



# Maryland Influenza Plan

2019-2020 Influenza Season

## TABLE OF CONTENTS

I.	Introduction	3
II.	Purpose	4
III.	Definitions	5
IV.	Pre-Influenza Activity	6
	<i>Tips for Maryland Residents</i>	6
	<i>State and Local Health Department Actions</i>	6
	<i>Health care Systems and Provider Actions</i>	7
	<i>High Impact and Pandemic Threat Warning</i>	7
V.	Early Influenza Activity	8
	<i>Tips for Maryland Residents</i>	8
	<i>State and Local Health Department Actions</i>	8
	<i>Health care Systems and Provider Actions</i>	9
	<i>High Impact and Pandemic Threat Warning</i>	9
VI.	Peak Influenza Activity	10
	<i>Tips for Maryland Residents</i>	10
	<i>State and Local Health Department Actions</i>	10
	<i>Health care Systems and Provider Actions</i>	11
	<i>High Impact and Pandemic Threat Warning</i>	11
	<i>Severe Influenza Impact Factors and Threshold</i>	12
	<i>Additional Considerations for Mitigating a Severe Influenza Impact</i>	13
VII.	Late Influenza Activity	14
	<i>Tips for Maryland Residents</i>	14
	<i>State and Local Health Department Actions</i>	14
	<i>Health care Systems and Provider Actions</i>	14
	<i>High Impact and Pandemic Threat Warning</i>	14
VIII.	Conclusion	14
Appendix A:	Local Health Department Contact Information	15
Appendix B:	Summary of 2019-2020 Recommendations from the Advisory Committee on Immunization Practices (ACIP)	16

## I. INTRODUCTION

Influenza (also known as the “flu”) is a contagious respiratory illness caused by the influenza virus. Influenza virus strains perennially circulate throughout the world. In the northern hemisphere, influenza season can begin as early as October and last as late as May. The influenza virus can cause mild to severe illness and at times can lead to death. Older people, young children, and people with certain health conditions are at higher risk for serious influenza complications. **The best way to prevent influenza is by getting vaccinated each year.**

Influenza is spread by airborne droplets made when an infected person coughs, sneezes, or talks. Less often, a person might also get influenza by touching a surface or object that has the influenza virus on it and then touching his or her own mouth, eyes, or nose.

People may be able to pass the influenza to someone else even before they know they are sick, as well as while they are sick. Most healthy adults may be able to infect others beginning one day **before** symptoms develop and up to five to seven days **after** becoming sick. Some people, especially children and people with weakened immune systems, might be able to infect others for an even longer time.

Influenza seasons occur each year with varying severity. The Centers for Disease Control and Prevention (CDC) estimates that from 2010-2011 to 2013-2014, influenza-associated deaths in the United States ranged from a low of 12,000 (during 2011-2012) to a high of 56,000 (during 2012-2013).<sup>1</sup> A modeling analysis of population-based surveillance data (2010–2011 to 2012–2013) estimated that influenza was associated with 114,018–633,001 hospitalizations, 18,476–96,667 intensive care unit (ICU) admissions, and 4,866–27,810 deaths per year.<sup>2</sup> Using a similar methodology, the overall burden of influenza for the 2017-2018 season was estimated at 47.9 million influenza illnesses, 22.1 million influenza-related medical visits, 953,000 influenza-related hospitalizations, and 79,400 influenza deaths. Influenza vaccination is estimated to have prevented 7.1 million illnesses and 3.7 million medical visits during the 2017–2018 influenza season.”<sup>3</sup>

### Additional Resources

CDC Influenza Information: <https://www.cdc.gov/flu/>

Maryland Influenza Information: <https://phpa.health.maryland.gov/influenza/Pages/home.aspx>

Maryland Influenza Surveillance:

<https://phpa.health.maryland.gov/influenza/fluwatch/Pages/Index.aspx>

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<sup>1</sup>Centers for Disease Prevention and Control. (2018). Summary of the 2017-2018 Influenza season. <https://www.cdc.gov/flu/about/season/flu-season-2017-2018.htm> Accessed September 4, 2019.

