MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH (MDPH)
WEEKLY INFLUENZA UPDATE
April 8, 2022

Estimated Weekly Severity of Influenza
(3/27/22 – 4/02/22)

Low	**Moderate**	**High**	**Very High**

Weekly severity is determined by combining three key markers of influenza activity and distribution: influenza-like illness, hospitalizations, and influenza positive test results reported to the Massachusetts Department of Public Health. MDPH analyzes data on these markers weekly and classifies the severity using historical data collected during past influenza seasons. For more information about how the severity indicator is calculated, please visit https://www.cdc.gov/flu/about/classifies-flu-severity.htm.

All data in this report are preliminary and subject to change as more information is received. Data collected through April 2, 2022 are included in this report.

Highlights from this week's report:

- Influenza severity for Massachusetts is low this week.
- The percent of influenza-like illness (ILI) visits in Massachusetts is 1.96%, which is comparable to the regional baseline of 2.0%.
- The percent of hospitalizations associated with influenza is 0.57%, which is higher than last season, comparable to the 2019-2020 season, and lower than the 2018-2019 season.
- Overall ILI activity is low, but increasing. The Central, Northeast, Southeast and West regions are reporting low ILI activity; Boston, Inner Metro Boston and Outer Metro Boston are reporting minimal ILI activity.
- Laboratory-confirmed influenza cases increased by 47% this week. More influenza A than influenza B positive specimens have been reported by hospitals and outpatient facilities in Massachusetts. A second peak of laboratory confirmed influenza A is presently occurring in Massachusetts, see Figure 5. For influenza A, the predominant strain is currently H3N2.
- The number of influenza vaccine doses administered this flu season is comparable to last season in the same week. The vaccination rate for all ages is 48%. See figure 6 and 7 for vaccination data.
- Nationally, influenza activity is highest in the central and south-central regions of the country and is increasing in the northeastern regions.
- Additional statewide and national data including geographic spread, ILI activity, and pneumonia and influenza mortality are available at CDC's FluView Weekly Report at www.cdc.gov/flu/weekly and FluView Interactive https://www.cdc.gov/flu/weekly/fluviewinteractive.htm.
- Statewide and national COVID data are available at https://www.mass.gov/info-details/covid-19-response-reporting and https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html

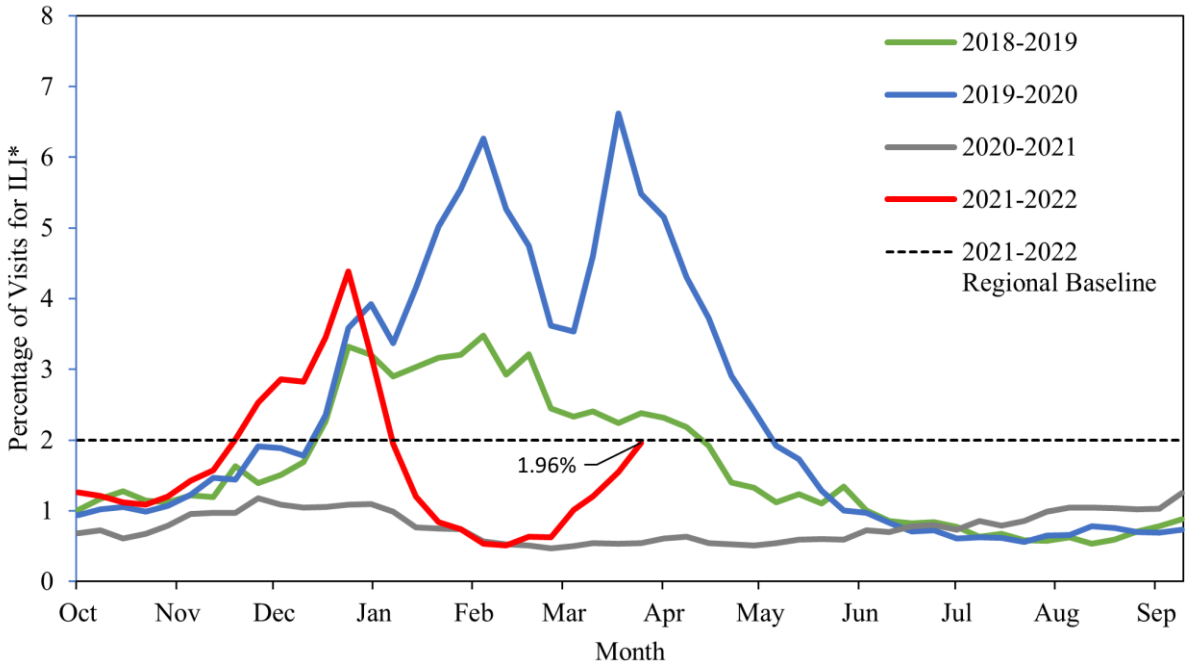
It's not too late to get vaccinated. Flu vaccination is always the best way to prevent flu and its potentially serious complications.

