



VHA Seasonal Influenza Manual

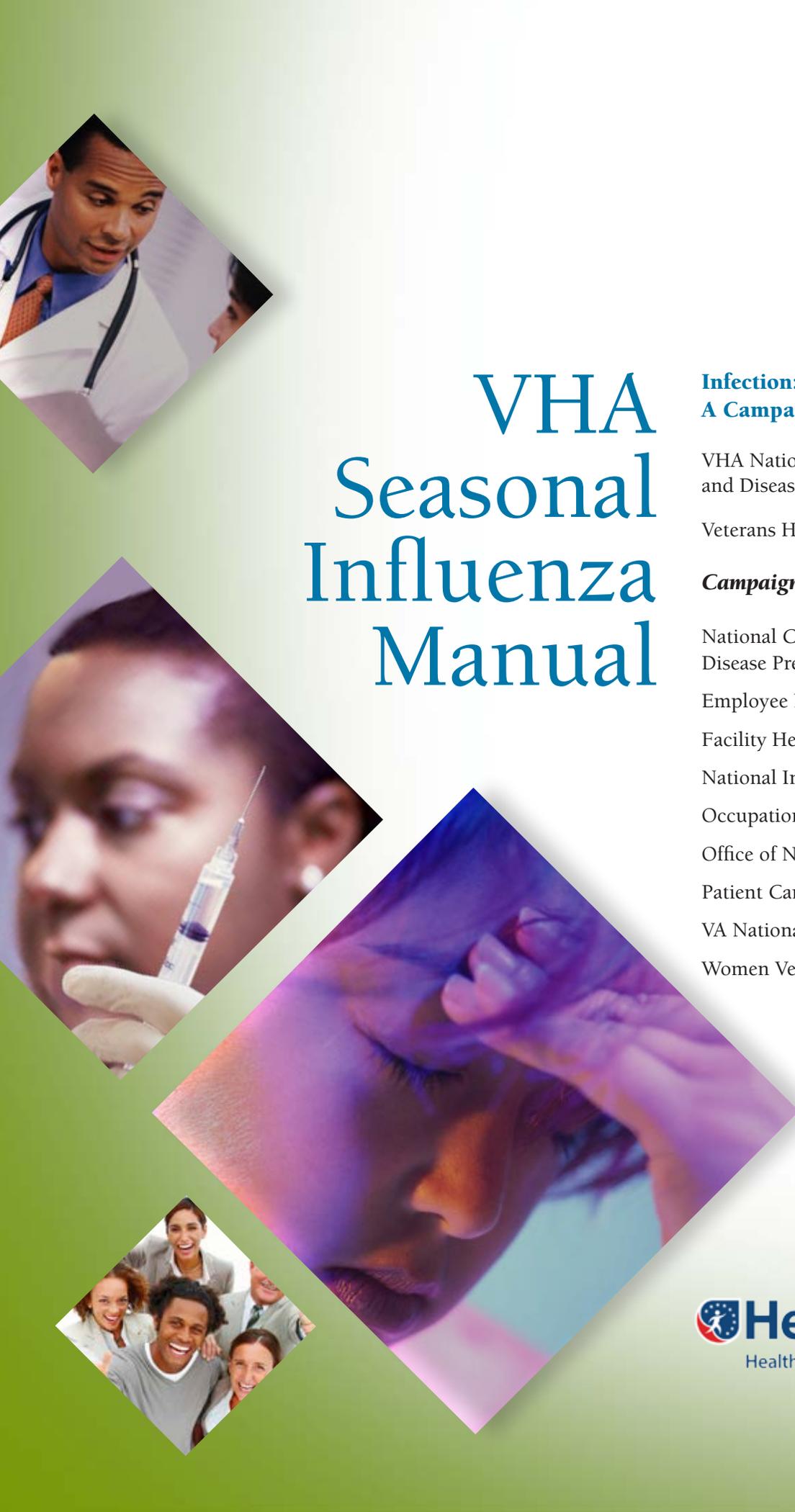


VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Patient Care Services
Health Promotion & Disease Prevention



VHA Seasonal Influenza Manual

Infection: Don't Pass It On A Campaign For Public Health

VHA National Center for Health Promotion
and Disease Prevention

Veterans Health Administration

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VA Influenza Manual

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Overview

Work as a Team

VHA Seasonal Influenza Manual

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Each flu season I am amazed by the hard work of VA staff who talk with patients and employees about the importance of preventing influenza, keep up to date with the latest guidance on influenza prevention, and administer the seasonal influenza vaccine. I commend the efforts of staff who work as a team to develop innovative and creative ways of supporting flu prevention programs in VA facilities.

This manual is developed by the VA Infection: Don't Pass It On (IDPIO) team – a dedicated group of staff from VA facilities, VISN offices, and several VA Central Office programs that represent many disciplines and professional perspectives (See Acknowledgements, Section 13).

The flu manual provides information about flu vaccination, education and communication resources, and guidance on how to implement successful influenza prevention campaigns throughout and guidance on influenza prevention. Work as a team to utilize the manual as you cultivate your flu vaccination and prevention campaign in your facility.

The VA IDPIO team intends for this manual to be a rich resource of ideas, inspiration, facts, and information. It represents all aspects of flu prevention from the vaccine, to the disease, to prevention, to ways to run successful programs. IDPIO welcomes comments and suggestions for ways to improve and refresh this manual, not to mention better ways to run flu prevention programs. Please send your comments and suggestions to troy.knighton@va.gov.

Here's to a successful flu prevention campaign!

How to Use This Manual

Provide a copy of this manual to each member of your facility's flu team. Manual contents are summarized below. Review the contents and work as a team to

- Learn new information
- Discover new campaign strategies
- Find new resources for staff and Veteran patients
- Uncover best practices to improve vaccine uptake
- Utilize links to supporting documents

◆ **Section 1** provides a clinical overview of influenza. It outlines how flu is spread, influenza illness, diagnosis, and treatment.

◆ **Section 2** provides a clinical overview of influenza vaccine. It outlines efficacy and effectiveness of the vaccine, vaccine composition, vaccine safety, and production and types of inactivated and live flu vaccine.

◆ **Section 3** provides detailed information on the administration of live and inactivated influenza vaccine. It offers step-by-step guidance from deciding which vaccine to give to disposal of syringes, vaccine cold chains, and documentation. It outlines information from CDC and other key sources on this year's influenza vaccine, including who should receive vaccine, clinical information about each form of flu vaccine, and the CDC's Vaccine Information Statements (which vaccine administrators are required to give vaccine recipients).

◆ **Section 4** contains CDC guidance on vaccine storage and handling and a checklist and principles for holding safe vaccination clinics at satellite, temporary, or off-site locations.



- ◆ **Section 5** provides in-depth information on planning, conducting, and evaluating influenza vaccination campaigns. It lists potential flu team members with descriptions of roles within campaigns.
- ◆ **Section 6** contains policy and guidance from VHA pertaining to delivery and administration of influenza vaccine. It contains the latest Directives for influenza and documentation of employee vaccination into the Occupational Health Record-keeping System (OHRS). It collates The Joint Commission guidance, CDC recommendations, and VHA policy regarding flu vaccine and vaccination.
- ◆ **Section 7** discusses the concept and role of communications in successful vaccination campaigns. It outlines the importance of communication strategies in promoting influenza prevention and provides examples of messaging for Veteran patients and health care personnel (HCP). Also provided is a script for use as a guide when answering difficult questions related to flu and flu vaccine.
- ◆ **Section 8** describes strategies for successful patient flu vaccination programs.
- ◆ **Section 9** outlines two other mitigation strategies to prevent the spread of flu and support a culture of safety within VHA facilities: hand hygiene and respiratory hygiene/cough etiquette. IDPIO also developed a complementary resource, a hand hygiene toolkit.
- ◆ **Section 10** focuses on the importance of proper documentation of patient vaccination in the Computerized Patient Record System (CPRS) and documentation for employees and volunteers into the Occupational Health Record-keeping System (OHRS). These contain instructions for documentation, CPT codes for flu vaccine, and ICD-9 coding for documentation of influenza-like illness.
- ◆ **Section 11** outlines the abundance of resources available from the IDPIO library to support flu vaccination campaigns. You will find web and SharePoint information for locating posters, videos, fact sheets, and brochures for clinical and patient audiences. This section also contains instructions on how to order print materials through the Training Management System (TMS).
- ◆ **Section 12** provides guidance on the importance of pneumococcal vaccination and available pneumococcal vaccines, including 13-Valent Pneumococcal conjugate Vaccine (PCV13; Prevnar 13[®]) and 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23; Pneumovax 23[®]).
- ◆ **Appendices in Section 13** cover recommendations and other guidance from the Centers for Disease Control (CDC). You will find a plethora of resources, references, and Websites listed on various topics related to flu, flu vaccine, and prevention. Learn more about the Infection: Don't Pass It On (IDPIO) campaign within the acknowledgements.



Define Campaign Goals

The foundation of an effective influenza vaccination campaign is rooted in goals. Each year in conjunction with your leadership, flu teams should develop goals as a foundation for planning, executing, and evaluating vaccination efforts. Sample goals are listed below. Each site should consider goals as a foundation of measurable elements that reflect the nature, extent, and cultural specificity of your target populations.

1. Gradually increase the seasonal influenza vaccination rate of health care personnel toward the 2020 Healthy People goal of 90%.++
2. Promote seasonal influenza vaccination to all Veteran patients. *Note: This is based on the CDC recommendation of universal influenza vaccination of all people aged 6 months and older.*
3. Reduce disparity of influenza vaccination rates by increasing the rate of vaccine uptake among female patients and those patients under age 50.
4. Promote consistent and proper documentation and tracking for all influenza vaccinations.
5. Promote non-vaccine methods of preventing influenza, particularly hand hygiene and respiratory etiquette.
6. Encourage the entire VA health care community to promote and support influenza vaccination.

++ Beginning FY13, VHA facilities were expected to align their influenza vaccination for HCP with the 2020 Healthy People goal, which is to achieve a rate of 90% by 2020. Facilities will need to look at their vaccination rates for the previous year and set a goal to increase which will meet the Joint Commission standard. For example, a site may strive to raise HCP flu vaccination rates by 5% each year until 90% is

attained by 2020. For most VHA health care facilities, this will translate into a gradual increase of the seasonal influenza vaccination rate of health care personnel to meet the 2020 Healthy People goal of 90%. To view these objectives for health care personnel, visit https://www.healthypeople.gov/node/4668/data_details.

Resources from the Infection: Don't Pass It On campaign

You will find all the resources in this manual, along with posters, flyers, and other educational materials on these sites (see also Section 11 of this manual).

- ◆ VA Internet – find posters, factsheets, videos, and general information on flu.

www.publichealth.va.gov/flu

www.publichealth.va.gov/InfectionDontPassItOn

- ◆ National Teleconferences – IDPIO offers national phone conferences on a myriad of topics throughout the flu season. These are usually announced via emails a month or so in advance and feature subject matter experts discussing flu-related issues and topics. Past teleconference topics included:
 - Pneumonia
 - High-dose Flu Vaccine
 - Influenza and Vaccine Updates
 - Hand Hygiene, Disparities in Flu Vaccination
 - Vaccine Efficacy and Effectiveness
 - Adult Immunization Schedule
 - Vaccinating Pregnancy Women
 - Planning, Executing, and Evaluating Vaccination Campaigns
- ◆ Email Communications – Emails are sent periodically to provide updates on flu-related topics such as new resources, upcoming national teleconferences, policy and guidance updates, vaccination data, and other information related

to influenza. If you are not already listed on the VHA Flu Coordinator outlook group, contact **Troy.Knighton@va.gov**. Emails are also sent to other Outlook groups including the National IC Group, Occupational Health, PAOs, and the MDRO/MRSA and VHA National Center for Health Promotion and Disease Prevention (NCP) email groups.

FAQs – Frequently Asked Questions

1. What resources are available to help me with my flu campaign?

Most resources are located at www.publichealth.va.gov/flu. You find new posters, fact sheets, videos, policy, guidance, and other flu-related information on this site. Another great source to visit is www.flu.gov.

2. How can I get copies of posters?

All posters are available at www.publichealth.va.gov/flu for viewing, download, and printing. Some are pre-printed and available for order via TMS. See Section 10 of this manual for details.

3. Where can I get copies of VHA policy on influenza and related topics?

Most policies related to influenza can be viewed throughout the sections of this manual.

4. Who is the contact for the Occupational Health Record-Keeping System (OHRS)?

Pam Hirsch, Director of Clinical Occupational Health, VACO is the lead contact for OHRS at Pamela.Hirsch@va.gov.

5. How can I get stickers and buttons?

Two types of stickers and four buttons are available for order via TMS. See Section 11 of this manual for details.





SECTION

1

Influenza



What is influenza

What is influenza?

Influenza is a common, often miserable, and sometimes very serious and even deadly illness. The viruses that cause influenza occur in three major types: types A, B, and C. Types A & B commonly cause illness in humans, whereas type C is rarely associated with significant clinical illness. Type A influenza also circulates in bird and mammal populations.

Influenza viruses are always changing, and this helps to account for the annual seasonal epidemics that we see in temperate climates. Antigenic mutations on the viral RNA segments are responsible for the so-called “drift” or minor variation from year to year that is responsible for epidemics.

Antigenic “shifts” represent a major change in influenza viruses and are the result of the exchanging of genetic segments between influenza A viruses. Such shifts can cause worldwide pandemics.

Influenza A Virus

How is influenza spread?

The primary mode of influenza transmission is thought to be the respiratory route through large, virus-laden particles called droplets. When an infected person coughs or sneezes, they generate droplets that can travel up to 6 feet or more. These may then settle on the mucosal surfaces of another person’s upper respiratory tract, thereby infecting that person.

In addition to droplet transmission, influenza may also be transmitted through small-particle aerosols. Flu may also be spread if someone touches a surface contaminated with flu virus and then touches his or her own mucous membranes of the eyes, nose, or mouth. Slightly dryer and cooler environments that are typically found in the fall and

winter flu season promote influenza virus survival and may increase the risk for virus transmission.

Influenza may survive for up to 2 days on a dry surface and may be a continuous source of transmission. Viruses can survive on objects and other surfaces (e.g., counters where supplies or medications are prepared, elevator buttons, door knobs, side rails, faucet handles, etc.). In health care facilities, these surfaces often have a high volume of hand contact and may be quickly recontaminated with pathogens. Routine preventive surface disinfection is essential as an infection control strategy for reducing sources of influenza.

The incubation period after exposure to the virus and before the onset of symptoms is typically 2 days. Infected adults can begin shedding virus within 24 hours of becoming infected, 1 day before the onset of symptoms. Virus may continue to be shed for about 5 days after the onset of symptoms. This means that adults could infect other people beginning 1 day before illness onset and for 5 days after onset.

In the health care environment, we need to recognize that patients, health care personnel (HCP), and visitors may spread influenza. Never underestimate the importance of appropriate infection control precautions. It is critical that all HCP stay home when ill to avoid transmission to patients and other staff within the work environment.





COLD vs. FLU		
Symptoms	Flu	Cold
Fever	100°F for 3-4 days	Rare and mild
Headache	Common: severe	Rare
Myalgia	Usual, often significant	None or Slight
Malaise	May last for 2-3 weeks	None or Very Mild
Fatigue	Sudden, can be significant	Rare
Rhinitis	Sometimes	Sometimes
Sneezing	Sometimes	Common
Sore throat	Sometimes	Usual
Cough	Non-productive cough	Productive hacking cough

What is influenza illness?

Every year 5 to 20 percent of the U.S. population develops influenza illness. The symptoms of classic influenza include the abrupt onset of fever, sore throat, headache, cough, muscle aches, and fatigue. This acute respiratory illness generally lasts about 5 to 7 days, with sufferers often confined to bed for 1 or 2 of those days. About 10 to 20 percent of people may have some symptoms that linger beyond 10 days.

Even in healthy younger adult populations, influenza's impact on daily life can be substantial. Not surprisingly, influenza is a common cause of work absenteeism. It is also a common cause of presenteeism (working while ill). In one study of working adults, people with influenza-like illness (fever/feverish plus cough or sore throat) were sick on average for 8 days. During their illness, they missed on average 1.5 days of work and then returned to work while still ill for an additional 4.5 days. In college and university students, influenza-like illness has also been reported to

interfere with academic performance including taking exams and doing homework. Clinicians are encouraged to monitor influenza activity in their communities to consider which specific flu viruses are spreading and how well the flu vaccine is matched to flu viruses that are causing illness (www.cdc.gov/flu/weekly).

How is the flu diagnosed?

For timely clinical management of influenza-like disease, a rapid and accurate diagnosis is essential, as other pathogens cause influenza-like disease, complicating diagnoses based solely on clinical characteristics. Testing may not be needed on all patients with suspected influenza. For individual patients, tests are most useful when they are likely to yield clinically useful results that will help with diagnosis and treatment decisions.

The isolation of influenza virus requires collection of a clinical specimen, usually nasopharyngeal. There are five influenza testing methods: viral cell culture, rapid cell culture, antibody staining, molecular assays, and rapid influenza diagnostic tests. Serologic testing is not recommended for influenza. Check with your lab director to know which of these tests are available and appropriate for you to use.

What are some of the complications of influenza?

Most people who develop influenza recover without any complications. However, the elderly, young children, and others with chronic medical conditions such as chronic heart or lung disease or diabetes are more susceptible to the serious complications of influenza. These complications can include primary influenza pneumonia, secondary bacterial pneumonia, and exacerbations of underlying medical conditions. The consequences of these complications include increases in outpatient and emergency department visits, hospital-

ization, and even death. For pregnant women, the risk of hospitalization is four times higher than for non-pregnant women. The risk of complications in pregnant women is comparable to non-pregnant women with high-risk medical conditions.

Influenza virus infections can also contribute to co-infections with other viral or bacterial pathogens. Influenza can exacerbate underlying medical conditions (e.g., asthma, COPD, or cardiac disease) or lead to secondary bacterial pneumonia, sinusitis, or otitis media. The consequences of complications include increases in outpatient and emergency department visits, hospitalization, and even death. It is prudent for clinicians to check the patient record to determine if the patient is eligible for the pneumococcal vaccination while also assessing the patient for their influenza vaccination status.

What are the best ways to prevent influenza?

Annual vaccination against influenza represents the mainstay of prevention efforts against this virus. In the United States, vaccination is recommended every year for all people 6 months of age and older who otherwise have no contraindication to receiving the vaccine.

In addition to annual vaccination, attention to good hand hygiene, respiratory/cough etiquette, and judicious use of antiviral medications is also important. Avoiding contact with others who are ill and staying home when ill oneself are also important measures.

What is the recommended treatment for influenza?

Antiviral medications are important additions to influenza immunization for the control and prevention of influenza disease. Influenza vaccine

should always be offered unless it is contraindicated. Antiviral medications are not a substitute for immunization. Early antiviral treatment can shorten the duration of fever and illness symptoms and may reduce the risk of complications from influenza and death and shorten the duration of hospitalization.

Optimal clinical benefit may occur when antiviral treatment is administered within 48 hours of suspected influenza illness onset to patients who are hospitalized; have a severe, complicated, or progressive illness; or are at higher risk for influenza complications. Antiviral drugs lower the risk of influenza while taking medication, but susceptibility to influenza returns when the medication is discontinued.

Two FDA-approved influenza antiviral medications are recommended for use in the United States to combat influenza: oseltamivir (Tamiflu®), zanamivir (Relenza®), and intravenous peramivir (Rapivab®). These are chemically related antiviral medications known as neuraminidase inhibitors that have activity against both influenza A and B viruses.

Frequently Asked Questions (FAQs) about Influenza

1. What if a Veteran asks, “What everyday steps can I take to stop the spread of flu?” Vaccination is the best way to protect yourself and your loved ones from the flu. Some additional steps you can take in your daily life include:

- ◆ Wash hands often with soap and water or an alcohol-based hand rub.
- ◆ Avoid touching your eyes, nose, or mouth. Germs and viruses that cause illness spread this way.





- ◆ Avoid close contact with sick people if possible.
- ◆ Practice good health habits like getting plenty of sleep and exercise, managing stress, drinking plenty of fluids, and eating a healthy diet.
- ◆ Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash afterwards, and wash your hands.
- ◆ If you are sick with flu-like illness, stay home for at least 48 hours after your last fever without the use of fever-reducing medicine.

More information at <https://www.cdc.gov/flu/consumer/prevention.htm>.

2. Can I get influenza from getting a flu shot? No, the influenza viruses contained in a flu shot are inactivated (killed), which means they cannot cause infection. Flu vaccine manufacturers kill the viruses used in the vaccine during the process of making vaccine, and batches of flu vaccine are tested to make sure they are safe. In randomized, blinded studies, where some people received flu vaccinations and others saline injections, the only differences in symptoms were increased soreness in the arm and redness at the injection site among some people who received the flu vaccination. There were no differences in terms of body aches, fever, cough, runny nose, or sore throat. Some people may have coincidental respiratory illness around the time of receiving the influenza vaccine. This is not due to the influenza vaccine but due to concurrent exposure to other respiratory illness.

More information at <https://www.cdc.gov/flu/about/qa/misconceptions.htm>

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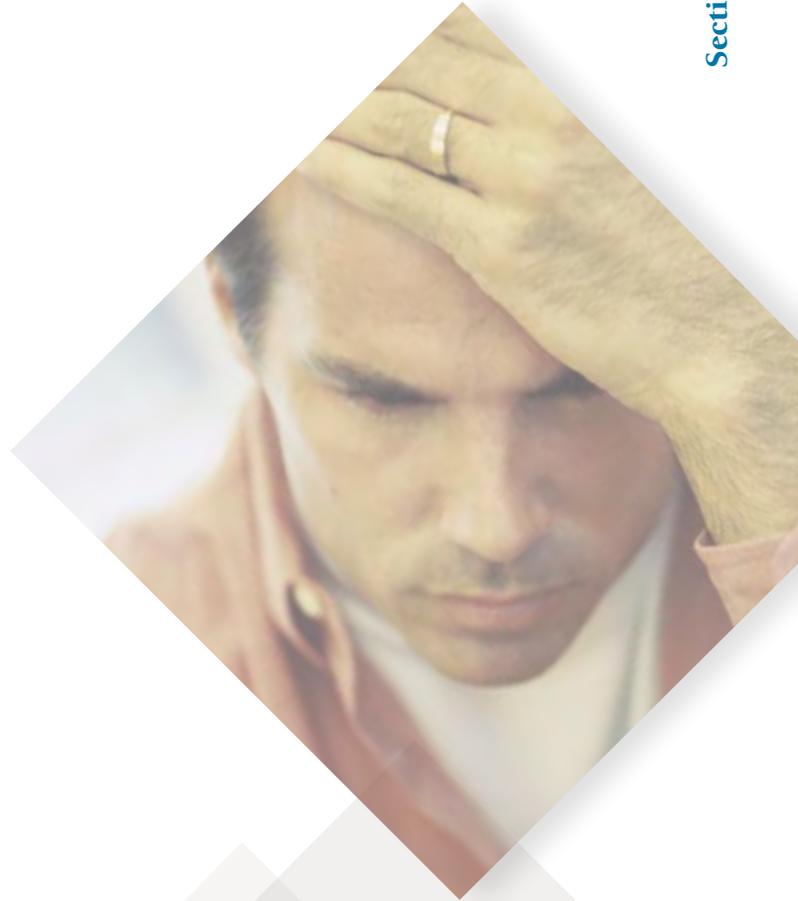
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SECTION
2

Influenza Vaccine



Influenza Vaccine

Seasonal influenza infection is preventable. Annual vaccination remains the single most effective preventive measure available against influenza. Fostering a culture of safety within VHA facilities begins with the individual and a personal commitment to vaccination as a responsibility to protect yourself, your co-workers, patients, and others in the VA community.

Influenza Vaccine Available in the U.S.

Each year a new vaccine is produced. Therefore, annual vaccination is recommended for optimal protection against getting the flu for all people 6 months of age and older who otherwise have no contraindication to receiving the vaccine. This includes women who will be pregnant during the flu season, persons with chronic diseases, persons with immunosuppressive disorders, and residents of care facilities.

There are two basic types of influenza vaccines currently used in the United States: inactivated influenza vaccine (IIV) vaccines made from dead viruses and live attenuated influenza vaccines (LAIV4) made from living but weakened viruses. (Note: The Advisory Committee on Immunization Practices [ACIP] recommended that FluMist Quadrivalent not be used for the 2017-2018 season.) Please check ACIP's recommendations for future seasons: <https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/flu.html>



At a Glance

1. **Quadrivalent** formulations of influenza vaccine
 - ◆ contain antigens to four types of influenza viruses
 - two type A and two type B viruses (**trivalent** vaccines contain antigens to three types of influenza viruses – two type A and one type B virus).
3. Naming conventions
 - ◆ IIV = Inactivated Influenza vaccine
 - ◆ IIV3 = trivalent inactivated influenza vaccine
 - ◆ IV4 = quadrivalent inactivated influenza vaccine
 - ◆ RIV = recombinant hemagglutinin influenza vaccine
 - ◆ ccIIV = cell culture-based vaccine
 - ◆ LAIV4 = quadrivalent live attenuated influenza vaccine





Types of inactivated influenza vaccine (IIV)

- ◆ standard dose
- ◆ high dose
- ◆ recombinant
- ◆ cell culture
- ◆ adjuvanted
- ◆ unadjuvanted

Influenza Vaccine Available within VHA

Annual National Contracts may not include all flu vaccine formulations. To order any other formulations, talk to your Pharmacy Chief. Flu coordinators and other VA staff involved in implementing the influenza vaccination campaign at each facility should contact their Pharmacy Chief regarding vaccine availability, type of vaccine dosing ordered, and quantities.

Composition of Influenza Vaccine

Flu vaccines contain antigens to selected types of influenza A and B viruses. Prior to 2013, both the live vaccine (live attenuated influenza vaccine or LAIV4) and the inactivated vaccine (formerly known as trivalent inactivated vaccine or TIV) contained three antigens—two type A and one type B. Quadrivalent vaccines contain two type A and two type B antigens. Most influenza vaccine is prepared using chicken eggs. Ordinarily, persons who are able to eat eggs or egg products can safely receive vaccine containing egg protein. Vaccine product inserts will provide specific guidance for use on persons with egg allergies.

Note on Influenza Vaccine Abbreviations

Certain U.S. vaccine abbreviations have been revised by the Advisory Committee on Immunization Practices (ACIP) to refer to currently available influenza vaccines. The revisions are as follows: The abbreviation TIV (trivalent influenza vaccine, previously used for inactivated influenza vaccines) has been replaced with the abbreviation IIV (inactivated influenza vaccine).

- ◆ IIVs as a class will include:
 - egg-based trivalent inactivated influenza vaccine (IIV), and
 - egg-based and cell culture-based quadrivalent inactivated influenza vaccine (IIV4).
- ◆ RIV refers to recombinant hemagglutinin influenza vaccine.
- ◆ LAIV4 refers to live attenuated influenza vaccine, which is available as a quadrivalent formulation (LAIV4).
- ◆ LAIV4, IIV, and RIV denote vaccine categories; a numeric suffix specifies the number of influenza virus antigens contained in the vaccine.
- ◆ Where necessary to refer specifically to cell culture-based vaccine, the prefix “cc” is used (e.g., “ccIIV”).
- ◆ Where necessary to refer specifically to adjuvanted vaccine, the prefix “a” is used (e.g., “aIIV3”).
- ◆ When necessary to refer specifically to standard-dose or high-dose vaccines, the prefixes “SD-” or “HD-” are used (e.g., SD-IIV3 and HD-IIV3).

Additives used in the production of vaccines may include diluent fluid (e.g., sterile water, saline, or fluids containing protein) and/or preservatives and stabilizers to help the vaccine remain unchanged (e.g., albumin, phenols, and glycine). Antibiotics are added to many vaccines to prevent the growth of bacteria during production and storage of the vaccine. No vaccine produced in the United States contains penicillin or penicillin-related antibiotics. <https://www.cdc.gov/vaccines/vac-gen/additives.htm>

Thimerosal is a mercury-containing preservative that is added to vials of vaccine that contain more than one dose to prevent contamination and growth of potentially harmful bacteria. **There is no scientifically accepted evidence of harm caused by the low doses of thimerosal in vaccines except for minor reactions like redness and swelling at the injection site** (<https://www.cdc.gov/vaccinesafety/Concerns/thimerosal/>).

Inactivated Influenza Vaccine

Inactivated influenza vaccine (IIV) should be received refrigerated, should be stored at 36°F-46°F (2°C-8°C), and should not be frozen. IIV that has been frozen or stored outside of the proper temperature range must be discarded. Vaccine product inserts will provide specific guidance on approved IIV influenza vaccines. <https://www.fdagov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm>

- a) Inactivated influenza vaccine (IIV) is made non-infectious (i.e., inactivated or killed) and thus cannot cause influenza.
- b) The intradermal formulation of IIV is available for vaccination in the age group 18 to 64 years of age. This vaccine will be administered using

the intradermal route into the subcutaneous tissue above the deltoid muscle. The vaccine is different in formulation and available as a single dose syringe with intradermal needle attached. Studies have indicated this formulation offers the same immunity levels as the intramuscular route of IIV.

- c) High-dose IIV is approved for use in people aged 65 years and older. High-dose flu vaccine may not have been purchased by your facility. Check with your Pharmacy Chief prior to receipt of shipment as to whether the high-dose formulation was ordered for the current year influenza season when preparing for immunization clinics.
- d) A Quadrivalent cell culture-based inactivated vaccine prepared from virus propagated in Madin Darby Canine Kidney expiration date. LAIV4 is Thimerosal free.
- e) A Quadrivalent recombinant hemagglutinin protein vaccine, which is indicated for persons 18 years of age and older, contains purified proteins produced in a continuous insect cell line (armyworm). This vaccine provides an immunization option for persons with a history of severe allergic reaction to eggs.

Inactivated influenza vaccine (IIV) should be received refrigerated, should be stored at 35°F-46°F (2°C-8°C) and should not be frozen. IIV that has been frozen or stored outside of the proper temperature range must be discarded.



- f) IIV can be given to persons at risk for medical complications including:
- ◆ All persons aged >50 years of age
 - ◆ Women who will be pregnant during the influenza season
 - ◆ Adults and children who have chronic pulmonary (including asthma), cardiovascular, renal, hepatic, cognitive, neurological/neuro muscular, hematologic, or metabolic disorders (including diabetes mellitus). Adults and children who have immunosuppression (including caused by medications or HIV)
 - ◆ Residents of nursing homes and other long-term care facilities

For specific guidance on administration of IIV, see Section 3.

