



# **Influenza Disease and Vaccination During COVID-19 Pandemic: Similarities/Differences, Coverage, and Planning**

Charleigh Granade, MPH

Disproportionately Affected Adult Population Team

Vaccine Task Force

**National Indian Health board**

**January 06, 2020**

# Objectives

- Describe similarities and differences between influenza and COVID-19 disease
- Describe similarities and differences between influenza and COVID-19 vaccines
- Summarize current influenza disease burden and vaccination coverage for 2019-20 season
- Review influenza vaccination planning
- Provide guidance for vaccination during a pandemic

# Similarities and Differences: Flu and COVID-19

# Similarities and Differences: Flu and COVID-19

## ■ Symptoms:

### – Similarities:

- Fever or feeling feverish/chills
- Cough
- Shortness of breath or difficulty breathing
- Fatigue (tiredness)
- Sore throat and runny or stuffy nose
- Muscle pain or body aches
- Headache
- Some have vomiting and diarrhea (more often in children)

### -Differences:

COVID-19: Loss or change in smell or taste



# Similarities and Differences: Flu and COVID-19

- Time for symptoms to appear after exposure and infection:
  - Differences:
    - Flu: Develop symptoms from 1-4 days after infection
    - COVID 19: Develop symptoms ~5 days after being infected, but symptoms can appear as early as 2 days after infection or 14 days after infection.

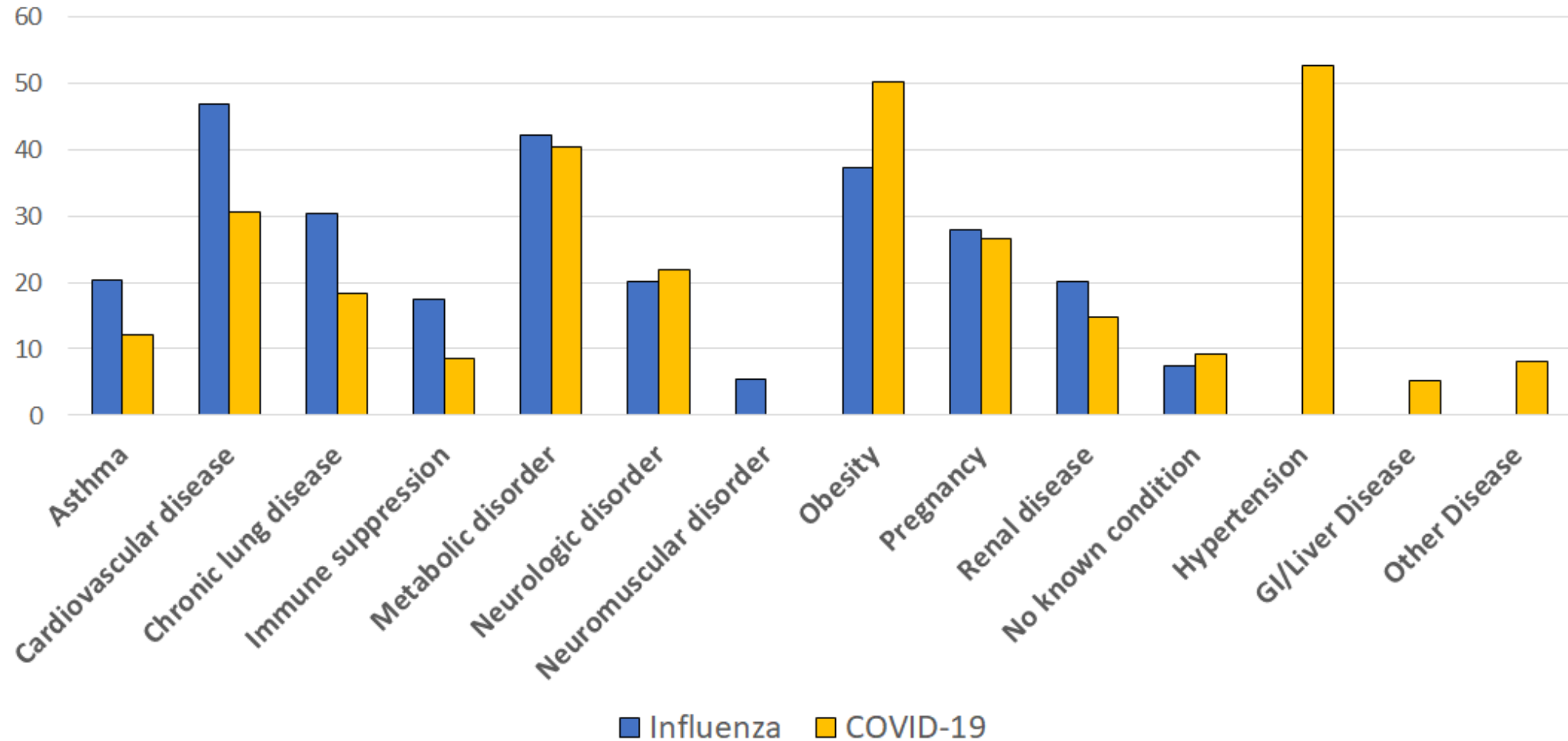


# Similarities and Differences: Flu and COVID-19

- **How long can someone spread the virus:**
  - Differences:
    - Flu: Most people with the flu are contagious for ~ 1 day before symptoms.
      - › Older children and adults with flu seem to be most contagious during the initial 3-4 days of illness and remain contagious for about 7 days.
    - COVID 19: How long someone is contagious is still under investigation.
      - › It's possible for people to spread the virus for about 2 days before experiencing signs or symptoms and remain contagious for at least 10 days after signs or symptoms first appeared. If someone is asymptomatic or their symptoms go away, it's possible to remain contagious for at least 10 days after testing positive for COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/if-you-are-sick/end-home-isolation.html>)