<sup>2</sup>Reed, C., Chaves, S. S., Kirley, PD., Emerson, R., Aragon, D., Hancock, E. B, et al. (2015). Estimating Influenza Disease Burden from Population-Based Surveillance Data in the United States. *PLoS ONE*, 10(3), e0118369. <http://doi.org/10.1371/journal.pone.0118369> Accessed September 4, 2019.

<sup>3</sup>Rolfes, MA, Flannery, B., Chung, JR, O’Halloran, A., Garg, S., Belongia, EA et al., (2019) Effects of Influenza Vaccination in the United States During the 2017–2018 Influenza Season, *Clinical Infectious Diseases*, , ciz075, <https://doi.org/10.1093/cid/ciz075> Accessed September 4, 2019.

## II. PURPOSE

The Maryland Department of Health (MDH) developed the Maryland Influenza Plan to prepare for, prevent, and mitigate the number and severity of influenza cases within the state. This plan acts as a guide for Maryland residents, public health departments, and the health care community. The Maryland Influenza Plan categorizes influenza activity by phases and includes information for each audience type. Additionally, this document includes high impact and pandemic threat triggers that can aid in the identification of outlier influenza activity potentially caused by an unusual influenza season or a pandemic.

### III. DEFINITIONS

*Antiviral Medications* – prescription medications that can be used to prevent or treat influenza

*Community Prevention and Mitigation* – tactics used by public health officials and the general public to reduce the effects of the influenza

*Early Influenza Activity* – Early influenza activity is characterized by the presence of some confirmed cases of influenza in Maryland. Geographic spread of influenza in Maryland is either sporadic or local and Influenza-like Illness intensity is minimal or low

*Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE)* – a system used to gather, manage, and analyze health-related data to identify early warning of public health threats, hazards, and incidents

*Influenza-like Illness (ILI)* – medical diagnosis that indicates a possible influenza infection but has not been confirmed by a laboratory test

*Influenza Vaccination* – preventive medical intervention that reduces the likelihood of an individual being infected by seasonal influenza

*Late Influenza Activity* – phase characterized by decreasing levels of influenza in Maryland

*Maryland Resident Influenza Tracking Survey (MRITS)* – an online system designed to measure ILI in Maryland based on illness reported directly by residents each week

*Pandemic Influenza* – occurs when a novel influenza A virus emerges for which there is no or little immunity in the human population. In the past, pandemic strains have caused serious illness and have spread easily from person-to-person worldwide

*Peak Influenza Activity* – phase characterized by an increase in confirmed cases of influenza in Maryland. Geographic spread of influenza in Maryland is either regional or widespread and ILI intensity is moderate or high

*Pre-Influenza Activity* – phase characterized by the absence or minimal presence of influenza throughout Maryland prior to the beginning of influenza season

*Seasonal Influenza* – annual outbreaks of influenza that typically occur during the late fall through early spring. Most people do not have natural immunity, and a seasonal influenza vaccine is recommended and available each year. In a typical year, approximately five to 20 percent of the population gets the seasonal influenza

*Social Distancing* – a set of non-pharmaceutical intervention tactics with the purpose of reducing the number of close interpersonal contacts and the spread of influenza

*Surveillance* – epidemiological activities of gathering and analyzing data to provide situational awareness

## IV. PRE-INFLUENZA ACTIVITY

**DEFINITION:** *Pre-influenza activity is characterized by the absence or minimal presence of influenza throughout Maryland prior to the beginning of flu season.*

**TIME PERIOD:** *Prior to the first laboratory-confirmed case of influenza in Maryland; typically, June through September*

