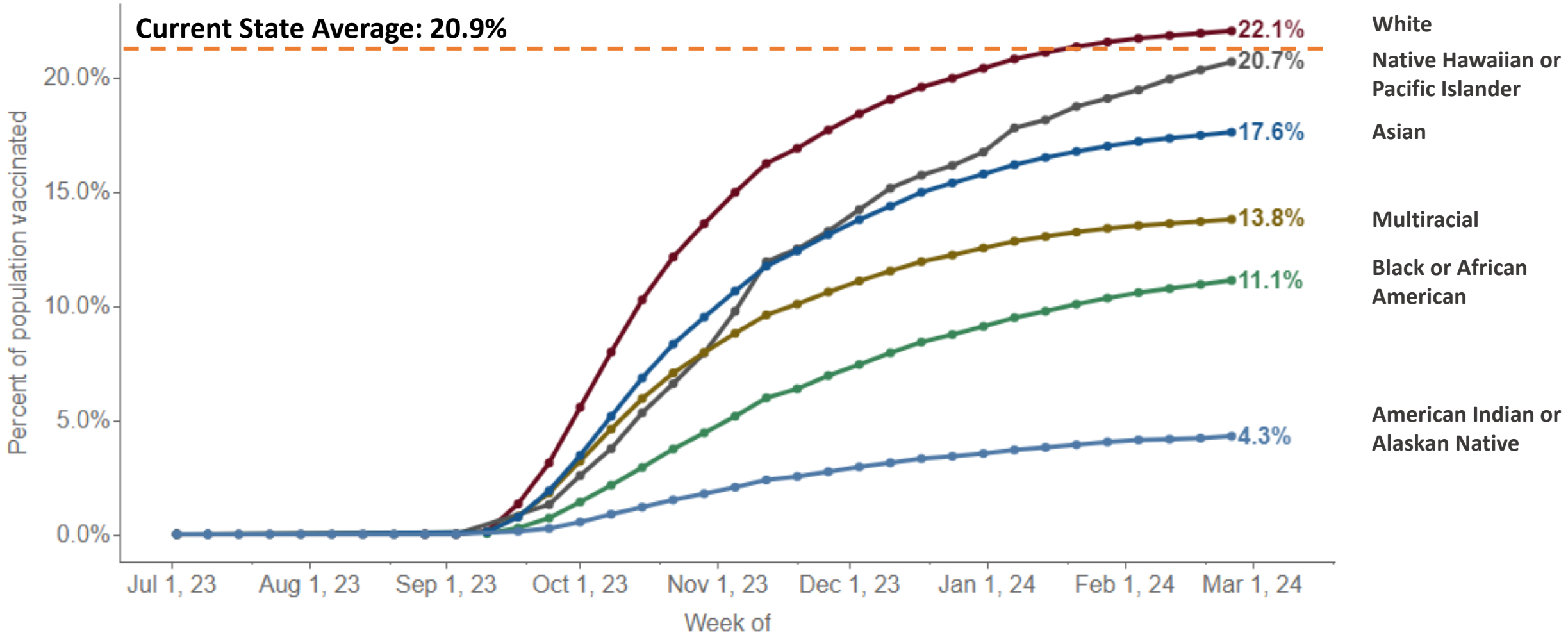
Massachusetts residents vaccinated against influenza by county
2023-2024 season to date, 7/2/2023 to 3/2/2024