Influenza-like illness activity

Influenza-like illness (ILI) is defined as fever (temperature of 100 deg F or greater) in addition to cough and/or sore throat. Many more people are infected with influenza than are tested for influenza. ILI is used throughout the regular influenza season to help track influenza activity in individuals who are not tested, as trends in ILI have been shown to mirror influenza trends. Ninety-three healthcare facilities called 'sentinel sites' report the number of patients they see with ILI each week during regular flu season to the Massachusetts Department of Public Health (MDPH). Sentinel sites include provider offices, school health services, community health centers, urgent care centers, and emergency departments across Massachusetts. Data reported by emergency departments provide information about ED visits that include diagnostic codes (influenza diagnosis code) as well as terms indicative of ILI. The CDC uses trends from past years to determine a region-specific baseline rate of ILI visits, which for Massachusetts is 2.0%. A rate above this regional baseline indicates higher than normal levels of ILI in the state. For more information on how regional baselines are calculated see CDC's influenza surveillance website at https://www.cdc.gov/flu/weekly/overview.htm.

Figure 1 shows that the percent of ILI visits in the current week is comparable to the regional baseline.

Figure 1. Percentage of Visits for Influenza-Like Illness (ILI) Reported by Sentinel Provider Sites in Massachusetts October 3, 2021 - April 2, 2022



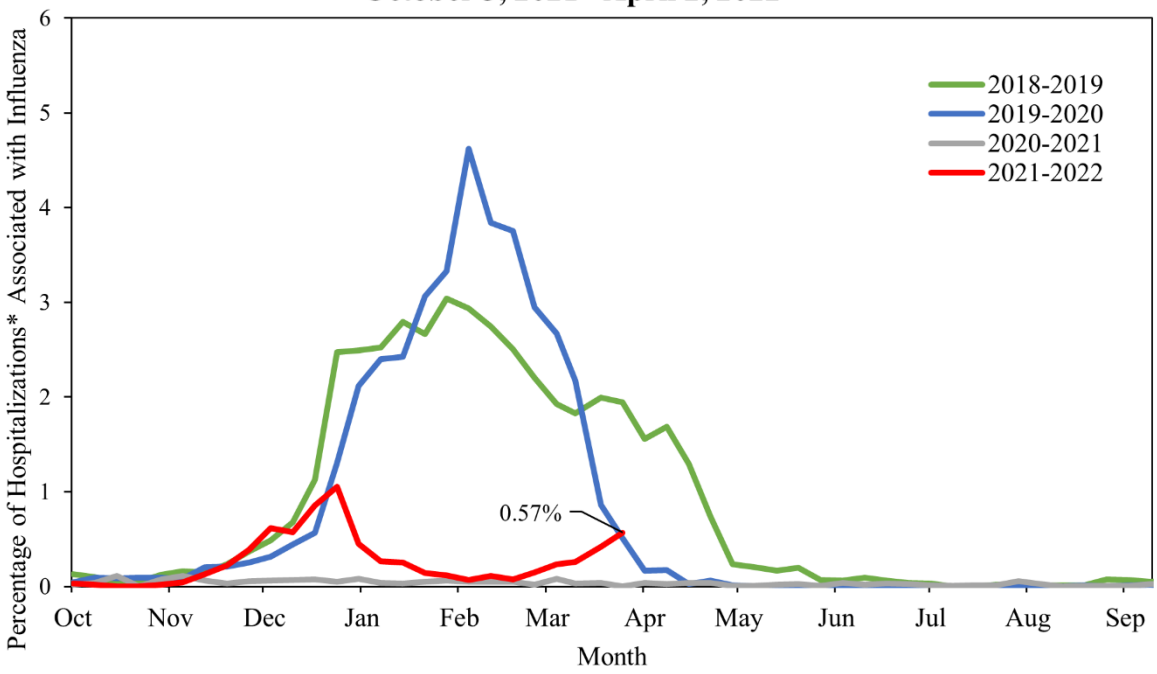
*Influenza-like illness (ILI, defined by fever ≥100F and cough and/or sore throat), as reported by Massachusetts sentinel surveillance sites. ILI reported by sentinel sites which report via ED syndromic surveillance include cases meeting the ILI definition and cases with a diagnosis indicating influenza infection The 2021-2022 regional baseline is 2.0%, for more information on how this baseline is calculated please visit https://www.cdc.gov/flu/weekly/overview.htm.