# Selected Underlying Conditions Among Hospitalized Patients with Laboratory-Confirmed Influenza Compared with COVID-19

CDC FluSurvNet/COVIDNet, Influenza Season 2019-2020 and COVID-19 in 2020



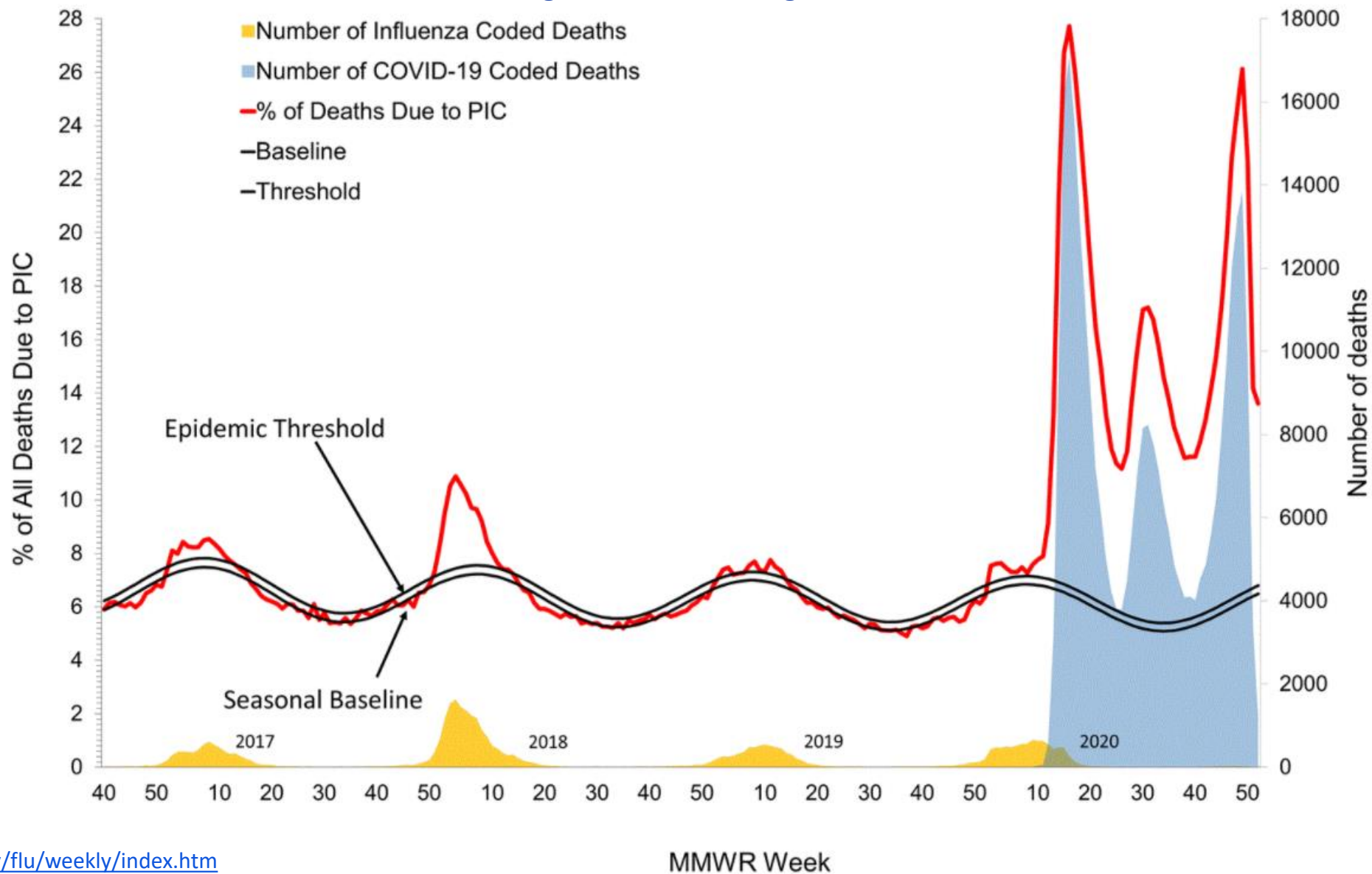
Neuromuscular disorder is not reported for COVID-19. Hypertension, GI/Liver, and Other Disease are not reported for influenza.

<https://gis.cdc.gov/grasp/fluview/FluHospChars.html>

[https://gis.cdc.gov/grasp/COVIDNet/COVID19\\_5.html](https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html)

# Pneumonia, Influenza, and COVID-19 (PIC) Mortality from the National Center for Health Statistics Mortality Surveillance System

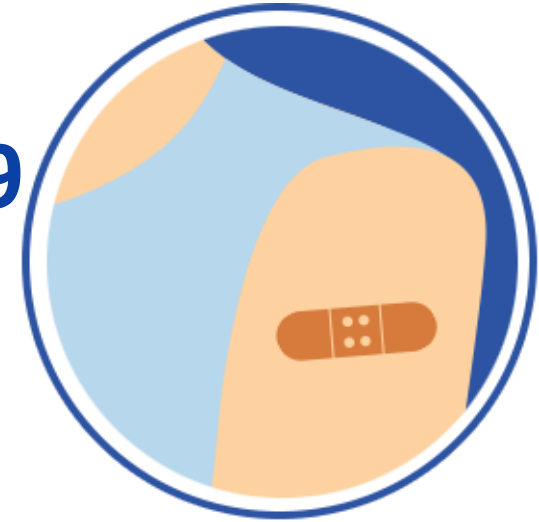
Date through the week ending December 26, 2020