Trends in COVID-19 vaccination during the 2023-2024 season by age*

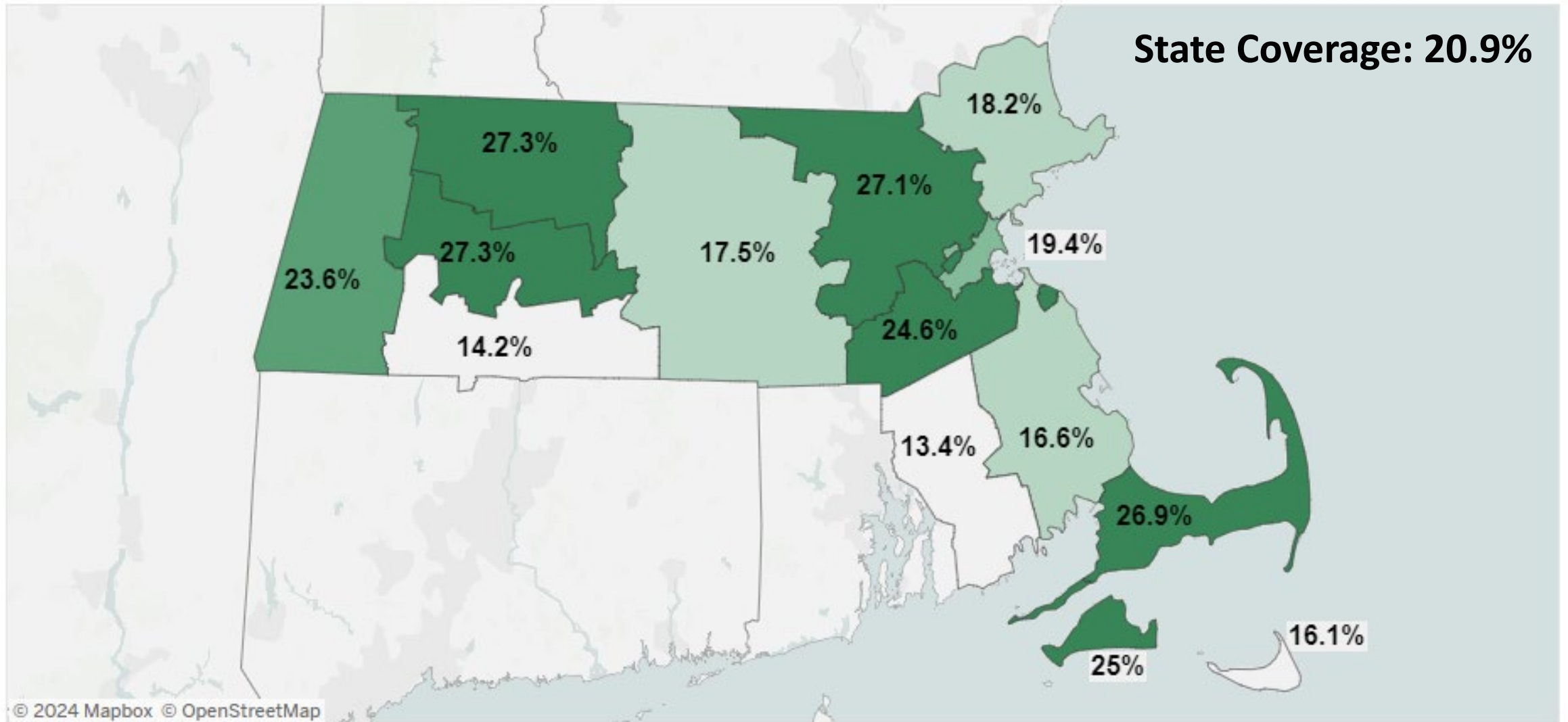


Trends in COVID-19 vaccination during the 2023-2024 season by race*