References

Flu Mist® prescribing information:
<https://www.flumistquadrivalent.com/>

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Antiviral Agents for the Treatment and Chemoprophylaxis of Influenza; Recommendations of the Advisory Committee on Immunization Practices (ACIP); Recommendations and Reports; January 21, 2011 / 60(RR01); 1-24 <http://www.cdc.gov/>

[mmwr/preview/mmwrhtml/rr6001a1.htm](https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6001a1.htm) Future updates would be available at the following URL <https://www.cdc.gov/flu/professionals/antivirals/index.htm>

Quadrivalent Influenza Vaccine

Quadrivalent vaccines contain antigens to two type A and two type B viruses, which provides a broader spectrum of protection against the circulating influenza viruses.

Current **trivalent** vaccines contain antigens to three types of influenza viruses – two type A and one type B virus. Healthcare providers should consult product inserts to confirm appropriate use of specific vaccines given the age and other characteristics of their patients.

Influenza Vaccines Efficacy

Modern influenza vaccines are clearly efficacious. However, reported vaccine efficacy will depend on the clinical endpoint used. Among the different kinds of endpoints used in studies are laboratory-confirmed influenza illness, influenza-like illness (i.e., respiratory illness without laboratory confirmation), hospitalization for pneumonia and influenza, and death. For each of these outcomes, the reported vaccine efficacy will depend on the outcome's sensitivity and specificity for being caused by influenza.

Time is needed for vaccinated persons to develop antibodies. Levels of protective antibodies peak 2 to 4 weeks post-vaccination. Even when the vaccine strains are the same as the previous year, vaccination of those vaccinated during the previous flu season is recommended due to diminishing protection and changes in vaccine composition.

Do you know what the “H” and the “N” represent in H1N1 and other flu viruses? They are the surface glycoproteins hemagglutinin (HA) and neuraminidase (NA).



Recently it has reported that, for studies reporting efficacy against laboratory-confirmed influenza, real-time polymerase chain reaction (rtPCR) represents the best laboratory test for confirming influenza infection. Other laboratory tests that have been used in studies assessing influenza vaccine efficacy include culture (which suffers from a lower sensitivity than rtPCR) and serology (which may result in biased outcome ascertainment) represent the gold standard for study design. But for assessing influenza vaccine effectiveness in the elderly, most published studies are not clinical trials but observational studies that are more susceptible to residual confounding and bias. For additional information on efficacy, refer to Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices – available at: https://www.cdc.gov/mmwr/volumes/66/rr/rr6602a1.htm?s_cid=rr6602a1_w.

Despite these challenges, we know that, while they are not perfect, influenza vaccines do work. A recent meta-analysis of randomized placebo controlled trial and observational studies of influenza vaccine efficacy for reducing laboratory-confirmed influenza illness (culture or rtPCR confirmed) found that the efficacy of trivalent inactivated vaccine in adults under age 65 was 59% (95% confidence interval of 51%-67%). In the same review, several observational studies of influenza vaccination were examined. In one study of adults 50 years of age and older, vaccination was associated with reductions in hospitalization for laboratory confirmed influenza of 56% to 73% over 3 study years. While the results for individual years were not statistically significant, the pooled estimate of vaccine effectiveness reported in the original study was statistically significant at 61.2% (95% confidence interval 17.5% to 81.8%).

Some clinical trials have also assessed influenza vaccine efficacy for reducing symptomatic respiratory illnesses (e.g., influenza-like illnesses) during the influenza season without relying on laboratory

confirmation. These outcome case definitions include a lot of “noise” since many winter respiratory illnesses are caused by non-influenza viruses. In healthy younger adults, influenza vaccination reduces these clinical influenza-like illnesses on average by 30% (95% confidence interval 17-41%). For the elderly, only one clinical trial has reported a similar outcome, and vaccination in that study had an efficacy of 31% to 47% depending on the clinical case definition used.

Influenza Vaccine Safety

Current influenza vaccines are very safe. Each year tens of millions of doses of vaccine are used in the United States, and cumulatively over the past decade almost 1 billion doses of influenza vaccine have been administered in this country. We have substantial experience with these vaccines including a large amount of data demonstrating their safety.

With standard-dose trivalent or quadrivalent inactivated influenza vaccines, for example, randomized placebo controlled trials have demonstrated that healthy younger adults and the elderly do not experience significant increases in systemic symptoms following a flu shot than after a placebo injection. You don't get the flu from a flu shot. However, following vaccination some people may experience local reactions such as arm soreness or tenderness that are usually mild to moderate and resolve in 1 to 2 days.

With the live attenuated influenza vaccine (the nasal spray vaccine), healthy adults experienced somewhat higher rates of runny nose and sore throat following receipt of the vaccine when compared to placebo. These symptoms were generally mild with resolution within a few days.

The Centers for Disease Control and Prevention and the Food and Drug Administration closely monitor vaccines for safety in cooperation with state and local health departments, health care

Let us not forget that measuring efficacy can be challenging based on multiple factors such as severity of flu in circulation and lab confirmation (number of people who actually get sick from flu each year) to support a formal diagnosis of flu-related illness. There are multiple pathogens that produce symptoms similar to influenza. And, flu vaccine only protects from influenza strains designated for inclusion in that year's vaccine formulations.



providers, and other partners, including the Department of Veterans Affairs. In addition to published research studies, other sources of data on vaccine safety include the national Vaccine Adverse Events Reporting System

(VAERS) and the national Vaccine Safety Datalink (VSD) project sponsored by the Centers for Disease Control and Prevention.

Guillain-Barré Syndrome (GBS)

Guillain-Barré syndrome (GBS) is a rare disorder in which a person's immune system damages their nerve cells, causing muscle weakness and sometimes paralysis. In 1976 there was a small increased risk of GBS following vaccination with an influenza vaccine made to protect against a swine flu virus. The Institute of Medicine (IOM) conducted a thorough scientific review of this issue in 2003 and again in 2011 and concluded the evidence is inadequate to accept or reject a causal relationship between the influenza vaccine and GBS over the last 30 years, but an association cannot be ruled out (Salmon 2013).

Persons with a History of Egg Allergy

As is the case for other vaccines, influenza vaccines contain various different components that might cause allergic and anaphylactic reactions. Not all such reactions are related to egg proteins; however, the possibility of reactions to influenza vaccines in egg-allergic persons might be of concern to these persons and vaccine providers. Currently available influenza vaccines, with the exceptions of RIV3, RIV4 and ccIIV4, are prepared by propagation of virus in embryonated eggs. Only RIV3 and RIV4 are considered egg-free. For ccIIV4 (Flucelvax Quadrivalent; Seqirus, Holly Springs, North Carolina), ovalbumin is not directly measured. During

manufacture of ccIIV4, viruses are propagated in mammalian cells rather than in eggs; however, some of the viruses provided to the manufacturer are egg-derived, and therefore egg proteins may potentially be introduced at the start of the manufacturing process. Once these viruses are received by the manufacturer, no eggs are used, and dilutions at various steps during the manufacturing process result in a theoretical maximum of 5×10^{-8} $\mu\text{g}/0.5$ mL dose of total egg protein (Seqirus, unpublished data, 2016).

Severe allergic reactions to vaccines, although rare, can occur at any time, despite a recipient's allergy history. Therefore, all vaccine providers should be familiar with the office emergency plan, and be certified in cardiopulmonary resuscitation. For persons who report a history of egg allergy, ACIP recommends the following (based upon the recipient's previous symptoms after exposure to egg):

- ◆ Persons with a history of egg allergy who have experienced only urticaria (hives) after exposure to egg should receive influenza vaccine. Any licensed and recommended influenza vaccine (i.e., any IIV or RIV) that is otherwise appropriate for the recipient's age and health status may be used.
- Persons who report having had reactions to egg involving symptoms other than urticaria (hives), such as angioedema, respiratory distress, lightheadedness, or recurrent emesis; or who required epinephrine or another emergency medical intervention, may similarly receive any licensed and recommended influenza vaccine (i.e., any IIV or RIV) that is otherwise appropriate for the recipient's age and health status. The selected vaccine should be administered in an inpatient or outpatient medical setting (including, but not necessarily limited to, hospitals, clinics, health departments, and physician offices). Vaccine administration should be supervised by a health care provider who is able to recognize and manage severe allergic conditions.



- A previous severe allergic reaction to influenza vaccine, regardless of the component suspected of being responsible for the reaction, is a contraindication to future receipt of the vaccine.

No period of postvaccination observation period is recommended specifically for egg-allergic persons. However, ACIP recommends that vaccine providers consider observing patients for 15 minutes following administration of any vaccine to decrease the risk for injury should syncope occur.

Persons who are able to eat lightly cooked egg (e.g., scrambled egg) without reaction are unlikely to be allergic. Egg-allergic persons might tolerate egg in baked products (e.g., bread or cake). Tolerance to egg-containing foods does not exclude the possibility of egg allergy. Egg allergy can be confirmed by a consistent medical history of adverse reactions to eggs and egg-containing foods, plus skin and/or blood testing for immunoglobulin E directed against egg proteins.

Occasional cases of anaphylaxis in egg-allergic persons have been reported to VAERS after administration of influenza vaccines. ACIP will continue to review available data regarding anaphylaxis cases following influenza vaccines.

How do I report an adverse reaction from flu vaccination?

Providers report the adverse event through the Adverse Event Tracking Package (ART) in CPRS and through the VA Adverse Drug Event System (VA ADERS). Providers have direct access to CPRS. The Chief of Pharmacy (or designee) at every facility inputs adverse reactions into VA ADERS for drugs and vaccines. A Vaccine Adverse Event Reporting System (VAERS) form for all vaccines should be submitted anytime an adverse event occurs. The VAERS form is available at <https://www.cdc.gov/vaccinesafety/ensuring-safety/monitoring/vaers/index.html>. Online reporting is also available at the above URL. **In addition, all adverse events for employees must be documented in OHRS.**

Influenza Vaccination Indications

The CDC Advisory Committee on Immunization Practices (ACIP) recommends that all people aged 6 months or older who have no contraindications to the vaccine should get vaccinated each year.

If faced with a limited vaccine supply, focus vaccination efforts on the following groups:

- ◆ Persons aged 6 months to 4 years and ≥ 50 years
- ◆ Have chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus)
- ◆ Immunosuppressed (including immunosuppression caused by medications or by human immunodeficiency virus)
- ◆ Pregnant during the influenza season
- ◆ Persons aged 6 months to 18 years who are receiving long-term aspirin therapy
- ◆ Residents of nursing homes and other chronic-care facilities
- ◆ Native American/Alaska Natives
- ◆ morbidly obese (body-mass index ≥ 40)
- ◆ health care personnel
- ◆ household contacts and caregivers of children aged < 5 years, adults aged ≥ 50 years, or persons with medical conditions that put them at higher risk for severe complications from influenza.

REMINDER:

Give the CDC Vaccine Information Statement (VIS) prior to administration of vaccine and document that the patient received the VIS, including the date of the VIS. The VIS can be found on-line at <https://www.cdc.gov/vaccines/hcp/vis/current-vis.html>



Frequently Asked Questions (FAQs) about Influenza

1. What should everyone know about the seasonal influenza vaccine?

- ◆ The most effective strategy for preventing influenza is annual seasonal influenza vaccination.
- ◆ One needs an influenza vaccination annually to get the latest protection for seasonal flu.
- ◆ Influenza vaccination can begin as early as August/ September, per CDC guidelines, when vaccine is available.
- ◆ Flu vaccine can be given well into winter and spring if flu is circulating in your local area or until the flu vaccine expires.
- ◆ The influenza vaccine is changed each year to match the current circulating type of influenza. The influenza vaccine used each year is formulated to provide a close match to the known circulating strains of flu viruses and those anticipated to circulate that year.

2. When should flu vaccine be given?

Flu vaccine should be made available to both enrolled Veterans and VA health care personnel as soon as flu vaccine is available at the facility. Do not “hold” doses. Vaccination efforts should be structured to ensure the vaccination of as many persons as possible over the course of several months, with emphasis on vaccinating before influenza activity in the community begins. In any given year, the optimal time to vaccinate cannot be determined precisely because influenza seasons vary in timing and duration, and more than one outbreak can occur in a single community in a single year. More information is available at <https://www.cdc.gov/flu/professionals/vaccination/vax-summary.htm>

3. How long does a flu vaccine provide protection?

The flu vaccine will protect you for one flu season. The flu vaccine is designed to protect you from the strains of flu that are expected to circulate that flu season. The components of the

Vaccine should be offered until your vaccine supplies are exhausted, your vaccine expires, or until flu stops circulating in your area (sometimes flu season continues into late spring).

flu vaccine are updated every year in response to the most commonly circulating strains of flu virus. CDC recommends that seasonal influenza vaccine be administered to all age groups as soon as it becomes available.

4. Can the Inactivated Influenza Vaccine (IIV) be given with other vaccines?

- ◆ Yes, the inactivated influenza vaccine does not interfere with the immune response to other inactivated vaccines or to live vaccines.
- ◆ Inactivated or live vaccines can be administered simultaneously with live attenuated influenza vaccine-LAIV4 (nasal spray).
- ◆ However, after administration of a live vaccine, another live vaccine should not be administered for at least 4 weeks.

5. How effective is the influenza vaccine?

Generally, inactivated influenza vaccine will generate protective immunity in about 2 weeks. However, the effectiveness of inactivated influenza vaccine depends primarily on the age and immunocompetence of the vaccine recipient and the degree of similarity between the viruses represented in the vaccine and those in circulation.

In years when the vaccine strains are not well matched to circulating strains, vaccine effec-



tiveness is generally lower. The vaccine's effectiveness may also be lower among persons with chronic medical conditions and the elderly as compared to healthy young adults and children. Overall, in years when the vaccine and circulating viruses are well-matched, influenza vaccines can be expected to reduce laboratory-confirmed influenza by approximately 70 to 90 percent in healthy adults <65 years of age. Several studies have also found reductions in febrile illness, influenza-related work absenteeism, antibiotic use, and doctor visits. For more information, visit <https://www.cdc.gov/flu/professionals/vaccination/effectivenessqa.htm>.

6. Are the eggs used for influenza vaccine production the same as eggs used for food consumption?

The eggs used for influenza vaccine production are different from eggs used for food consumption in that the eggs for the vaccine are embryonated.

7. How do I report an adverse reaction from flu vaccination?

- ◆ Providers report the influenza vaccine adverse event through the Adverse Reaction Tracking System (ARTS) in CPRS. Providers have direct access to CPRS to input adverse reactions into the ART System.
- ◆ The Chief of Pharmacy (or designee) at every facility inputs adverse reactions for drugs or vaccines into VA Adverse Drug Event Reporting System (VA ADERS). A Vaccine Adverse Event Reporting System (VAERS) form for all vaccines should be submitted anytime an adverse event occurs. The VAERS form is directly accessible through a link in VA ADERS that allows online reporting. Online reporting is also available at <https://vaers.hhs.gov/reportevent.html>.
- ◆ Occupational health should also report an adverse event through the Adverse Reaction

Tracking System (ARTS) through the Occupational Health Record- Keeping System (OHRS).

8. Can we give flu vaccine to family members of enrolled Veterans?

No, at this time, flu vaccine purchased by the VA cannot be given to family members of enrolled Veterans (a few exceptions exist, such as those in CHAMPVA). Some VA facilities have partnered with local public health agencies to offer flu vaccine to family members and those not enrolled for VA care during flu vaccine campaigns. The local public agencies provide their own supply of flu vaccine, records, and billing or cost accounting (i.e., billing Medicare or insurance). The local public health agency (e.g., "Visiting Nurse Association" or local county health department) also provides its own staff to administer flu vaccines. The local public health agency may be available at a separate station/location within the VA facility during walk-in flu vaccine campaigns, for example.

9. What is the difference between standard-dose IIV and high-dose IIV?

High-dose flu vaccine contains four times the antigens as standard-dose flu vaccine. The high-dose formulation is approved for persons aged ≥ 65 years and contains 60 mcg per vaccine strain. They both contain the same amount of preservatives.

More information about high-dose flu vaccine is available on the following websites:

- ◆ The Food and Drug Administration (FDA) website on the Vaccines, Blood & Biologics page at: <https://www.fda.gov/Biologics-BloodVaccines/Vaccines/ApprovedProducts/ucm112854.htm>
- ◆ The U.S. Centers for Disease Control and Prevention (CDC) website on the Questions & Answers Fluzone High-Dose Seasonal Influenza Vaccine page at: https://www.cdc.gov/flu/protect/vaccine/qa_fluzone.htm

TABLE 1. Influenza vaccines — United States, 2017–18 influenza season

Trade Name	Manufacturer	Presentation	Age Indication	Mercury (from thimerosal) µg/0.5 mL	Latex	Route	CPT Code
Inactivated influenza vaccine, quadrivalent (IIV4), standard-dose[†]							
Afluria Quadrivalent	Seqirus	0.5 mL prefilled syringe	18 years	NR	No	IM [§]	90686
		5.0 mL multidose vial	18 years (by needle/syringe) 18 through 64 years (by injector)	24.5	No	IM	90688
Fluarix Quadrivalent	GlaxoSmith-Kline	0.5 mL prefilled syringe	3 years	NR	No	IM	90686
FluLaval Quadrivalent	ID Biomedical Corp. of Quebec (distributed by GlaxoSmith-Kline)	0.50mL prefilled syringe	6 months	NR	No	IM	90686
		5.0 mL multidose vial	6 months	<25	No	IM	90688
Fluzone Quadrivalent	Sanofi Pasteur	0.25 mL prefilled syringe	6 through 35 months	NR	No	IM	90685
		0.5 mL prefilled syringe	3 years	NR	No	IM	90686
		0.5 mL single-dose vial	3 years	NR	No	IM	90686
		5.0 mL multidose vial	6 months	25	No	IM	90688
Inactivated influenza vaccine, quadrivalent (ccIIV4), standard-dose,[†] cell cultured-based							
Flucelvax Quadrivalent	Seqirus	0.5 mL prefilled syringe	4 years	NR	No	IM	90674
		5.0 mL multidose vial	4 years	25	No	IM	90749 or 90756 ^a
Inactivated influenza vaccine, quadrivalent (IIV4), standard-dose, intradermal[¶]							
Fluzone Intradermal Quadrivalent	Sanofi Pasteur	0.1 mL single-dose prefilled microinjection	18 through 64 years	NR	No	ID ^{**}	90630
Afluria	Seqirus	0.5 mL prefilled syringe	5 years	NR	No	IM [§]	90656
		5.0 mL multidose vial	5 years (by needle/syringe) 18 through 64 years (by injector)	24.5	No	IM	90658

TABLE 1. Influenza vaccines — Cont.

Trade Name	Manufacturer	Presentation	Age Indication	Mercury (from thimerosal) µg/0.5 mL	Latex	Route	CPT Code
Inactivated influenza vaccine, trivalent (IIV3s), standard-dose[†]							
Fluvirin	Seqirus	0.5 mL prefilled syringe	4 years	1	Yes ^{††}	IM	90656
		5.0 mL multidose vial	4 years	25	No	IM	90658
Adjuvanted inactivated influenza vaccine, trivalent (aIIV3), † standard-dose							
Fluad	Seqirus	0.5 mL prefilled syringe	65 years	NR	Yes ^{††}	IM	90653
Inactivated influenza vaccine, trivalent (IIV3), high-dose^{§§}							
Fluzone High-Dose	Sanofi Pasteur	0.5 mL prefilled syringe	65 years	NR	No	IM	90662
Recombinant influenza vaccine, quadrivalent (RIV4)^{¶¶}							
Flublok Quadrivalent	Protein Sciences	0.5 mL prefilled syringe	18 years	NR	No	IM	90682
Recombinant influenza vaccine, vaccine, trivalent (RIV3)^{¶¶}							
Flublok	Protein Sciences	0.5 mL single-dose vial	18 years	NR	No	IM	90673
Live attenuated influenza vaccine, quadrivalent (LAIV4)^{***} (not recommended for use during the 2017-18 season)							
FluMist Quadrivalent	MedImmune	0.2 mL single-dose prefilled intranasal spray	2 through 49 years	NR	No	NAS	90672

Abbreviations: ACIP = Advisory Committee on Immunization Practices; ID = intradermal; IM = intramuscular; NAS = intranasal; NR = not relevant (does not contain thimerosal).

* Immunization providers should check Food and Drug Administration–approved prescribing information for 2017–18 influenza vaccines for the most complete and updated information, including (but not limited to) indications, contraindications, warnings, and precautions. Package inserts for U.S.-licensed vaccines are available at <https://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm>. Availability of specific products and presentations might change and differ from what is described in this table and in the text of this report.

† Standard dose intramuscular IIVs contain 15 µg of each vaccine HA antigen (45 µg total for trivalents and 60 µg total for quadrivalents) per 0.5 mL dose.

Influenza Vaccine Chart Footnote Continued:

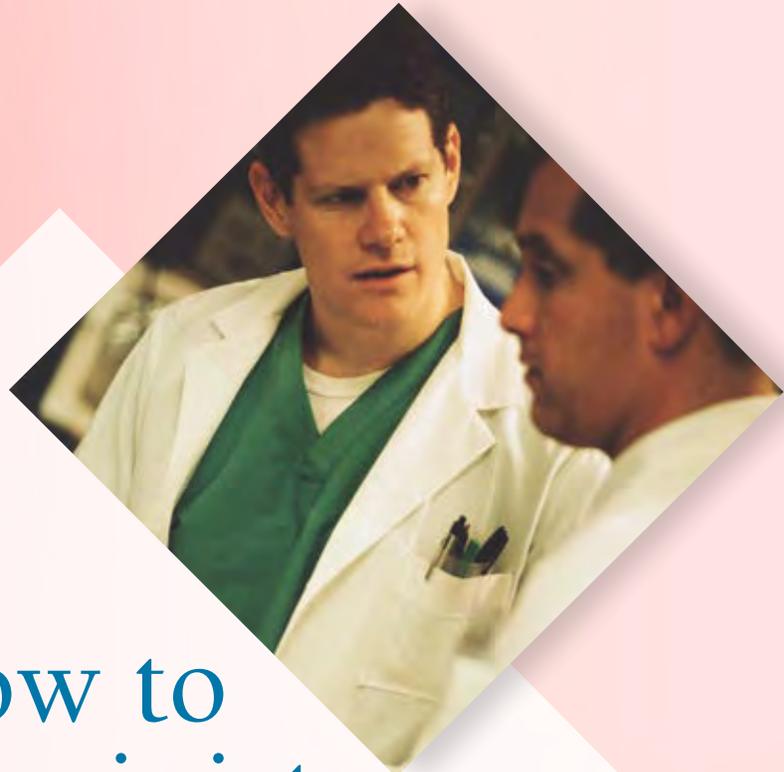
- § For adults and older children, the recommended site for intramuscular influenza vaccination is the deltoid muscle. The preferred site for infants and young children is the anterolateral aspect of the thigh. Specific guidance regarding site and needle length for intramuscular administration is available in the ACIP General Best Practice Guidelines for Immunization, available at <https://www.cdc.gov/vaccines/hcp/acip-recs/general-recs/index.html>.
- ¶ Quadrivalent inactivated influenza vaccine, intradermal: a 0.1-mL dose contains 9 µg of each vaccine HA antigen (36 µg total). The preferred injection site is over the deltoid muscle. Fluzone Intradermal Quadrivalent is administered per manufacturer's instructions using the delivery system included with the vaccine.
- §§ High-dose IIV3 contains 60 µg of each vaccine antigen (180 µg total) per 0.5 mL dose.
- ¶¶ RIV contains 45 µg of each vaccine HA antigen (135 µg total for trivalent 180 µg total for quadrivalent) per 0.5 mL dose.
- *** ACIP recommends that FluMist Quadrivalent (LAIV4) not be used during the 2017–18 season.

Source:

Grohskopf LA, Sokolow LZ, Broder KR, et al. Prevention and Control of Seasonal Influenza with Vaccines: Recommendations of the Advisory Committee on Immunization Practices — United States, 2017–18 Influenza Season. *MMWR Recomm Rep* 2017;66 (No. RR-2):1–20. DOI: <http://dx.doi.org/10.15585/mmwr.rr6602a1>







SECTION
3

How to Administer Influenza Vaccine



Vaccine
Storage & Handling
Toolkit

June 2016




 SECTION 3

Vaccine Administration

Inactivated Influenza Vaccine Administration

- 1. Concomitant vaccine administration.** Usually, inactivated vaccines do not interfere with the immune response to other inactivated vaccines or to live vaccines.
- 2. Provide the vaccine recipient with the appropriate CDC Vaccine Information Statement (VIS).** Document the date of the VIS and the date it was given to the patient. This must be a print copy that the patient may read and take home. Copies of the CDC influenza VISs are included in this section of the manual or on the web at <https://www.cdc.gov/vaccines/hcp/vis/index.html>. VA staff may also provide patients with other information or educational material in addition to the CDC VIS and must answer any questions prior to administering the vaccine.
- 3. Ensure the patient has no known contraindications to receive the vaccine.** In some rare instances people receiving vaccine have had severe allergic reactions. The following precautions should be carefully noted:
 - a)** Beginning in 2016-17 flu season, per the Recommendations of the Advisory Committee on Immunization Practices – United States, 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 physician offices) under the supervision of a health care provider who is able to recognize and manage severe allergic conditions. People may say they are allergic to eggs, yet they actually eat products made with eggs (e.g., bread, cake). Be sure the

allergy to eggs is accurate information and not just personal food dislike/preference

People with hives only (majority of reactions) can safely receive the vaccine and should get it; very few adults are truly allergic to eggs (mostly occurs in childhood and is outgrown by adulthood). Skin testing prior to vaccine administration or dividing the dose is not necessary. Questions about this should be referred to a physician to make a determination about vaccination.

- b)** People who have had a previous influenza vaccination and had a serious reaction to components of the vaccine should not receive influenza vaccine.
- c)** People with moderate or severe illness with a fever should delay getting vaccinated until after the acute phase of a febrile or respiratory illness (approximately 72 hours or until afebrile without use of fever lowering medication).
- d)** People who developed Guillain-Barré syndrome (GBS) within 6 weeks of getting an influenza vaccine previously should consult a physician first. (Note: At one time, influenza shots were made with live virus. Influenza shots are now made with killed/inactivated virus, so GBS as an adverse event is extremely rare.)
- e)** Influenza vaccine is not approved for children less than 6 months of age.



4. Injection Safety: hand hygiene, glove use, and skin preparation and disinfection.

Injection safety is an important component of infection prevention. The concept of "standard precautions," with mandatory safe practices, applies to all health care settings. Every person in all health care settings is considered a potential source of infection.

a) Hand Hygiene – Perform hand hygiene (use soap and water or alcohol hand rub) and wash/rub carefully, including wrists and spaces between the fingers, according to your health care system hand hygiene policy.

◆ Perform hand hygiene BEFORE:

- starting an injection session (i.e., preparing injection material and giving injections);
- coming into direct contact with patients for health care-related procedures;
- putting on gloves (first make sure hands are dry).

◆ Perform hand hygiene AFTER:

- an injection session;
- any direct contact with patients;
- removing gloves.

◆ You may need to perform hand hygiene between injections in the same person, depending on the setting and whether there was contact with soil, blood, or body fluids, i.e., if receiving another vaccine at the same time as the flu vaccine.

◆ Avoid giving injections if your skin integrity is compromised by local infection or other skin conditions (e.g., weeping dermatitis, skin lesions or cuts), and cover any small cuts.

b) Glove use

◆ Health care workers should wear non-sterile, well-fitting single-use gloves when coming into contact with blood. Latex-free gloves are preferred.

◆ Use one pair of non-sterile gloves per procedure or patient. Do not wear the same pair of gloves for more than one patient.

◆ Follow steps for hand disinfection before donning and after removal of gloves.

◆ Ask the vaccine recipient if he/she bleeds easily or takes medications which thin the blood, such as warfarin (Coumadin®). If so, gloves should be worn.

◆ Indications for glove use in injection practice are:

- when there is a likelihood of coming into direct contact with a patient's blood or other potentially infectious materials (e.g., body fluids, moist body substances, non-intact skin that may be adjacent to or near the injection site).
- if the health care worker's skin is NOT intact (e.g., through eczema, or cracked or dry skin).
- if the patient's skin is NOT intact (e.g., through eczema, burns, or skin infections).
- If wearing gloves, it may be helpful to open an adhesive bandage wrapper prior to applying gloves. This may lessen the likelihood of the adhesive part of the bandage sticking to the gloves while applying the bandage to the vaccine recipient's skin.

c) Skin preparation and disinfection

◆ Apply a 60%-70% alcohol-based solution (isopropyl alcohol or ethanol) on a single-use swab or cotton-wool ball. DO NOT use methanol or methyl-alcohol, as these are not safe for human use.

◆ Wipe the area from the center of the injection site working outwards without going over the same area.



- ◆ Apply the solution for 30 seconds, then allow it to dry completely.
- ◆ DO NOT pre-soak cotton wool in a container—these become highly contaminated with hand and environmental bacteria.
- ◆ Have latex-free bandages ready to apply to the injection site immediately after the injection is complete. Bandages to the injection site are not required, but most vaccine recipients prefer them. It is a good idea to apply to the injection site in the event the site bleeds after injection and to cover/protect the skin where the injection occurred.

5. Administer the vaccine properly.

a) Clean or decontaminate your hands.

See information above concerning glove use.

b) Examine and prepare the vaccine: Always double check the vial or syringe label to make sure that you have the vaccine you want to administer and it is not past the expiration date.

◆ For multi-dose vials:

Shake the vial and visually inspect it for particulate matter. If you cannot shake the vaccine into a relatively even suspension, do not use it. After wiping the rubber stopper with an alcohol swab, load the syringe by injecting air into the vial (the same volume of air as the dose of vaccine to be drawn), pull plunger, and draw vaccine into syringe. NOTE: Never reinsert a used needle into the vial.

- ◆ For manufacturer prefilled (standard dose, high dose, or intradermal) syringes: Shake well before administration.

c) DO NOT prefill syringes. CDC does not recommend prefilled syringes because of the potential for administration errors. The same person who draws vaccine should ideally be the person who administers it. Once the needle is placed on the syringe, it should be used immediately. Any syringes except those filled by the manufacturer should be discarded at the end of the clinic day.

d) Check vaccine expiration dates: Per The Joint Commission FAQ1, influenza vaccine is exempt from the new Joint Commission requirement on multi-dose vials being labeled with a revised expiration date once they have been opened or used. The manufacturer expiration date for influenza vaccines should be used for shelf life even after opening. The Joint Commission has clarified these multi-dose requirements. The requirements are addressed in their Medication Management standard MM.03.01.01 element of performance 7, which requires organizations to store all medications labeled with the expiration date.

e) Use the appropriate vaccine formulation:

Inactivated Influenza Vaccine (IIV) vaccine has more than one formulation. The standard-dose formulation is acceptable for use in all age groups >6 months of age. The high-dose formulation is approved only for use in age groups 65 years old and older.