Influenza-associated hospitalizations

As part of the National Syndromic Surveillance Program, MDPH receives data from Emergency Departments (EDs) covering 100% of ED visits statewide. These data are used to track patient visits related to influenza by monitoring the diagnoses the patients receive (ICD-10 code). These data are available to MDPH in near real-time.

Figure 2 shows the percent of all ED visits which result in a patient hospitalized because of illness associated with influenza infection. The percentage of influenza-associated hospitalizations is higher than last season, comparable to the 2019-2020 season, and lower than the 2018-2019 season.

Figure 2. Percentage of Hospitalizations Associated with Influenza in Massachusetts
October 3, 2021 - April 2, 2022

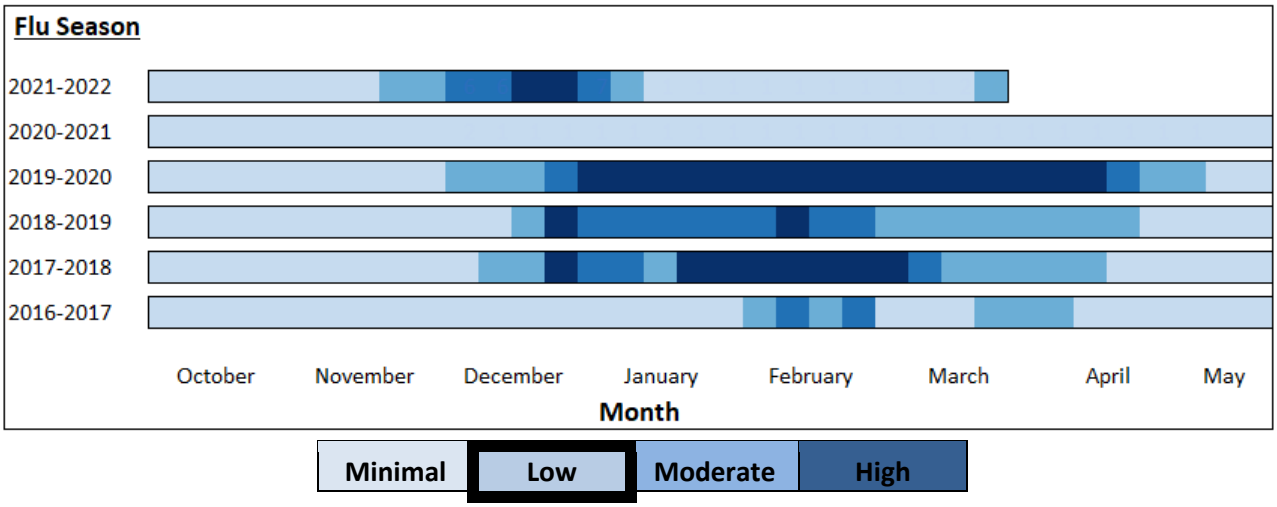


*All patients admitted through hospital emergency departments as captured by syndromic surveillance

ILI Activity in Massachusetts

Figure 3 shows the current season's weekly ILI activity compared to the last five flu seasons in Massachusetts. ILI activity for each week is categorized as minimal, low, moderate, or high, with a shade of blue corresponding to the category of ILI activity for that week. Darker shades of blue indicate more intense ILI activity. Figure 3 shows that ILI activity in Massachusetts is low this week.