# Similarities and Differences: Flu and COVID-19 Vaccines

# Similarities and Differences: Flu and COVID-19

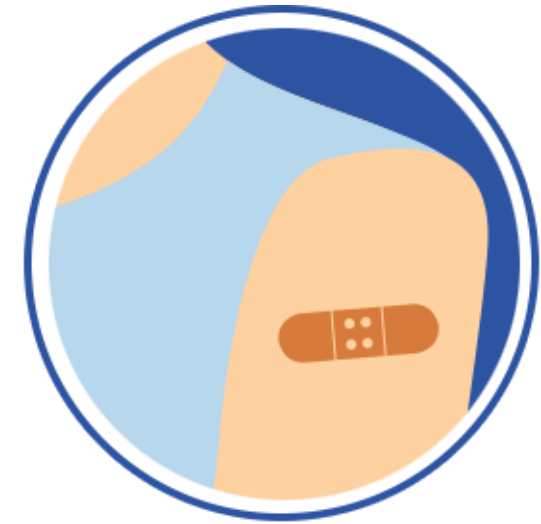


- **Vaccine availability:**

- **Differences:**

- Flu: There are multiple FDA-licensed influenza vaccines produced every year to protect against the 3-4 flu viruses' scientists believe will circulate each year (<https://www.cdc.gov/flu/prevent/flushot.htm>).
- COVID 19: At present, vaccine developers and other researchers have developed two COVID-19 vaccines; both of which are authorized under separate Emergency Use Authorizations (<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>).

# Similarities and Differences: Flu Vaccine



- Vaccine Implementation:
  - Differences:

Vaccine	Supply	Cold Chain	Number of Doses (adult)	Reconstitution
Flu	Widely available	2-8C	1	No
COVID-19	Limited (initially)	Varies from refrigeration (2C-8C) to frozen (-20C) to ultra-cold (-80C to -60C)	2* (separated by $\geq 21$ or $\geq 28$ days)	Varies by vaccine manufacturer <sup>1,2</sup>

1. <https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/index.html>

2. <https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/index.html>

# Flu: Disease Burden and Vaccination Coverage

# the burden of flu 2019-2020



[www.cdc.gov/flu](http://www.cdc.gov/flu)

During the 2019-2020 flu season, CDC estimates flu caused:

**38**  
million  
flu illnesses

About the same as the  
population of California



**400,000**  
flu hospitalizations

About the same as the  
population of Miami, FL



**22,000**  
flu deaths

Enough people to fill Madison  
Square Garden in New York City



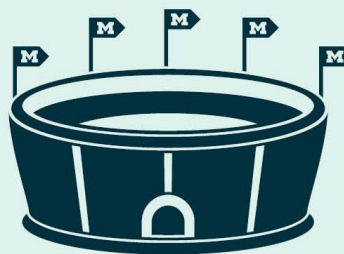
**Nearly 52% of the U.S. population 6 months and older got a flu vaccine during the 2019-2020 flu season, and this prevented an estimated:**

**7.5**  
million  
flu illnesses



**More than the combined  
population of Kentucky and  
Kansas**

**105,000**  
hospitalizations



**Enough people to fill  
Michigan Stadium at the  
University of Michigan**

**6,300**  
deaths



**Equivalent to saving about  
17 lives per day over the  
course of a year**

Imagine the impact if more Americans chose to get a flu vaccine.  
Many more flu illnesses, flu hospitalizations, and flu deaths could be prevented.

The estimates for the 2019-2020 influenza season are preliminary pending additional data from the season.