The purpose of the high-dose formulation is to get a better immune response in the older adult population (more data is needed to substantiate this).



Inactivated influenza vaccine should never be frozen. Store between 2°C-8°C (35°F-46°F) Refrigerator temp should be checked 2 x daily. See Section 4 for more details about storage.

Adults 19 yrs or older	Needle Length	Injection Site
Male or female less than 130 lbs	5/8-1 inch *	Deltoid muscle of arm
Female 130-200 lbs Male 130-260 lbs	1-1½ inch	Deltoid muscle of arm
Female 200+ lbs	1½ inch	Deltoid muscle of arm

*A 5/8" needle may be used for patients weighing less than 130 lbs (<60 kg) for IM injection in the deltoid muscle only if the skin is stretched tight, the subcutaneous tissue is not bunched, and the injection is made at a 90-degree angle.

f) Use the appropriate site and needle for intramuscular (IM) injection. The intramuscular route is recommended for IIV. Adults and older children should be vaccinated in the deltoid muscle, below the shoulder on the upper arm. Use a 22- to 25-gauge needle. Choose the injection site and needle length appropriate to the person's age and body mass.

Needles of less than 1 inch might be of insufficient length to penetrate muscle tissue in certain adults and older children. A 1-inch (25mm) to 1.5-inch (38 mm) needle should be used to give inactivated influenza vaccine intramuscularly to adults. The needle length must be

enough to ensure sufficient intramuscular injection considering weight and subcutaneous skin depth at injection site.

Needles of less than 1 inch might be of insufficient length to penetrate muscle tissue in certain adults and older children. A 1-inch (25mm) to 1.5-inch (38 mm) needle should be used to give inactivated influenza vaccine intramuscularly to adults. The needle length must be enough to ensure sufficient intramuscular injection.

Concurrent Administration of Influenza Vaccine with Other Vaccines.

In the absence of specific data indicating interference, following ACIP's general recommendations for vaccination is prudent. Inactivated vaccines do not interfere with the immune response to other inactivated vaccines or to live vaccines. (CDC General Recommendations on immunization, recommendations of the Advisory Committee on Immunization Practices (ACIP), and the American Academy of Family Physicians.)

What length of needle should we use to give influenza vaccinations to adults?

g) Use the appropriate site for intradermal injection. The preferred site for intradermal injection is over the deltoid area. Remove the needle cap from the microinjection system. Hold the unit by placing the thumb and middle finger only on the finger pads, leaving the index finger free. Do not place fingers on the windows. Insert the needle perpendicular to the skin over the deltoid muscle in a short, quick movement. Maintain light pressure on the unit over the skin and inject using the index finger to push the plunger. Do not aspirate. Remove the needle from the skin, direct the needle away from you and others, and push very firmly with the thumb on the plunger to activate the needle shield. You may hear a "click" when the shield extends to cover the needle. For vaccination with the intradermal vaccine, the specifically designed microinjector has a 3/50-inch needle.

h) Document influenza vaccination: It is important to keep organized and accurate vaccination records (for health care personnel record keeping, refer to Section 10).

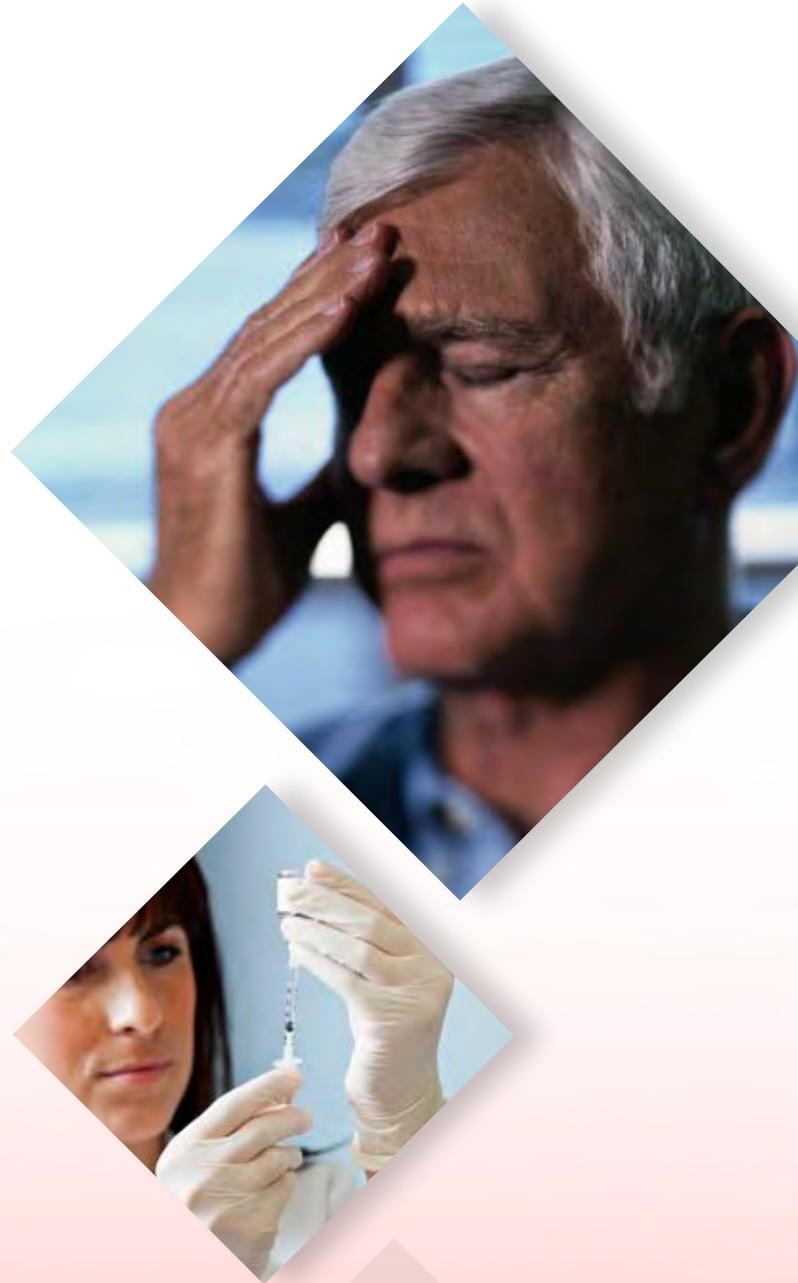
6. Dispose of the needle and syringe safely and immediately after use. Use a safety needle product and activate the safety mechanism before discarding syringe with needle into the

sharps container. Activation of the safety needle should occur immediately after injection. If a non-safety needle must be used, do not recap the needle after use. Discard the uncapped used needle still attached to the syringe into a sharps container keeping your eyes on the needle continuously until it is inside the container. These disposal techniques apply to intramuscular and intradermal needles and syringes.

7. Prepare and watch for an allergic reaction (anaphylaxis). Acute anaphylactic reactions are very rare, occurring in approximately 1 out of every 500,000 doses of vaccine. When they occur, however, you must take immediate action. During walk-in immunization clinics, no vaccine should ever be administered unless epinephrine, diphenhydramine, adult airways, and blood pressure cuffs are close at hand. All providers administering influenza vaccine should be familiar with an anaphylaxis protocol and with cardiopulmonary resuscitation (CPR).

After you have administered a vaccine to the vaccine recipient, instruct the recipient to report any itching, redness (with or without hives), difficulty breathing, or abdominal pain within several minutes of injection. Having the vaccine recipient wait 15 minutes in a post-injection area is suggested but is not officially required.

Drive-through clinics should advise vaccine recipients in the vehicle to report any itching, redness (with or without hives), difficulty breathing, or abdominal pain within several minutes of injection to VA staff working in the drive-through clinic. Follow the facility protocol for drive-through immunization clinic recommendations when advising the vaccine recipients (or their driver) what to do if this occurs.



Vaccine Storage and Handling

Proper vaccine storage and handling practices play a very important role in protecting individuals and communities from vaccine-preventable diseases. Vaccine quality is the shared responsibility of everyone, from the time vaccine is manufactured until it is administered. The Centers for Disease Control and Prevention (CDC) Vaccine Storage and Handling Toolkit (referred to throughout this document as “the toolkit”) brings together best practices from Advisory Committee on Immunization Practices (ACIP) recommendations, product information from vaccine manufacturers, and scientific studies. Implementing these best practices and recommendations will help protect your patients, safeguard your vaccine supply, and avoid the unnecessary costs of revaccination and replacing expensive vaccines.

Content for inactivated influenza adapted from:

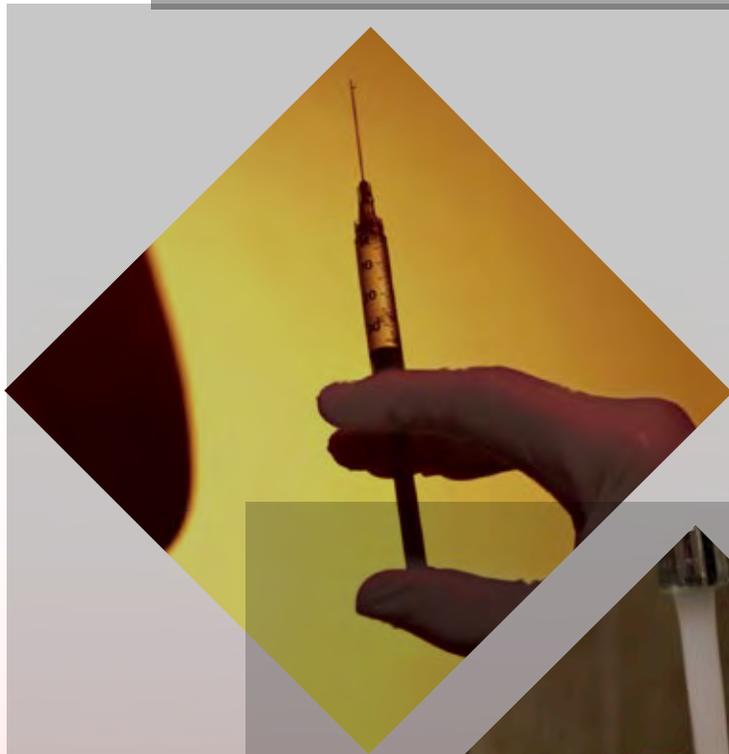
1. U.S. Food and Drug Administration. (2011, July 5). Vaccines, Blood and Biologicals: FluMist. Retrieved August 5, 2011, from U.S. Department of Health and Human Services: <https://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm094047.htm>.
2. Immunization Action Coalition. (January, 2004). Adults Only Vaccination: A Step-by-Step Guide. Retrieved August 2011, 2011, from http://www.immunize.org/guide/aovguide_all.pdf.
3. Standard FAQ Details, Multi-dose vials, The Joint Commission, July 20, 2010, https://www.jointcommission.org/standards_information/jcfaqdetails.aspx?Standards-FaqId=1092&ProgramId=46.
4. Immunization Action Coalition. (2008, June). Don't Be Guilty of These Errors in Vaccine Storage and Handling. Retrieved August 5, 2011, from <http://immunize.org/catg.d/p3036.pdf>.
5. Centers for Disease Control and Prevention. (2011, January 31). Vaccine Storage and Handling. Retrieved August 4, 2011, from <https://www.cdc.gov/vaccines/hcp/admin/storage/index.html>.

At the writing of this manual, ACIP recommends that live attenuated influenza vaccine (LAIV4) should not be used.
6. “How to administer IM and SC injections to adults,” available at <http://www.immunize.org/catg.d/p2020a.pdf>.
7. Immunization Action Coalition. (2009, February). Administering Vaccines: Dose, Route, Site, and Needle Size. Retrieved August 5, 2011, from <http://www.immunize.org/catg.d/p3085.pdf>.
8. For a detailed explanation and demonstration of immunization techniques, the 35-minute video “Immunization Techniques DVD” can be ordered through the IAC at <http://www.immunize.org/dvd/>, using the “Shop IAC” link.



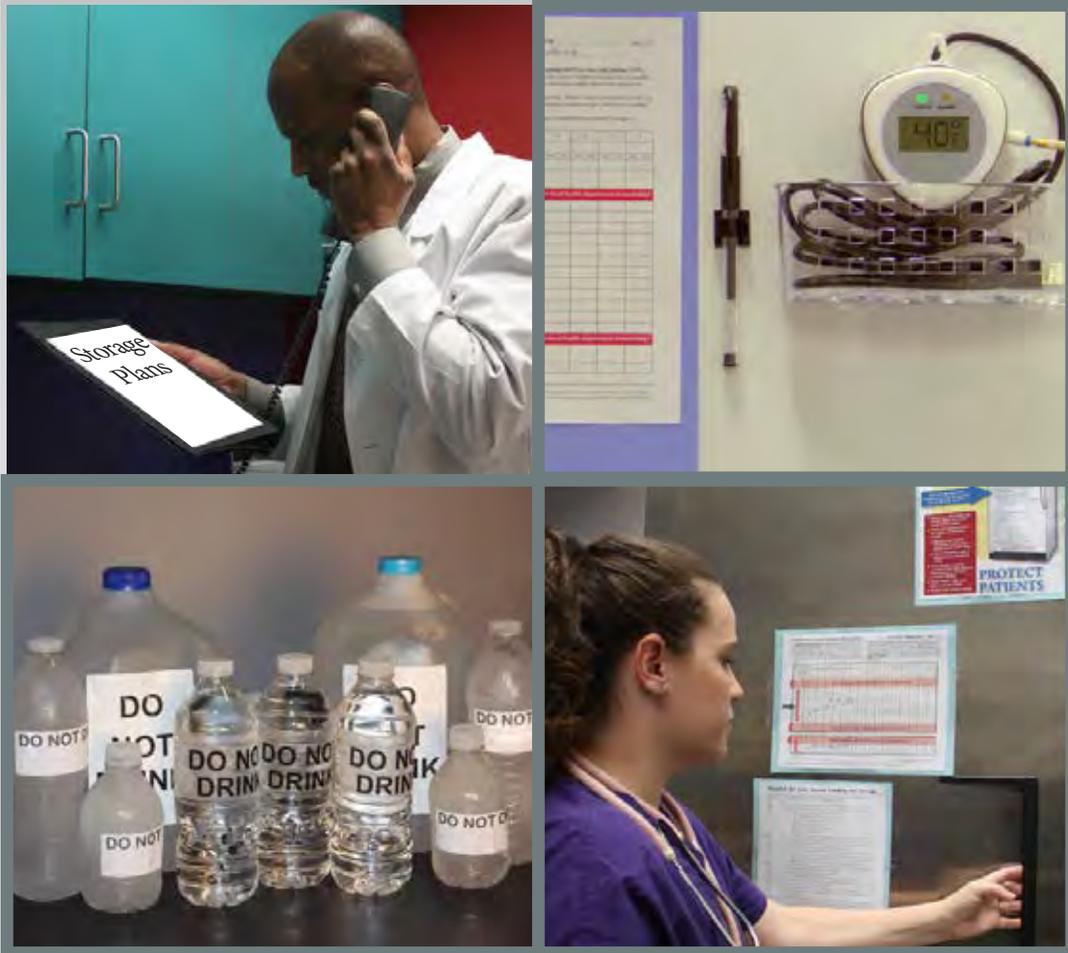
Large-type version of the vaccine information statement for inactivated influenza vaccine

CDC has a large-type version of the VIS for the inactivated influenza vaccine. You can view and print this at <https://www.cdc.gov/vaccines/hcp/vis/vis-statements/flu-largetype.pdf>.



Vaccine Storage & Handling Toolkit

June 2016



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

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Description of Icons

This list shows the symbols you will see throughout the toolkit:

Icon	Description
	CDC recommendation that applies to anyone who handles and stores vaccine. It is particularly relevant to VFC providers or other health care providers who receive vaccines purchased with public funds.
	Best practice
	Take immediate action!

Print warning! A printed version of this toolkit may not be the most up-to-date version. Always refer to the online version www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf to verify you have the most current information.

Where to Find Additional CDC Vaccine Storage and Handling Information

- Vaccine storage and handling home page: www.cdc.gov/vaccines/recs/storage/default.htm (sign up for notifications about updates)
- Educational webinars and netconferences for health care providers: www.cdc.gov/vaccines/ed/courses.html
- Contact information for state/local immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html
- E-mail specific questions to CDC: NIPInfo@cdc.gov

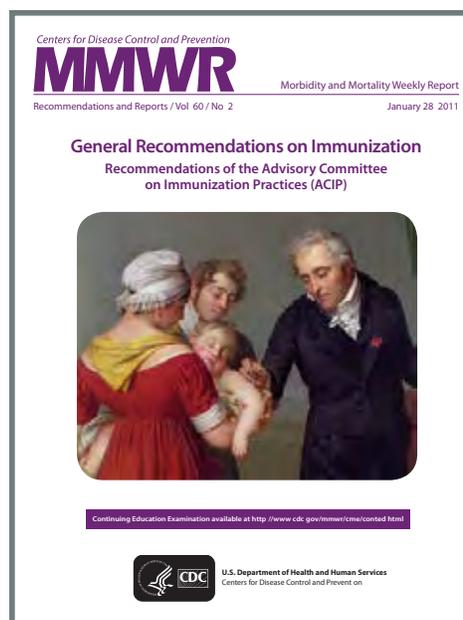
The Centers for Disease Control and Prevention (CDC) Vaccine Storage and Handling Toolkit (referred to throughout this document as “the toolkit”) brings together best practices from [Advisory Committee on Immunization Practices \(ACIP\) recommendations*](#), product information from vaccine manufacturers, and scientific studies. Implementing these best practices and recommendations will help protect your patients, safeguard your vaccine supply, and avoid the unnecessary costs of revaccination and replacing expensive vaccines.

Proper vaccine storage and handling has been an important factor in preventing and eradicating many common vaccine-preventable diseases. Yet, each year, storage and handling errors result in revaccination of many patients and significant financial loss due to wasted vaccine. Failure to store and handle vaccines properly can reduce vaccine **potency**, resulting in inadequate immune responses in patients and poor protection against disease. Patients can lose confidence in vaccines and providers if they have to be revaccinated because the vaccines they received may have been compromised.

This toolkit provides information and resources to assist you in properly storing and handling your vaccine supply, including information on:

- Storage and temperature monitoring equipment and setup
- Vaccine organization and storage
- Vaccine temperature and storage equipment monitoring
- Vaccine inventory management, transport, and preparation
- Emergency storage, handling, and transport
- Vaccine storage and handling standard operating procedure development

This toolkit reflects an adjustment in CDC’s guidance on the Fahrenheit temperature range for storing refrigerated vaccines. The new recommended Fahrenheit temperature range is between 36° F and 46°F (previously between 35° F and 46° F). The Celsius temperature range (between 2° C and 8° C) remains unchanged, as stated in all manufacturer package inserts for routinely recommended vaccines.



Important Notes

If you are a Vaccines for Children (VFC) provider or receive other vaccines purchased with public funds, you should consult with your state or local immunization program (referred to throughout this document as “[immunization program](#)”)* to ensure you are meeting all mandatory storage and handling requirements for your state, since there may be requirements that are specific or tailored to your jurisdiction. This toolkit provides general background information for many of the VFC storage and handling requirements and illustrates best practices essential to safeguarding public vaccine supply that can ultimately protect individuals from vaccine-preventable diseases.

For specific, detailed storage and handling protocols for individual vaccines, always refer to the manufacturers’ product information and [package inserts](#)*, or contact the manufacturer directly.

*ACIP Recommendations: www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm?

Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Manufacturers’ package inserts: www.immunize.org/packageinserts/

Disclaimer: This document provides best practices and CDC recommendations on storage, handling and transport of vaccines and diluents. Use of trade names and commercial sources in this toolkit is for identification only, and does not imply endorsement by the U.S. Department of Health and Human Services (DHHS), the U.S. Public Health Service (PHS), or the Centers for Disease Control and Prevention (CDC). Photographs from non-federal organizations are provided solely as a service to our users. These photographs do not constitute an endorsement of these organizations by CDC or the federal government and none should be inferred.

The vaccine cold chain is a temperature-controlled environment used to maintain and distribute vaccines in optimal condition. The cold chain begins with the cold storage unit at the manufacturing plant, extends through transport of vaccines to the distributor and delivery to and storage at the provider facility, and ends with administration of vaccine to the patient. Appropriate storage and handling conditions must be maintained at every link in the cold chain.

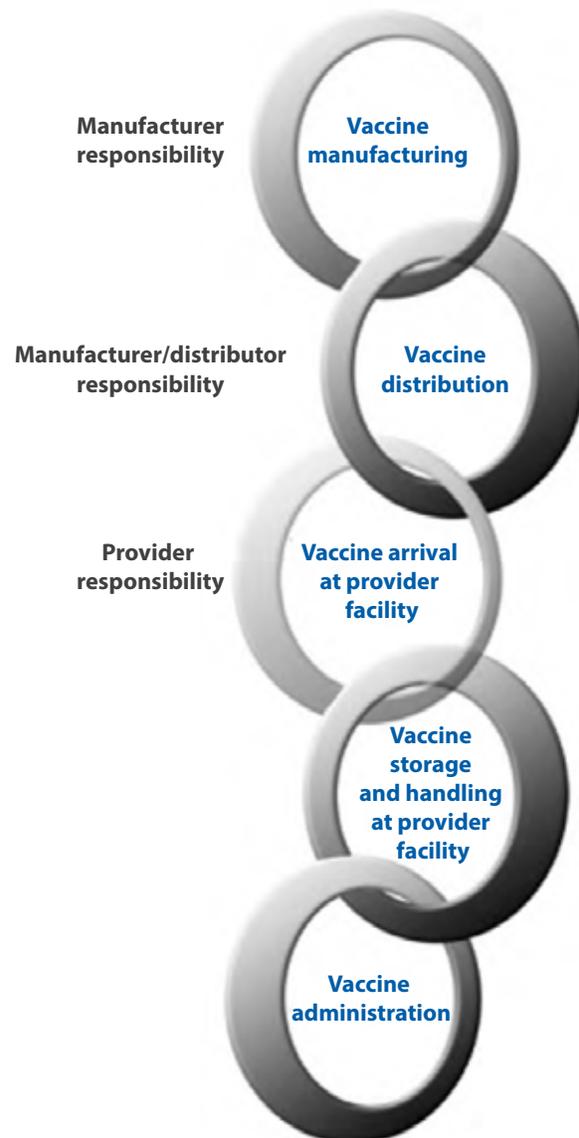
When the Cold Chain Fails

Too much exposure to heat, cold, or light at any step in the cold chain can damage vaccines, resulting in loss of vaccine potency. Once lost, potency cannot be restored. Each time vaccines are exposed to improper conditions, potency is reduced further. Eventually, **if the cold chain is not properly maintained, potency will be lost completely, and vaccines will be useless.**

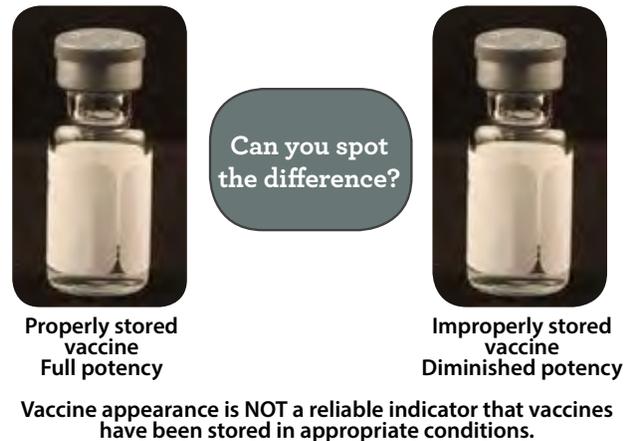
While exposure to any inappropriate conditions can affect potency of refrigerated vaccines, a single exposure to freezing temperatures (0° C [32° F] or colder) will destroy some. Liquid vaccines that contain an aluminum adjuvant can permanently lose potency when exposed to freezing temperatures.

Vaccine appearance is not a reliable indicator that vaccines have been stored in appropriate conditions. For example, inactivated vaccines, even when exposed to freezing temperatures, may not appear frozen, giving no indication of reduced or lost potency.

Cold chain flow chart



Results of a cold chain failure can be costly.^{1,2,3} 📌 ACIP's General Recommendations on Immunization state, "Vaccine exposed to inappropriate temperatures that is inadvertently administered generally should be repeated."⁴ Inappropriate storage can mean extra doses for patients, increased costs for providers, and damage to public confidence in vaccines. More importantly, patients who refuse revaccination can remain unprotected from serious, vaccine-preventable diseases.



Elements for an Effective and Reliable Cold Chain

An effective cold chain relies on three main elements:

- A well-trained staff
- Reliable storage and temperature monitoring equipment
- Accurate vaccine inventory management

These are the three main concepts upon which this toolkit is organized.

1. Department of Health and Human Services, Office of Inspector General. Vaccines for Children Program: Vulnerabilities in Vaccine Management, June 2012, oig.hhs.gov/oei/reports/oei-04-10-00430.asp
2. Gazmararian JA, Oster NV, Green DC, Schuessler L, Howell K, et al. Vaccine storage practices in primary care physician offices: assessment and intervention. *Am J Prev Med* 2002;23(4):246–53.
3. Bell KN, Hogue CJR, Manning C, Kendal AP. Risk factors for improper vaccine storage and handling in private provider offices. *Pediatrics* 2001;107(6):1–5.
4. Centers for Disease Control and Prevention. General Recommendations on Immunization: Recommendations of the Advisory Committee on Immunization Practices and the American Academy of Family Physicians. *MMWR* 2011;60(No. RR-2):17–19. Available from URL: www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm

Vaccine storage and handling practices are only as effective and successful as the staff that implements them. A well-trained staff, familiar with key storage and handling principles, is critical to ensuring the potency of your vaccine supply and the safety of your patients. Knowledgeable staff can also save your practice significant costs of wasted vaccine and prevent loss of credibility among patients who must be revaccinated due to a storage and handling error.

Staff Training

All staff members who receive deliveries and/or handle or administer vaccines should be familiar with storage and handling policies and procedures at your facility. Keep **standard operating procedures** (SOPs) for storage and handling near storage units and make sure staff knows where to find them.

 CDC recommends that storage and handling training should be done:

- As part of new employee orientation
- Annually as a refresher for all staff involved in immunization activities
- Whenever new vaccines are added to inventory
- Whenever recommendations are updated

It is recommended that you record names of trainings, dates, and participants. If you are a VFC provider, this is required. Contact your **immunization program*** for any additional state requirements if you are a VFC provider or have other vaccines purchased with public funds.

CDC offers an online training module, "**You Call the Shots: Vaccine Storage and Handling**,"* and many **immunization programs*** and professional organizations also offer training resources for vaccine storage and handling.



**Designate a person to be the primary vaccine coordinator for your facility.
Appoint a second staff member to serve as an alternate in the absence of the primary coordinator.**

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html
You Call the Shots: Vaccine Storage and Handling module: www2a.cdc.gov/nip/isd/ycts/mod1/courses/sh/ce.asp

Vaccine Coordinator

 **Designate a person to be the primary vaccine coordinator for your facility.** This person will be responsible for ensuring all vaccines are stored and handled correctly. Appoint a second staff member to serve as an alternate in the absence of the primary coordinator (this is particularly important in case of after-hour emergencies). Both coordinators should be fully trained in routine and emergency policies and procedures.

Coordinator responsibilities include:

- Ordering vaccines
- Overseeing proper receipt and storage of vaccine deliveries
- Documenting vaccine inventory information
- Organizing vaccines within storage units
- Setting up temperature monitoring devices
- Reading and recording storage unit temperatures a minimum of 2 times each workday
- Reading and recording [minimum/maximum temperatures](#) from a digital data logger 1 time each workday, preferably each morning
- Reviewing and analyzing temperature data at least weekly for any shifts in temperature trends
- Rotating stock at least weekly so vaccines with the earliest expiration dates are used first
- Removing expired vaccine from storage units
- Responding to out-of-range temperatures (temperature excursion)
- Maintaining all documentation, such as inventory and temperature logs
- Ensuring staff is properly trained
- Monitoring operation of storage equipment and systems
- Overseeing proper vaccine transport (when necessary)
- Overseeing emergency preparations
 - Tracking inclement weather conditions[†]
 - Ensuring appropriate handling of vaccines during a disaster or power outage[‡]

[†]The National Oceanic and Atmospheric Administration (NOAA) provides up-to-date information on U.S. weather conditions:

www.weather.gov/
www.goes.noaa.gov/

[‡]The Federal Emergency Management Agency (FEMA) offers a wide range of information on disaster preparedness:

www.fema.gov/

The Center for Biologics Evaluation and Research (CBER) at the Food and Drug Administration (FDA) offers information concerning the storage and use of temperature-sensitive biological products that have been involved in a temporary electrical power failure or flood conditions:

www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ProductSecurity/ucm147243.htm

Vaccine Storage and Temperature Monitoring Equipment

Proper Vaccine Storage Temperatures

Refrigerated vaccines should be stored at temperatures between 2° C and 8° C (36° F and 46° F). The thermostat should be set at midrange to achieve a temperature of about 5° C (40° F), which will decrease the likelihood of [temperature excursions](#).

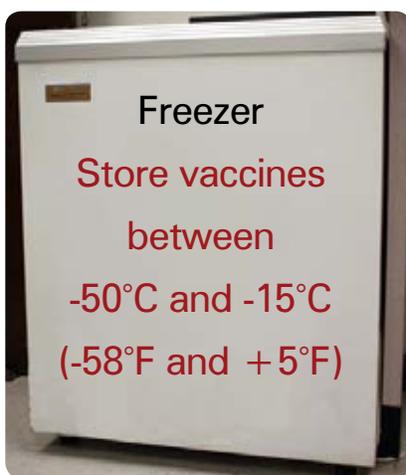
Vaccines stored in the freezer should maintain temperatures between -50° C and -15° C (-58° F and +5° F). The thermostat should be at the factory-set or midpoint temperature setting to assure appropriate frozen storage temperatures.

This toolkit reflects an adjustment in CDC's guidance on the Fahrenheit temperature range for storing refrigerated vaccines. The new recommended Fahrenheit temperature range is between 36° F and 46° F (previously between 35° F and 46° F). The Celsius temperature range (between 2° C and 8° C) remains unchanged, as stated in all manufacturer package inserts for routinely recommended vaccines.