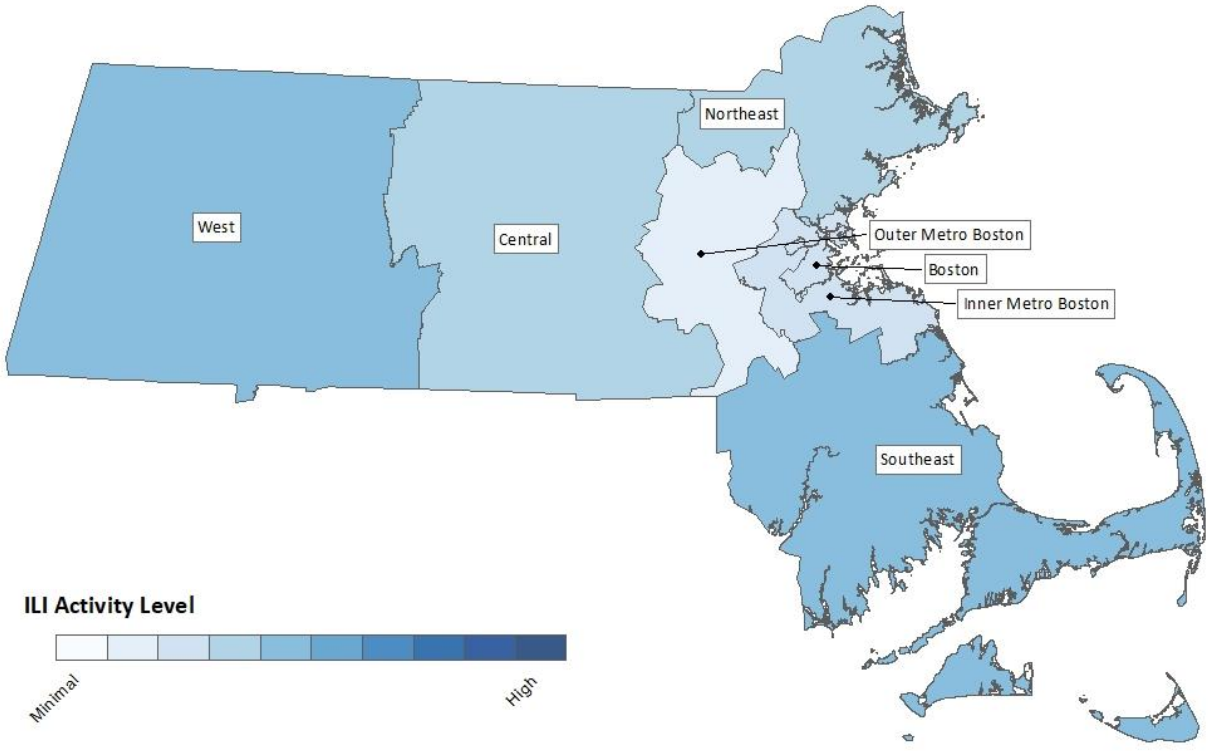
Figure 3. ILI Activity in Massachusetts Reported Weekly by Sentinel Sites



ILI Activity in Massachusetts by Region

Figure 4 shows the relative intensity of reported ILI activity in Massachusetts by region. Although regions may not all experience the same intensity of ILI at similar times, infections due to influenza can be found throughout Massachusetts during flu season. Figure 4 shows that the Central, Northeast, Southeast and West regions are reporting low ILI activity; Boston, Inner Metro Boston and Outer Metro Boston are reporting minimal ILI activity.