### Tips for Maryland Residents

- Get vaccinated to best prevent influenza. Vaccination is most effective if you receive a flu shot in the summer or fall
- Identify the best location to receive your annual influenza vaccination. Many primary care providers have vaccine available. Vaccine is also available at pharmacies and health clinics and can be found here: <https://vaccinefinder.org/>
- Live a healthy lifestyle. This includes regularly washing your hands, avoid touching your eyes, nose, and mouth, and avoiding close contact with sick people
- Register for the MRITS: <http://flusurvey.dhmh.maryland.gov/>

### State and Local Health Department Actions

#### *Epidemiological and Laboratory*

- Coordinate with the CDC to identify likely influenza strains that could affect Maryland during the next influenza season
- Monitor any disease outbreaks with patients exhibiting upper-respiratory infections or symptoms of ILI
- Monitor ILI-activity in hospital emergency departments in the ESSENCE for statistically significant warnings and threats
- Conduct laboratory testing to identify and confirm any influenza cases prior to the beginning of influenza season or early influenza activity phase
- Monitor influenza activity in the southern hemisphere to inform decision-making
- Monitor adverse reactions to influenza vaccination

#### *Communication and Public Information*

- Develop materials and coordinate public health messaging; encourage vaccination
- Provide information for health care community, including recommendations on vaccine ordering and availability and current vaccine information statements (VIS)
- Provide update on vaccine supplies and distribution
- Announce seasonal influenza clinics at schools and local health departments and share influenza clinic information from other partners, such as community centers, as available
- Provide media with preventive measures including hand washing and cough etiquette

- Hold an influenza vaccination kick-off event with senior Maryland Department of Health (MDH) leadership

#### *Community Prevention and Mitigation*

- Assess cache of medical countermeasures and equipment
- Update antiviral medications distribution plan and influenza plan
- Issue a letter to health care providers encouraging the promotion of seasonal influenza vaccination in patients
- Receive and distribute vaccine to local health care providers and local health departments participating in the Vaccines for Children (VFC) program
- Coordinate with school systems to offer influenza vaccination

#### **Health Care System and Provider Actions**

- Conduct vaccination clinics
- Vaccinate health care workers
- Review plans and prevention strategies for seasonal influenza in the health care setting, including implementation of respiratory hygiene, appropriate management of ill staff, and infection control precautions. CDC guidance can be found: <http://www.cdc.gov/flu/professionals/index.htm>

#### **High Impact and Pandemic Threat Warning**

- ESSENCE data that suggest a significant increase in ILI outside of typical influenza season
- Outbreak or multiple outbreaks of ILI outside of typical influenza season

## V. EARLY INFLUENZA ACTIVITY

**DEFINITION:** *Early activity is characterized by the presence of one or more confirmed cases of influenza in Maryland. Geographic spread of influenza in Maryland is either sporadic or local and ILI intensity is minimal or low.*

**TIME PERIOD:** *Beginning after the first laboratory-confirmed case of influenza in Maryland has been identified and lasting until influenza increases in intensity and spread.*

### Tips for Maryland Residents

- Get vaccinated against influenza if you have not done so already. Vaccination is the best way to prevent influenza
- Continue to practice proper hand hygiene and cough etiquette, such as coughing into your sleeve
- Stay informed by monitoring MDH's influenza surveillance reporting website: <https://phpa.health.maryland.gov/influenza/fluwatch/Pages/Index.aspx>

### State and Local Health Department Actions

#### *Epidemiological and Laboratory*

- Examine data obtained from ILINet sentinel providers
- Monitor the MRITS
- Investigate influenza / ILI outbreaks
- Monitor severity of virus including number of hospitalizations and deaths
- Monitor reportable conditions related to influenza including pneumonia cases in health care workers, hospitalizations, pediatric influenza deaths, and novel strains of Type A influenza
- Monitor ILI-activity in hospital emergency departments in ESSENCE for statistically significant warnings and threats
- Monitor hospital emergency department status, intensive care units, and hospital bed capacities
- Provide confirmatory testing of viral specimens in MDH laboratory
- Monitor characterization of virus including subtypes and resistance to antiviral medications
- Monitor adverse reactions to influenza vaccination
- Monitor vaccine supply and availability
- Provide recommendations regarding the use of antiviral medications