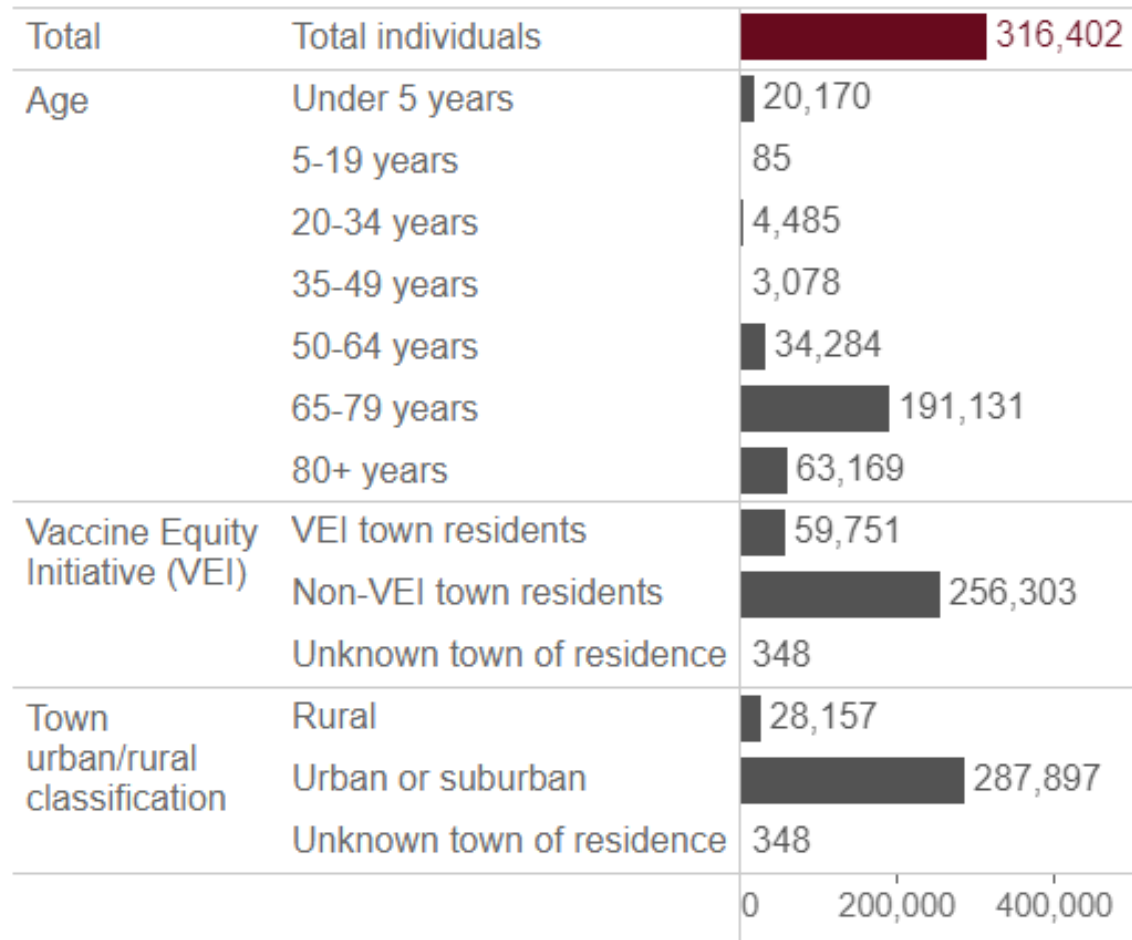
COVID-19 Immunization: 2023-24 Season

Massachusetts residents vaccinated against COVID-19 by county
2023-2024 season to date, 7/2/2023 to 3/2/2024