<https://www.cdc.gov/flu/about/burden/index.html>



**get vaccinated**  
[www.cdc.gov/flu](http://www.cdc.gov/flu)

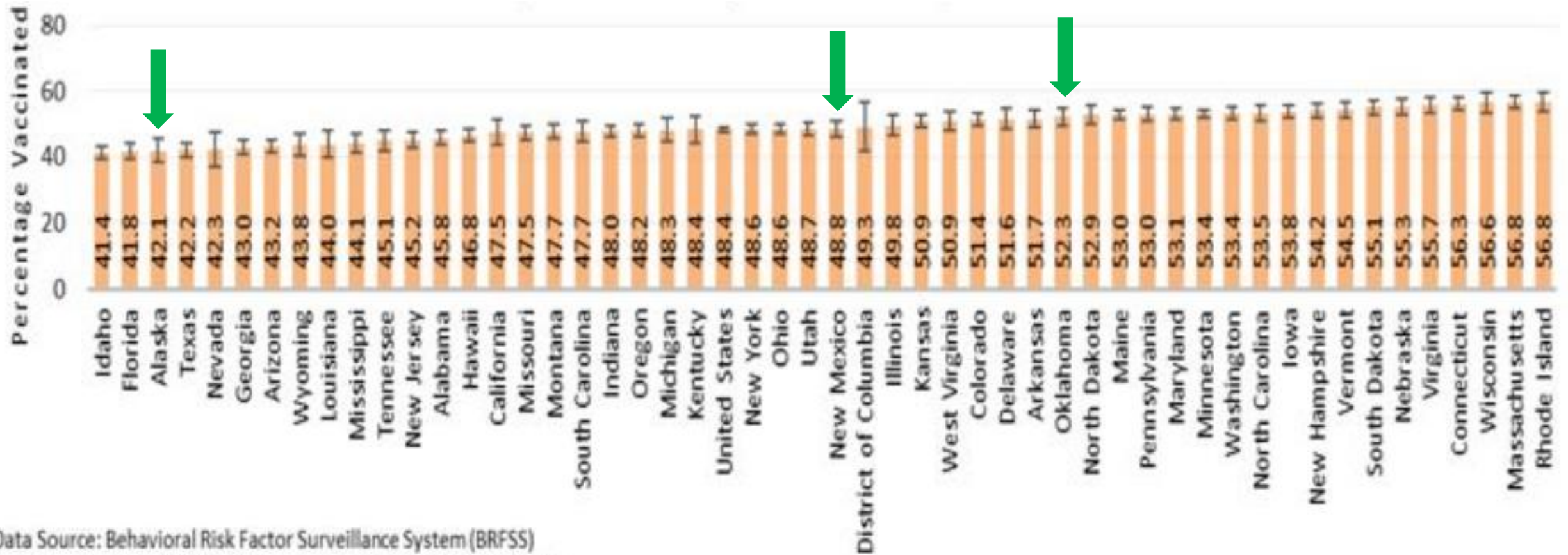
September 2020

# Influenza Vaccination Coverage by Age Group, Adults 18 years and Older, United States, 2010 - 2020



Data Source: Behavioral Risk Factor Surveillance System (BRFSS)  
 Error bars represent 95% confidence intervals around the estimates.

# Influenza Vaccination Coverage by State, Adults 18 years and Older, United States, 2019-2020 Season



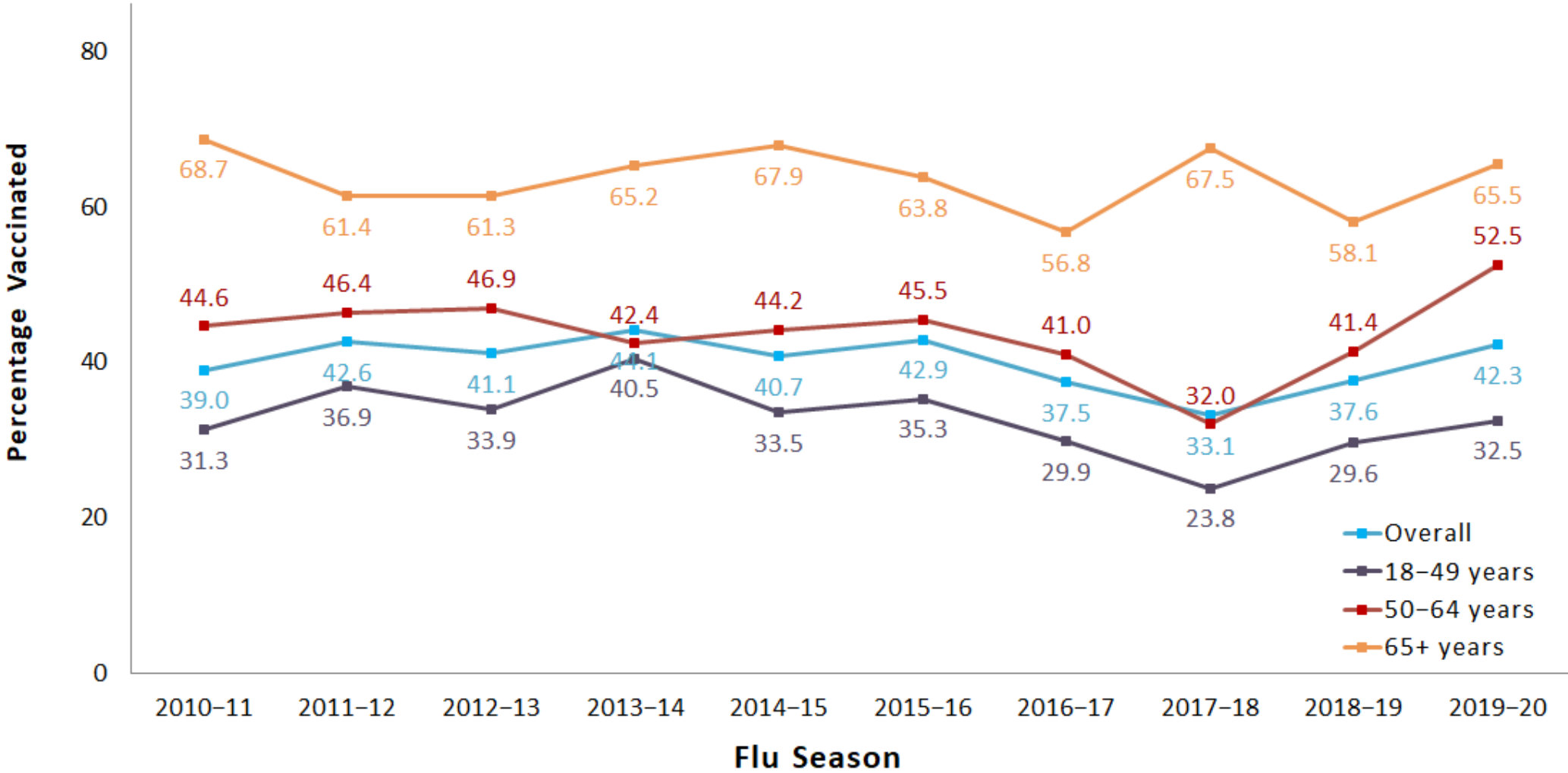
Data Source: Behavioral Risk Factor Surveillance System (BRFSS)

Error bars represent 95% confidence intervals around the estimates.