Figure 4: ILI Activity Reported Weekly by Massachusetts Sentinel Sites

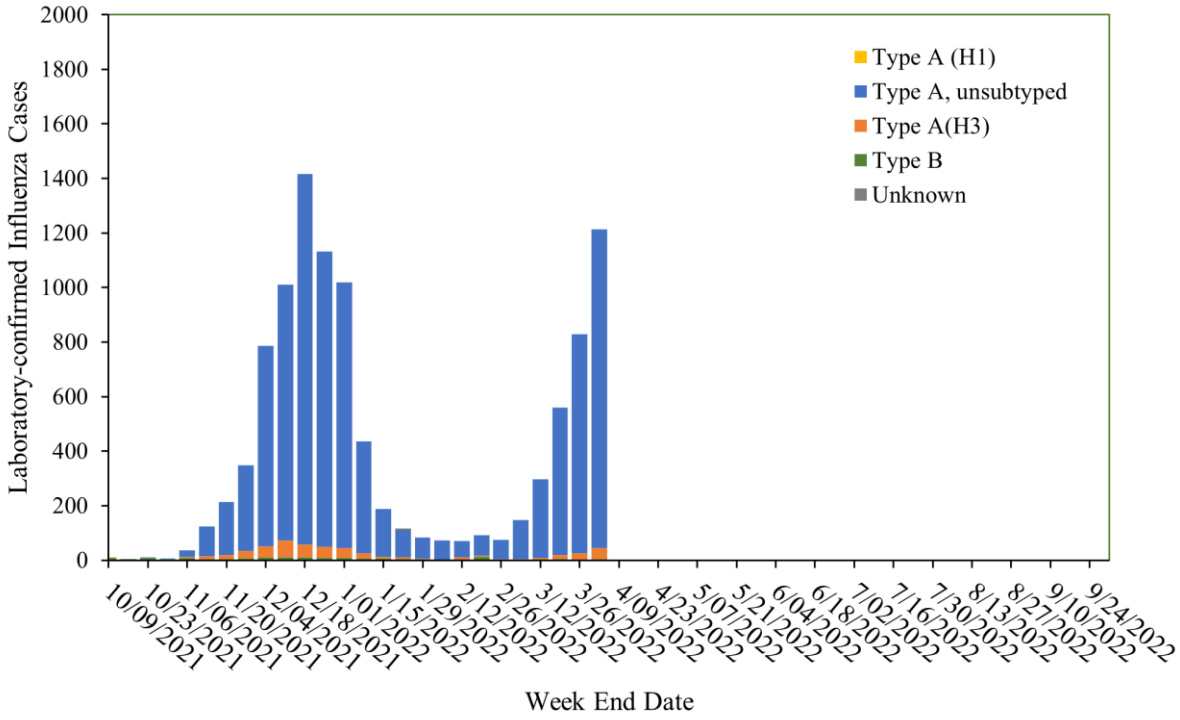


Laboratory testing for influenza

Laboratories in Massachusetts report all positive influenza test results to MDPH. The majority of individuals with influenza-like illness are not tested; therefore, the number of positive test results does **not** reflect the total number of influenza cases in Massachusetts. However, laboratory data do provide information about the types of influenza virus circulating in Massachusetts and help indicate the presence and define the distribution of influenza in the state.

Figure 5 illustrates the number of laboratory confirmed influenza cases in Massachusetts by week. Laboratory-confirmed influenza cases increased by 47% this week. More influenza A than influenza B positive specimens have been reported by hospitals and outpatient facilities in Massachusetts.

Figure 5. Laboratory-confirmed Influenza Cases in Massachusetts
October 3, 2021 - April 2, 2022



*Influenza cases confirmed via PCR or viral culture test by specimen collection date.

Testing at the State Public Health Laboratory

The Massachusetts State Public Health Laboratory (MA SPHL) performs influenza surveillance testing year-round to confirm circulating influenza virus types. Samples are submitted by outpatient healthcare providers (ILINet) and hospital diagnostic laboratories in Massachusetts. For the 2021-2022 season, Table 1 summarizes the influenza surveillance testing conducted by MA SPHL beginning October 3, 2021. In the 2021-2022 flu season, 120 cases of seasonal A/H3N2 influenza and 1 case of B Victoria has been confirmed among 150 samples tested.

Table 1. Weekly Summary of Massachusetts State Public Health Laboratory Influenza Surveillance Test Results

2021-2022 Season: Influenza Surveillance									
MMWR Week: (Specimen Collected)	2009 H1N1	seasonal A/H3N2	H3N2v	B Yam	B Vic	No. Flu Pos (%)	Unsat	Total Tested	Total Rec'd
10 (03/06 – 03/12/22)	0	1	0	0	0	**1(100%)**	3	**1**	**4**
11 (03/13 – 03/19/22)	0	0	0	0	0	**0(0%)**	2	**0**	**2**
12 (03/20 – 03/26/22)	0	3	0	0	0	**3(100%)**	0	**3**	**3**
13 (03/27 – 04/02/22)	0	0	0	0	0	**0(0%)**	0	**0**	**0**
Prior 4 wk Total	**0**	**4**	**0**	**0**	**0**	**4(100%)**	**5**	**4**	**9**
Cumulative Season total	**0**	**120**	**0**	**0**	**1**	**121(81%)**	**12**	**150**	**162**

All data are subject to change as test results become finalized. The 2021-2022 influenza season began the week of 10/03- 10/09/2021.