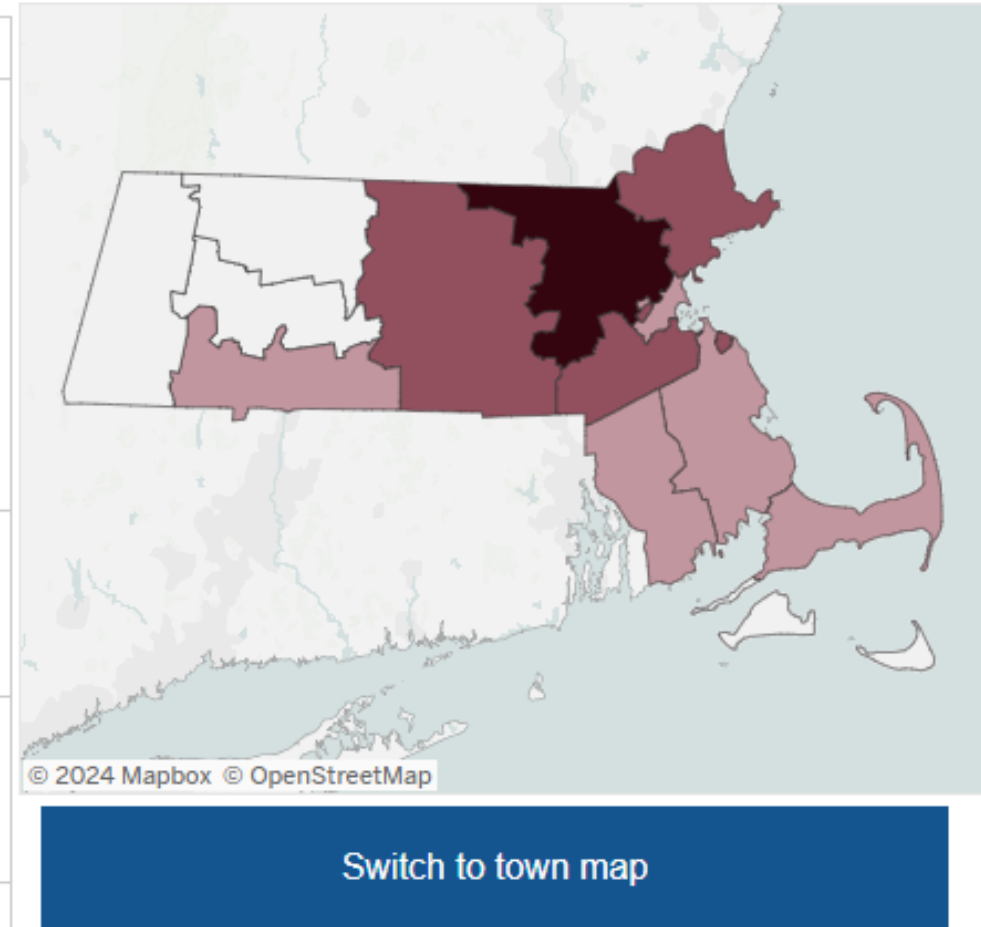
RSV Immunization: 2023-24 Season

Massachusetts residents who have been immunized against RSV this season

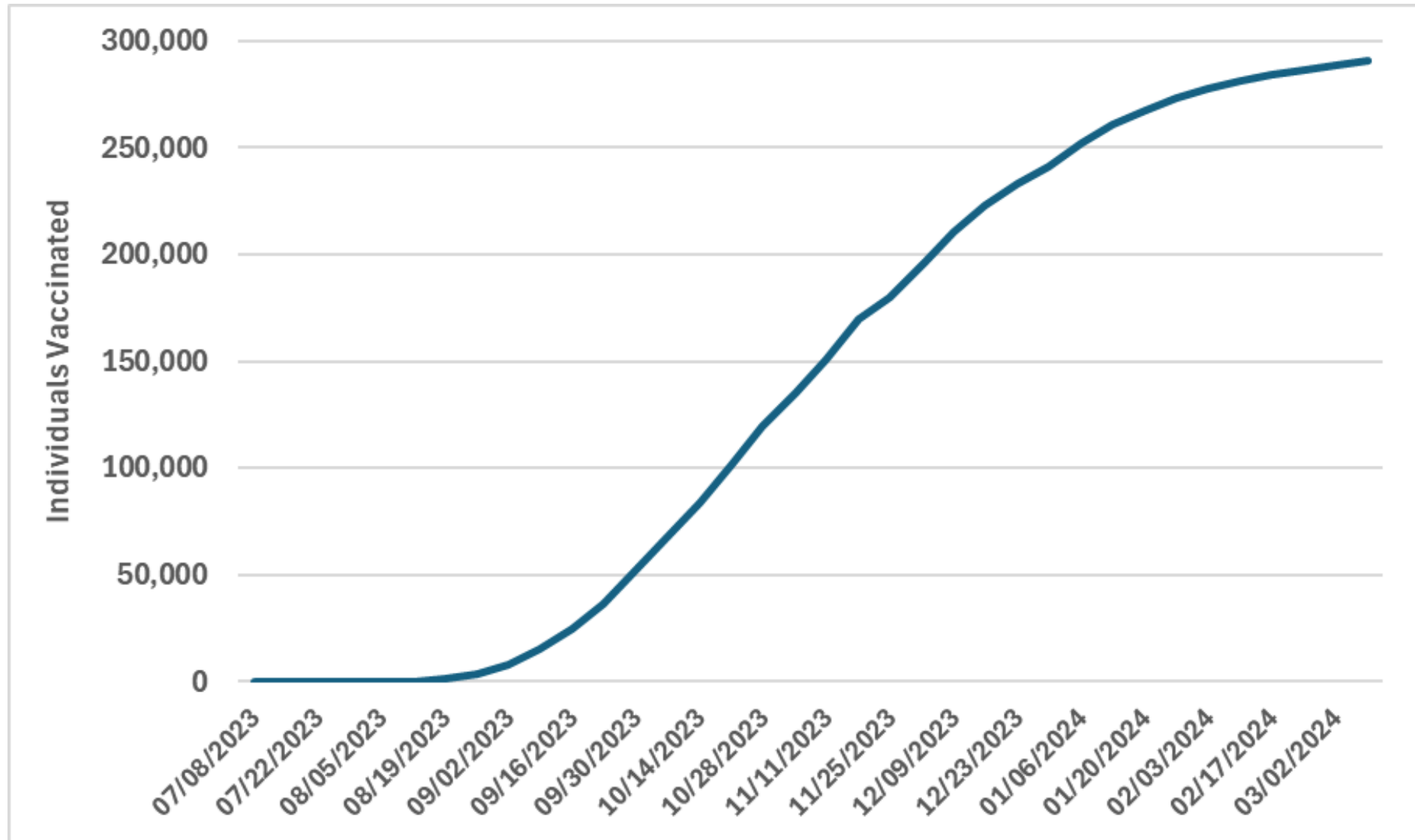


RSV immunizations by county

2023-2024 season to date, 7/2/2023 to 3/2/2024



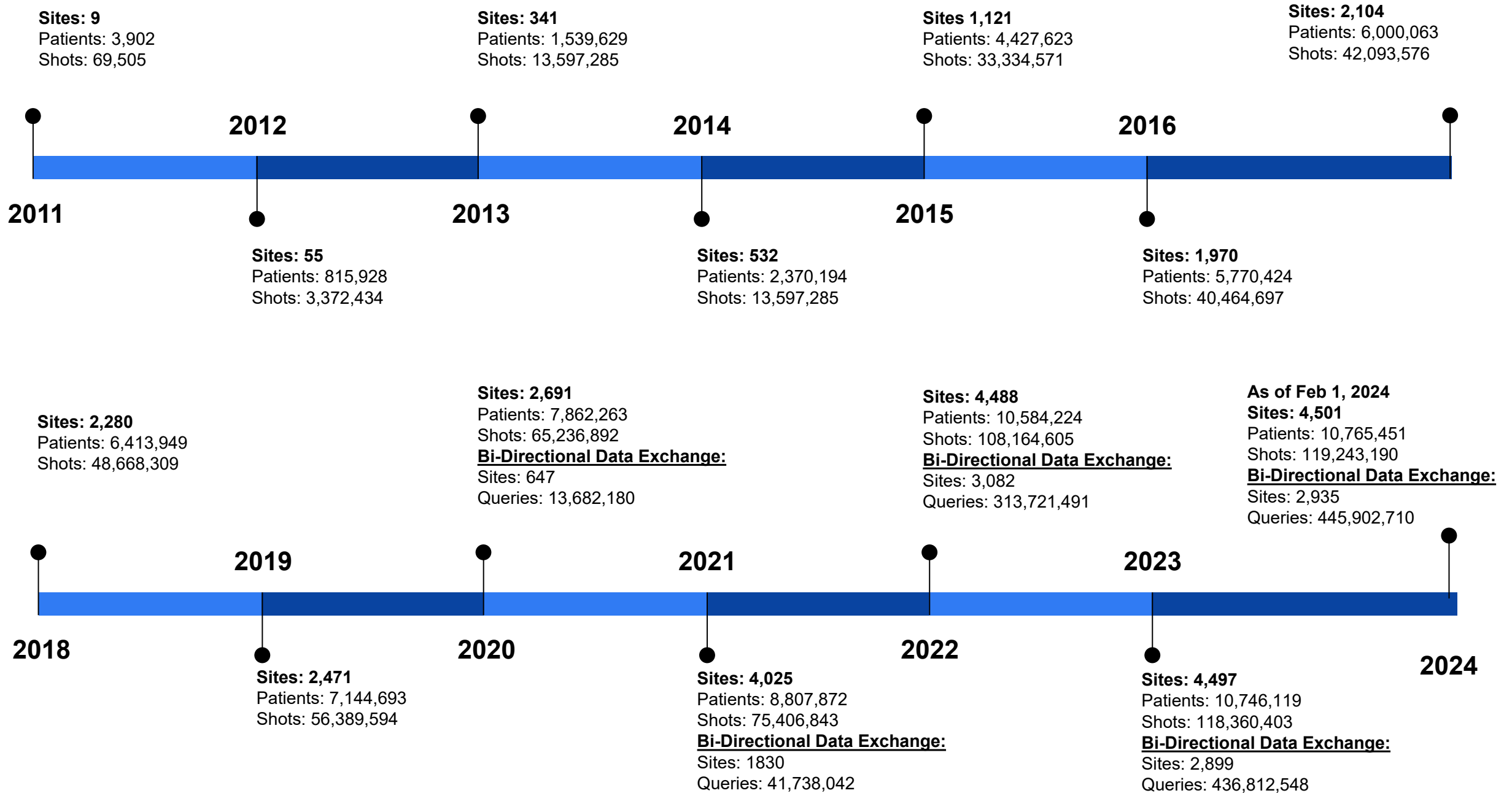
RSV Immunizations among those 50 + Years of Age



Immunization IT System Rollout

- **MIIS**
- **Color**

MIIS Onboarding



My Vax Records

- Patients can access their MIRS records through the My Vax Records online portal
- Print or download their full immunization history or COVID-19 only certificate
- [Myvaxrecords.mass.gov](https://myvaxrecords.mass.gov)



New Message Center in MIIS – Available Today!