#### *Communication and Public Information*



- Issue a press release and social media post announcing the first case of influenza in Maryland
- Provide educational messages including vaccine promotion and steps to take if you get sick
- Announce seasonal influenza clinic dates and locations
- Communicate disease severity and monitor news coverage

#### *Community Prevention and Mitigation*

- Report first confirmed influenza case to health care and preparedness partners, including the Maryland Joint Operations Center (MJOC)
- Issue information on first cases of influenza to local public health and health care partners. Consider conducting a conference call for more specific information sharing needs
- Implement CDC guidance and recommendations for use of antiviral medications
- Coordinate with school systems to offer influenza vaccination

#### **Health Care System and Provider Actions**

- Continue to conduct vaccination clinics
- Health care systems should continue to vaccinate health care workers
- Health care providers should emphasize seasonal influenza vaccine for patients, especially those at elevated risk for complications due to influenza
- Implement infection control practices in the health care settings. This may include adherence to standard precautions for hand hygiene and use of personal protective equipment

#### **High Impact and Pandemic Threat Warning**

- Laboratory suspected or confirmed test showing a novel strain of influenza
- Initial severe influenza cases (hospitalizations or deaths) in atypical population, such as healthy adults

## VI. PEAK INFLUENZA ACTIVITY

**DEFINITION:** *Peak influenza activity is characterized by an increase in confirmed cases of influenza in Maryland. Geographic spread of influenza in Maryland is either regional or widespread and ILI intensity is moderate or high.*

**TIME PERIOD:** *Peak influenza activity typically occurs during the winter; however, each flu season is different. Peak influenza activity is occurring when greater than 15% of influenza tests from sentinel laboratories are positive for the virus.*

### Tips for Maryland Residents

- Get vaccinated against influenza if you have not done so already. Vaccination is the best way to prevent influenza
- Avoid direct contact with ill people whenever possible. Continue to practice proper hand hygiene by washing your hands often
- Remain at home and avoid contact with other people if you have influenza-like symptoms or do not feel well. Use proper cough and sneeze etiquette if you are sick
- Know the warning signs that require urgent medical attention including high or prolonged fever, shortness of breath, dehydration, chest pain, and fainting
- Stay informed by monitoring MDH's influenza surveillance reporting website: <https://phpa.health.maryland.gov/influenza/fluwatch/Pages/Index.aspx>

### State and Local Health Department Actions

#### *Epidemiological and Laboratory*

- Monitor changes in viral characteristics, including antiviral resistance
- Monitor adverse reactions to vaccine
- Continue to investigate influenza outbreaks
- Monitor geographic spread and intensity of influenza
- Monitor information that could indicate a severe influenza impact, such as influenza hospitalization rate, school absenteeism rate, and morbidity and mortality rate

#### *Communication and Public Information*

- Continue to provide educational messages including vaccine promotion, disease characteristics, and steps to take if you get sick
- Communicate disease severity and alerts and monitor news coverage
- Issue guidance on avoiding hospital emergency departments unless illness is severe
- Provide information regarding mitigating medications, if applicable

#### *Community Prevention and Mitigation*

- Conduct a conference call with health care partners and local health departments to provide guidance and assess the status of seasonal influenza in Maryland
- Monitor the status of antiviral medications in the commercial supply chain on a weekly basis
- Monitor statewide hospital bed availability through the Maryland Institute for Emergency Medical Services Systems (MIEMSS)
- If necessary, activate Maryland Responds professional volunteers to provide support to local health departments vaccination clinics