\* Includes flu vaccinations received July 2019 through May 2020, except for the District of Columbia, for which only vaccinations through November 2019 were included (see Methods).

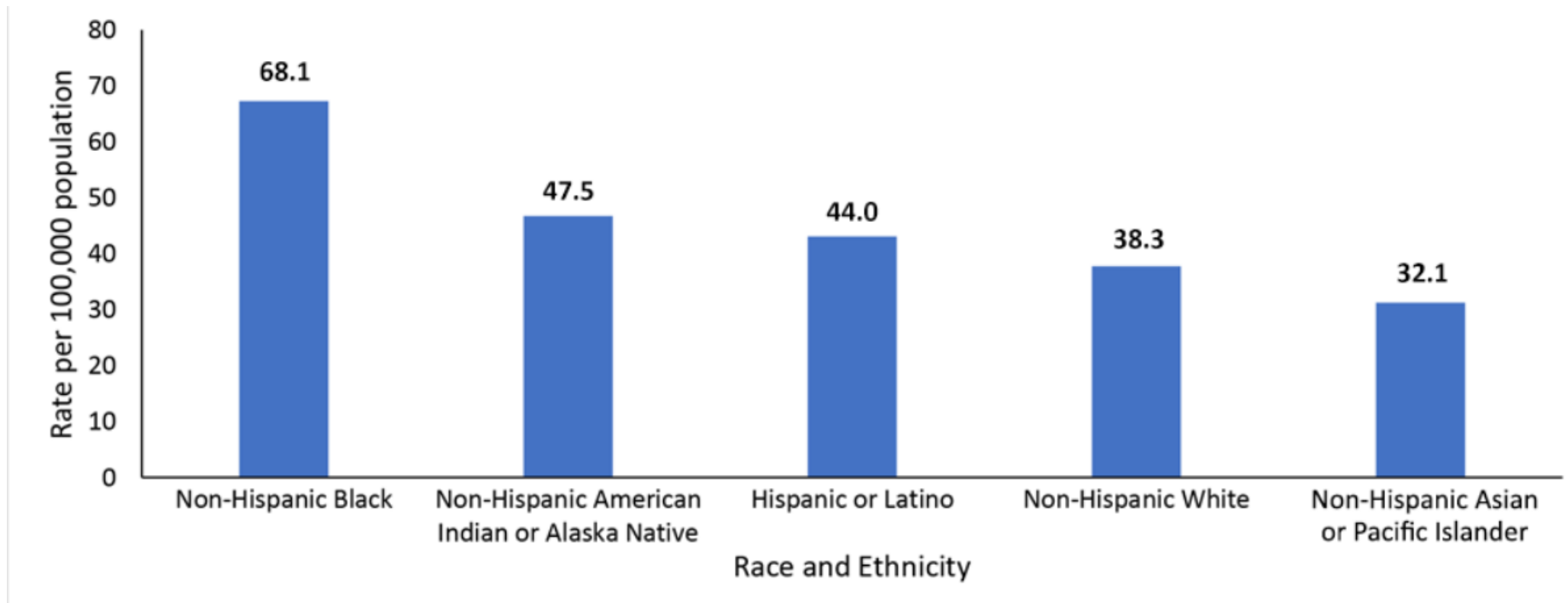


# Flu Vaccination Coverage among American Indian/Alaska Native by Age Group, Adults Aged ≥18 Years, United States, 2010–2020



Data Source: Behavioral Risk Factor Surveillance System (BRFSS).  
 Estimates for the 2010-11 and 2011-12 seasons are based on interviews conducted during September of the prior year through June of the next year, and vaccination received during August of the prior year through May of the next year for each influenza season. Estimates for the 2012-13 to 2019-20 seasons are based on interviews conducted during September of the prior year through June of the next year, and vaccination received during July of the prior year through May of the next year for each influenza season.

# Age-Adjusted Influenza-Associated Hospitalization Rates by Race and Ethnicity – FluSurv-Net, 2009-10 through 2018-19



*\*Rates are statistically adjusted to account for differences in age distributions within race/ethnicity strata in the FluSurv-NET catchment area. Rates are preliminary and not yet published. For more information on the methodology used this analysis, visit: [Influenza Hospitalization Surveillance Network \(FluSurv-NET\)](#).*

# Flu Vaccination Planning for 2020-21

# Flu Vaccination is important during a COVID-19 Pandemic

- Although flu circulation has been limited, flu typically peaks in February. Therefore, it's not too late for vaccination.
- Increasing flu vaccination coverage will reduce stress on the health care system.
  - Decrease doctor visits and hospitalizations.
  - Reduce influenza diagnostic testing.
  - Prevent reduction in healthcare staff due to illness
    - Also protects high-risk patients seeking treatment for other healthcare needs.