Think of your storage and monitoring equipment as an insurance policy to protect your patients from inadvertent administration of compromised vaccine, and your facility against costs of revaccination, replacement of expensive vaccines, and loss of patient confidence in your practice. For the best protection, your facility needs appropriate equipment that is set up correctly and maintained and repaired as needed.

 To fully ensure the safety of vaccines, the following equipment is recommended:

- Stand-alone refrigerator(s) with enough space to accommodate your maximum inventory without crowding
- Stand-alone freezer(s) with enough space to accommodate your maximum inventory without crowding
- Digital data logger (DDL) with a current and valid Certificate of [Calibration](#) Testing (also known as a Report of Calibration) for each unit and at least one backup in case of a broken or malfunctioning device.



Stand-alone freezer



Stand-alone refrigerator

Vaccine Storage and Temperature Monitoring Equipment

Transport situations also require special equipment, such as **emergency transport** containers and additional digital data loggers for each container (if there are more containers than storage units).

Storage Units (Refrigerators and Freezers)

Refrigerators and freezers typically used for vaccine storage are available in different grades (household and purpose-built) and types (stand-alone and combination refrigerator/freezer).

Purpose-built units are sometimes referred to as “pharmaceutical grade” and are designed specifically for storage of biologics. These units often have:

- Microprocessor-based temperature control with a digital temperature sensor (thermocouple, resistance temperature detector [RTD], or thermistor)
- **Fan-forced air circulation**, with powerful fans or multiple cool air vents inside the unit that promote uniform temperature and fast temperature recovery

 CDC makes the following recommendations for vaccine storage units:

- Use purpose-built units designed to either refrigerate or freeze (can be compact, under-the-counter-style or large units).
- If a purpose-built unit is not available, use a stand-alone household unit.
- If you must use a household-grade combination refrigerator/freezer unit, only use the refrigerator compartment for storing vaccines. These units have cold spots and temperature fluctuations, and air circulating from the freezer could expose refrigerated vaccines to freezing temperatures. Use a separate stand-alone freezer to store frozen vaccines.
- **Do not store any vaccine in a dormitory-style or bar-style combined refrigerator/freezer unit under any circumstances.**

These units have a single exterior door and an evaporator plate/cooling coil, usually located in



Household combination refrigerator/freezer



Do not store any vaccine in a dormitory-style or bar-style combined refrigerator/freezer unit under any circumstances.

Vaccine Storage and Temperature Monitoring Equipment

an icemaker/freezer compartment. These units have been shown to pose a significant risk of freezing vaccines, even when used for temporary storage. (Note: Not all small storage units are dormitory- or bar-style units. Compact purpose-built units for biologics can be used to store vaccines.)

- Make sure the storage unit has enough space to store the largest inventory you might have at the busiest point in the year (e.g., flu season) without crowding.
- Remove any deli, fruit, and vegetable drawers from refrigerator units. This provides extra space for [water bottles to help maintain stable temperatures](#) and prevents use of the drawers for storing food, beverages, or vaccines.
- Use safeguards to ensure the doors of the unit remain closed (for example, self-closing door hinges, door alarms, door locks, etc.).

Temperature Monitoring Equipment (Digital Data Loggers)

An accurate temperature history that reflects actual vaccine temperatures is critical for protecting your vaccines. Every vaccine storage unit must have a temperature monitoring device, and investing in reliable devices is less expensive than replacing vaccines wasted due to inaccurate temperature readings.

 **CDC recommends the use of a continuous monitoring and recording digital data logger (DDL) with a current and valid Certificate of Calibration Testing (also known as a Report of Calibration), set at a minimum recording interval of at least every 30 minutes.** Unlike a simple minimum/maximum thermometer, which only shows the warmest and coldest temperatures reached in a unit, continuous monitoring and recording DDLs provide detailed information on all temperatures recorded at preset intervals. Many DDLs use a [buffered temperature probe](#), which is the most accurate way to measure actual vaccine temperatures. Temperatures measured by a buffered probe match vaccine temperatures more closely than those measured by standard thermometers, which tend instead to reflect air temperature. DDLs provide the most accurate storage unit temperature information, including details on how long a unit has been operating outside the recommended temperature range (referred to as a temperature excursion).



Digital data loggers

Vaccine Storage and Temperature Monitoring Equipment

Your facility should have a DDL for:

- Each vaccine storage unit
- Each emergency transport unit (this is particularly important if there are more transport units than storage units)
- At least one backup DDL in case a primary device malfunctions or is out for calibration testing (make sure the backup device has a different calibration testing schedule than the primary device so it is available when the primary device is being tested)



CDC recommends DDLs with the following characteristics:

- Detachable probe in a thermal buffered material (e.g., glycol, glass beads, sand, Teflon[®])[†]
- Alarm for out-of-range temperatures
- Low-battery indicator[‡]
- Current, minimum, and maximum temperature indicator[§]
- Recommended **uncertainty** of +/-0.5° C (+/-1° F)
- Logging interval (or reading rate) that can be programmed by the user

Temperature data from a DDL can be downloaded to a computer using special software or retrieved from a website. The software or website may also allow you to set the frequency of temperature readings. Reviewing DDL data is critical for vaccine safety, so it is important to decide whether independent software or a website program will work best for your facility.



CDC recommends that a DDL's current and valid Certificate of Calibration Testing (Report of Calibration) should include:

- Model/device name or number
- Serial number
- Date of calibration (report or issue date)
- Confirmation that the instrument passed testing (or instrument in **tolerance**)
- Recommended uncertainty of +/-0.5° C (+/-1° F) or less

If you need to determine if a Certificate of Calibration Testing or Report of Calibration was issued by an appropriate entity, check to see if the certificate indicates one or more of the following items about calibration testing:

- Conforms to International Organization for Standardization (ISO)/International Electrotechnical Commission (IEC) 17025 international standards for calibration testing and **traceability**
- Performed by a laboratory accredited by International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) signatory body
 - A list of ILAC/MRA signatories may be found at ILAC.org/ILAC-MRA-and-signatories/

Vaccine Storage and Temperature Monitoring Equipment

- Traceable to the standards maintained by the National Institute of Standards and Technology (NIST)
- Meets specifications and testing requirements for the American Society for Testing and Materials (ASTM) Standard E2877 Tolerance Class F ($< \pm 0.5^{\circ}\text{C}$ or $< \pm 1^{\circ}\text{F}$) or better
- Refers to another acceptable accuracy validation method, such as comparison to other traceable reference standards or tests at thermometric fixed points

Certain types of temperature monitoring devices have significant limitations and should not be used to measure temperatures in a vaccine storage unit. These devices can be

difficult to read and, because they only show the temperature at the exact time they are read, may fail to detect temperatures outside the recommended range.

Specifically, CDC does not recommend the following temperature monitoring devices:

- Alcohol or mercury thermometers, even if placed in a fluid-filled biosafe liquid vial
- Bi-metal stem temperature monitoring devices
- Food temperature monitoring devices
- Chart recorders
- Infrared temperature monitoring devices
- Temperature monitoring devices that do not have a current and valid Certificate of Calibration Testing



CDC does NOT recommend these temperature monitoring devices

Devices sold in hardware and appliance stores are generally designed to monitor temperatures for household food storage. They are not calibrated and not accurate enough to ensure vaccines are stored within the correct temperature range. Using these devices can pose a significant risk of damaging expensive vaccines.

†Probes that are permanently imbedded in a buffer are acceptable as long as the temperature monitoring system for the entire unit can be calibration-tested.

‡Since these devices are typically battery-operated, have a supply of extra batteries on hand.

§Battery changes may affect temperature accuracy and may warrant checking against a known calibrated temperature device. Check with the device's manufacturer for specific information on battery changes.

Vaccine Storage and Temperature Monitoring Equipment

Storage Unit Setup

Storage Unit Placement

Good air circulation around the outside of the storage unit is important. Place storage units in a well-ventilated room, leaving space between the unit, ceiling, and any wall. Nothing should block the cover of the motor compartment. The unit should be firm and level, with the bottom of the unit above the floor. Make sure the unit door opens and closes smoothly and fits squarely against the body of the unit. Studies find that most units work best when placed in an area with standard indoor room temperatures, usually considered to be between 20° C and 25° C (68° F and 77° F). Check the manufacturer-supplied owner's manual for additional guidance on placement and spacing.

Power Supply

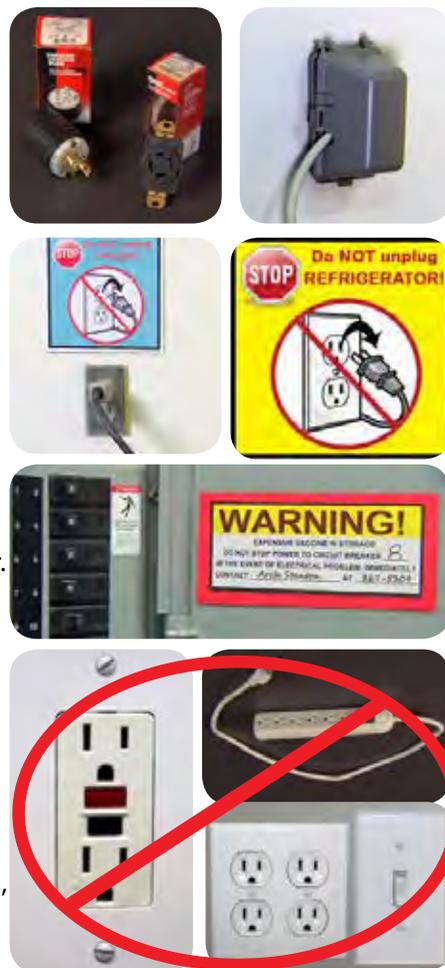
Take the following precautions to protect the storage unit's power supply:

- Plug in only one storage unit per electrical outlet to avoid creating a fire hazard or triggering a safety switch that would turn off power.
- Use a safety-lock plug or an outlet cover to prevent the unit from being unplugged.
- Post "DO NOT UNPLUG" warning signs at outlets and on storage units to alert staff, custodians, electricians, and other workers not to unplug units.
- Label fuses and circuit breakers to alert people not to turn off power to storage units. Labels should include immediate steps to take if power is interrupted. If your building is owned by a third party and you do not have access to circuit breakers, work with your building manager.

Avoid using power outlets that can be tripped or switched off, including:

- Built-in circuit switches (may have reset buttons)
- Outlets that can be activated by a wall switch
- Multi-outlet power strips

If the entire storage unit is impacted by out-of-range temperatures because of a power outage or unit malfunction, refer to your facility's emergency storage and handling SOPs.



Vaccine Storage and Temperature Monitoring Equipment

Temperature Ranges

Refrigerators should maintain temperatures between 2° C and 8° C (36° F and 46° F).[†] The thermostat should be set at midrange to achieve a temperature of about 5° C (40° F), which will decrease the likelihood of temperature excursions.

Freezers should maintain temperatures between -50° C and -15° C (-58° F and +5° F). The thermostat should be set at the factory-set or midpoint temperature to assure appropriate frozen storage temperatures.

Store in freezer
Between -50°C and -15°C (-58°F and +5°F)

VAR[†]
HZV[†]
MMRV[†]
MMR^{†§}

Store in refrigerator
Between 2°C and 8°C (36°F and 46°F)

MMR^{†§}
HepA HepB HepA-HepB
Hib[†] Hib-HepB
Human papillomavirus (2vHPV, 4vHPV, 9vHPV[†])
Influenza (LAIV,[†] IIV,[†] RIV[†])
IPV[†]
Meningococcal (Hib-MenCY,[†] MenACWY-D, MenACWY-CRM,[†] MPSV4, MenB-4C, MenB-FHbp[†])
Pneumococcal (PCV13, PPSV23)
Rotavirus[†] (RV1, RV5)
Diphtheria toxoid, Tetanus toxoid, and Pertussis (DT, DTaP, DTaP-HepB-IPV, DTaP-IPV, DTaP-IPV/Hib, Tdap, Td, TT)

[†]Protect the following vaccines from light: Varivax, Zostavax, ProQuad, M-M-R II, Hiberix, Gardasil, Gardasil 9, Afluria, FLUAD, Fluarix, Flublok, Flucelvax, FluLaval, Fluvirin, FluMist, IPOL, MenHibrix, Menveo, Bexsero, Rotarix, and RotaTeq.

[§]Unreconstituted, lyophilized (freeze-dried) MMR may be frozen or refrigerated.

Vaccine Storage and Temperature Monitoring Equipment

Consult the owner's manual for instructions on how to operate the thermostat. Thermostats are marked in various ways, and in general, show levels of coldness rather than temperatures. The only way to know the temperature where vaccines are stored is to measure and monitor it with a continuous monitoring and recording [digital data logger](#) (DDL). Each unit should have its own temperature monitoring device.

†This toolkit reflects an adjustment in CDC's guidance on the Fahrenheit temperature range for storing refrigerated vaccines. The new recommended Fahrenheit temperature range is between 36° F and 46° F (previously between 35° F and 46° F). The Celsius temperature range (between 2° C and 8° C) remains unchanged, as stated in all manufacturer package inserts for routinely recommended vaccines.

Stabilizing Temperatures in New and Repaired Units

It may take 2 to 7 days to stabilize the temperature in a newly installed or repaired refrigerator or 2 to 3 days for a freezer. Before using a unit to store vaccines, [check and record temperatures a minimum of 2 times each workday for 2 to 7 days](#).

If you are using a household combination refrigerator/freezer, do not use the freezer compartment to store vaccines. To maintain proper temperatures in the refrigerator, leave the freezer on at the factory-set or midpoint temperature setting. [Water bottles should also be placed in the refrigerator](#) to help maintain the correct temperature range and reduce the risk of freezing vaccines.

Organizing and Storing Vaccine in Storage Units

Following recommended guidelines and best practices for placement of vaccines in a storage unit will help to prevent conditions that could reduce vaccine potency or cause vaccine failure.

 **Always refer to manufacturers' product information/[package inserts](#) for the most up-to-date storage and handling recommendations for specific vaccines and [diluent](#)s.**

Storing Vaccine in a Refrigerated Unit

All vaccines except varicella-containing vaccines (varicella, zoster, and MMRV) should be stored in a refrigerator between 2° C and 8° C (36° F and 46° F), with a desired target temperature of 5° C (40° F). Measles, mumps, and rubella (MMR) vaccine may be stored in either a refrigerator or freezer. Some diluents must be refrigerated, while others may be stored in the refrigerator or at room temperature (no warmer than 25° C [77° F]).†

Vaccine Storage and Temperature Monitoring Equipment



Best practices for storing vaccine and diluent in a refrigerated unit include:

- **Always store vaccines in their original packaging with lids closed until ready for administration.** This protects them from light and provides additional thermal protection/stability. **Never store loose vials or manufacturer-filled syringes outside of their packaging.** This increases the risk of administration errors, exposes vaccine to light, and makes it more difficult to track expiration dates and manage inventory.
- **Place water bottles on the top shelf and floor and in the door racks.**^{†§} Putting water bottles in the unit can help maintain stable temperatures caused by frequently opening and closing unit doors or a power failure. It can also prevent vaccines from being stored in areas where there is a greater risk of out-of-range temperatures (such as the top shelf, floor, and door). Place water bottles carefully so they cannot dislodge, preventing the door from closing securely or weighing the door down so the seals are not tight. Label all water bottles, "DO NOT DRINK."
- **Whenever possible, store diluent with the corresponding refrigerated vaccine:**
 - Diluents for Pentacel (DTaP-IPV/Hib) and Menveo (meningococcal conjugate vaccine) contain antigen and must be stored with their corresponding (freeze-dried) vaccine.
 - Some diluents can be stored at room temperature (no warmer than 25° C [77° F]).



Water bottles on unit floor

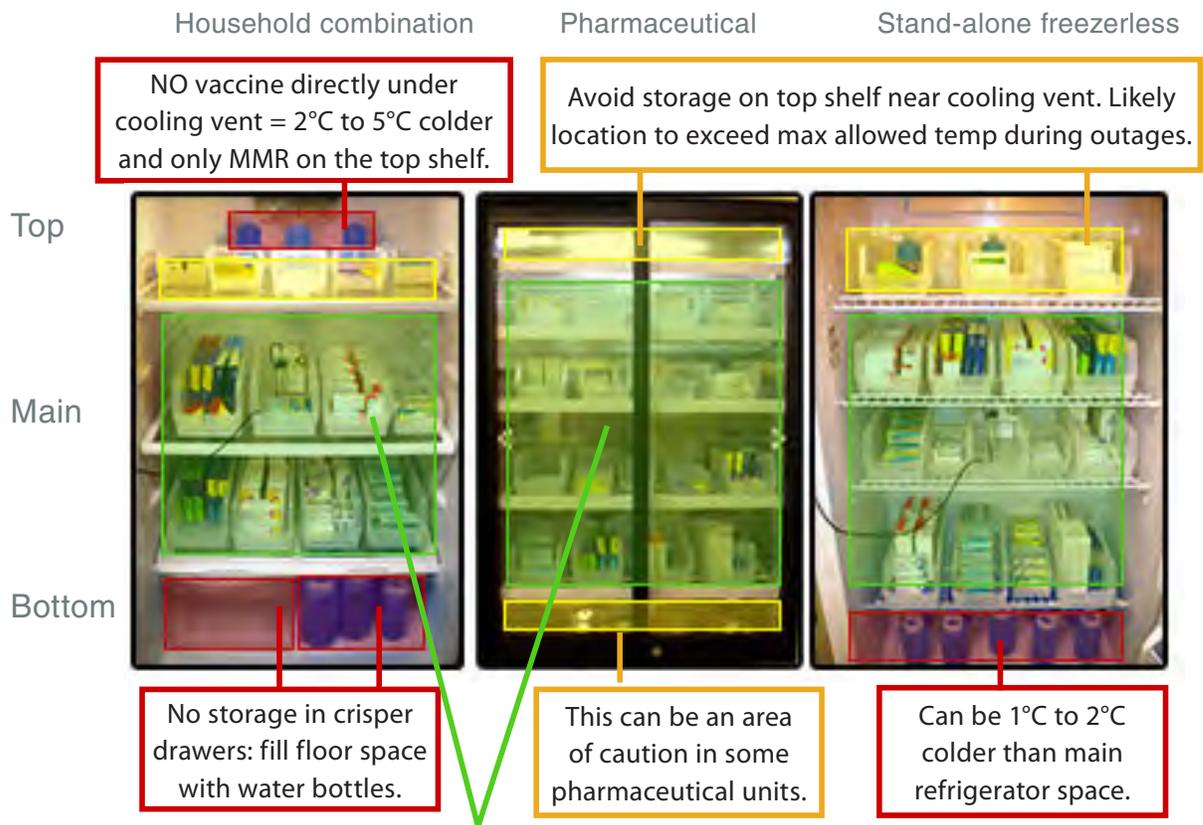


Water bottles in unit door

Vaccine Storage and Temperature Monitoring Equipment

- Store each type of vaccine or diluent in a separate container.
- Attach **labels to shelves and containers** to clearly identify where each type of vaccine and diluent is stored. If diluent is stored separately from the corresponding vaccine, label the container where it is stored.
- Store vaccines and diluents with similar packaging or names (e.g., DTaP and Tdap or Hib and HepB) or with both pediatric and adult formulations on different shelves to minimize the risk of administration errors. Make sure to label the formulation “pediatric” or “adult,” if applicable.
- Place vaccines and diluents in the center of the unit, 2 to 3 inches away from walls, ceiling, floor, and door. Avoid storing vaccines and diluents in any part of the unit that may not provide stable temperatures or sufficient air flow, such as directly under cooling vents, in drawers, or in shelves on the door. The instability of temperatures and air flow in these areas may expose them to inappropriate storage temperatures.

Recommended vaccine storage locations in the refrigerator



Best storage practice—place vaccines in center refrigerator space, contained in original packaging, inside designated storage trays positioned 2 to 3 inches from refrigerator walls.

Vaccine Storage and Temperature Monitoring Equipment

- Do not store vaccines in deli, fruit, or vegetable drawers, or in the door. Temperatures in these areas are not stable and can differ from those inside the main part of the unit.
- Arrange vaccines and diluents in rows, allowing space between rows to promote air circulation. This helps each vaccine and diluent maintain a consistent temperature.
- Place vaccines and diluents with the earliest expiration dates in front of those with later expiration dates.
- Do not pack a storage unit too tightly. This can restrict air circulation and impact vaccine temperature.

Storing Vaccine in a Freezer Unit

Varicella-containing vaccines (varicella, zoster, and MMRV) should always be stored in a freezer unit between -50° C and -15° C (-58° F and +5° F) until reconstitution and administration.

Measles, mumps, and rubella (MMR) vaccine can be stored in either a refrigerator or a freezer.

Never store any diluent in the freezer.



Best practices for storing vaccine in a freezer unit include:

- **Always store vaccines in their original packaging with lids closed until ready for administration.** This protects them from light and provides additional thermal protection/stability. **Never store loose vials or manufacturer-filled syringes outside of their packaging.** This increases the risk of administration errors, exposes vaccine to light, and makes it more difficult to track expiration dates and manage inventory.
- **Place water bottles against the walls, in the back, on the floor, and in the door racks.** Putting water bottles in the unit can help maintain stable temperatures caused by frequently opening and closing unit doors or a power failure. It can also prevent vaccines from being stored in areas where there is a greater risk of out-of-range temperatures (such as the floor and door). Place water bottles carefully so they cannot dislodge, preventing the door from closing securely or weighing the door down so the seals are not tight. Label all water bottles, "DO NOT DRINK."
- Store each type of vaccine in a separate container.
- Attach [labels to shelves and containers](#) to clearly identify where each type of vaccine is stored.
- Store vaccines with similar packaging or names (e.g., VAR and HZV) or with both pediatric and adult formulations on different shelves to minimize the risk of administration errors. Make sure to label the formulation "pediatric" or "adult," if applicable.
- Place vaccines in the center of the unit, 2 to 3 inches away from walls, ceiling, floor, and door. Avoid storing vaccines in any part of the unit that may not provide stable temperatures or sufficient air flow, such as directly under cooling vents or shelves on the door. The instability of temperatures and air flow in these areas may expose them to inappropriate storage temperatures.

Vaccine Storage and Temperature Monitoring Equipment

- Arrange vaccines in rows, allowing space between rows to promote air circulation. This helps each vaccine maintain a consistent temperature.
- Place vaccines with the earliest expiration dates in front of those with later expiration dates.
- Do not pack a storage unit too tightly. This can restrict air circulation and impact vaccine temperature.

Avoid Placing Other Items in Vaccine Storage Units

 If possible, no items other than vaccines, diluents, and water bottles should be placed or stored in the units.

Food and beverages should never be stored in the unit with vaccines. Doing so can lead to frequent opening of the door to access food, putting vaccines at risk of temperature fluctuations and excessive light exposure. It can also result in spills and contamination.



Do NOT store food or beverages inside a vaccine refrigerator or freezer.

If other medications and biological products must be stored in the same unit as vaccines, never store these products in the same container with vaccines. Always store them below vaccines and on a different shelf. This prevents contamination and reduces the likelihood of medication errors.



If other medications/biologics are stored in same unit with vaccines, store on a lower shelf.

†More information about storage of specific diluents can be found at www.immunize.org/catg.d/p3040.pdf

‡Some refrigerator units, particularly pharmaceutical-grade units, may have specific guidance about the use of water bottles. Check the manufacturer's guidance for your unit.

§Avoid storing vaccines on the top shelf. If the top shelf must be used, place water bottles close to the vent and only store MMR vaccines on this shelf.

Vaccine Storage and Temperature Monitoring Equipment

Placement of Temperature Monitoring Device

 To help ensure vaccines are stored at appropriate temperatures, it is important to follow recommended best practices for placement of a digital data logger (DDL) in a storage unit.

- **Place the buffered probe of the DDL in the center of the unit with the vaccines surrounding it.** A device placed near the walls, floor, vent, ceiling, or door may indicate temperatures that are colder or warmer than the actual vaccine temperature. This may not be true for pharmaceutical units because air flow and temperature are better regulated. Refer to your owner’s manual for instructions on temperature monitoring device placement.
- Place the DDL’s active digital display outside the unit so temperatures can be read without opening the door and disturbing the probe. **The DDL should be set to measure temperatures at least every 30 minutes.**

Monitoring Vaccine Temperature and Vaccine Storage Equipment

 Monitoring vaccine storage equipment and temperature is a daily responsibility to ensure the safety of your vaccine supply and your patients. Implementing routine monitoring activities can help you identify out-of-range temperatures quickly and take immediate action to correct them, preventing loss of vaccines and the potential need for revaccination of patients.

Monitor and Record Storage Unit Temperature

 CDC recommends on a **twice daily** basis:

- Check and record storage unit temperature readings each workday—in the morning when you arrive and in the evening before leaving. This should be done even if there is a temperature alarm or a DDL temperature monitoring device. A temperature monitoring log sheet[†] should be placed on each storage unit door (or nearby), and the following information should be recorded:
 - Temperature
 - Date
 - Time
 - Initials of person recording the data

If a reading is missed, leave a blank entry in the log.

The twice-daily checks provide an opportunity to inspect the storage unit, reorganize any misplaced vaccines, and remove any expired vaccines.



Vaccine Storage and Temperature Monitoring Equipment

Check unit doors throughout the day and always at the end of the day to ensure they are tightly closed. A door left open not only affects temperature in the unit, but can also expose vaccines to light, putting them at risk of reduced potency.



CDC recommends on a **weekly** basis:

- Review storage unit temperature readings and review continuous DDL software or website information for changes in temperature trends that might require action (adjusting unit temperature or repairing/replacing storage or temperature monitoring equipment).
- File this information so it can be analyzed for long-term trends and/or recurring problems. Temperature data should be kept for 3 years (unless state statutes or rules require a longer period).

If there appears to be any fluctuation in temperature, [troubleshoot the problem based on additional information provided in this toolkit](#), manufacturer manuals, and/or your office storage and handling SOPs.

Out-of-range Temperatures



Out-of-range storage temperatures or inappropriate conditions for any vaccine require immediate action. Any temperature reading outside ranges recommended in the manufacturers' [package inserts](#)* is considered a temperature excursion. In general, manufacturers analyze information about the magnitude of the temperature excursion and the total amount of time that temperatures were out of range, as well as information about the vaccine in question, to determine whether a vaccine is likely to be viable.



If there is any question about whether vaccines may have been exposed to a temperature excursion because the unit became too cold or too hot, CDC recommends the following steps:

1. Any staff member who hears an alarm or notices a temperature excursion on the DDL should notify the primary or alternate vaccine coordinator immediately or report the problem to their supervisor.
2. Label exposed vaccines, "DO NOT USE," and place them in a separate container apart from other vaccines in the storage unit (**do not discard these vaccines**).
3. The vaccine coordinator, supervisor, or if necessary, the person reporting the problem should begin to document the event:[†]



Label exposed vaccines, "DO NOT USE," and place them in a separate container apart from other vaccines in the storage unit.

Vaccine Storage and Temperature Monitoring Equipment

- a. Date and time of the temperature excursion
- b. Storage unit temperature and room temperature, if available (including [minimum/maximum temperatures](#) during the time of the event, if available)
- c. Name of the person completing the report
- d. Description of the event:[‡]
 - General description (i.e., what happened)
 - If using a DDL, determine the length of time vaccine may have been affected
 - Inventory of affected vaccines
 - List items in the unit (including water bottles) other than vaccines
 - Any problems with the storage unit and/or affected vaccines before the event
 - Other relevant information
4. Contact your [immunization program](#)* and/or [vaccine manufacturer\(s\)](#) per your SOPs for further guidance on whether to use affected vaccines and for information about whether patients will need to be recalled for revaccination.[§] Be prepared to provide documentation of the event (e.g., temperature log data) to ensure you receive the best guidance.
5. Implement your facility SOPs to adjust unit temperature to the appropriate range. At a minimum, check the temperature monitoring device to make sure it is appropriately placed in the center of the vaccines.
6. Complete your documentation of the event, including:
 - a. Action taken
 - i. What you did with vaccine and the time
 - ii. Whom you have contacted and instructions received
 - iii. What you have done to prevent a similar future event
 - b. Results
 - i. What happened to affected vaccines
 - ii. Other comments

If you are a VFC provider or have other vaccines purchased with public funds, contact your [immunization program](#)* about required actions and special instructions or forms to be completed in the event of a temperature excursion.

Never allow vaccines to remain in a nonfunctioning unit for an extended period of time. If you believe the unit has failed, begin to implement your [emergency vaccine SOPs](#)

*Manufacturers' package inserts: www.immunize.org/packageinserts/

Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

†The Immunization Action Coalition has developed a [Temperature Monitoring Log \(www.immunize.org/handouts/temperature-logs.asp\)](http://www.immunize.org/handouts/temperature-logs.asp) and a [Vaccine Storage Troubleshooting Record \(www.immunize.org/catg.d/p3041.pdf\)](http://www.immunize.org/catg.d/p3041.pdf) to support

these activities.

‡Responses from vaccine manufacturers to events depend on information given by the provider to the manufacturer. If different information about the same event is provided to the same manufacturer, this can lead to different recommendations on whether vaccine can be used or whether patients need to be revaccinated. In addition, each event is unique, and manufacturer recommendations based on existing stability data cannot be applied to future events that may appear to be similar.

§In the General Recommendations on Immunization, ACIP recommends "vaccine exposed to inappropriate temperatures that is inadvertently administered generally should be repeated."

Vaccine Storage and Temperature Monitoring Equipment

Regular Maintenance of Vaccine Storage Units and Temperature Monitoring Devices

Storage units and temperature monitoring devices need regular maintenance to ensure proper operation, maintain required temperatures, and extend the useful life of the equipment. Check the manufacturer's product information for cleaning instructions and recommended maintenance schedules. Document maintenance tasks and repairs as indicated in your storage and handling SOPs.

Storage Unit Maintenance

The following routine maintenance tasks are recommended for all storage units:

- Check storage unit door seals regularly for signs of wear and tear. Seals should not be torn or brittle, and there should be no gaps between the seals and the body of the unit when the door is closed. If seals need to be replaced, contact a repair technician immediately.
- Check door hinges and adjust so that the door opens and closes smoothly and fits squarely against the body of the unit.
- Clean unit coils and motor. Dust and dirt buildup can affect transfer of heat from the coils and prevent the unit from working efficiently.
- Clean inside of units to discourage bacterial and fungal growth. Cleaning must be done quickly to minimize the risk of the temperature going out of range.
- Defrost manual-defrost freezers when the frost exceeds either 1 cm or the manufacturer's suggested limit. Follow the manufacturer's instructions. While defrosting, store vaccines temporarily in another unit with appropriate freezer temperatures.