All specimens which test negative for influenza at MA SPHL are also tested for non-influenza respiratory diseases including COVID-19 (SARS-CoV-2), respiratory syncytial virus (RSV), rhinovirus (RHV)/enterovirus (ENT), parainfluenza virus (PIV), human metapneumovirus (HMPV), seasonal human coronavirus (HCV) and adenovirus (ADENO). HCV does not include COVID-19. In the 2021-2022 flu season, 1 case of RHV/ENT, 1 case of PIV, 1 case of HMPV, 1 case of ADENO and 1 co-infection has been confirmed among 104 samples tested.

Table 2. Weekly Summary of Massachusetts State Public Health Laboratory non-Influenza Respiratory Surveillance Test Results

2021-2022 Season: Influenza-like Illness Surveillance												
MMWR Week: (Specimen Collected)	SARS-CoV-2	RSV	RHV/ ENT	PIV	HMPV	HCV	ADENO	Co-Infection*	No. Pos (%)	Unsat	Total Tested	Total Rec'd
10 (03/06 – 03/12/22)	0	0	0	0	0	0	0	0	**0(0%)**	0	**0**	**0**
11 (03/13 – 03/19/22)	0	0	0	0	0	0	0	0	**0(0%)**	0	**0**	**0**
12 (03/20 – 03/26/22)	0	0	0	0	0	0	0	0	**0(0%)**	0	**2**	**2**
13 (03/27 – 04/02/22)	0	0	0	0	0	0	0	0	**0(0%)**	0	**0**	**0**
Prior 4 wk Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0(0%)**	**0**	**2**	**2**
Cumulative Season total	**0**	**0**	**1**	**1**	**1**	**0**	**1**	**1**	**3(3%)**	**0**	**104**	**104**

All data are subject to change as test results become finalized. The 2021 -2022 influenza season began the week of 10/03- 10/09/2021.
*Coinfection is the simultaneous detection of two or more of the non-influenza respiratory diseases included in this table.

MA SPHL submits a subset of influenza samples to CDC for further genetic analysis (antigenic characterization).

Every two weeks MA SPHL screens influenza specimens to detect mutations within influenza A/H3N2 and A/2009 H1N1 viruses to look for antiviral resistance once positive specimens have been identified.

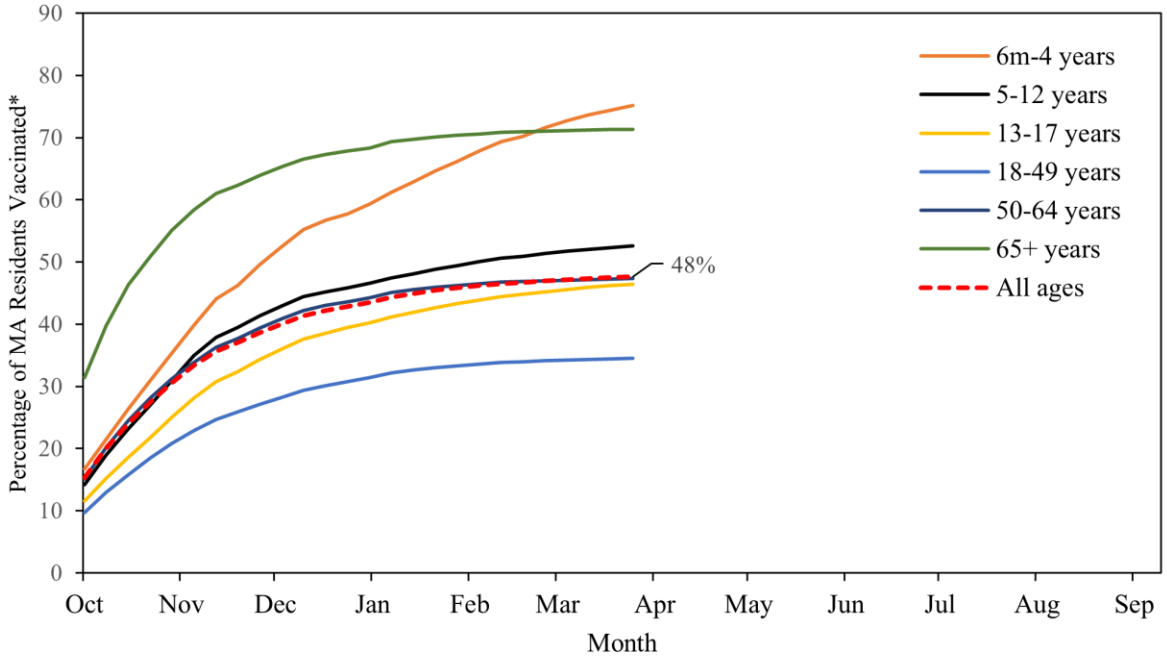
Additional information on national antiviral resistance testing including recommendations for antiviral treatment and chemoprophylaxis of influenza virus infection can be found at http://www.cdc.gov/flu/weekly/.