# Flu Vaccination is important during a COVID-19 Pandemic

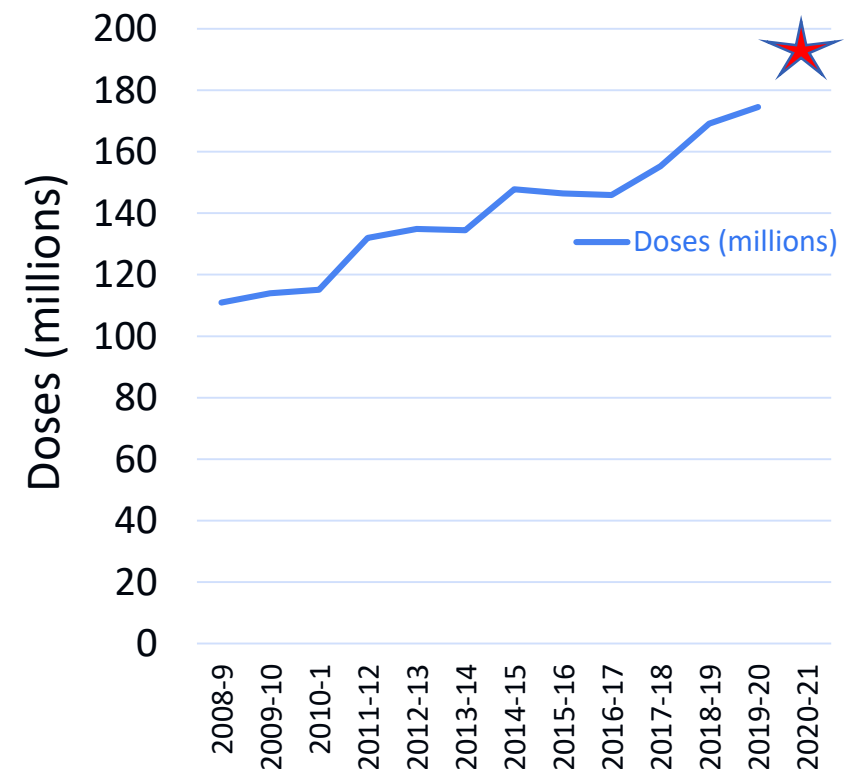
- Flu vaccination will prevent co-infection with both flu and COVID-19
  - Increased risk of severe adverse outcomes
  - Focus on adults at higher risk from COVID-19.
    - American Indians, African-Americans, and Hispanics
    - Staff and residents of long-term care facilities
    - Adults with underlying illnesses
      - › Cardiovascular disease, lung disease, asthma, etc.
    - Adults who are part of critical infrastructure
      - › Critical Trades (electricians, plumbers, construction workers), agriculture, transportation, etc.



# Influenza Vaccination Planning for 2020-2021 Season

- Maximize available vaccine supply.
  - 192.3M flu doses distributed to U.S. market.
- Operational considerations
  - Outreach to those at higher risk
  - Planning for need to physical distance
  - Extending influenza vaccination season (September through December or later)
- Enhance communication.
  - Align with COVID-19 messaging.
  - Messaging for high-risk individuals

**Influenza Vaccine Doses  
Distributed By Season, 2008-09 to  
2019-20, and Projected, 2020-21**



# Barriers to Flu Vaccination during the Pandemic

- There might be fewer worksite vaccination clinics (~16% of adults receive flu vaccination at the workplace).
- People might not feel safe going into clinics or pharmacy settings.
- In-person clinic visits might be cancelled or moved to telehealth.
- Concerns about safety of COVID-19 vaccine could translate to (more) questions about safety of flu vaccine.
- COVID-19-related unemployment might impact ability to afford flu vaccination.
- Working parents have limited free time to focus on staying up to date on vaccinations because of work/home school/child care responsibilities.
- People might not think they need a flu vaccination this year because they are physically distancing.

# Activities Critical to Successful Flu Vaccination Season

- Coordinated messages on the importance of flu vaccination (and where patients can receive flu vaccination)
- Protocols in place to ensure patients can be safely vaccinated
- Creative approaches to address access/disparity issues and common misperceptions about flu vaccination
- Information on Medicaid, Vaccines for Children, insurance subsidies, or payment options for patients who have recently lost insurance coverage or are experiencing economic hardship
- Vaccination efforts continue for the duration of flu season.

<https://www.cdc.gov/flu/resource-center/index.htm>

<https://www.cdc.gov/flu/resource-center/toolkit/social-media-toolkit.htm>

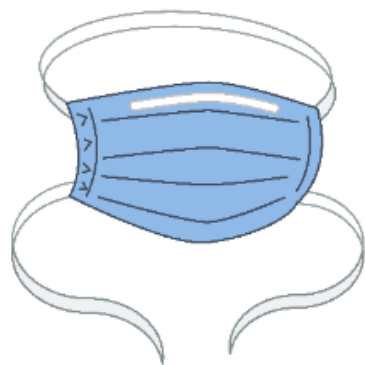


# Guidance for Vaccination During a Pandemic

# Guidance to safely provide immunization services

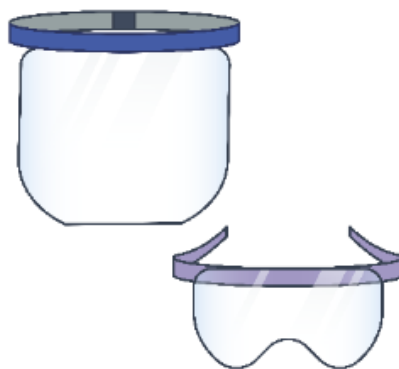
- Follow CDC Framework for Providing non-COVID-19 Clinical Care
- Includes considerations for use of appropriate Personal Protective Equipment (PPE)
- Consideration of various clinical settings for vaccine administration
- Special focus on priority populations for influenza vaccine
  - Those at high-risk for influenza-related complications
  - Those at high-risk for severe COVID-19 infection
  - Essential workers
- Language aligned with COVID-19 response websites
- <https://www.cdc.gov/vaccines/pandemic-guidance/index.html>