Unit doors pose a particular risk to maintaining appropriate internal temperatures of vaccine storage units. A door that is not sealed properly or that is left open unnecessarily not only affects the temperature in a unit, it also exposes vaccines to light, which can reduce potency of some vaccines. Leaving the door open can cause the thermostat to respond to warmer room temperatures, and the unit will work harder to maintain the correct temperature inside. The unit will continue to adjust its output of cool air, and the temperature may become very cold in some parts of the unit, possibly freezing refrigerated vaccine. Using an open-door alarm and a self-closing door may be helpful.



Refrigerator coils

Vaccine Storage and Temperature Monitoring Equipment

If your facility has a backup generator, it should be tested quarterly and serviced annually (check the manufacturer’s guidance for testing procedures and maintenance schedules).

Temperature Monitoring Device Maintenance

 Because all temperature monitoring devices experience “drift” over time that affects their accuracy, calibration testing should be done every 1 to 2 years or according to the manufacturer’s suggested timeline.†

If calibration testing indicates your temperature monitoring device is no longer accurate within $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$), it should be replaced. Adjustments to correct accuracy of the device are not recommended. You may prefer to replace the device rather than submitting it for calibration testing. Any new temperature data logger must have a current and valid Certificate of Calibration Testing (also known as Report of Calibration).

†Providers who receive VFC vaccines or other vaccines purchased with public funds should consult their [state or local immunization program \(www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html\)](http://www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html) about the required time frame for calibration testing.

Troubleshooting Equipment Problems

Adjusting Storage Unit Temperatures

Storage unit temperatures will likely need to be adjusted over time. In some situations, thermostats may need to be reset in summer and winter, depending on room temperature.

- Thermostat adjustments should only be made by the primary or alternate vaccine coordinator, based on information from digital data loggers and temperature monitoring logs.
- Post a [warning sign](#) on all storage units stating, “Do NOT adjust temperature controls. Notify (name of vaccine coordinator) if adjustments are necessary.”
- Temperature adjustments should not be done during a busy clinic day when the unit door is being frequently opened and closed.



Thermostat adjustments should only be made by the primary or alternate vaccine coordinator, based on information from digital data loggers and temperature monitoring logs.

Vaccine Storage and Temperature Monitoring Equipment

Remember that temperatures within any storage unit will vary at least slightly, even with normal use. Therefore, before making any adjustment:

- Confirm the unit is securely plugged into a power source.
- Check the temperature inside the storage unit.
- Wait 30 minutes, without opening the door, to allow the temperature to stabilize, and check it again to verify the thermostat should be adjusted. If you believe there could be an issue with your monitoring device, use your backup device to confirm the temperature.

If you confirm that an adjustment is needed:

- Refer to the owner's manual for detailed instructions.
- Turn the thermostat knob slowly to avoid going outside the correct temperature range, and make a small adjustment toward a warmer or colder setting as necessary.
- Allow the temperature inside the unit to stabilize for 30 minutes without opening the door.
- Recheck the temperature.
- Repeat these steps as needed until the temperature has stabilized at around 5° C (40° F) for a refrigerator or between -50° C and -15° C (-58° F and +5° F) for a freezer.
- Consider placing additional water bottles in the unit to help improve temperature stability.

If you are using a combination storage unit, please note that adjustments to the freezer temperature can adversely affect the refrigerator compartment temperature, possibly resulting in frozen refrigerated vaccines.

Do not leave vaccines in a storage unit that does not maintain temperatures within the recommended range. If you are unable to stabilize the temperature in your unit within the required range, or temperatures in the unit are consistently at the extreme high or low end of the range, your vaccine supply is at high risk. Use your emergency storage, handling, and transport SOPs to identify an alternative unit with appropriate temperatures and sufficient storage space until the primary unit can be repaired or replaced.

Repeated Alarm Alerts

If the temperature alarm goes off repeatedly, do not disconnect the alarm until you have determined and addressed the cause. Do basic checks of the unit door, power supply, and thermostat settings. If the alarm continues to trigger or the temperature remains out of range, transfer vaccines to a backup unit as directed by your emergency storage and handling SOPs. A repair technician should check your equipment to determine the need for repair or replacement.

Vaccine Storage and Temperature Monitoring Equipment

Temperature Monitoring Device Equipment



Mishandling a temperature monitoring device can affect its accuracy. CDC recommends that if a DDL is dropped, hit against the side of a storage unit, or potentially damaged in any other way, its accuracy should be checked against another calibrated temperature monitoring device. If there is any question about accuracy, the device should be sent for calibration testing or replaced.

It is common with some devices to see a slight variation in temperature from one reading to another, even when the unit thermostat is set at a particular temperature. Temperatures within any storage unit will vary at least slightly, even with normal use. If you observe no fluctuation in your temperature monitoring device, the device may be faulty and may need calibration testing or replacement.

Contact your [immunization program](#)* for resources on checking the accuracy of your temperature monitoring device.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Vaccine Inventory Management, Transport, and Preparation

Vaccines are expensive, so it's important to make sure they are unpacked and stored correctly, and to account for every dose received and used by your facility, whether administered, wasted, compromised, expired, or transferred. Keeping accurate records to assist you in ordering and rotating stock on a regular basis will ensure that your facility has available the vaccines your patients need.

Vaccine Deliveries

Scheduling and Receiving Deliveries

All staff members who might receive vaccine deliveries must be aware of the importance of maintaining the cold chain. They should be trained to immediately notify the vaccine coordinator or alternate when deliveries arrive so that vaccines are checked in and stored quickly.

The person arranging for deliveries should know which staff member will be available to receive them, considering holidays, vacations, and any changes in the facility's hours of operation. Ideally, the vaccine coordinator or alternate should be available to receive deliveries.

Never leave a vaccine shipping container unpacked and unattended. If vaccines and diluents inside get too warm, they cannot be used. Be sure all staff members know that vaccine deliveries require immediate attention.

Unpacking Deliveries

 **Vaccines and diluents must be carefully unpacked, stored at recommended temperatures, and documented immediately after they arrive.** Do not place an unopened and/or unpacked shipment box in a vaccine storage unit.

 When unpacking deliveries:

- Examine the shipping container and vaccines for signs of physical damage.
- Check the contents against the packing list to be sure they match.
 - For varicella-containing (frozen) vaccines, the packing list will show the maximum time vaccines can be in transit based on shipment date.
- If the shipment includes **lyophilized** (freeze-dried) vaccines, make sure they came with the correct type and quantity of diluents. (Diluents for varicella-containing [frozen] vaccines are stored in a separate compartment in the lid of the shipping container and should be stored separately in the refrigerator.)
- Check both vaccine and diluent expiration dates to ensure you have not received any expired or **soon-to-expire products**.

Vaccine Inventory Management, Transport, and Preparation

- Check the [cold chain monitor](#) (CCM) for any indication of a temperature excursion 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). Note: CCMs are for one-time use and should be thrown away after being checked.

If there are discrepancies between the contents and the packing list or other concerns about the contents, immediately notify the [vaccine manufacturer](#). If you are a VFC provider or receive other vaccines purchased with public funds, contact your [immunization program](#)*.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Vaccine Inventory Accounting

Expiration Dates

Understanding expiration dates is a key component of managing your vaccine inventory. Vaccine and diluent expiration dates indicate when the product must be discarded if it has not been used. These dates are printed on vials, manufacturer-filled syringes, and packages.

When the expiration date has only a month and year, the product may be used up to and including the last day of that month. If a day is included with the month and year, the product may only be used through the end of that day.



Vaccine may be used up to and including the expiration date.

Be aware of instances when vaccines expire before the expiration date on the label.

Sometimes vaccines must be used before the expiration date—by an earlier date known as the [“beyond use date”](#) (BUD). The BUD is calculated based on the date the vial is first entered and

Vaccine Inventory Management, Transport, and Preparation

the storage information in the package insert. The BUD replaces the expiration date and should be noted on the label along with the initials of the person making the change. Examples include:

- **Reconstituted vaccines** have a limited time frame for use once the vaccine is mixed with a diluent. This time frame or BUD is noted in the package insert. For example, if the package insert states that the reconstituted vaccine must be used within 30 minutes, it must be discarded if not used by that time. This time frame might only apply as long as the reconstituted vaccine is still in the vial—not after it is drawn into a syringe—so check the package insert carefully.
- **Multidose vials** might have a specified time frame for use once they have been entered with a needle. For example, the package insert may state that the vaccine must be discarded 28 days after it is entered. If the vial is entered on 06/01/2017, the BUD is 06/29/2017. The vaccine should not be used after the BUD.

Manufacturer-shortened expiration dates may apply when vaccine is exposed to inappropriate storage conditions. The manufacturer might determine that the vaccine can still be used, but will expire on an earlier date than the date on the label.

Stock Record

A [stock record](#) helps you keep track of your vaccine inventory. These records can be in paper or electronic form, or part of an immunization information system (IIS) with the capacity to manage vaccine inventory. Many state and local programs that have an IIS with vaccine inventory accounting functions will require VFC providers to use the IIS to track their inventory. The stock record should be updated weekly.

 You should account for and document every dose of vaccine on a stock record, including:

- Date of delivery (and initials of the person who unpacked the delivery)
- Vaccine and diluent name and manufacturer
- Number and expiration date for each lot (including expiration dates based on beyond use date guidance in the product information)
- Number of doses received
- Condition of each vaccine and diluent upon arrival (i.e., did vaccine arrive in good condition at the proper temperature?)
- Cold chain monitor (CCM) reading if a CCM is included in the shipping container (and actions taken if the monitor was triggered, signaling a possible temperature excursion)
- Number of doses used (i.e., administered, wasted, compromised, expired, or transferred [and destination])
- Balance of remaining doses after subtracting the amount used

Vaccine Inventory Management, Transport, and Preparation

If you receive multiple doses of the same vaccine in the same [presentation](#) from the same lot with the same expiration date, you can document these doses as one entry on the stock record. Indicate the total number of doses received, regardless of how many vials or syringes the doses came in. For example, if you receive 10 single-dose vials of the same vaccine with the same lot number and expiration date, you can make a single entry on the stock record, noting that 10 doses were received.

Doses of diluents that come with lyophilized (freeze-dried) vaccines should be documented on a separate stock record. Quantities of vaccines and their corresponding diluents should be equal at all times.

Tally Sheets

Use [tally sheets](#) to help you keep your stock record up to date. Place tally sheets outside the storage unit door (or another easily accessible location), and have staff use tick marks to keep a count of every dose removed from the unit (with columns for those administered, wasted, compromised, expired, or transferred).

At least weekly, add up the dose counts on the tally sheet and transfer that information to the stock record.

Stock Rotation and Removal

Vaccine stock should be rotated and checked for expired doses regularly.

The vaccine coordinator (or other designated person) should rotate vaccine and diluent stock at least once a week, as well as each time your facility receives a vaccine delivery. Arrange stock in the storage unit so that for each vaccine type, doses with the earliest expiration dates are placed in front of those with later expiration dates.

 Check expiration dates on vaccines and diluents at least once a week, and **immediately remove any expired vaccines and diluents to avoid inadvertently administering them**. Be sure to document expired doses on the tally sheet and stock record. If expired vaccines were purchased with public funds, contact your [immunization program](#)* to find out if they can be returned.

Stock Counts

At least once a month and before placing any vaccine order, count all vaccine and diluent doses to make sure the number of doses in the storage unit matches the number of doses documented in the stock record. Always check expiration dates while counting stock and remove any expired doses immediately.

Vaccine Inventory Management, Transport, and Preparation

If the numbers do not match, enter the correct number based on your count on a separate line below the old balance. Make a note next to the new entry indicating that your count confirmed the new balance and sign it. Use the corrected balance for calculating stock quantities in the future.

At the end of each month, determine the total number of vaccine and diluent doses used during the month and the amount of stock still available. At the end of each year, use your stock record to determine the number of doses received for the year and add up your monthly dose counts to get a total number of doses used. This information will help you determine your facility's needs and guide you in ordering in an effort to minimize future waste and reduce the need for transfer and transport of vaccines.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Vaccine Ordering

The information in your stock record will help you determine the type and amount of vaccine your facility should stock to meet the needs of your patients. Make sure you are only ordering the vaccines and presentations that are appropriate for the ages and types of patients your facility serves.



CDC recommends that providers should order and stock only enough vaccine to meet patient needs.[†] Storing a larger volume than your facility needs can increase the risk of wasting vaccines if they expire before they can be used or they are compromised in some way (e.g., due to mechanical failure of a storage unit).

Most facilities should also reorder based on patient needs after doing a stock count. Vaccine orders usually arrive within 1 to 2 weeks, but keep in mind there could be delays. If possible, avoid placing last-minute or rush orders to prevent the risk of running out of vaccines.

[†] An adequate supply of vaccine for most providers or facilities would typically be enough to last 60 days, with a reordering threshold of 30 days.

Vaccine Disposal

Medical waste disposal requirements are set by state environmental agencies. Contact your [immunization program](#)* or state environmental agency for guidance to ensure your facility's vaccine disposal procedures (and any related documentation) comply with state and federal regulations.

General disposal guidelines for:

- **Vaccine doses that have expired or been compromised**—contact your [immunization program](#)* and/or the [vaccine manufacturer](#). Sometimes unused vaccine and diluent doses,

Vaccine Inventory Management, Transport, and Preparation

unopened vials, expired vials, and potentially compromised vaccine may be returned for credit, even if they must be discarded.

- **Open vials and broken vials and syringes, as well as manufacturer-filled syringes that have been activated and vaccine predrawn by providers**—these cannot be returned and should be discarded according to your state requirements.
- **Empty vaccine vials**—most are not considered hazardous or pharmaceutical waste and do not require disposal in a biomedical waste container.[†] However, check your state requirements before disposal.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

[†] While vials are not usually considered hazardous or pharmaceutical waste, an empty RV dispensing tube or oral applicator is considered medical waste and should be disposed of in a medical waste container.

Vaccine Transport to Off-site or Satellite Facilities

“Transport” has a different meaning than “shipping,” which usually involves a professional carrier and a longer distance and time period for moving vaccines between locations. Transport involves the movement of vaccine over a short time frame and distance between providers. The time needed to transport should be fewer than 8 hours and vaccine should be placed in a stable storage unit as quickly as possible. **CDC does not recommend any shipment of vaccines from your vaccine supply or any routine transport of vaccines.**

Vaccines should only be transported when absolutely necessary (e.g., for a mass immunization clinic, in an emergency, or to ensure vaccines that are about to expire[†] can be used rather than wasted). **Frozen varicella-containing vaccines should never be transported except in an emergency.**

CDC does not recommend reshipping vaccines after receiving them from a commercial distributor or manufacturer because doing so would put the cold chain, and ultimately, the viability of the vaccines, at risk.

Transport of Refrigerated Vaccines

Vaccines that will be used at an off-site or satellite facility should be delivered directly to that facility. If that is not possible, transport of vaccines should be done using a portable vaccine refrigerator with a temperature monitoring device placed with the vaccines. If this is not available, [qualified containers and pack-outs](#) can be used with a temperature monitoring device. If you must transport vaccines, transport only what is needed for the workday. The total time for transport and workday should be a maximum of 8 hours. If you must transport vaccines in non-commercial vehicles, use the passenger compartment—not the trunk.

Vaccine Inventory Management, Transport, and Preparation

Immediately upon arrival at an off-site/satellite facility, vaccines should be stored in an appropriate storage unit with a temperature monitoring device, and temperatures should be read and recorded a minimum of 2 times during the workday.

If vaccines cannot be stored in an on-site storage unit, they should be kept in the portable vaccine refrigerator during an off-site clinic:

- **Place a temperature monitoring device** (preferably with a probe in a thermal buffer) as close as possible to the vaccines, and read and record temperatures at least hourly.
- Keep the container closed as much as possible.
- Remove only 1 multidose vial or 10 doses at a time for preparation and administration by each person administering vaccines.

Transport of Diluents



Transport diluents with their corresponding vaccines to ensure there are always equal amounts of vaccines and diluents for reconstitution. Follow the manufacturer's guidance for specific temperature requirements.

Diluents that contain antigen (e.g., DTaP-IPV diluent used with Hib lyophilized vaccine and MenCWY diluent used with MenA lyophilized vaccine) should be transported with the corresponding vaccines at refrigerator temperature.

If diluents that are stored at room temperature (68°F to 77°F or 20°C to 25°C) are going to be transported with refrigerated vaccines, they should be refrigerated in advance for as long as possible so they do not raise the container temperature when placed with refrigerated vaccines.

If you have concerns about vaccines or diluents that may have been compromised (exposed to inappropriate conditions or temperatures or handled improperly), label them "DO NOT USE" and store them in appropriate refrigerated conditions (set apart from other vaccines). Immediately contact your **immunization program*** or **vaccine manufacturer(s)** for guidance. Do not discard the vaccines or diluents unless directed to do so by the immunization program or manufacturer.

Emergency Transport



CDC recommends all vaccine providers have emergency plans and SOPs for transporting vaccines. Portable vaccine refrigerators are recommended when vaccines must be transported. Qualified containers and pack-outs can be used in an emergency. See the section on **Emergency Vaccine Storage, Handling, and Transport Preparations** for more information related to emergency transport.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Packing Vaccines for Transport during Emergencies: www.cdc.gov/vaccines/hcp/admin/storage/downloads/emergency-transport.pdf
If you are a VFC provider, or have other vaccines purchased with public funds, and must transfer vaccine to another facility so it can be used before it expires, contact your **immunization program*** (www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html) for guidance on vaccine transport.

Vaccine Inventory Management, Transport, and Preparation

Preparing Vaccine for Administration



Vaccine preparation is the final step in the cold chain before administration. Handling vaccines with care is equally as important as storing them properly.

- Vaccines should be prepared in a designated area away from any space where potentially contaminated items are placed.
- **Only prepare vaccines when you are ready to administer them.** Always check expiration dates and confirm that you have selected the correct vaccine.
- **Only administer vaccines you have prepared.** This is a quality control and patient safety issue and a best practice standard of medication administration. If vaccine is drawn up by one person but administered by another, the person administering the vaccine cannot be sure what is in the syringe and whether it is safe.



Single-dose Vials

A single-dose vial (SDV) contains ONE dose and should be used ONE time for ONE patient.

Do not combine leftover vaccine from one SDV with another to obtain a dose.

Single-dose vials do not contain a preservative to help prevent the growth of microorganisms. There have been outbreaks of infections caused by pooling contents and/or storing contents for future use.

Do not open an SDV until ready to use. Before you remove the protective cap, always check the vial to make sure you have the correct vaccine. Once you remove the cap, you must use the vaccine because it may not be possible to determine if the rubber seal has been punctured. Discard any unused SDVs without a protective cap at the end of the workday.



Single-dose vials are meant for one-time use only. Once unsealed, discard vial at end of the workday.

Vaccine Inventory Management, Transport, and Preparation

Multidose Vials

A multidose vial (MDV) contains more than one dose of vaccine. Because MDVs typically contain a preservative to help prevent the growth of microorganisms, they can be entered or punctured more than once. Only the number of doses indicated in the manufacturer's package insert should be withdrawn from the vial. After the maximum number of doses has been withdrawn, the vial should be discarded, even if there is residual and the expiration date has not been reached.

MDVs can be used until the expiration date printed on the vial unless the vaccine is contaminated or compromised in some way or there is a **beyond use date (BUD)** noted in the package insert.

Never use partial doses from two or more vials to obtain a dose of vaccine.

Manufacturer-filled Syringes

A manufacturer-filled syringe (MFS) is prepared and sealed under sterile conditions by the manufacturer. **Do not activate an MFS (i.e., remove the syringe cap or attach the needle) until ready to use.** MFSs do not contain a preservative to help prevent the growth of microorganisms. Once the sterile seal has been broken, the vaccine should be used or discarded at the end of the workday.



Manufacturer-filled syringes

Reconstitution

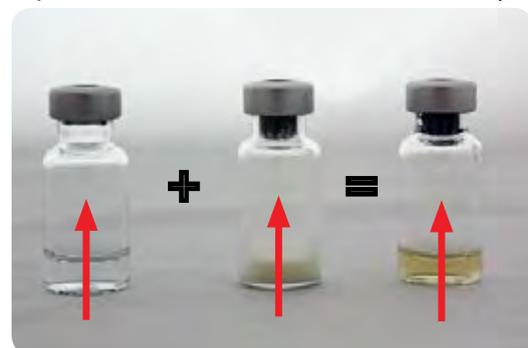
Lyophilized (freeze-dried) vaccines may be in the form of a powder or pellet that must be mixed with a liquid (diluent) in a process known as "reconstitution" before being administered.

Liquid diluents vary in volume and composition, and are specifically designed to meet volume, pH (acid/alkaline balance), and chemical requirements of their corresponding vaccine. Some diluents contain antigen (e.g., DTaP-IPV).

Diluents are not interchangeable unless specified by the manufacturer (e.g., those for MMR, varicella, zoster, and MMRV). Even if the diluent is composed of sterile water or saline, use only the diluent supplied with the vaccine to reconstitute it. **Never use a stock vial of sterile water or normal saline to reconstitute vaccines.**

Never administer vaccine reconstituted with the wrong diluent. If the vaccine has already been administered, contact your [immunization program](#)* and/or [vaccine manufacturer](#) for guidance on revaccination.

Always check expiration dates on both diluents and vaccines before reconstituting them.



Diluent + lyophilized powder = Reconstituted vaccine

Vaccine Inventory Management, Transport, and Preparation

Predrawing Vaccines



CDC recommends drawing up vaccines only at the time of administration. Once vaccines are inside syringes, it is difficult to tell them apart, which can lead to administration errors. Predrawing can also result in vaccine waste if more is drawn up than is needed.

General-use syringes are designed for immediate administration—not for storage. Contamination and growth of microorganisms can occur in syringes with predrawn vaccine that does not contain a preservative. In addition, vaccine components may interact with polymers in a plastic syringe over time, potentially reducing vaccine potency.

Vaccine manufacturers do not recommend predrawing vaccines in advance of influenza vaccination clinics because no data exist on the stability of vaccines stored in general-use syringes that have been filled by providers.



As an alternative to predrawing vaccines, CDC recommends using manufacturer-filled syringes for large immunization clinics.

If vaccine must be predrawn:

- Set up a separate administration station for each vaccine type to prevent medication errors.
- **Do not draw up vaccines before arriving at the clinic site.** Drawing up doses hours or even days before a clinic is not acceptable.
- Each person administering vaccines should draw up no more than one MDV, or 10 doses, at one time.
- Monitor patient flow to avoid drawing up unnecessary doses.
- Discard any remaining vaccine in predrawn syringes at the end of the workday.
- Do not predraw reconstituted vaccine into a syringe until you are ready to administer it. If not used within 30 minutes of being reconstituted, follow manufacturer guidance for storage conditions and time limits. A manufacturer may specify that an unused reconstituted vaccine can only be stored in the vial for the indicated time.
- Never transfer predrawn reconstituted vaccine back into a vial for storage.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Emergency Vaccine Storage, Handling, and Transport Preparations

Emergencies usually happen without warning. Various situations—equipment failures, power outages, severe weather conditions, or natural disasters—may compromise vaccine storage conditions. **Vaccines should never be allowed to remain in a nonfunctioning unit for an extended period of time.** Therefore, making preparations in advance to retrieve and/or protect vaccines as quickly as possible during a potentially compromising situation could save your facility costly vaccine loss.

Emergency Backup Options

Backup Equipment

No piece of vaccine storage equipment is infallible. At some point, equipment will fail because of a power outage, breakdown, or normal wear and tear.

At a minimum, every facility should have:

- Backup digital data logger(s)
- Spare batteries
- Flashlights (in case of a power outage)
- [Vaccine transport containers and materials](#)

Your facility may also choose to have a backup storage unit so that vaccine may not have to be packed and/or moved to an alternative storage facility if the primary storage equipment fails.

Generators

An on-site generator can prevent having to transport vaccine to an alternative storage facility during a power outage. Keep sufficient fuel on hand to continuously run the generator for at least 72 hours.



Backup generator

Alternative Vaccine Storage Facility

Even if you have backup equipment or a generator, you should establish a working agreement with at least one alternative storage facility with a backup generator where vaccines can be appropriately stored and monitored in an emergency. Hospitals, long-term care facilities, state depots, the Red Cross, fire stations, packing plants, and commercial pharmacies are some of the facilities that may be able to assist you.

Emergency Vaccine Storage, Handling, and Transport Preparations



Establish at least one alternate storage facility where vaccines can be appropriately stored and monitored.
This facility should have a backup generator.

An agreement with an alternative facility should allow you to store vaccines when:

- Severe weather conditions are expected. If there is reasonable cause to believe weather circumstances might impact your facility, implement emergency procedures in advance of the event.
- Equipment fails or power cannot be restored before the storage unit temperature rises above the recommended range.

Always make sure you can have 24-hour access to the alternative facility.

If an Alternative Vaccine Storage Facility is Not Available

If you cannot find an alternative vaccine storage facility with a backup generator within a reasonable distance, or if you cannot reach your alternative facility, **you can use qualified containers and pack-outs*** to store vaccines temporarily and safely at your facility. Always place a temperature monitoring device with the vaccines. Temporary storage containers should remain closed, and vaccines should only be stored for as long as the qualified containers and pack-outs are validated to maintain proper storage temperatures.

*Packing Vaccines for Transport during Emergencies: www.cdc.gov/vaccines/hcp/admin/storage/downloads/emergency-transport.pdf

Emergency Vaccine Storage, Handling, and Transport Preparations

Accessing Your Building After Hours

An emergency situation can arise outside of business hours, and having a relationship with your facility's building manager and/or security staff can be essential to protecting your vaccines. Meet with the manager and/or security personnel regularly and always introduce them to new staff members. Your storage and handling SOPs should have written instructions for accessing your vaccine storage units when the building is closed.

Provide anyone who needs access to vaccine storage units during an emergency with written instructions, a building diagram/map, and locations of:

- Spare batteries
- Flashlights
- Keys
- Locks
- Circuit breakers
- Packing materials

Keep information on after-hours building access and security procedures (including alarm codes) with the SOPs, and also make sure relevant staff members (and building management and security staff, if appropriate) have copies of this information available at home.

Power Outages



During a power outage, never open the storage unit door until power is restored or it is determined that vaccines need to be packed in separate storage containers and/or transported to an alternative storage facility.

Monitoring Unit Temperature during a Power Outage

Units with Outside Temperature Monitoring Devices

If you can monitor the temperature of the storage unit from the outside without opening the door, take the following steps:

- Record room temperature (if possible) and the temperature inside the unit as soon as the power goes out.
- Record minimum and maximum temperatures reached inside the unit during the outage.
- If temperatures have fallen outside of the recommended range, follow your procedures for [out-of-range temperatures/excursions](#).

Emergency Vaccine Storage, Handling, and Transport Preparations

- If you are unsure how long the power interruption will last, or you determine power will not be restored in time to maintain proper temperatures inside the unit, implement your [emergency vaccine storage, handling, and transport procedures](#).

Units without Outside Temperature Monitoring Devices

If you cannot monitor the temperature inside the unit without opening the door, wait until the power is restored, then take the following steps:

- Record the room temperature (if possible) and the temperature inside the unit.
- If using a digital data logger, document the length of time power was off and the minimum and maximum temperatures during that period.
- If temperatures inside the unit have already fallen outside of the recommended range, follow your procedures for [out-of-range temperatures/excursions](#).
- If you are unsure how long the power interruption will last, or you determine power will not be restored in time to maintain proper temperatures inside the unit, implement your [emergency vaccine storage, handling, and transport procedures](#).

The Center for Biologics Evaluation and Research (CBER) at the Food and Drug Administration (FDA) offers general guidance concerning storage and use of temperature-sensitive biological products that have been involved in temporary electrical power failure or flood conditions, [Impact of Severe Weather Conditions on Biological Products](#).[†]

[†]Impact of Severe Weather Conditions on Biological Products: www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ProductSecurity/ucm147243.htm

Vaccine Transport Containers and Materials

For the safe transport and storage of vaccines, proper supplies are essential. Your facility should have a sufficient supply of materials needed for emergency vaccine transport of your largest annual inventory.

Appropriate materials include:

- Portable vaccine refrigerator/freezer units[†] (recommended)
- Hard-sided insulated or Styrofoam^{™†}
- Coolant materials: frozen 16.9- or 8-ounce [water bottles that can be conditioned](#) or 4° C to 5° C [phase change materials](#) (PCMs)
- Insulating materials such as bubble wrap or corrugated cardboard—enough to form two layers per container
- Digital data logger for each container

Emergency Vaccine Storage, Handling, and Transport Preparations

Do not use soft-sided coolers. Most commercially available soft-sided coolers are poorly insulated and likely to be affected by room or outdoor temperatures.

Coolant Materials

Frozen water bottles can be used as coolant packs if they are **properly conditioned**, which should take only a few minutes:

- Hold the bottles under running tap water or submerge them in a sink filled with tap water until you can easily see a layer of water forming near the surface of the plastic.
- Once the ice block inside the bottle can spin freely, the bottle is ready to be used for packing. The inner block of ice will continue to melt while maintaining a constant temperature in the cooler.
- Use appropriate insulating materials, such as bubble wrap, to protect vaccines from direct contact with the water bottles.

Phase change materials (PCMs) at 4° C –5° C (39° F –41° F) can also be purchased to maintain proper temperatures. Follow the manufacturer’s instructions for use to reduce the risk of freezing vaccines during transport.

Do not use frozen gel packs or coolant packs from vaccine shipments to pack refrigerated vaccines. Even if they are conditioned or appear to be “sweating,” they can still freeze vaccines.

If these items are not available, the manufacturer’s original shipping boxes may be used for emergency transport.

Emergency Vaccine Packing and Transport

Improper packing for transport is as risky for vaccines as a failed storage unit. To help make sure your vaccines arrive safely, follow your facility’s emergency retrieval and transport SOPs. These should include, at a minimum, the following procedures and protocols:

Packing

- If possible, suspend vaccination activities before the onset of emergency conditions to allow more time for packing and transport.
- Contact the alternative vaccine storage facility before packing any vaccine to confirm their generator is working and they can accept your vaccines for storage.
- Take an inventory of your vaccines and **record actions** taken to protect the vaccines. Be sure to note whether there were water bottles in the unit at the time of the event.