Key Features/Benefits:

Ability for you to communicate with the MIIS team or Vaccine Unit team while inside the MIIS.

No need to leave the application to log into your email to contact us.

PII can be entered in messages through MIIS. Everything is secure.

Staff will monitor and respond to your inquiries and respond within our standard response times.

Use the Message Center to:

- Troubleshooting data quality issues.

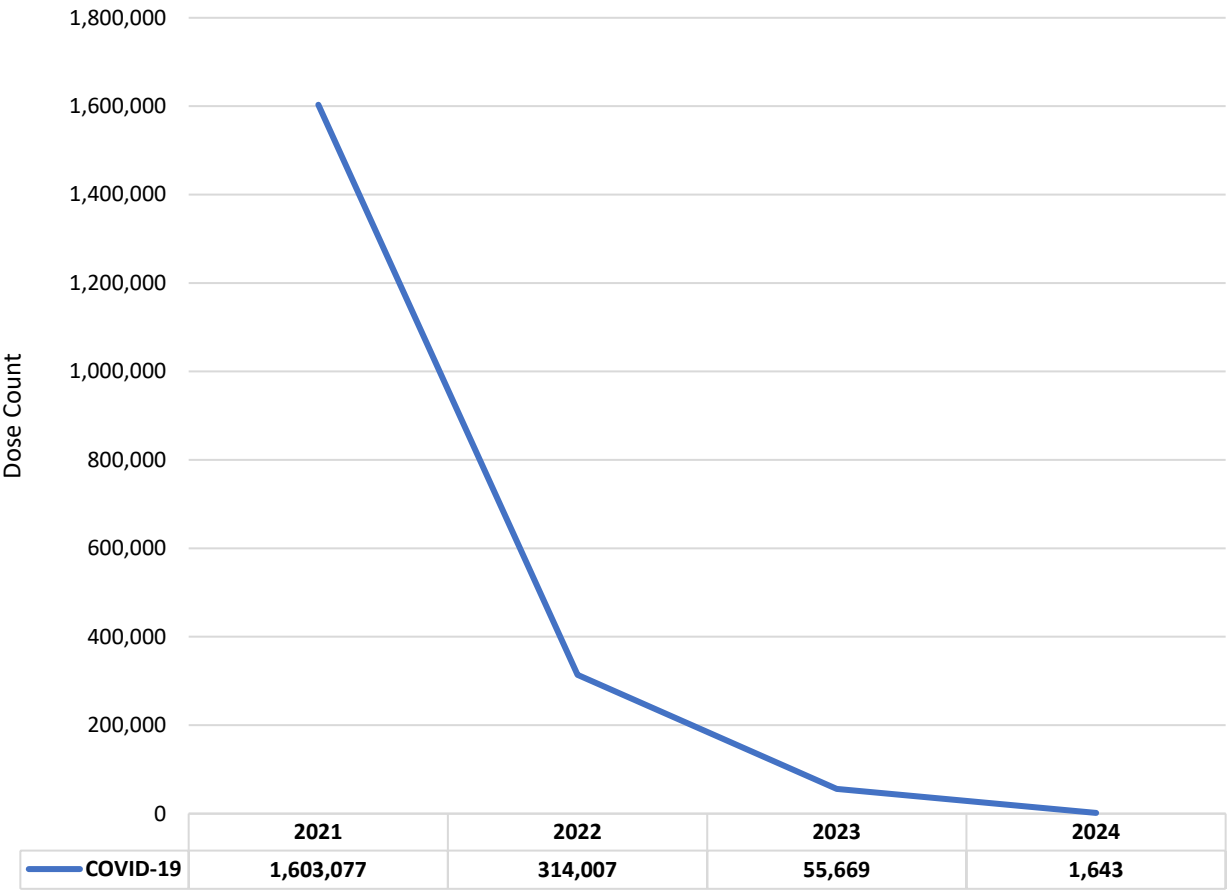
- Questions about forecast or patient records.