# Vaccine Administration: COVID-19 Personal Protective Equipment



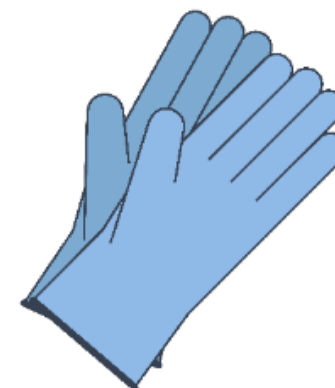
## Face mask

- **Recommended:** All healthcare providers (N95 masks not recommended)



## Eye protection

- **Recommended:** Areas of moderate/substantial community transmission
- **Optional:** Areas of minimal/no community transmission unless otherwise indicated as a part of standard precautions

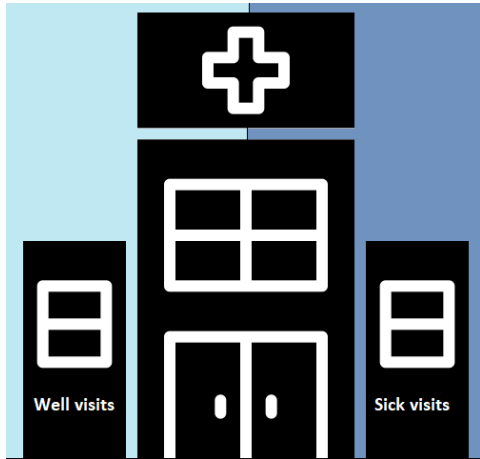


## Gloves

- **Recommended:** Intranasal or oral vaccines
- **Optional:** Intramuscular or subcutaneous vaccines

# Ensure physical distancing during vaccination visits

## Separate sick from well patients



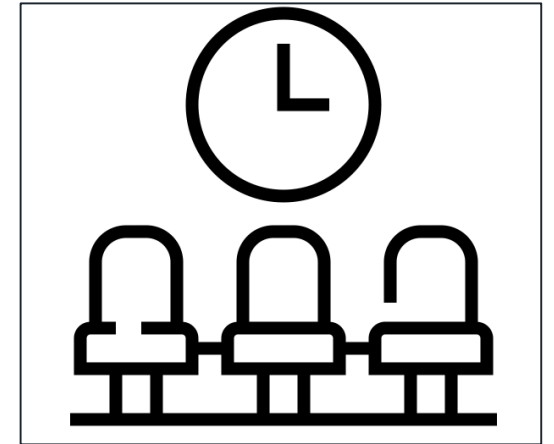
- Schedule well and sick visits at different times of the day.
- Place sick visits in different areas of the facility or different locations.

## Ensure physical distancing measures



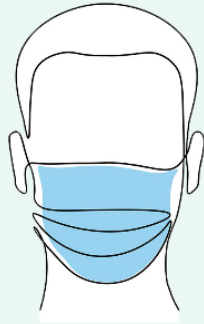
- At least 6 feet during all aspects of visit: check-in, checkout, screening procedures, postvaccination monitoring
- Use strategies such as physical barriers, signs, ropes, floor markings.

## Reduce crowding in waiting room



- Ask patients to wait outside (e.g., in their vehicles) until called in.

# Guidance for Vaccination Clinics Held in Satellite, Temporary, or Off-site locations



## Guidance during the COVID-19 pandemic

Planning for a satellite, temporary, or off-site vaccination clinic requires additional considerations during the COVID-19 pandemic, including physical distancing, personal protective equipment (PPE), and enhanced sanitation efforts. These additional considerations are called out in boxes throughout this guidance. However, because COVID-19 guidance is evolving, regularly check [infection control guidance for healthcare professionals about coronavirus \(COVID-19\)](#) for updated information. Consider signing up for the email updates on the website to stay informed of any changes.



Planning Activities



Pre-Clinic Activities




During the Clinic Activities



Post-Clinic Activities

## Planners are encouraged to use

- [Resources for hosting an off-site vaccination clinic](#)
- The [Checklist of Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-Site Locations](#),  [which outlines CDC guidelines and best practices essential for patient safety and vaccine effectiveness, including guidance for vaccine shipment, transport, storage, handling, preparation, administration, and documentation at temporary clinics.](#)