Emergency Vaccine Storage, Handling, and Transport Preparations

- Open unit doors only when absolutely necessary and only after completing all preparations for packing and moving vaccines.
- Use appropriate materials for packing. CDC has compiled recommendations on the methods and materials to use for emergency vaccine transport, [Packing Vaccines for Transport during Emergencies](#).*

Transport

- Identify primary and backup vehicles and drivers in advance.
- Consider renting a refrigerated truck if you have a large quantity of vaccines or need to transport vaccines an extended distance.
- If using a noncommercial vehicle, only transport vaccines inside the passenger compartment (not in the trunk).
- Move transport containers directly to a preheated or precooled vehicle.
- Avoid leaving containers in areas where they are exposed to direct sunlight.
- Check vaccine temperature upon arrival at the alternative vaccine storage facility, and store vaccines at recommended temperatures immediately.
- Check with your [immunization program](#)* for additional guidance and resources on emergency transport of vaccines, particularly in major emergencies.

Transport of Diluents



Transport diluents with their corresponding vaccines to ensure there are always equal amounts of vaccines and diluents for reconstitution. Follow the manufacturer's guidance for specific temperature requirements.

Diluents that contain antigen (e.g., DTaP-IPV diluent used with Hib lyophilized vaccine and MenCWY diluent used with MenA lyophilized vaccine) should be transported with the corresponding vaccines at refrigerator temperature.

If diluents that are stored at room temperature (68°F to 77°F or 20°C to 25°C) are going to be transported with refrigerated vaccines, they should be refrigerated in advance for as long as possible so they do not raise the container temperature when placed with refrigerated vaccines.

Place an insulating barrier (e.g., bubble wrap) between the diluents and conditioned water bottles or phase change materials.

Never freeze diluents, not even during transport.

Emergency Vaccine Storage, Handling, and Transport Preparations

Transport of Varicella-containing (Frozen) Vaccines

The manufacturer does not recommend transporting frozen vaccines (varicella, zoster, MMRV).



If these vaccines must be transported during an emergency, CDC recommends using a portable vaccine freezer unit (available for rent in some areas) or qualified container and pack-out that maintains temperatures between -50° C and -15° C (-58° F and +5° F).

Follow these steps for transporting frozen vaccines:

- Place a calibrated temperature monitoring device (preferably with a buffered probe) in the container as close as possible to the vaccines.
- Record the time vaccines are removed from the storage unit and placed in the container, the temperature during transport, and the time at the end of transport when vaccines are placed in a stable storage unit.
- Immediately upon arrival at the destination, place vaccines in a freezer at a temperature range between -50° C and -15° C (-58° F and +5° F). Any stand-alone freezer that maintains these temperatures is acceptable.

Do not use dry ice, even for temporary storage. Dry ice might expose the vaccines to temperatures colder than -50° C (-58° F).

If necessary, varicella-containing vaccines that have not been reconstituted may be transported at refrigerator temperatures between 2° C and 8° C (36° F and 46° F). Varicella-containing vaccines can be refrigerated for up to 72 continuous hours before reconstitution. **Transported varicella-containing vaccines cannot be put back in the freezer. They must be used or discarded.**

Transport of Multidose Vials

If absolutely necessary, a partially used vial may be transported to or from an off-site/satellite facility operated by the same provider, as long as the cold chain is properly maintained. However, **a partially used vial cannot be transferred from one provider to another or across state lines.**

Emergency Vaccine Storage, Handling, and Transport Preparations

Temperature Monitoring During Transport

Use a digital data logger for continuous temperature monitoring and recording while transporting vaccines:

- The digital data logger should have an accuracy of $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$).
- Place liquid or solid buffered probe material in a sealed vial directly with the vaccines.
- Keep the data logger display on top of vaccines so you can easily see the temperatures.

CDC does not recommend using cold chain monitors during transport since they provide limited data on temperature excursions that may occur.

If you have concerns about vaccines or diluents that may have been compromised (exposed to inappropriate conditions or temperatures or handled improperly), label them “DO NOT USE” and store them in appropriate refrigerated conditions (set apart from other vaccines). Immediately contact your [immunization program](#)* or [vaccine manufacturer\(s\)](#) for guidance. **Do not discard the vaccines or diluents unless directed to do so by the immunization program or manufacturer.**

*Packing Vaccines for Transport during Emergencies: www.cdc.gov/vaccines/hcp/admin/storage/downloads/emergency-transport.pdf

Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Vaccine Storage and Handling Standard Operating Procedures (SOPs)

Clearly written, detailed, and up-to-date storage and handling standard operating procedures (SOPs) will help your facility stay organized, serve as a reference and training tool, and assure proper vaccine management. Without SOPs, there is no way to be sure proper procedures will be followed or that problems will be identified, reported, or corrected. SOPs should also provide guidance for emergency situations such as equipment malfunctions, power failures, or natural disasters. SOPs are a critical component in protecting your vaccine supply and, ultimately, your patients.

If you have multiple facilities, the details of your SOPs may differ depending on local policies.

Storage and Handling SOP Sections

 Storage and handling SOPs should be reviewed and updated annually and should contain plans and information for three major areas ([Vaccine Storage and Handling SOP Worksheet](#)):

- General information—includes contact information for vaccine manufacturers, equipment service providers, and important facility staff, as well as job descriptions, regularly used forms, and staff training requirements
- Routine storage and handling—includes all routine aspects of vaccine inventory management, from ordering to monitoring storage conditions
- Emergency vaccine storage, handling, and transport—outlines steps to be taken in the event of equipment malfunctions, power failures, natural disasters, or other emergencies that might compromise vaccine storage conditions

General Information[†]

General information should include:

- Contact information for:
 - Primary vaccine coordinator
 - Alternate vaccine coordinator
 - Additional staff to assist in emergencies
 - [Immunization program](#)*
 - [Vaccine manufacturers](#)
 - Refrigerator and freezer maintenance and repair companies
 - Temperature monitoring device (DDL) companies
 - Utility/power company

Vaccine Storage and Handling Standard Operating Procedures (SOPs)

- Vaccine storage unit alarm company (if applicable)
- Generator repair company (if applicable)
- Sources for qualified containers and pack-outs and calibrated temperature monitoring devices
- Descriptions of roles and responsibilities of primary and alternate **vaccine coordinators**
- Information for each storage unit, including serial number, links to equipment websites, installation dates, and routine maintenance and repair records
- Samples of all vaccine-related forms used in your facility
- Protocols for staff education and training

Routine Storage and Handling†

Routine storage and handling information should include protocols for:

- **Ordering** and **accepting** vaccine deliveries
- Receiving and **unpacking deliveries**
- **Managing inventory**
- **Storage requirements** for each vaccine and diluent in your inventory (**package inserts***)
- **Placing vaccines and diluents in storage units**
- **Handling vaccines prior to administration**
- **Disposing of vaccines** and supplies
- **Monitoring storage unit** and temperature
- **Maintaining storage equipment** and temperature monitoring devices
- **Responding to storage and handling problems**
- **Transporting vaccines to off-site/satellite facilities**



Each facility should have routine and emergency plans.

Emergency Storage, Handling, and Transport††§††

Because emergencies can happen at any time, it is important that in addition to facility staff, custodians, security officers, and/or building managers are aware of the emergency plan and know how to notify appropriate staff about any problems with vaccine storage equipment or power outages.

Copies of the emergency SOPs should be stored with the emergency supplies, kept with vaccine coordinator staff at their homes, and shared with others as appropriate, such as security officers or building managers.

Vaccine Storage and Handling Standard Operating Procedures (SOPs)

Emergency storage, handling, and transport information should include:

- A primary and alternate staff contact for each type of emergency (e.g., power outage, weather conditions, equipment failure), as well as designated drivers for transporting vaccines and transport vehicle information (contact information should be reviewed quarterly)
- Name and address of alternative vaccine storage facility, names and numbers of contact persons, and 24-hour access information for facility
- Names and numbers for companies or private drivers to transport vaccines to alternative vaccine storage facilities
- Sources of qualified containers and pack-outs and calibrated temperature monitoring devices
- Vaccine storage unit specifications, including brand name, model number, serial number, and maintenance and repair company contact information
- A facility floor diagram showing the locations of important elements, including doors, flashlights, spare batteries, keys, locks, circuit breakers, and packing materials
- Protocols for:
 - Monitoring vaccines during a [power outage](#)
 - [Packing vaccines](#) and diluents for emergency transport
 - [Transporting vaccines](#) to and from an alternative vaccine storage facility
 - [Assessing whether vaccine can be used](#) after an emergency
 - [Accessing your building and facility after hours](#)

If you are a VFC provider or have other vaccine purchased with public funds, contact your [immunization program](#)* for guidance regarding routine and emergency SOPs.

*Immunization programs: www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html

Manufacturers' package inserts: www.immunize.org/packageinserts/

†Additional resources are available in [Resources](#) and from the Immunization Action Coalition (IAC): Clinical Resources – Storage and Handling (www.immunize.org/clinic/storage-handling.asp) and Emergency Response Worksheet (www.immunize.org/catg.d/p3051.pdf).

‡Contact your immunization program for details about specific state or local regulations impacting this activity.

§The Federal Emergency Management Agency (FEMA) offers a wide range of information on disaster preparedness: www.fema.gov/

††The Center for Biologics Evaluation and Research (CBER) at the Food and Drug Administration (FDA) offers information concerning the storage and use of temperature-sensitive biological products that have been involved in a temporary electrical power failure or flood conditions: www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ProductSecurity/ucm147243.htm.

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Buffered temperature probe	Temperature probe designed to prevent false readings by protecting the thermometer from sudden changes in temperature that can occur when opening a refrigerator door. A probe is “buffered” by immersing it in a vial filled with liquid (e.g., glycol, ethanol, glycerin), loose media (e.g., sand, glass beads), or a solid block of material (e.g., Teflon®, aluminum).
Beyond use date (BUD)	The date or time after which a vaccine should not be administered, stored, or transported. The BUD should never exceed the manufacturer’s original expiration date.
Calibration	Professional measurement of the accuracy of a temperature monitoring device’s readings against nationally accepted standards.
Cold chain monitor (CCM)	Generally, a single-use device that monitors the temperature inside of a vaccine shipping container.
Conditioned water bottles	Frozen water bottles that have been submerged under lukewarm water until the ice block inside can spin freely.
Diluent	A diluting agent (e.g., a liquid) added to reconstitute lyophilized vaccine before administration. Manufacturers of freeze-dried vaccine also supply the matching diluents.
Dormitory-style (bar-style) storage unit	A combination refrigerator/freezer unit with one exterior door and an evaporator plate (cooling coil), which is usually located inside an icemaker compartment (freezer) within the refrigerator. These units have been shown to pose a significant risk of freezing vaccines, even when used for temporary storage.
Fan-forced air circulation	Technology using powerful fans or multiple cool air vents inside the unit that promote uniform temperature and fast temperature recovery.
Lyophilized	Freeze-dried; usually referring to a vaccine that is freeze-dried into a powder or wafer.
Minimum/maximum temperature	A vaccine storage unit’s coldest and warmest temperature readings during a set period of time.

Phase change materials (PCM)	Engineered packing supplies that help control container temperatures during vaccine transport or shipping.
Potency	A vaccine's strength or effectiveness; in the context of this toolkit, potency refers to a vaccine's response to environmental conditions.
Presentation	Type of packaging for a vaccine (e.g., single-dose vial, multidose vial, manufacturer-filled syringe, etc.).
Qualified container and pack-out	A type of container and supplies specifically designed for use when packing vaccines for transport. They are "qualified" through laboratory testing under controlled conditions to ensure they achieve and maintain desired temperatures for a set amount of time.
Soon-to-expire products	Products that will expire within the next month.
Temperature excursion	Any temperature reading that is outside the recommended range for vaccine storage as defined by the manufacturer's package insert.
Tolerance	Compliance with nationally accepted standards for the calibration limits of temperature monitoring equipment. The equipment can either be considered "in" or "out of" tolerance.
Traceability	An unbroken chain of measurements and associated uncertainties.
Uncertainty	The quantification of the doubt about the measurement result.

Additional References

General Vaccine Storage and Handling Information

- CDC Vaccine Storage and Handling home page (www.cdc.gov/vaccines/recs/storage/default.htm)
- CDC Vaccine Price List (www.cdc.gov/vaccines/programs/vfc/awardees/vaccine-management/price-list/)
- National Institute of Standards and Technology (NIST) "Storage and Monitoring of Vaccines" (www.nist.gov/pml/div685/grp01/vaccines.cfm)
- Advisory Committee on Immunization Practices Recommendations (www.cdc.gov/vaccines/acip/recs/index.html)
- Contact Information for State/Local Immunization Programs (www.cdc.gov/vaccines/imz-managers/awardee-imz-websites.html)
- Specific Immunization Questions: E-mail CDC at NipInfo@cdc.gov

Vaccine Labels for Storage Units (can be printed and reproduced)

- Vaccine Label Examples (www.cdc.gov/vaccines/hcp/admin/storage/guide/vaccine-storage-labels.pdf)
- 2016-2017 Influenza Vaccine Label Examples (www.cdc.gov/vaccines/hcp/admin/storage/index.html)

Emergency Vaccine Storage and Handling Resources

- Packing Vaccines for Transport during Emergencies (www.cdc.gov/vaccines/recs/storage/downloads/emergency-transport.pdf)

Immunization Action Coalition Resources

- Vaccine Manufacturers' Package Inserts (www.immunize.org/packageinserts/)
- Handouts: Clinic Resources on Storage and Handling (www.immunize.org/handouts/vaccine-storage-handling.asp)
- Temperature Monitoring Log (www.immunize.org/handouts/temperature-logs.asp)
- Vaccine Storage Troubleshooting Record (<http://www.immunize.org/catg.d/p3041.pdf>)
- Emergency Response Worksheet (www.immunize.org/catg.d/p3051.pdf)
- Vaccines with Diluents: How to Use Them (www.immunize.org/catg.d/p3040.pdf)
- State Immunization Program websites (www.immunize.org/states/)

Additional References

Emergency Management Resources

- The National Oceanic and Atmospheric Administration (NOAA) provides up-to-date information on U.S. weather conditions:
www.weather.gov/
goes.noaa.gov/
- The Federal Emergency Management Agency (FEMA) offers a wide range of information on disaster preparedness:
www.fema.gov/
- The Center for Biologics Evaluation and Research (CBER) at the Food and Drug Administration (FDA) offers information concerning the storage and use of temperature-sensitive biological products that have been involved in a temporary electrical power failure or flood conditions:
www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/ProductsSecurity/ucm147243.htm
- International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement Signatories:
ILAC.org/ILAC-MRA-and-signatories/

Vaccine Storage and Handling SOP Worksheet

Complete the following checklist and forms and store this information in an easily accessible area near the vaccine storage unit.

Checklist of General Information

- Up-to-date contact information
 - Primary vaccine coordinator
 - Alternate vaccine coordinator
 - Additional staff to assist in emergencies
 - Immunization program
 - Vaccine manufacturers
 - Refrigerator and freezer maintenance and repair companies
 - Temperature monitoring device companies
 - Utility/power company
 - Vaccine storage unit alarm company (if applicable)
 - Generator repair company (if applicable)
 - Sources for qualified containers and pack-outs
- Descriptions of the roles and responsibilities of the primary and alternate (backup) vaccine coordinators
 - Information for each storage unit, including serial number, links to equipment websites, installation dates, and routine maintenance and repair records
 - Samples of all vaccine-related forms used in your facility
 - Protocols for staff education and training

Checklist for Routine Storage and Handling

- Protocols for:
 - **Ordering** and **accepting** vaccine deliveries
 - Receiving and **unpacking deliveries**
 - **Managing inventory**
 - **Storage requirements** for each vaccine and diluent in your inventory (package inserts)
 - **Placing vaccines and diluents in storage units**
 - **Handling vaccines prior to administration**
 - **Disposing of vaccines** and supplies
 - **Monitoring storage unit** and temperature
 - **Maintaining storage equipment** and temperature monitoring devices
 - **Responding to storage and handling problems**
 - **Transporting vaccines to off-site/satellite facilities**

Vaccine Storage and Handling SOP Worksheet

Checklist of Emergency Vaccine Storage, Handling, and Transport

- All contact information in General Information as well as up-to-date contact information for:
 - Alternative vaccine storage facility(ies)
 - Transportation of vaccines
- Vaccine storage unit specifications (type, brand, model number, serial number)
- Diagram of facility showing important elements, including doors, flashlights, packing materials, batteries, circuit breakers
- Protocols for:
 - Monitoring vaccines during a **power outage**
 - **Packing vaccines** and diluents for emergency transport
 - **Transporting vaccines** to and from an alternative vaccine storage facility
 - **Assessing whether vaccine can be used** after an emergency
 - **Accessing your building and facility after hours**

Store emergency information with emergency supplies. Keep copies in multiple off-site locations, including homes of the vaccine coordinator staff, alternative storage facility(ies), and with the building/facility manager and security office (if appropriate).

Vaccine Storage and Handling SOP Worksheet

Staff Contact List			
Name	Title	Telephone Numbers home/cell/other	E-mail Address
-	Primary Vaccine Coordinator	-	-
-	Alternate Vaccine Coordinator	-	-

Emergency Staff Contact List*			
Name	Title	Telephone Numbers home/cell/other	E-mail Address
1.	-	-	-
2.	-	-	-
3.	-	-	-
4.	-	-	-
5.	-	-	-
6.	-	-	-

* List contacts in order of preference. Determine whether all or certain persons on the list should be contacted or if the first person reached is sufficient. Include the primary and alternate vaccine coordinators on the list.

Vaccine Storage and Handling SOP Worksheet

General Resources Contact List			
Resources	Contact Person Name/Title	Telephone Numbers home/cell/other	E-mail Address
Local Health Department Immunization Program	-	-	-
State Health Department Immunization Program	-	-	-
Vaccine Manufacturers	-	-	-
Refrigerator Repair Company	-	-	-
Freezer Repair Company	-	-	-
Utility/Power Company	-	-	-
Temperature Monitoring Device Company	-	-	-
Vaccine Storage Unit Alarm Company (if applicable)	-	-	-
Generator Repair Company (if applicable)	-	-	-

Vaccine Storage and Handling SOP Worksheet

Alternate Vaccine Storage Facilities			
Alternate Vaccine Storage Facility Name/Address	Contact Person Name/Title	Telephone Numbers home/cell/other	E-mail Address
1.	-	-	-
2.	-	-	-
3.	-	-	-
4.	-	-	-

Transportation to Alternate Vaccine Storage Facilities			
Emergency Resources Name/Address	Contact Person Name/Title	Telephone Numbers home/cell/other	E-mail Address
Refrigeration Company	-	-	-
Refrigeration Company (alternate)	-	-	-
Private Vehicle	-	-	-
Private Vehicle (alternate)	-	-	-

Vaccine Storage and Handling SOP Worksheet

Packing Material Suppliers Contact List			
Emergency Resources Company Name	Contact Person Name/Title	Telephone Numbers home/cell/other	E-mail Address
Portable vaccine refrigerator/ freezer units	-	-	-
Qualified containers and pack-out materials	-	-	-
Qualified containers and pack-out materials (alternate)	-	-	-
Packing materials	-	-	-
Packing materials (alternate)	-	-	-

Vaccine Storage Unit Specifications			
Type of Unit (Refrigerator or Freezer)	Brand	Model Number	Serial Number
1.	-	-	-
2.	-	-	-
3.	-	-	-
4.	-	-	-
5.	-	-	-

Vaccine Manufacturer/Distributor Contact List

Manufacturer/Distributor Websites	Telephone Number/E-mail	Products
ACAM2000 Sanofi Pasteur www.sanofipasteur.us/vaccines/ACAM2000	800-822-2463 www.sanofipasteur.us/contact	Smallpox
bioCSL www.seqirus-us.com/products.htm	888-435-8633 or 855-358-8966 cs.flu@seqirus.com	IIV
Centers for Disease Control and Prevention www.cdc.gov/ncidod/srp/drugs/drug-service.html www.cdc.gov/laboratory/drugservice/index.html	404-639-3670 drugservice@cdc.gov	Distributor for anthrax vaccine adsorbed (AVA), diphtheria antitoxin, smallpox vaccine
CSL Limited (Merck Distributor) www.merckvaccines.com/	800-637-2590	IIV
Emergent BioDefense Operations Lansing, Inc. www.biothrax.com/	877-246-8472 productsafety@ebsi.com	Anthrax vaccine adsorbed (AVA)
GlaxoSmithKline (GSK) www.gskvaccines.com/	866-475-8222 vaccine.service-center@gsk.com	DTaP, DTaP-HepB-IPV, DTaP-IPV, HepA, HepB, HepA-HepB, Hib, Hib- MenCY, 2vHPV, IIV, JE, MenB-4C, MenACWY-CRM, Rabies, RV1, Tdap
Massachusetts Biological Labs www.umassmed.edu/massbiologics/	800-457-4626	Td
MedImmune www.medimmune.com/	877-633-4411 medicalinformation@medimmune.com	LAIV

Vaccine Manufacturer/Distributor Contact List

Manufacturer/Distributor Websites	Telephone Number/E-mail	Products
Merck & Co., Inc www.merckvaccines.com/	877-829-6372	HepA, HepB, Hib, Hib-HepB, 4vHPV, 9vHPV, HZV, MMR, MMRV, PPSV23, RV5, VAR
Novartis www.novartis.com/about-us/contact	877-683-4732 Vaccineinfo.us@novartis.com	IIV, JE, MCV4, Rabies
PaxVax www.paxvaxconnect.com/vivotif	(800) 533-5899 customer care@paxvax.com	Typhoid (oral)
Pfizer/Wyeth pfizerpro.com/	800-438-1985	MenB-FHbp, PCV13
Protein Sciences www.flublok.com/professionals.html	800-488-7099 www.flublok.com/contact.html	IIV
Sanofi Pasteur www.vaccineshoppe.com/	800-822-2463	DT, DTaP, DTaP-IPV/Hib, DTaP-IPV, Hib, IIV, IPV, MenACWY-D, MPSV4, Rabies, Td, Tdap, TT, Typhoid, YF

Fahrenheit to Celsius and Celsius to Fahrenheit Conversion

°F	°C	°F	°C	°F	°C	°C	°F	°C	°F
-22	-30	21	-6.1	64	17.8	-30	-22	13	55.4
-21	-29.4	22	-5.6	65	18.3	-29	-20.2	14	57.2
-20	-28.9	23	-5	66	18.9	-28	-18.4	15	59
-19	-28.3	24	-4.4	67	19.4	-27	-16.6	16	60.8
-18	-27.8	25	-3.9	68	20	-26	-14.8	17	62.6
-17	-27.2	26	-3.3	69	20.6	-25	-13	18	64.4
-16	-26.7	27	-2.8	70	21.1	-24	-11.2	19	66.2
-15	-26.1	28	-2.2	71	21.7	-23	-9.4	20	68
-14	-25.6	29	-1.7	72	22.2	-22	-7.6	21	69.8
-13	-25	30	-1.1	73	22.8	-21	-5.8	22	71.6
-12	-24.4	31	-0.6	74	23.3	-20	-4	23	73.4
-11	-23.9	32	0	75	23.9	-19	-2.2	24	75.2
-10	-23.3	33	0.6	76	24.4	-18	-0.4	25	77
-9	-22.8	34	1.1	77	25	-17	1.4	26	78.8
-8	-22.2	35	1.7	78	25.6	-16	3.2	27	80.6
-7	-21.7	36	2.2	79	26.1	-15	5	28	82.4
-6	-21.1	37	2.8	80	26.7	-14	6.8	29	84.2
-5	-20.6	38	3.3	81	27.2	-13	8.6	30	86
-4	-20	39	3.9	82	27.8	-12	10.4	31	87.8
-3	-19.4	40	4.4	83	28.3	-11	12.2	32	89.6
-2	-18.9	41	5	84	28.9	-10	14	33	91.4
-1	-18.3	42	5.6	85	29.4	-9	15.8	34	93.2
0	-17.8	43	6.1	86	30	-8	17.6	35	95
1	-17.2	44	6.7	87	30.6	-7	19.4	36	96.8
2	-16.7	45	7.2	88	31.1	-6	21.2	37	98.6
3	-16.1	46	7.8	89	31.7	-5	23	38	100.4
4	-15.6	47	8.3	90	32.2	-4	24.8	39	102.2
5	-15	48	8.9	91	32.8	-3	26.6	40	104
6	-14.4	49	9.4	92	33.3	-2	28.4		
7	-13.9	50	10	93	33.9	-1	30.2		
8	-13.3	51	10.6	94	34.4	0	32		
9	-12.8	52	11.1	95	35	1	33.8		
10	-12.2	53	11.7	96	35.6	2	35.6		
11	-11.7	54	12.2	97	36.1	3	37.4		
12	-11.1	55	12.8	98	36.7	4	39.2		
13	-10.6	56	13.3	99	37.2	5	41		
14	-10	57	13.9	100	37.8	6	42.8		
15	-9.4	58	14.4	101	38.3	7	44.6		
16	-8.9	59	15	102	38.9	8	46.4		
17	-8.3	60	15.6	103	39.4	9	48.2		
18	-7.8	61	16.1	104	40	10	50		
19	-7.2	62	16.7			11	51.8		
20	-6.7	63	17.2			12	53.6		

Stock Record

Instructions: Use the monthly stock record to document inventory from new vaccine/diluent shipments and track weekly accounts of doses used. At the end of each month, count inventory in storage unit(s) and compare with recorded balance. If physical count and recorded balance are different, record the actual (physical count) balance next to the previous recorded balance. Note the cause of the discrepancy or if it is unknown. Start a new stock record every month, listing at the top the previous month's balance as the new month's starting balance.

Vaccine Type: PPSV23

Month and Year: August 2017

Date Received or Usage Tallied	Person Receiving Shipment *	Arrival Condition **	Vaccine or Diluent Name	Manufacturer	Vial Type (SDV, MDV, MFS)***	Lot Number	Expiration Date	Expiration Date After Reconstitution	Doses Received/Balance Forward	Doses Used †	Balance (Doses)
BEGINNING BALANCE FOR THE MONTH									2	N/A	2
08/02/17	-	-	-	-	-	-	-	-	-	1	1
08/15/17	LST	G	PPSV23	Merck	MDV	03958	02/15/18	N/A	5	3	3
08/23/17	-	-	-	-	-	-	-	-	-	1	2
08/29/17	-	-	-	-	-	-	-	-	-	0	2

* The initials of the person who unpacked and checked the vaccines/diluents upon arrival

G = vaccines/diluents arrived in good condition

** ? = condition of vaccines/diluents questionable and state and local health department immunization program and vaccine manufacturer(s) contacted. Document details/outcome on reverse side of stock record.

SDV = Single-dose vial

MDV = Multidose vial

MFS = Manufacturer-filled syringe

† Includes number of doses administered, wasted, unusable, expired, or transferred.

†† Enter the sum of "Total Doses Received/Balance Forward" minus "Total Doses Used."

Vaccine Totals	7	5	2 ††
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Physical Stock Check (In Doses)	2
Difference ("Balance" minus Physical Stock Check)	0
Balance Carried Forward (In Doses)	2

Some state or local health department immunization programs have developed their own stock record for immunization providers. Contact program staff for information. If stock record are not available from your state or local health department or an Immunization Information System (IIS), this stock record may be used.

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Sample Stock Record

Resources

Stock Record

Instructions: Use the monthly stock record to document inventory from new vaccine/diluent shipments and track weekly accounts of doses used. At the end of each month, count inventory in storage unit(s) and compare with recorded balance. If physical count and recorded balance are different, record the actual (physical count) balance next to the previous recorded balance. Note the cause of the discrepancy or if it is unknown. Start a new stock record every month, listing at the top the previous month's balance as the new month's starting balance.

Vaccine Type: _____

Month and Year: _____

Date Received or Usage Tallied	Person Receiving Shipment *	Arrival Condition **	Vaccine or Diluent Name	Manufacturer	Vial Type (SDV, MDV, MFS)***	Lot Number	Expiration Date	Expiration Date After Reconstitution	Doses Received/Balance Forward	Doses Used †	Balance (Doses)
BEGINNING BALANCE FOR THE MONTH										N/A	

- * The initials of the person who unpacked and checked the vaccines/diluents upon arrival
G = vaccines/diluents arrived in good condition
- ** ? = condition of vaccines/diluents questionable and state and local health department immunization program and vaccine manufacturer(s) contacted. Document details/outcome on reverse side of stock record.
SDV = Single-dose vial
- *** MDV = Multidose vial
MFS = Manufacturer-filled syringe
- † Includes number of doses administered, wasted, unusable, expired, or transferred.
- †† Enter the sum of "Total Doses Received/Balance Forward" minus "Total Doses Used."

Vaccine Totals			††
Physical Stock Check (In Doses)			
Difference ("Balance" minus Physical Stock Check)			
Balance Carried Forward (In Doses)			

Some state or local health department immunization programs have developed their own stock record for immunization providers. Contact program staff for information. If stock record are not available from your state or local health department or an Immunization Information System (IIS), this stock record may be used.

Tally Sheet

Instructions: Place a copy of this sheet on or near the refrigerator and freezer doors. Record the week (by date or week number). Write the vaccine/diluent names and indicate the storage location (refrigerator = R, freezer = F). Make a tick mark in the appropriate box for each dose of vaccine/diluent removed from the unit (i.e., each dose administered, wasted, unusable, expired, or transferred). At the end of the week, add the tick marks for each vaccine/diluent and update the totals on the appropriate stock record. File the completed tally sheet and replace with a new sheet.

Week: August 19-23, 2017 (Week 3)

Storage Location (R or F) *	Vaccine or Diluent Name	Doses Administered	Doses Wasted	Doses Expired **	Doses Unusable	Doses Transferred (Viable) ***	Total
F	VAR	### III (8) I		-	-	-	9
R	DTaP	### ### II (12)	-	-	-	-	12
R	HepB	### ### II (12)	-	-	-	-	12
R	IPV	### ### II (12)	-	II	-	-	14
R	HepA (pediatric)	II (2)	-	-	-	-	2
R	PPSV23	I (1)	-	-	-	-	1
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-
-	-	()	-	-	-	-	-

* R = Refrigerator
F = Freezer

** Some unusable doses (VFC vaccines or other vaccines purchased with public funds) may need to be returned to your state or local health department immunization program.

*** Viable vaccine doses transferred to your state or local health department immunization program or another facility.

Some state or local health department immunization programs have developed their own tally sheets for immunization providers. Contact program staff for information. If tally sheets are not available from your state or local health department or an Immunization Information System (IIS), this tally sheet may be used.

Sample Tally Sheet

Resources

PROTECT YOUR VACCINE

PROTECT YOUR PATIENTS

Vaccine Storage Rules

- Keep your storage units and vaccines within the appropriate temperature range .
- Review and record refrigerator and freezer temperatures at least 2 times each workday.
- Take immediate action if temperatures are out of range.
- Keep vaccine in their original package .
- Many vaccines should be protected from light (consult manufacturer's product information).
- Keep VAR, HZV, and MMRV frozen.
- Check expiration dates and rotate your vaccine stock.