**Health Care System and Provider Actions**

- Use caution when performing aerosol-generating procedures and only perform these procedures on patients with confirmed or suspected influenza if they are medically necessary
- Manage visitor access and movement within the facility
- Implement environmental infection control and ensure standard disinfection procedures are occurring in patient-care areas
- Continue vaccinating patients and focus vaccination efforts on CDC-recommended target populations

**High Impact and Pandemic Threat Warning**

- Laboratory suspected or confirmed test showing a novel strain of influenza
- Significantly higher severity of influenza cases in comparison to previous years

## Severe Influenza Impact

Peak seasonal influenza activity is characterized by an increase in the spread and/or intensity of influenza. Particularly severe seasons may cause a severe influenza impact. A severe influenza impact is characterized by influenza activity that greatly affects health systems and the community.

State health officials regularly review a number of factors that might trigger a severe influenza impact. The following are primary factors for determining a severe influenza impact.

**(1) Factor 1: Hospitals experiencing reported surge in emergency departments or diminishing bed availability**

*Established by:* MIEMSS Monitoring and Emergency Department Overload Mitigation Plan

*Threshold:* Hospitals within one region are on “yellow” alert status greater than 35percent of the collective daily time for several days

**(2) Factor 2: Emergency department data trends for ILI syndrome show a statistically significant increase above previous flu season trends**

*Established by:* MDH ESSENCE

*Threshold:* Emergency department chief complaints for ILI are significantly above expected compared to previous influenza season trends

**(3) Factor 3: Flu surveillance data suggest a number of hospitalizations out of proportion with previous flu seasons due to the influenza virus**

*Established by:* MDH Influenza-associated Hospitalizations report

*Threshold:* Hospitalization rate higher than typical influenza seasons

**(4) Factor 4: Increased virulence of circulating strains causing an increase in morbidity and mortality, especially in atypical populations**

*Established by:* MDH Laboratory testing and Influenza-associated Hospitalizations and Deaths reports

*Threshold:* Identified pandemic strain of influenza (such as 2009-2010 H1N1); increased morbidity in previously healthy, aged 18-24 and 25-49 individuals

**(5) Factor 5: Circulating strains of influenza do not match available seasonal vaccine and/or are resistant to antiviral medications**

*Established by:* CDC Morbidity and Mortality and Influenza Surveillance Weekly Reports

*Threshold:* Seasonal vaccine significantly less than 50 percent effective

**(6) Factor 6: School absenteeism is significantly higher than typical levels**

*Established by:* MDH ESSENCE

*Threshold:* 50 percent or more of Maryland local jurisdictions report greater than 15 percent absenteeism for three consecutive weekdays

The impact of seasonal influenza when it is both widespread geographically and high in intensity can be severe. The disease circulates throughout Maryland and can cause many residents to become ill and seek

## **Additional Considerations for Mitigating a Severe Influenza Impact**

### *Non-pharmaceutical Intervention and Communications*

- Conduct weekly assessment conference calls with health care partners and local health departments to provide situational awareness and initiate mitigation tactics
- Increase the number of public press releases and information on seasonal influenza
- Operationalize portions of the State Pandemic Influenza Annex including recommendations regarding social distancing and travel restrictions as necessary
- Review potential declarations under the Catastrophic Health Emergencies Act
- Consider enacting Pandemic Influenza Attendance and Leave Policy and Advanced Sick Leave Policy
- Review policies and procedures for potential school closures with the Maryland State Department of Education and local public school systems
- Issue guidance and manage visitor access to patients in health care settings; consider screening visitors for symptoms of acute respiratory illness before entering hospitals
- Hospitals should consider designing and installing engineering controls to reduce potential exposure to influenza and other hospital-acquired infections

### *Medical Countermeasures*

- Encourage universal vaccination efforts and increase the number of vaccine clinics
- If necessary, allocate and distribute antiviral medications to local community partners for potential dispensing
- Request medications from the CDC Strategic National Stockpile if a shortage of antivirals or equipment is identified in the commercial supply chain or state stockpile