- Vaccine management related issues/questions.

2,164,251 Total Vaccines Administered in Color

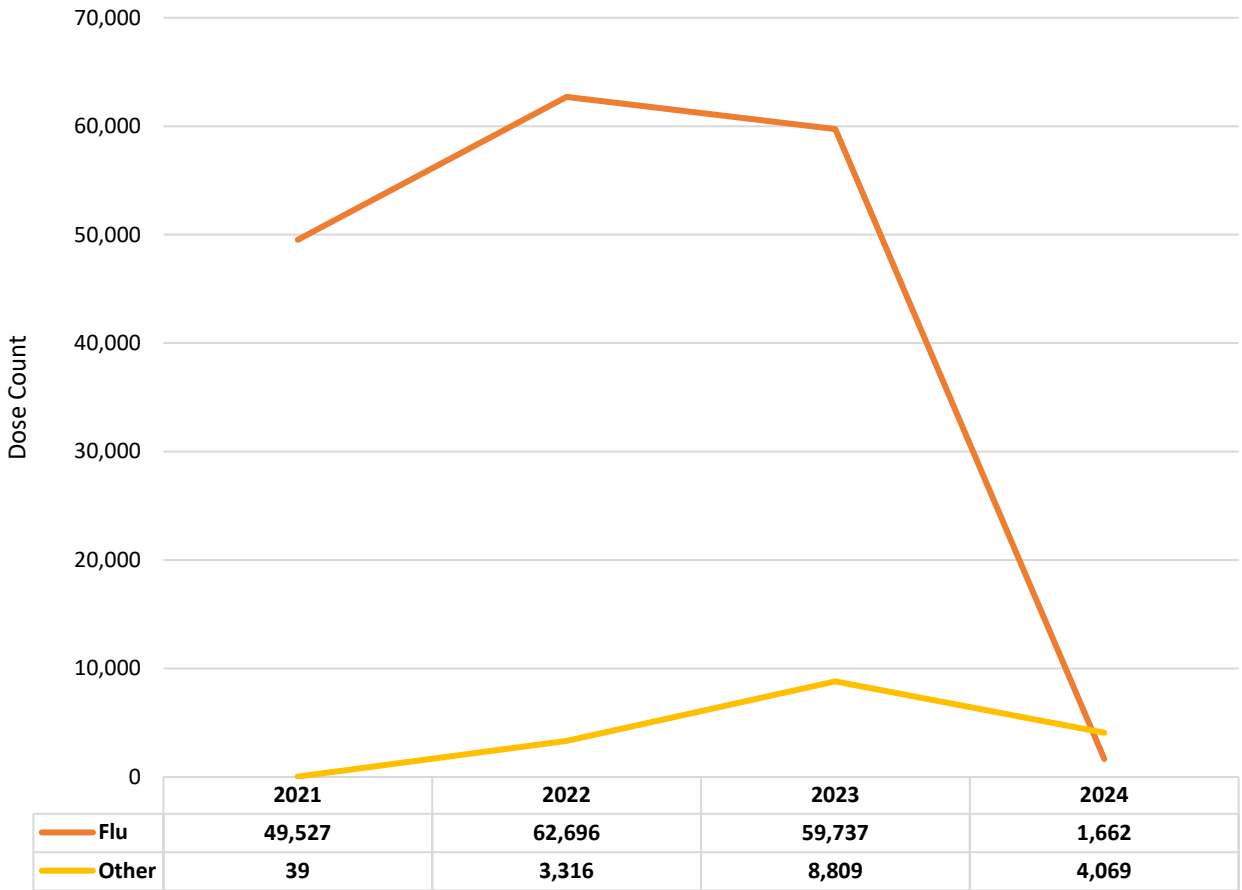
Over **1.9 Million COVID-19**, About **174K Flu** and Over **16,200 Other**

COVID-19 Doses Administered



Color Vaccination Record Administered Year

Flu and Other Doses Administered



Color Vaccination Record Administered Year

2021, 2022, and 2023 cover January 1st to December 31st. 2024 spans from January 1st to March 18th.

Thank you

Contact us:

Immunization Division

617-983-6800

Fax: 617-983-6813

MIIS Help Desk

617-983-4335

MIISHelpDesk@mass.gov

Vaccine Management Unit

617-983-6828

DPH-Vaccine-Management@mass.gov

Fax: 617-983-6924