Handle with Care!

Freezer

Store vaccines between
-50°C and -15°C
(-58°F and +5°F)

Refrigerator

Store vaccines
between
2°C and 8°C
(36°F and 46°F)

Do Not Adjust Refrigerator Controls (English)



Do Not Adjust Refrigerator Controls (Spanish)



Do Not Adjust Freezer Controls (English)



Do Not Adjust Freezer Controls (Spanish)



Warning! Do Not Stop Power to Circuit Breaker (English)



Warning! Do Not Unplug Refrigerator (English)

WARNING!

Do not unplug the REFRIGERATOR or break circuit. Expensive vaccine in storage.

In the event of electrical problem, immediately contact:



Warning! Do Not Unplug Refrigerator (Spanish)

¡AVISO!

No desconecte el REFRIGERADOR ni corte el circuito. ¡Contiene vacunas caras!

Si hay un problema con la electricidad, comuníquese inmediatamente con:



Warning! Do Not Unplug Freezer (English)

WARNING!

**Do not unplug the
FREEZER or break circuit.
Expensive vaccine in storage.**



In the event of electrical problem, immediately contact:

Warning! Do Not Unplug Freezer (Spanish)

¡AVISO!

**No desconecte el CONGELADOR
ni corte el circuito.
¡Contiene vacunas caras!**



Si hay un problema con la electricidad, comuníquese inmediatamente con:

Do Not Unplug Refrigerator (English)



Do Not Unplug Refrigerator (Spanish)



Do Not Unplug Freezer (English)



Do Not Unplug Freezer (Spanish)



Transport Labels

Refrigerate Upon Arrival



Freeze Upon Arrival



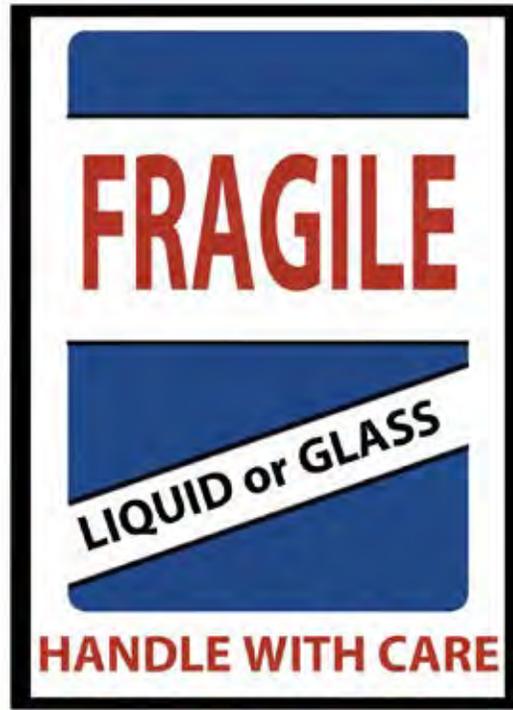
Open Immediately: Refrigerate Upon Receipt



Open Immediately: Freeze Upon Receipt



Fragile: Handle with Care



Fragile



Perishable—Rush





Related Resources

Instruction sheets on vaccine administration are also available from the Immunization Action Coalition (IAC) at: <http://www.immunize.org/clinic/administering-vaccines.asp>

“How to administer IM and SC injections to adults,” available at: <http://www.immunize.org/catg.d/p2020a.pdf>

“CDC Vaccine Storage and Handling” available at: <https://www.cdc.gov/vaccines/hcp/admin/storage/index.html>

“Administering vaccines to adults: Dose, route, site, needle size, and preparation,” available at: <http://www.immunize.org/catg.d/p3084.pdf>

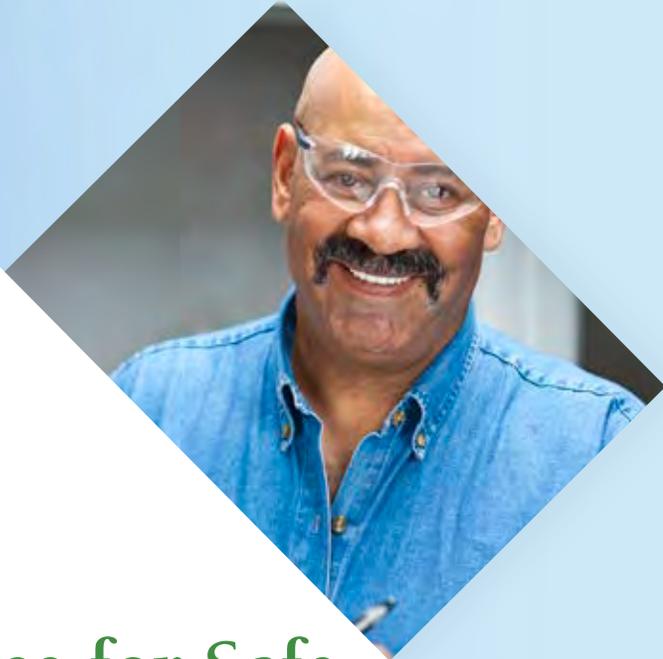
“Administering Vaccines: Dose, Route, Site, and Needle Size,” available at: <http://www.immunize.org/catg.d/p3085.pdf>

MMWR for LAIV4: <https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5213a1.htm>

For a detailed explanation and demonstration of immunization techniques, the 35-minute video “Immunization Techniques: Safe, Effective, Caring,” can be ordered through the IAC at <http://www.immunize.org/dvd/>, click the link for Video: IZ Techniques.



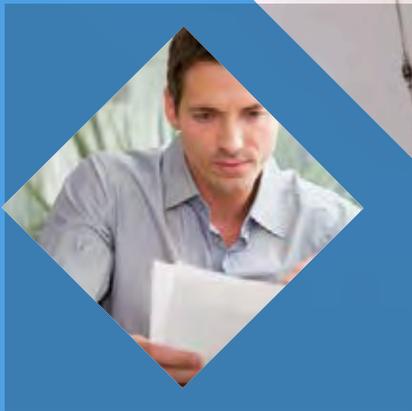




SECTION
4

Guidance for Safe Vaccination Outside of a Medical Setting

- A. Checklist of Best Practices**
- B. Ten Principles for Safe
Vaccination Clinics**



Checklist of Best Practices for Vaccination Clinics

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

Satellite, temporary, and off-site vaccination clinics play an important role in improving vaccination coverage rates and vaccinating hard-to-reach populations. This checklist is a step-by-step guide to help flu coordinators and flu teams overseeing vaccination clinics follow Centers for Disease Control and Prevention (CDC) guidelines and best practices for vaccine shipment, transport, storage, handling, preparation, administration, and documentation. This checklist outlines CDC guidelines and best practices that are essential for patient safety and vaccine effectiveness.

WHERE TO FIND THESE DOCUMENTS

Landing page for all four documents: <https://www.izsummitpartners.org/naais-workgroups/influenza-workgroup/off-site-clinic-resources/>

Checklist: https://www.izsummitpartners.org/content/uploads/2017/02/NAIIS-Vaccination-Clinic-Checklist_v2.pdf

FAQs: <https://www.izsummitpartners.org/content/uploads/2017/02/FAQs-for-NAIIS-checklist-for-vax-clinics-32017.pdf>

One-Page Resource: <https://www.izsummitpartners.org/content/uploads/2017/04/Ten-principles-for-safe-vac-clinics-1-pg-sum.pdf>





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

OVERVIEW OF THIS DOCUMENT

This checklist is a step-by-step guide to help clinic coordinators/supervisors overseeing vaccination clinics held at satellite, temporary, or off-site locations follow Centers for Disease Control and Prevention (CDC) guidelines and best practices for vaccine shipment, transport, storage, handling, preparation, administration, and documentation. This checklist outlines CDC guidelines and best practices that are essential for patient safety and vaccine effectiveness. **A clinic coordinator/supervisor at the site should complete, sign, and date this checklist EACH TIME a vaccination clinic is held.** To meet accountability and quality assurance standards, all signed checklists should be kept on file by the company that provided clinic staffing.

INSTRUCTIONS

1. A staff member who will be at the vaccination clinic should be designated as the clinic coordinator/supervisor. (This individual will be responsible for completing the steps below and will be referred to as “you” in these instructions.)
2. Review this checklist during the planning stage of the vaccination clinic—well in advance of the date(s) when the clinic will be held. This checklist includes sections to be completed before, during, and after the clinic.
3. **Critical guidelines for patient safety and vaccine effectiveness are identified by the stop sign icon: . If you check “NO” in ONE OR MORE answer boxes that contain a , DO NOT move forward with the clinic. Follow your organization’s protocols and/or contact your state or local health department for guidance BEFORE proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.**
4. Contact your organization and/or health department if you have any concerns about whether vaccine was transported, stored, handled, or administered correctly, concerns about whether patients’ personal information was protected appropriately, or concerns about other responses that you have marked as “NO” on rows that do not have the .
5. This checklist should be used in conjunction with CDC’s Vaccine Storage and Handling Toolkit: <https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf> For information about specific vaccines, consult the vaccine manufacturer’s package insert.
6. **This checklist applies ONLY to vaccines stored at REFRIGERATED temperatures.**
7. Sign and date the checklist upon completion of the clinic or completion of your shift (whichever comes first). *(If more than one clinic coordinator/supervisor is responsible for different aspects of the clinic, you should complete only the section(s) for which you were responsible.)*
8. Attach the staff sign-in sheet (with shift times and date) to the checklist (or checklists if more than one clinic supervisor is overseeing different shifts), and submit the checklist(s) to your organization to be kept on file for accountability.

Name and credentials of clinic coordinator/supervisor: _____

Name of facility where clinic was held: _____

Address where clinic was held (street, city, state): _____

Time and date of vaccination clinic shift (the portion you oversaw): _____

Time (AM/PM)

Date (MM/DD/YYYY)

Time and date when form was completed: _____

Time (AM/PM)

Date (MM/DD/YYYY)

Signature of clinic coordinator/supervisor: _____

BEFORE THE CLINIC (Please complete each item before the clinic starts.)

VACCINE SHIPMENT

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>)

VACCINE TRANSPORT (if it was not possible to ship vaccines directly to the facility/clinic site)

YES	NO	N.A.	
<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). <u>Coolers available at general merchandise stores or coolers used to transport food are NOT ACCEPTABLE.</u> See CDC's Vaccine Storage and Handling Toolkit for information on qualified containers and pack-outs: https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf .
<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"/>	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.

VACCINE STORAGE AND HANDLING (upon arrival at facility/clinic)

YES	NO	N.A.	
<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"/>	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 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). Note: <i>CCMs are for one-time use and should be thrown away after being checked.</i>
<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). <i>Follow the guidance for unpacking and storing vaccines specified in CDC's Vaccine Storage and Handling Toolkit and following USP800 no later than July 2018: https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf.</i>
<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"/>	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.

CLINIC PREPARATION AND SUPPLIES

YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	A contingency plan is in place case vaccines need to be replaced.
<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.

If you check "NO" in ONE OR MORE answer boxes that contain a , **DO NOT move forward with the clinic.** Follow your organization's protocols and/or contact your state or local health department for guidance before proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.

<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.
<input type="checkbox"/>	<input type="checkbox"/>		There is a designated area at the site for management of patients with urgent medical problems (e.g., fainting).
<input type="checkbox"/>	<input type="checkbox"/>		Adequate infection control supplies, including hand hygiene supplies, adhesive bandage strips, individually packaged sterile alcohol wipes, a sufficient number of sterile needles and syringes, and biohazard sharps container(s) are provided.
<input type="checkbox"/>	<input type="checkbox"/>		Needles in a variety of lengths are available to optimize injection based on the prescribed route/technique and patient size.
<input type="checkbox"/>	<input type="checkbox"/>		Reasonable accommodations (e.g., privacy screens) are available for patient privacy during vaccination.
<input type="checkbox"/>	<input type="checkbox"/>		Staff members administering vaccines have reviewed vaccine manufacturer instructions for administration before the vaccination clinic.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If using a standing order protocol, the protocol is current and available at the clinic/facility site.
<input type="checkbox"/>	<input type="checkbox"/>		A sufficient number of screening forms are available at the clinic/facility site.
<input type="checkbox"/>			A sufficient number of Vaccine Information Statements (VISs) are available at the clinic/facility site.
<input type="checkbox"/>	<input type="checkbox"/>		A designated clean area for vaccine preparation has been identified and set up prior to the clinic.
<input type="checkbox"/>	<input type="checkbox"/>		A qualified individual has been designated to oversee infection control at the clinic.

DURING THE CLINIC (Please complete each item while the clinic is occurring and review at the end of your shift.)

VACCINE STORAGE AND HANDLING (at facility/clinic)

YES	NO	N.A.	
<input type="checkbox"/>			Vaccines are being kept in proper storage equipment that maintains the manufacturer-recommended temperature range (i.e., a portable vaccine refrigerator or qualified container and pack-out specifically designed and tested to maintain correct temperatures when opened and closed during the clinic).
<input type="checkbox"/>			Vaccine temperature is being monitored during the clinic using a digital temperature data logger with a buffered probe (placed directly with vaccines) and a current and valid Certificate of Calibration Testing. Follow the temperature monitoring guidance specified in CDC's Vaccine Storage and Handling Toolkit: https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf
<input type="checkbox"/>		<input type="checkbox"/>	If vaccines are being stored in a storage unit at the site, vaccine temperature data are being reviewed and documented a minimum of 2 times during each clinic workday (preferably at the beginning and middle of an 8-hour shift) to ensure they remain at correct temperatures (i.e., between 2-8° Celsius or 36-46° Fahrenheit for ALL refrigerated vaccines). If you are a VFC provider, check with your state immunization program for specific requirements for vaccine temperature monitoring during mass vaccination clinics.
<input type="checkbox"/>		<input type="checkbox"/>	If vaccines cannot be stored in a storage unit at the site, they are being kept in the portable vaccine refrigerator or qualified pack-out with a temperature monitoring device (with a probe in a thermal buffer) placed as closely as possible to the vaccines, and temperatures are being read and recorded at least once an hour. The container is being kept closed as much as possible.
<input type="checkbox"/>	<input type="checkbox"/>		Vaccines are being protected from light during the vaccination clinic per the manufacturer's package insert.

VACCINE PREPARATION

YES	NO	N.A.	
<input type="checkbox"/>			Expiration dates of vaccines (and diluents, if applicable) are being checked again during preparation, and only vaccines that have not expired are being administered.
<input type="checkbox"/>	<input type="checkbox"/>		Vaccines are being prepared in a clean, designated medication area, away from any potentially contaminated items.
<input type="checkbox"/>		<input type="checkbox"/>	If using reconstituted vaccines, they are being prepared according to the manufacturer's guidelines.

If you check "NO" in ONE OR MORE answer boxes that contain a , **DO NOT** move forward with the clinic. Follow your organization's protocols and/or contact your state or local health department for guidance before proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaccines are being prepared at the time of administration.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If vaccines are predrawn from a multidose vial, only the contents of 1 multidose vial (a maximum of 10 doses per vial), are being drawn up at one time by each staff member administering vaccines.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If using single-dose or multidose vials, syringes are being labeled with the name of the vaccine and dose.
<input type="checkbox"/>		<input type="checkbox"/>	Once drawn up, vaccines are being kept in the recommended temperature range. <i>(Questions about specific time limits for being out of the recommended temperature range should be referred to the manufacturer.)</i>

VACCINE ADMINISTRATION

YES	NO	N.A.	
<input type="checkbox"/>		<input type="checkbox"/>	Vaccine Information Statements (VISs) are being provided to every patient, parent, or guardian before vaccination (as required by federal law).
<input type="checkbox"/>		<input type="checkbox"/>	All patients are being screened for contraindications and precautions for the specific vaccine(s) in use before receiving that vaccine(s).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Staff is using proper hygiene techniques to clean hands before vaccine administration, between patients, and anytime hands become soiled.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If gloves are being worn by staff administering vaccines, they are being changed and hands are being cleaned using proper hygiene techniques between each patient.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Staff is triple-checking labels, contents, and expiration dates or beyond use dates (as noted in the manufacturer's package insert, if applicable) before drawing up and administering vaccine.
<input type="checkbox"/>		<input type="checkbox"/>	Vaccines are normal in appearance (i.e., not discolored, without precipitate, and easily resuspended when shaken).
<input type="checkbox"/>		<input type="checkbox"/>	If injectable vaccine is being administered, a new needle and new syringe are being used for each injection. Needles and syringes should never be used to administer vaccine to more than one person.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Each staff member is administering only the vaccines they have prepared.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If more than one vaccine type is being administered, separate preparation stations are set up for each vaccine type to prevent medication errors.
<input type="checkbox"/>		<input type="checkbox"/>	Single-dose vials or manufacturer-filled syringes are being used for only one patient.
<input type="checkbox"/>		<input type="checkbox"/>	Vaccines are being administered using aseptic technique and following safe injection practices.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Seats are provided so staff and patients are at the same level for optimal positioning of anatomic site and injection angle to ensure correct vaccine administration.
<input type="checkbox"/>		<input type="checkbox"/>	Staff is identifying injection site correctly. (For intramuscular route: deltoid muscle of arm [preferred] or vastus lateralis muscle of anterolateral thigh for adults, adolescents, and children aged ≥3 years; vastus lateralis muscle of anterolateral thigh [preferred] or deltoid muscle of arm for children aged 1-2 years; vastus lateralis muscle of anterolateral thigh for infants aged ≤12 months. For subcutaneous route: thigh for infants aged <12 months; upper outer triceps of arm for children aged ≥1 year and adults [can be used for infants if necessary].)
<input type="checkbox"/>		<input type="checkbox"/>	Staff is inserting needles quickly at the appropriate angle: 90° for intramuscular injections (e.g., injectable influenza vaccines) or 45° for subcutaneous injections (e.g., measles, mumps, rubella vaccine).
<input type="checkbox"/>		<input type="checkbox"/>	Staff is inserting needles quickly at the appropriate angle: 90° for intramuscular injections (e.g., injectable influenza vaccines) or 45° for subcutaneous injections (e.g., measles, mumps, rubella vaccine).
<input type="checkbox"/>		<input type="checkbox"/>	Staff is administering vaccines to the correct patient (e.g., if a parent/guardian and child or two siblings are at the vaccination station at the same time, patient's name and date of birth are verified prior to vaccination).
<input type="checkbox"/>		<input type="checkbox"/>	Staff is administering vaccines using the correct route per manufacturer instructions.
<input type="checkbox"/>		<input type="checkbox"/>	Staff is administering the correct dosage (volume) of vaccine.
<input type="checkbox"/>		<input type="checkbox"/>	Staff has checked age indications for the vaccines and is administering vaccines to the correct age groups.
<input type="checkbox"/>		<input type="checkbox"/>	For vaccines requiring more than 1 dose, staff is administering the current dose at the correct interval, if applicable. <i>Follow the recommended guidelines in Table 1 of the General Recommendations on Immunization: https://www.cdc.gov/mmwr/preview/mmwrhtml/rr6002a1.htm</i>
<input type="checkbox"/>		<input type="checkbox"/>	If vaccine administration errors are observed, corrective action is being taken immediately.

If you check "NO" in ONE OR MORE answer boxes that contain a , DO NOT move forward with the clinic. Follow your organization's protocols and/or contact your state or local health department for guidance before proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.

<input type="checkbox"/>		<input type="checkbox"/>	Multidose vials are being used only for the number of doses approved by the manufacturer.
<input type="checkbox"/>			Vaccines are never being transferred from one syringe to another.
<input type="checkbox"/>			Used needles and syringes are being immediately placed in a sharps container following administration. (Needles are NOT being recapped.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any persons with a needlestick injury, a vaccine administration error, or an urgent medical problem are being evaluated immediately and referred for additional medical care if needed.
<input type="checkbox"/>	<input type="checkbox"/>		Patients are being encouraged to stay at the clinic for 15 minutes after vaccination to be monitored for adverse events.

VACCINE DOCUMENTATION

YES	NO	N.A.	
<input type="checkbox"/>			Each vaccination is being fully documented with name of person vaccinated; vaccination date; vaccine type, lot number, manufacturer; patient receipt of Vaccine Information Statement (VIS), including edition date and date VIS was provided; injection site; vaccination route; dosage; and name, title, and office/company address of person who administered the vaccine.
<input type="checkbox"/>			Patients are receiving documentation for their personal records and to share with their medical providers.

AFTER THE CLINIC (Please complete each item after the clinic was conducted.)

POST CLINIC ACTIONS

YES	NO	N.A.	
<input type="checkbox"/>			Temperature of remaining vaccine was checked and recorded at the end of clinic. If not still at manufacturer-recommended temperature (i.e., between 2-8° Celsius or 36-46° Fahrenheit for ALL refrigerated vaccines), follow your organization's protocols and/or contact your state or local health department for guidance.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any remaining vaccine in provider predrawn syringes, opened multidose vials, or activated manufacturer-filled syringes (MFSs) was properly discarded. <i>An MFS is activated when the sterile seal is broken (i.e., cap removed from needle or needle added to the syringe). If absolutely necessary, a partially used multidose vial may be transported to or from an off-site/satellite facility operated by the same provider, as long as the cold chain is properly maintained, the vaccine is normal in appearance, and the maximum number of doses per vial indicated by the manufacturer has not already been withdrawn, or the beyond use date indicated by the manufacturer has not been met. However, a partially used vial cannot be transferred from one provider to another or across state lines, or returned to the supplier for credit.</i>
<input type="checkbox"/>		<input type="checkbox"/>	Viable, unused vaccine was placed back in proper storage equipment that maintains the manufacturer-recommended temperature range at the end of the clinic day, and was not stored in a dormitory-style or bar-style combined refrigerator/freezer unit under any circumstances. (This includes vaccine transported for a multi-day clinic to a remote location where adequate storage at the site is not available.)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any needlestick injuries were recorded in a sharps injury log and reported to all appropriate entities (e.g., local health department and your organization).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any vaccine administration errors were reported to all appropriate entities.
<input type="checkbox"/>	<input type="checkbox"/>		All biohazardous material was disposed of properly.

POST CLINIC DOCUMENTATION

YES	NO	N.A.	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Vaccinations were recorded in the jurisdiction's immunization information system (IIS) or vaccine registry, where available.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	If not submitted to an IIS or vaccine registry, vaccination information was sent to primary health care providers as directed by an established procedure based on state or jurisdiction regulations.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Any adverse events were reported to the Vaccine Adverse Event Reporting System (VAERS): https://vaers.hhs.gov/index

If you check "NO" in ONE OR MORE answer boxes that contain a , **DO NOT move forward with the clinic.** Follow your organization's protocols and/or contact your state or local health department for guidance before proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.

<input type="checkbox"/>		<input type="checkbox"/>	All patient medical information was placed in secured storage locations for privacy protection.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	The staff sign-in sheet was attached to this document (with shift times, clinic location, and date).

If you check "NO" in ONE OR MORE answer boxes that contain a , DO NOT move forward with the clinic. Follow your organization's protocols and/or contact your state or local health department for guidance before proceeding with the clinic. Do not administer any vaccine until you have confirmed that it is acceptable to move forward with the clinic.

N.A. means Not Applicable.

This checklist was adapted from materials created by the California Department of Public Health, the Centers for Disease Control and Prevention, and the Immunization Action Coalition.

ADDITIONAL INFORMATION AND RESOURCES

If you are concerned that CDC guidelines were not followed during your vaccination clinic held at a satellite, temporary, or off-site location, contact your organization and/or state or local health department for further guidance.

CDC's guidelines for vaccine storage, handling, administration, and safety were updated in 2016:

Vaccine storage and handling: <https://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf>

Vaccine administration: www.cdc.gov/vaccines/pubs/pinkbook/vac-admin.html

Injection safety: www.cdc.gov/injectionsafety/providers.html

Vaccine Information Statements: <https://www.cdc.gov/vaccines/hcp/vis/index.html>

The Immunization Action Coalition has a skills checklist for staff administering vaccines: <http://www.immunize.org/catg.d/p7010.pdf>

The Immunization Action Coalition and the Alliance for Immunization in Michigan have patient education materials available:

Screening tools: <http://www.immunize.org/handouts/screening-vaccines.asp>

Vaccination after-care:

Children: <http://www.immunize.org/catg.d/p4015.pdf>

Adults: <http://www.aimtoolkit.org/docs/vax.pdf>

The Immunization Action Coalition has information on the medical management of vaccine reactions:

Children: <http://www.immunize.org/catg.d/p3082a.pdf>

Adults: <http://www.immunize.org/catg.d/p3082.pdf>

Manufacturers' product information and package inserts with specific, detailed storage and handling protocols for individual vaccines: http://www.immunize.org/packageinserts/pi_influenza.asp.

Medical waste disposal is regulated by state environmental agencies. Contact your state immunization program or state environmental agency to ensure that your disposal procedures comply with state and federal regulations.



Ten Principles for Safe Vaccination Clinics

This CDC document is a one-page summary of the *Checklist of Best Practices for Vaccination Clinics Held at Satellite, Temporary, or Off-site Locations*. This resource is not intended to replace the checklist. Rather, it is a quick reference guide highlighting the main points of the checklist that can be used by all staff (not just the clinic coordinators/supervisors who are completing the checklist). This document can be posted on the wall of the clinic or given out to all the staff who are vaccinating at the clinic.



TEN PRINCIPLES FOR HOLDING SAFE VACCINATION CLINICS AT SATELLITE, TEMPORARY, OR OFF-SITE LOCATIONS

DURING ALL STAGES (PRE-CLINIC, DURING THE CLINIC, AND POST-CLINIC):

1. Keep vaccines at the correct temperature at all times using proper procedures for vaccine transport, handling and storage. Document temperature monitoring at appropriate intervals during all stages. For further guidance: <http://www.cdc.gov/vaccines/hcp/admin/storage/toolkit/storage-handling-toolkit.pdf>.

PRE-CLINIC:

2. Have vaccine shipped directly to the site. If direct shipment is not possible, transport vaccine using correct storage and handling guidelines.
3. Train staff to perform CPR and treat medical emergencies, including anaphylaxis. Ensure supplies are on site, including an emergency medical kit and infection control supplies, as well as enough Vaccine Information Statements (VISs).

DURING THE CLINIC:

4. Always check for medical contraindications and allergies before vaccinating anyone. Provide VISs for all patients or guardians.
5. Only use vaccines that are not damaged, not expired, at the correct temperature, and prepared using aseptic technique.
6. Follow manufacturers' instructions for injection dose, site, and route.
7. Follow manufacturers' instructions and Advisory Committee on Immunization Practices guidelines for correct age and intervals (for vaccines that require more than one dose).
8. Follow safe injection practices, including using a new needle and syringe for every injection. Dispose of all sharps in a sharps container.
9. Document every vaccination and give patients a copy.

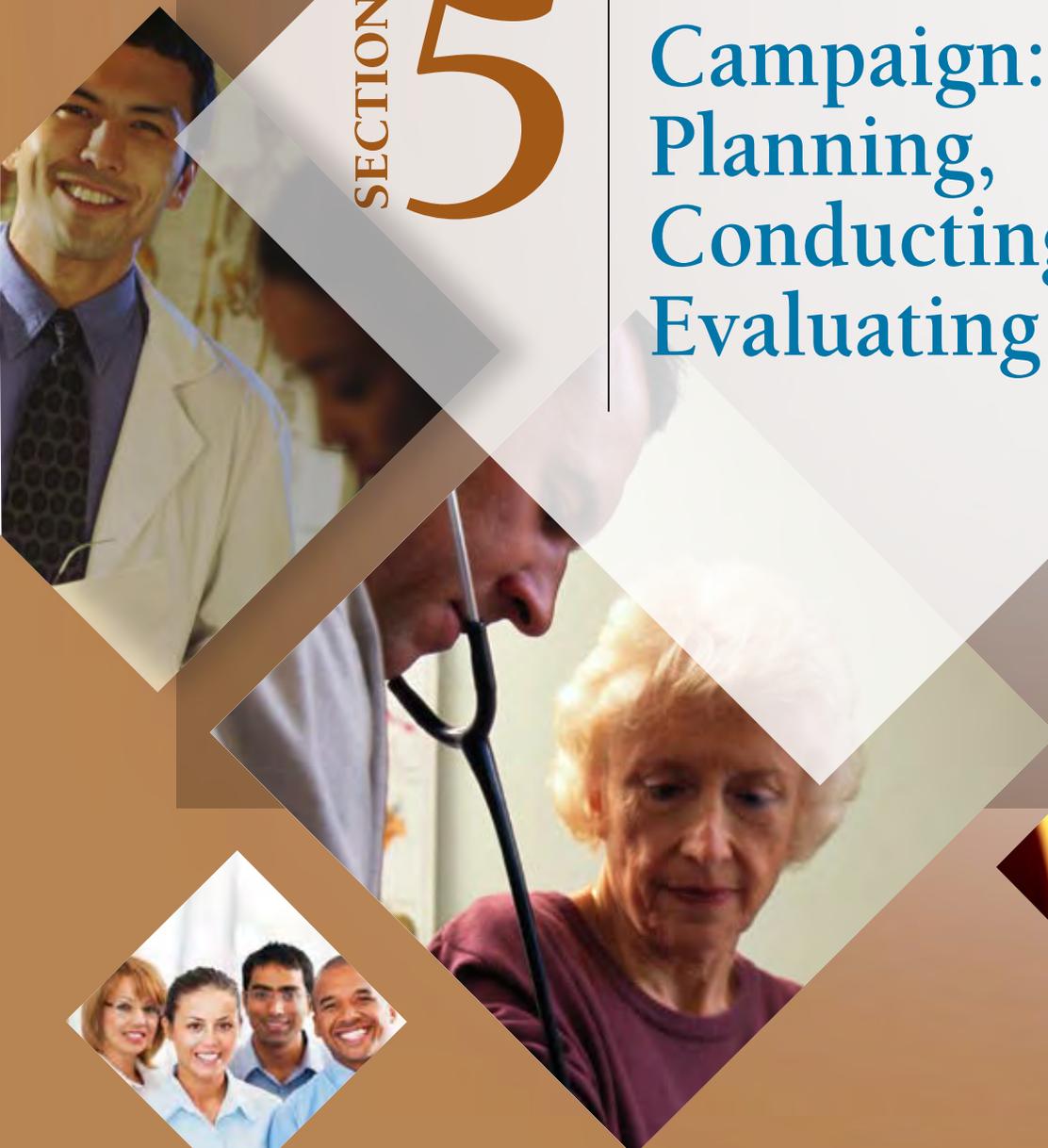
POST-CLINIC:

10. Keep patient information secure and private. Record vaccinations in the Immunization Information System (IIS), if available. For further guidance, refer to the full checklist for Veterans: https://www.izsummitpartners.org/content/uploads/2017/02/NAIIS-Vaccination-Clinic-Checklist_v2.pdf

***This document is NOT intended to replace use of the checklist.

SECTION
5

Flu Vaccination
Campaign:
Planning,
Conducting, and
Evaluating



SECTION

5

Flu Vaccination Campaign: Planning, Conducting, and Evaluating

A successful influenza vaccination campaign requires planning, execution, and evaluation. This section focuses on these elements by providing suggestions, ideas, and guidance for use as a foundation of your campaign, starting with assembling an effective flu campaign team. This section outlines suggested roles of team members and also contains the Seasonal Influenza Campaign Calendar that describes month-by-month processes to monitor activities and initiatives and track progress towards vaccination goals.