Influenza Vaccination

The Massachusetts Immunization Information System (MIIS), also called an immunization registry, is a confidential, web-based system that collects and stores vaccination records for Massachusetts residents of all ages. This system allows providers to have access to more complete immunization records for their patients, and assists public health systems in the monitoring and control of vaccine preventable diseases. For more information see the MIIS' website at https://www.mass.gov/service-details/massachusetts-immunization-information-system-miis-overview.

Figure 6 shows the percent of MA residents vaccinated for influenza by age group. The vaccination rate for all age groups is 48%. The highest vaccination rates are among the youngest age group (six months - four years old), and the oldest age group (65 years old and older). Eighteen to 49 year-olds have the lowest vaccination rate.

Figure 6. Influenza Vaccination Coverage in Massachusetts as of April 2, 2022

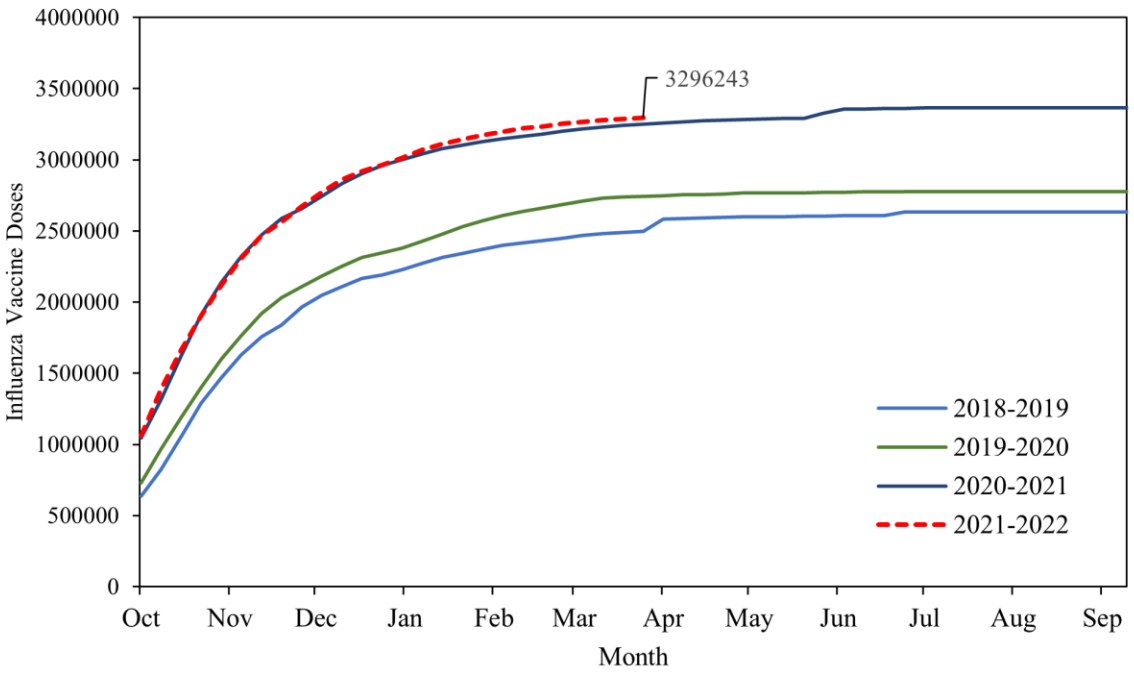


*Vaccination coverage is an estimated percentage of people who have received the influenza vaccine. Vaccination data are from MIIS, and population estimates are from the UMass Donahue Institute. For more information about the population estimates used please visit, https://donahue.umass.edu.

The MIIS continues to expand every year and currently has nearly 3,000 providers in the database. The data in MIIS is updated frequently and may not include all vaccination records of all residents of Massachusetts. Limitations of MIIS data include outdated patient addresses, duplicate records, and data entry errors.

Figure 7 shows the number of influenza vaccine doses administered. The number of influenza doses administer this season is comparable to last season.

Figure 7. Influenza Vaccine Doses Administered in Massachusetts as of April 2, 2022



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