## VII. LATE INFLUENZA ACTIVITY

**DEFINITION:** *Late influenza activity is characterized by decreasing levels of influenza in Maryland.*

**TIME PERIOD:** *Late influenza activity is occurring when less than 15% of influenza tests from sentinel laboratories are positive. Additionally, the predominant strain of circulating influenza virus typically shifts to Type B.*

### **Tips for Maryland Residents**

- Get vaccinated against influenza if you have not done so already. Vaccination is the best way to prevent influenza
- Continue to practice proper hand hygiene and cough etiquette
- Stay informed by monitoring MDH's influenza surveillance reporting website: <https://phpa.health.maryland.gov/influenza/fluwatch/Pages/Index.aspx>

### **State and Local Health Department Actions**

#### *Epidemiological and Laboratory*

- Continue to investigate influenza outbreaks throughout Maryland
- Publish epidemiological data and influenza season summary at the end of influenza season

#### *Community Prevention and Mitigation*

- Review and update Maryland Influenza Plan at the end of influenza season

### **Health Care Systems and Providers Actions**

- Assess medications and personal protective equipment caches and refill stocks as necessary
- Review and update seasonal influenza plans and medical surge plans

### **High Impact and Pandemic Threat Warning**

- Sudden increase in reported cases of ILI late in influenza season

## VIII. CONCLUSION

Influenza is a serious disease that affects many Maryland residents every year. MDH has identified and published essential tips for Maryland residents to prevent and mitigate the spread of influenza. Additionally, this plan outlines the state's efforts in surveillance, communication, community prevention, and mitigation, and guidance for health care systems and health care providers to dictate actions to reduce the effect that influenza virus has on Maryland and its residents.

**APPENDIX A: LOCAL HEALTH DEPARTMENT CONTACT INFORMATION**

<b>Jurisdiction</b>	<b>Website Address</b>	<b>Phone Number</b>
Allegany	<a href="https://health.maryland.gov/allegany/Pages/Home.aspx">https://health.maryland.gov/allegany/Pages/Home.aspx</a>	301-759-5000
Anne Arundel	<a href="https://www.aahealth.org/">https://www.aahealth.org/</a>	410-222-7095
Baltimore City	<a href="https://health.baltimorecity.gov/">https://health.baltimorecity.gov/</a>	410-396-4398
Baltimore	<a href="http://www.baltimorecountymd.gov/Agencies/health/">http://www.baltimorecountymd.gov/Agencies/health/</a>	410-887-2243
Calvert	<a href="http://www.calverthealth.org/">http://www.calverthealth.org/</a>	410-535-5400
Caroline	<a href="https://www.carolinehd.org/">https://www.carolinehd.org/</a>	410-479-8000
Carroll	<a href="http://cchd.maryland.gov/">http://cchd.maryland.gov/</a>	410-876-2152
Cecil	<a href="http://cecilcountyhealth.org/">http://cecilcountyhealth.org/</a>	410-996-5550
Charles	<a href="http://www.charlescountyhealth.org/">http://www.charlescountyhealth.org/</a>	301-609-6900
Dorchester	<a href="http://www.dorchesterhealth.org/">http://www.dorchesterhealth.org/</a>	410-228-3223
Frederick	<a href="http://health.frederickcountymd.gov/">http://health.frederickcountymd.gov/</a>	301-600-1029
Garrett	<a href="http://garretthealth.org/">http://garretthealth.org/</a>	301-334-7777
Harford	<a href="http://harfordcountyhealth.com/">http://harfordcountyhealth.com/</a>	410-838-1500
Howard	<a href="https://www.howardcountymd.gov/Departments/Health">https://www.howardcountymd.gov/Departments/Health</a>	410-313-6300
Kent	<a href="http://www.kenthd.org/">http://www.kenthd.org/</a>	410-778-1350
Montgomery	<a href="http://www.montgomerycountymd.gov/hhs/">http://www.montgomerycountymd.gov/hhs/</a>	240-777-0311
Prince George's	<a href="http://www.princegeorgescountymd.gov/1588/Health-Services">http://www.princegeorgescountymd.gov/1588/Health-Services</a>	301-883-7879
Queen Anne's	<a href="https://health.maryland.gov/qahealth/Pages/qacdoth-home.aspx">https://health.maryland.gov/qahealth/Pages/qacdoth-home.aspx</a>	410-758-0720
Saint Mary's	<a href="http://www.smchd.org/">http://www.smchd.org/</a>	301-475-4330
Somerset	<a href="http://somesethealth.org/">http://somesethealth.org/</a>	443-523-1700
Talbot	<a href="https://health.maryland.gov/talbotcounty/Pages/home.aspx">https://health.maryland.gov/talbotcounty/Pages/home.aspx</a>	410-819-5600
Washington	<a href="https://health.maryland.gov/washhealth/Pages/home.aspx">https://health.maryland.gov/washhealth/Pages/home.aspx</a>	240-313-3200
Wicomico	<a href="http://www.wicomicohealth.org/">http://www.wicomicohealth.org/</a>	410-749-1244
Worcester	<a href="http://www.worcesterhealth.org/">http://www.worcesterhealth.org/</a>	410-632-1100