# Checklist of Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-site Locations

CHECKLIST of			Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-Site Locations
<b>BEFORE THE CLINIC (Please complete each item before the clinic starts.)</b>			
<b>VACCINE SHIPMENT</b>			
YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaccine was shipped directly to the facility/clinic site, where adequate storage is available. ( <i>Direct shipment is preferred for cold chain integrity.</i> )
<b>VACCINE TRANSPORT (IF IT WAS NOT POSSIBLE TO SHIP VACCINES DIRECTLY TO THE FACILITY/CLINIC SITE)</b>			
YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaccines were transported using a portable vaccine refrigerator or qualified container and pack-out designed to transport vaccines within the temperature range recommended by the manufacturers (i.e., between 2–8° Celsius or 36–46° Fahrenheit for ALL refrigerated vaccines). Coolers available at general merchandise stores or coolers used to transport food are NOT ACCEPTABLE. See CDC's Vaccine Storage and Handling Toolkit for information on qualified containers and pack-outs: <a href="http://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf">www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf</a> .
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The person transporting the vaccines confirmed that manufacturer instructions for packing configuration and proper conditioning of coolants were followed. ( <i>Your qualified container and pack-out should include packing instructions. If not, contact the company for instructions on proper packing procedures.</i> )
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The person transporting the vaccines confirmed that all vaccines were transported in the passenger compartment of the vehicle (NOT in the vehicle trunk).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A digital data logger with a buffered probe and a current and valid Certificate of Calibration Testing was placed directly with the vaccines and used to monitor vaccine temperature during transport.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The amount of vaccine transported was limited to the amount needed for the workday.
<b>VACCINE STORAGE AND HANDLING (UPON ARRIVAL AT FACILITY/CLINIC)</b>			
YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If vaccines were shipped, the shipment arrived within the appropriate time frame (according to manufacturer or distributor guidelines) and in good condition.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If the vaccine shipment contained a cold chain monitor (CCM), it was checked upon arrival at the facility/clinic, and there was no indication of a temperature excursion (i.e., out-of-range temperature) during transit. CCMs are stored in a separate compartment of the shipping container (a CCM may not be included when vaccines are shipped directly from the manufacturer). <i>Note: CCMs are for one-time use and should be thrown away after being checked.</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upon arrival at the facility/clinic (either by shipment or transport), vaccines were immediately unpacked and placed in proper storage equipment (i.e., a portable vaccine refrigerator or qualified container and pack-out specifically designed and tested to maintain the manufacturer-recommended temperature range). Follow the guidance for unpacking and storing vaccines specified in CDC's Vaccine Storage and Handling Toolkit: <a href="http://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf">www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf</a> .
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upon arrival at the facility/clinic, vaccines were still within the manufacturer-recommended temperature range (i.e., between 2–8° Celsius or 36–46° Fahrenheit for ALL refrigerated vaccines).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upon arrival at the facility/clinic, vaccines remained protected from light (per manufacturer's package insert) until ready for use at the vaccination clinic.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Upon arrival at the facility/clinic, expiration dates of vaccines and any medical equipment (syringes, needles, alcohol wipes) being used were checked, and they had not expired.
<b>CLINIC PREPARATION AND SUPPLIES</b>			
YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A contingency plan is in place in case vaccines need to be replaced. The plan addresses scenarios for vaccine compromised before arrival at the clinic and for vaccine compromised during clinic hours.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	An emergency medical kit (including epinephrine and equipment for maintaining an airway) is at the site for the duration of the clinic.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All vaccination providers at the site are certified in cardiopulmonary resuscitation (CPR), are familiar with the signs and symptoms of anaphylaxis, know their role in the event of an emergency, and know the location of epinephrine and are trained in its indications and use.

# Planning Activities



Leadership and Staffing



Vaccination Clinic  
Location and Layout



Clinical Staffing



Coordinate with  
Government, Nonprofit,  
and Private Sector Partners

# Flowchart for Vaccination Clinic Layout for Walk-through Clinics

## Indoor or outdoor walk-through clinics

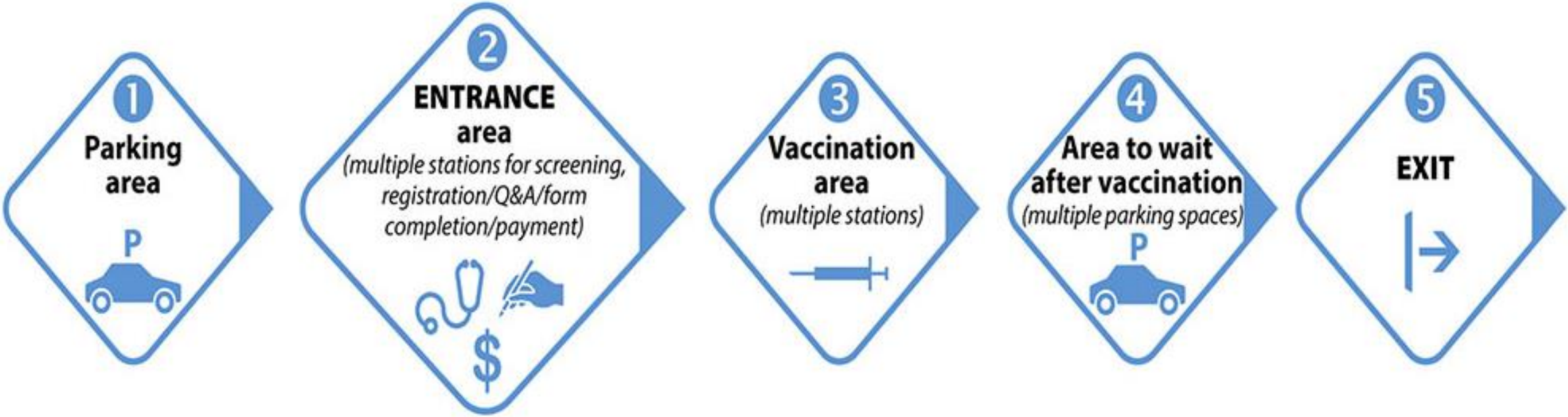


*\*These activities can also be combined with activities, for example, they might be part of activity 1 or 3*



# Flowchart for Vaccination Clinic Layout of Curbside Clinics

## Curbside or drive-through clinics



# Conclusions

# Conclusions

- **Strongly promote** flu vaccination—especially this season in the context of the pandemic—and particularly among our most vulnerable populations.
- **Continue vaccinating** for the duration of flu season.
- **Communicate to patients** that flu vaccine **WILL NOT** protect you from COVID-19.



# Thank you

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Photographs and images included in this presentation are licensed solely for CDC/NCIRD online and presentation use. No rights are implied or extended for use in printing or any use by other CDC CIOs or any external audiences.