## APPENDIX B: SUMMARY OF 2019–2020 RECOMMENDATIONS FROM THE ADVISORY COMMITTEE ON IMMUNIZATION PRACTICES (ACIP)<sup>4</sup>

### 2019-2020 Vaccine Recommendations

- Routine annual influenza vaccination of all persons aged six months and older who do not have contraindications continues to be recommended
- For the 2019–2020 influenza season, health care providers may choose to administer any licensed, age-appropriate influenza vaccine (e.g. IIV, RIV4, or LAIV4). LAIV4 is an option for those for whom it is appropriate
- No preferential recommendation is made for one influenza vaccine product over another for persons for whom more than one licensed, recommended product is otherwise appropriate
- In general, health care providers should begin offering vaccination soon after vaccine becomes available, and if possible, by the end of October
- Pregnant women may receive any licensed, recommended, age-appropriate IIV or RIV4 influenza vaccine. LAIV4 should not be used during pregnancy. Influenza vaccine can be administered at any time during pregnancy, before and during the influenza season
- Children aged six months through eight years who have not previously received two or more total doses of trivalent or quadrivalent influenza vaccine before July 1, 2019 require two doses for the 2019–2020 influenza season. The first dose as soon as possible after vaccine becomes available so that the second dose can be administered at least four weeks later (optimally by the end of October)
- Children aged six months through eight years who have previously received two or more total doses of trivalent or quadrivalent influenza vaccine at least four weeks apart before July 1, 2019 require only one dose for the 2019–2020 influenza season. The two previous doses need not have been given during the same season or consecutive seasons
- Providers should consider observing patients for 15 minutes after vaccination to decrease the risk for injury should they experience syncope
- Persons who are not at high risk for severe influenza complications and who are known to have experienced Guillain-Barre Syndrome within six weeks of a previous influenza vaccination generally should not be vaccinated
- Persons with a history of egg allergy of any severity may receive any licensed, recommended, and age-appropriate influenza vaccine (IIV, RIV4, or LAIV4). Persons with a history of severe allergic reaction to egg (i.e., any symptom other than hives) should be vaccinated in an inpatient or outpatient medical setting (including but not necessarily limited to hospitals, clinics, health departments, and health care provider offices) under the supervision of a health care provider who is able to recognize and manage severe allergic conditions
- For immunocompromised persons, IIV or RIV4 should be used instead of LAIV4 given the uncertain but biologically plausible risk for disease attributable to the vaccine virus

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<sup>4</sup>Full summary can be found: <https://www.cdc.gov/mmwr/volumes/68/rr/rr6803a1.htm>