Flu Campaign Team: A flu vaccine campaign will be as successful as the care with which the planning team was selected and the attention to detail of the plan, its execution, and evaluation. A flu team is the foundation of a successful campaign and at the epicenter is the Flu Coordinator(s). Sites with effective campaigns often have Flu Coordinators and team members that have established longevity and experience overseeing and developing the vaccination campaign. Each VA medical center or facility may enlist different types of professionals and disciplines as team members to provide comprehensive coverage of the campaign from promotion to data entry.

Flu Coordinators and team members are usually designated or appointed by facility leadership. Leadership's support is essential to vaccination campaign goals and activities. Employee occupational health (EOH) participation is needed, as that group is responsible for the vaccination of all health care personnel. Flu Coordinator(s) should work closely with facility leadership to select team members. Membership can be formalized through letters of appointment. Each team is usually a reflection of the unique characteristics of the facility, the staff, and Veteran patients it serves. Although not every team member will be involved throughout the entire campaign, the following list will help you build an effective and comprehensive team.

Flu Coordinator: The Flu Coordinator is the chair of the team. The Coordinator provides leadership to plan meetings, delegate tasks to team members, and oversee the flu vaccine campaign. The person(s) designated as Flu Coordinator varies according to the needs and practices of various VAMC sites and may be from a variety of disciplines such as nurses, EOH staff, pharmacists, and physicians, or staff in roles such as the health promotion and disease prevention coordinator or a public affairs officer. Often it is a shared responsibility between infection control, the Associate Director of outpatient services (patient vaccination), and employee occupational health (staff vaccination) staff, who work together to provide vaccine to all target populations. The Flu Coordinator should be a flu champion whose attitude, commitment, and enthusiasm toward preventing the spread of influenza through vaccination and other mitigation strategies is evident.

◆ **Associate Directors of Nursing, Nursing Clinical Coordinators/Nurse Managers:** Because the flu campaign targets the entire Veteran and health care personnel populations, nursing leaders from all areas should be involved in the team. The nurse leaders will be able to assist with staffing resources for team strategies such as a drive-through or walk-in clinic, special events, and promoting employee flu vaccination. Nursing leaders may also assist in developing plans that meet the needs of populations in inpatient, outpatient, and remote clinics, as well as non-traditional settings such as transitional living centers, behavioral health facilities, and domicilliaries. If a site has a combined patient and staff campaign, nurse leaders can assist with staffing for roving flu vaccine carts or expanded hours for flu vaccinations in the Employee Occupational Health clinic. Nursing leadership should also develop all standard operating procedures for the administration of vaccine, which may include standing orders for the vaccine, screening assessments, and competency requirements.

What can facility leadership do to support and promote influenza vaccination?

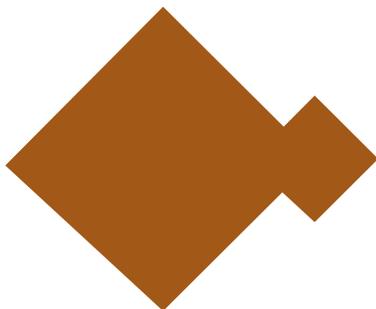
- ◆ Get vaccinated against flu.
- ◆ Let others within your facility know you've been vaccinated and why you believe it is important.
- ◆ Have your picture taken during vaccination and use it to promote vaccine uptake.
- ◆ Promote vaccination to your leadership team.
- ◆ Promote vaccination in person to colleagues.
- ◆ Promote vaccination via an email to all staff.
- ◆ Promote vaccination at meetings, grand rounds, and at other forums and gatherings.
- ◆ Send out periodic emails regarding current rates of vaccination to encourage higher vaccine uptake to meet facility targets.
- ◆ Issue standing orders.
- ◆ Appoint a flu champion or champions (preferably NOT a new one each year).
- ◆ Collaborate with the flu coordinator/champion to formally appoint staff to participate as flu team members.
- ◆ Be sure team members know that facility leadership considers the flu vaccination campaign a priority.
- ◆ Encourage the flu team to offer flu shots at staff meetings and other scheduled events.
- ◆ Provide a budget for the flu team to promote, implement, and evaluate the vaccination campaign.
- ◆ Attend some of the flu team meetings.
- ◆ Reward flu team members in performance assessments, evaluations, and awards.
- ◆ Include flu promotion in newsletters.
- ◆ Support flu vaccination clinics by approving overtime or additional monies for extra human resources.
- ◆ Work with human resources supervisors and employee occupational health staff to support and promote the notion of "staying home when sick." Ensure that all managers and staff encourage and support this practice and that related policies are in place.
- ◆ Conduct an annual staff picnic where flu shots are offered.
- ◆ Ask all staff, especially leadership teams, to support and promote flu vaccination efforts.
- ◆ Volunteer at flu clinics and Stand Downs, where flu shots are offered.
- ◆ Personally thank people for getting a flu shot and promoting a culture of safety within your facility.

◆ **Clinical Applications Coordinator (CAC):** Ensuring that all Veteran's flu shots are documented is essential to a successful campaign. Mandated national reminder dialogue is implemented by the CACs, who also update the type of flu shot, lot numbers, and expiration date. The reminder can also be updated to include criteria for eligibility (e.g., that the high-dose vaccine is only given to certain populations to the exclusion of others). The CAC may also include links to the vaccine information statement, which may be printed. In addition, CACs can link encounter information into inpatient notes; templates to process flu shots given at admission in community living centers, domiciliaries, and transitional recovery centers; and at or before discharge on inpatient stays.

Late in the campaign, the CAC will coordinate with pharmacy staff and the flu coordinator to implement the off-season reminder program by contacting Veterans who did not access VA vaccination services during the flu season. If the Veterans received vaccine elsewhere, or if there was another reason they did not access services (e.g., on the rare occasion that flu vaccine supplies were exhausted), their responses are recorded.

◆ **Facility Management Service (FMS):** Including the chief or his designee is invaluable in planning any campaign event. FMS can ensure that any chosen venue has the appropriate lighting, heating and ventilation, electrical outlets, and access to sinks. FMS can assist in the setup of outdoor events, including setting up and securing tents and accessing portable toilets and sinks.

- ◆ **Environmental Management Services (EMS):** The Chief or Associate Chief of environmental management services is an essential team member. EMS is responsible for sharps containers, trash, general cleaning, and in many facilities, folding tables and chairs. EMS will be important partners in any event planning. They will help with setup, maintenance, and take-down of any event. They may also be able to supply staff resources for traffic control and supply runners in outdoor events.
- ◆ **Health Promotion/Disease Prevention (HPDP) Coordinator:** At many VA facilities, the HPDP Coordinator may be the Flu Coordinator. In facilities where this is not the case, the HPDP Coordinator will be a valuable team member who could co-chair the team and assist with a variety of tasks. These tasks could include working with the public affairs staff to promote the campaign and arranging special events such as a Kickoff, National Influenza Vaccination Week, and VA Staff Influenza Vaccination Week. The HPDP coordinator often helps the team focus on all aspects of influenza prevention from vaccination to hand hygiene and other mitigation strategies.
- ◆ **Infection Control Professional/Preventionist (ICP):** The ICP is responsible for ensuring that the facility has an influenza prevention program that meets VHA, CDC, and The Joint Commission standards, and serves as the Flu Coordinator in many facilities. The ICP is a reliable source for information about influenza prevention and mitigation strategies and is an essential resource to the flu team.
- ◆ **Infectious Diseases (ID) physicians:** ID physicians may be directly involved in the flu vaccine campaign team or may take a role as a consultant to the team. In either case, they are a wealth of evidence-based information and may be of assistance with enlisting medical center senior leadership involvement in the campaign and providing clinical consultation.
- ◆ **Employee Occupational Health:** EOH is responsible for the vaccination of all HCP. They may need additional assistance during the flu vaccination season to assure HCP have access to flu vaccine. Some facilities combine resources for HCP and Veteran patients into one campaign. EOH staff document vaccine that they administer and vaccine that HCP receive outside VA. Facility staff who assist EOH in vaccinating HCP are responsible for documenting the administration of the vaccine in the Occupational Health Record-keeping System (OHRS).
- ◆ **Pharmacy staff:** The chief of pharmacy will designate team members, which should include the pharmacist or pharmacy “buyer” in charge of flu vaccine. Early in the campaign, the pharmacy may coordinate with the flu coordinator, infection control, and employee occupational health to determine the composition of the vaccine order. Later, the vaccine buyer will provide updates on vaccine delivery, storage, and allocation of vaccine to different departments, remote clinics, and community-based outpatient clinics. Because the vaccine arrives from each manufacturer in two or more separate shipments, it is critical to coordinate with pharmacy staff to ensure enough vaccine is available on reserve for planned events. Pharmacists, pharmacy residents, and students may also assist in both the promotion and the administration of vaccine. Facilities may require pharmacists, though individually certified, to undergo a competency for administration. This is a best practice to ensure the safe delivery of vaccine.
- ◆ **Police Service:** VA Police Officers can assist with selection of sites for drive-through or walk-in (lobby) clinics, provide traffic control for drive-through clinics, and set up electronic or other signage that direct patients to a drive-through location or posted hours of operation. If a promotional event is planned, police service can help with crowd management, reserved parking, and provision of other safety measures.



- ◆ **Public Affairs:** The public affairs office is essential to a successful campaign, as they will help with promotion using the facility website, social media, news media, and other means of public information sharing. The public affairs office can also contact the Veteran service officers and give them the necessary information. At some facilities, public affairs staff arrange for the Flu Coordinator (or designee) to be a guest on a local radio or TV station talk show that promotes community events. Successful flu campaigns have engaged public affairs offices to utilize effective messaging strategies throughout the duration of the campaign for all patient and staff target populations.
- ◆ **Logistics:** A representative of logistics service can provide a current inventory list and order needed supplies (e.g., needles, syringes, gloves, adhesive bandages, surgical masks, and alcohol pads) based on expected vaccine delivery to stock drive-through or walk-in clinics and mobile carts used for flu vaccine administration. Logistics will also provide a contact who will restock locations in use during the campaign.
- ◆ **Voluntary Service:** Volunteers can be utilized to assist with direct mail campaigns, refreshments for Veterans at special events, escort services for Veterans, and transport vans to take Veterans to drive-through clinics and other services related to influenza vaccination clinics.

Additional Services and Resources

The list below contains additional medical center services and resources that may be of help at various times during the campaign but may not necessarily need to provide an official team member.

- ◆ **Medical media and print shop:** Medical media can assist with the design of print media for posters, reminder cards, and education materials in a form that is easily printable and meets VHA requirements for use within your facility. They can also take pictures of events. The print shop can reproduce forms, letters, and posters or banners.
- ◆ **Office of Information Technology (OI&T):** An OI&T staff representative should be enlisted for assistance with procuring laptop computers and cell phones that may be needed for drive-through or walk-in clinics or other special events where phones and computers are not typically located. Ask OI&T to provide a contact if troubleshooting is needed with equipment.
- ◆ **Other Staff:** Each flu team is only as effective as their membership. Welcome members who have a demonstrated investment in seasonal influenza prevention or a commitment to promoting and maintaining a culture of health and safety within facilities. These other members are often well connected and visible to staff and patients and are considered stewards of health promotion.





Seasonal Influenza Campaign Calendar

Use this calendar as a planning guide for your seasonal influenza vaccination campaigns. It contains helpful activities within a timeline to assist you and your flu teams to plan, implement, and evaluate your facility's campaign for vaccinating all health care personnel (HCP) and enrolled Veterans.

- **March/April:** Wrap-up, Evaluate & Review the Campaign
- **May:** Initiate the Planning Process
- **June:** Plan the Campaign
- **July/Aug:** Promote the Campaign
- **September:** Start the Campaign
- **October/November:** Conduct the Campaign
- **December:** Continue the Campaign
- **January/February:** Reinforce the Campaign



MARCH/APRIL

Wrap-up, evaluate & Review the Campaign

- Continue to vaccinate as long as flu is circulating in your communities or until your flu vaccine expires or until vaccine quantities are depleted.
- Continue to monitor and communicate levels of seasonal influenza in your community.
- Maintain the campaign and communicate to health care personnel that it is not too late to be vaccinated if the influenza virus is still prevalent in the community.
- Meet with the planning committee.
- Evaluate campaign, identify challenges, and celebrate successes.
- Communicate results of your seasonal influenza vaccination campaign.
- Review current year vaccination rates among different services/departments and types of health care personnel and Veterans for opportunities to increase vaccination.
- Identify program strengths and opportunities for improvement. Talk to pharmacy about types and amounts of flu vaccine to be ordered.
- Order this year's flu vaccine. Consider types of vaccines available, including high-dose, intradermal, and standard-dose vaccines. Discuss pros and cons and target groups of each vaccine. Talk with pharmacy staff about types and amounts of vaccine to be ordered.



MAY

Initiate the Planning Process



- Obtain support from administration/leadership to identify/verify the health care system flu vaccine coordinator and flu partners/team.
- Assemble a seasonal flu vaccination campaign team – advertise via email announcements.
- Establish your team email group for efficient email communications and keep it updated.
- Schedule and hold a committee kickoff meeting for upcoming flu vaccine season. Some flu vaccine teams meet year-round.
- Identify and discuss your two basic flu vaccination target audiences:
 1. Enrolled VETERANS: Identify your target patient groups by gender, age, race, or by location such as inpatient areas, outpatient areas, Community-based Outpatient Clinics (CBOC), Community Living Centers (CLC).
 2. Health Care Personnel (HCP): employees, volunteers, and academic affiliates in all areas. NOTE: Some facilities have lead people for each target group (HCP vs Veterans) and areas (CLC, CBOCs, etc).
- Choose and order educational and promotional materials (posters, brochures, t-shirts, pens, coupons, etc).
- Talk to administration for approval and budgeting for any temporary or other staff needed to meet increased human resource needs for vaccinations in the fall.
- Begin monitoring influenza updates from your state or local government, the Centers for Disease Control and Prevention (CDC), The Joint Commission (TJC), and VHA.
- Order vaccination supplies, including gauze, adhesive bandages, surgical masks, alcohol wipes, safety needles, gloves, and syringes, as needed for the type of flu vaccine formulation ordered.
- Order/obtain additional flu vaccine equipment, such as a flu vaccine cart, sharps containers, and proper storage and handling equipment.
- Reserve space for a walk-in flu vaccine clinic (usually held in October or November, depending on final delivery date for the year's flu vaccine contract).
- Schedule educational offerings for August, September, and the upcoming flu season.

Consider forming a Flu Team, including:

- ✓ Pharmacy
- ✓ Infectious Diseases physician
- ✓ Employee Occupational Health
- ✓ Health Promotion/Disease Prevention (HPDP) Coordinator
- ✓ Infection Prevention
- ✓ Facility Management Service (for setting up tables and areas for walk-in clinics)
- ✓ Nurse Managers (to assist with support for nurses to help administer flu vaccine)
- ✓ Clinical Applications Coordinator (to ensure computer templates and reminders updated and planned for the upcoming flu vaccination season)
- ✓ Business Office (spacing needs)
- ✓ Public Affairs Officer
- ✓ Human Resources (staffing needs)
- ✓ Facility Leadership



JUNE

Plan the Campaign

- Review successes and failures from previous years.
- Review strategies and best practices utilized by successful health care facilities.
- Consider innovative approaches for the upcoming season, such as drive-through flu vaccine clinics and partnering with local public health agencies (look for ideas in the VHA Seasonal Influenza Manual).
- Define all resources and supplies needed to support your campaign (including budget and human resources).
- Refer to the latest version of the VHA Seasonal Influenza Manual to garner campaign ideas and a checklist of activities and strategies to implement your campaign.
- Continue monitoring influenza updates from state and local governments, VHA, CDC, and TJC.
- Develop communications strategies to be used during the campaign to help meet goals and requirements.
- Email facility staff to solicit their input and to let staff know who is on the planning team.

The VHA Seasonal Influenza Manual and other resources (including hand and respiratory hygiene and additional flu resources) are available at www.publichealth.va.gov/flu



JULY/AUGUST

Promote the Campaign

- Update your influenza vaccine protocols, such as standing orders, etc.
- Gather promotional materials and resources.
- Obtain the current year's CDC Vaccine Information Statements (VIS).
- Determine campaign dates and theme and lay out a preliminary promotion plan based on the date when flu vaccine is to arrive and quantities are available.
- Plan for and finalize logistics and staffing plans for a campaign week/kickoff event, which should begin when sufficient vaccine is available to sustain the program.
- Identify and train nurses and other staff who may be vaccinating.
- Train all providers who administer flu vaccine on proper documentation in health records – Computerized Patient Record System (CPRS) for patients and the Occupational Health Recording-keeping System (OHRS) for HCP.
- Communicate and distribute campaign plan and information.
- Educate HCP and Veterans about influenza and the influenza vaccine.
- Notify patients and staff about flu, flu vaccine, and where to get vaccinated using a variety of media (e.g., send facility-wide emails, postcards, and other reminders).
- Communicate clinic times and offerings via newsletter, daily facility email message system, etc.
- Based on available supply, determine a plan as needed to identify which groups will receive the first doses of flu vaccine that arrive. This initial group may include HCP; high-risk patients such as those on dialysis; patients in home-based primary care; or patients who arrive in outpatient clinics who are not anticipated to return for health care appointments for several months.
- Monitor all communications from VHA and CDC regarding seasonal influenza.

Plan ahead so you can begin offering flu vaccine when your first shipment arrives





SEPTEMBER

Start the Campaign

- Hold a kickoff event if sufficient vaccine is available.
- Operate employee occupational health clinic with extended hours for influenza vaccination.
- Administer vaccination at alternative sites, in lobbies, clinics, and other areas.
- Monitor daily operations and identify ways to improve efficiency.
- Document vaccinations in CPRS (Veterans) and OHRS (health care personnel).
- Review and communicate all policies, recommendations, and procedures for flu vaccinations BEFORE executing your campaign.
- Maintain campaign communication and emphasize the need to vaccinate throughout the entire influenza season.



OCT./NOV.

Conduct the Campaign

- Monitor vaccination rates, identify problems, and brainstorm ways to reach all who have not been vaccinated.
- Continue to document all vaccinations into health records.



DECEMBER

Continue the Campaign

- Maintain the campaign and communicate that it is not too late to be vaccinated.
- Hold an event during the National Influenza Vaccination Week (first week of December).
- Plan for VA Staff Vaccination Week (second week of Jan).
- Track and analyze vaccination rates and communicate findings.
- Monitor and communicate levels of seasonal influenza in your community.



JAN./FEB.

Reinforce the Campaign

- Identify those who have not been vaccinated and may have received the influenza vaccine elsewhere. Document those vaccinated elsewhere in CPRS and OHRS.
- Continue to monitor and communicate levels of seasonal influenza in your community.
- Maintain the campaign and communicate that it is not too late to be vaccinated.



RESOURCE LINKS

VA Influenza Home page:

<https://www.publichealth.va.gov/flu/index.asp>

VHA Seasonal Influenza Manual:

<https://www.publichealth.va.gov/flu/professionals/index.asp>

VHA Poster, brochures, and other education materials:

<https://www.publichealth.va.gov/PUBLICHEALTH/flu/materials/index.asp>

Centers for Disease Control and Prevention (CDC) Resources:

<https://www.publichealth.va.gov/PUBLICHEALTH/flu/materials/index.asp>

The Joint Commission:

https://www.jointcommission.org/topics/hai_influenza.aspx

CDC:

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





SECTION

6

Vaccination Policy and Guidance



Vaccination Policy and Guidance

This chapter contains influenza vaccination policy and guidance from VHA as well as other Federal agencies. Also included are requirements from The Joint Commission and frequently asked questions regarding vaccination of staff and licensed independent practitioners. Please be sure to check the appendices for other influenza materials.

The Joint Commission Requirements

Joint Commission: Infection Control Requirements for Offering Influenza Vaccination to Staff and Licensed Independent Practitioners

Federal Government Law and Guidance

Centers for Disease Control and Prevention (CDC) Website

Federal Law Requiring the Use of Vaccine Information Statements (VIS)

Frequently Asked Questions and Answers

VHA Influenza Immunization Guidance Statement

VHA, through the National Center for Health Promotion and Disease Prevention (NCP), has developed immunization guidance statements, including one for influenza. Please visit and review all VHA immunization guidance when offering vaccine to VHA patients. For information relating to documentation of health care personnel, see Section 10.



The Joint Commission Requirements

Joint Commission: Infection Control Requirements for Offering Influenza Vaccination to Staff and Licensed Independent Practitioners

Description: The Joint Commission (TJC) has an infection control standard (IC.02.04.01) for critical access hospitals, hospitals, and long-term care organizations that requires them to offer influenza vaccination to staff and licensed independent practitioners (LIPs). The standard also requires that staff and LIPs be educated about, at a minimum, the influenza vaccine; non-vaccine control and prevention measures; and the diagnosis, transmission, and impact of influenza. This standard aligns with recommendations made by the Centers for Disease Control and Prevention. For strategies to increase vaccination of health care personnel, go to Section 8: Health Care Personnel: How to Improve Vaccination Rates.

Because one of the Joint Commission standards is to educate health care personnel, IDPIO developed two learning modules to meet TJC requirements for influenza education. Both are available on TMS, one for clinical staff and one for non-clinical staff.

- ◆ Clinical Staff - Course #23974 – Influenza: Clinical & Public Health Perspectives
- ◆ Non-Clinical Staff - Course #27474 – Part 1: All About Flu and Course #27961 – Part 2: All About Flu

Description: This document provides updated guidance for the use of influenza vaccines in the United States.

CDC: Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices. Available at: <https://www.cdc.gov/mmwr/volumes/66/rr/rr6602a1.htm>.

Centers for Disease Control and Prevention (CDC) Website

Description: CDC information updated throughout the influenza season, so check for updates. Visit <https://www.cdc.gov/flu/>.



Federal Law Requiring the Use of Vaccine Information Statements (VIS)

Description: Health care providers are required by the national Childhood Vaccine Injury Act (NCVIA) to provide a copy of the most current VIS to either the adult recipient or to the child's parent/legal representative BEOFRE giving any adult or child certain specified vaccines.

CDC Guidelines on Large-Scale Vaccination Clinic Planning

Description: To facilitate the most efficient and safe delivery of available vaccine via large community clinics, these recommendations and guidelines have been developed to assist with planning large-scale influenza vaccination clinics by public and private vaccination groups. To view these guidelines see section 4.

Frequently Asked Questions and Answers

Frequently Asked Questions on Influenza Vaccination for Occupational Health Staff

Should we vaccinate volunteers as part of our campaign?

Yes. Volunteers provide a vital service to our Veterans including the provision of direct patient care. Facilities should offer the influenza vaccine to volunteers and elicit information on vaccination that they received elsewhere.

Should we offer the influenza vaccine to medical residents, interns, nursing students, and other trainees who provide services at the VA during the influenza season through our Occupational Health Department?

The decision to vaccinate residents, interns, nursing students, or other trainees should be made by individual facilities. Take into account the contrac-

tual agreement with trainees, the availability of the vaccine, and the potential benefit to VA. Facilities may want to make the same decisions about providing the influenza vaccine for trainees as they do for volunteers.

Should health care personnel who have contact with HIV/AIDS patients and other patients with compromised immune systems be vaccinated?

All health care personnel in health care settings should receive annual influenza vaccination unless they have a contraindication to the vaccine.

What are the recommendations for vaccination of health care personnel against influenza?

All health care personnel in health care settings should receive annual influenza vaccination unless they have a medical contraindication to the vaccine.

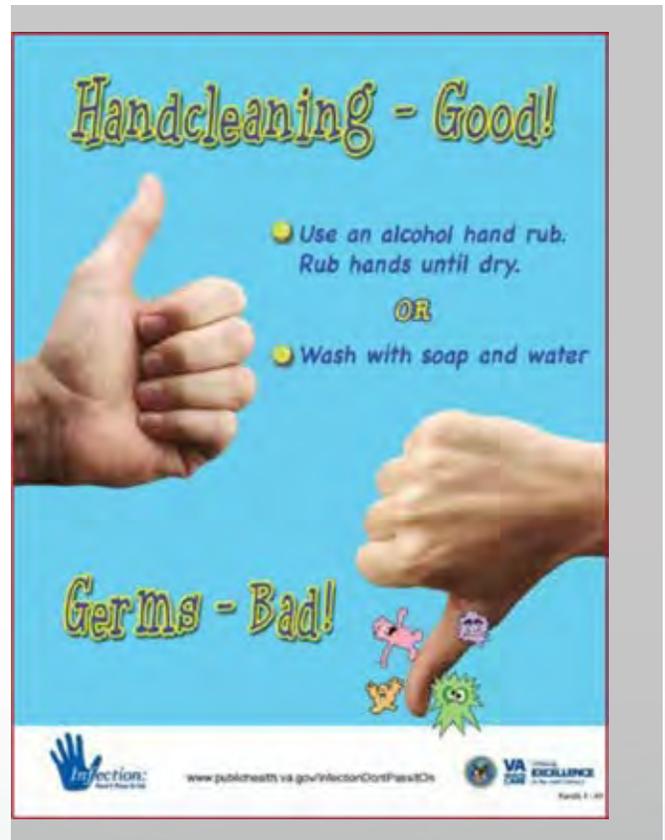
Why should health care personnel get vaccinated for flu?

- ◆ They can give influenza to patients, co-workers, family members, and others.
- ◆ They are at risk of getting influenza from patients with influenza.
- ◆ Preventing influenza through annual vaccination keeps health care personnel healthy and available to come to work or to take care of patients.

Inactivated influenza vaccine (the flu shot) is the preferred vaccine for people coming into close contact with anyone who has a severely weakened immune system.

How do I report an adverse reaction from flu vaccination?

- For Veteran patients, providers report the influenza vaccine adverse event through the Adverse Reaction Tracking System (ARTS) in CPRS. Providers have direct access to CPRS to input adverse reactions into the ART System.
- The Chief of Pharmacy (or designee) at every facility inputs adverse reactions for drugs or vaccines into VA Adverse Drug Event Reporting System (VA ADERS). A Vaccine Adverse Event Reporting System (VAERS) form for all vaccines should be submitted anytime an adverse event occurs. The VAERS form is directly accessible through a link in VA ADERS that allows online reporting. On-line reporting is also available at <https://vaers.hhs.gov/reportevent.html>.
- Occupational health staff should document an adverse an event in an encounter entered the Occupational Health Record-keeping System (OHRs). All employee, volunteer, trainee and contractor adverse reactions are also to be reported using the VA Adverse Drug Event System (VA ADERS) using the same process as outlined above for Veterans.



It's Federal Law! You must give your patients current Vaccine Information Statements (VISs)

What are Vaccine Information Statements (VISs)?

Vaccine Information Statements (VISs) are documents produced by the Centers for Disease Control and Prevention (CDC), in consultation with panels of experts and parents, to properly inform vaccinees (or their parents/legal representatives) about the risks and benefits of each vaccine. VISs are not meant to replace interactions with health care providers, who should address any questions or concerns that the vaccinee (or parent/legal representative) may have.

Using VISs is legally required!

Federal law (under the National Childhood Vaccine Injury Act) requires a health care provider to give a copy of the current VIS to an adult patient or to a child's parent/legal representative before vaccinating an adult or child with a dose of the following vaccines: diphtheria, tetanus, pertussis, measles, mumps, rubella, polio, hepatitis A, hepatitis B, *Haemophilus influenzae* type b (Hib), influenza, pneumococcal conjugate, meningococcal, rotavirus, human papillomavirus (HPV), or varicella (chickenpox).

Where to get VISs

All available VISs can be downloaded from the websites of the Immunization Action Coalition at www.immunize.org/vis or CDC at www.cdc.gov/vaccines/hcp/vis/index.html. Ready-to-copy versions may also be available from your state or local health department.

Translations: You can find VISs in more than 30 languages on the Immunization Action Coalition website at www.immunize.org/vis.

To obtain translations of VIS in languages other than English, go to www.immunize.org/vis.

According to CDC, the appropriate VIS must be given:

- Prior to the vaccination (and prior to each dose of a multi-dose series);
- Regardless of the age of the vaccinee;
- Regardless of whether the vaccine is given in a public or private health care setting.

Top 10 Facts About VISs

FACT 1 It's federal law! You must give current* VISs to all your patients before vaccinating them.

Federal law requires that VISs must be used for patients of **ALL** ages when administering these vaccines:

- DTaP (includes DT)
- Td and Tdap
- Hib
- hepatitis A
- hepatitis B
- HPV
- influenza (inactivated and live, intranasal)
- MMR and MMRV
- meningococcal (MenACWY, MenB)
- pneumococcal conjugate
- polio
- rotavirus
- varicella (chickenpox)

For the vaccines not covered under the National Childhood Vaccine Injury Act (i.e., adenovirus, anthrax, Japanese encephalitis, pneumococcal polysaccharide, rabies, shingles, typhoid, and yellow fever), providers are not required by federal law to use VISs unless they have been purchased under CDC contract. However, CDC recommends that VISs be used whenever these vaccines are given.

*Federal law allows up to 6 months for a new VIS to be used.

FACT 2 VISs can be given to patients in a variety of ways.

In most medical settings, VISs are provided to patients (or their parents/legal representatives) in paper form. However, VISs also may be provided using electronic media. Regardless of the format used, the goal is to provide a current VIS just prior to vaccination.

CONTINUED ON NEXT PAGE ►

Most current versions of VISs (table)

As of July 6, 2017, the most recent versions of the VISs are as follows:

Adenovirus.....	6/11/14	MMR.....	4/20/12
Anthrax.....	3/10/10	MMRV.....	5/21/10
Chickenpox.....	3/13/08	Multi-vaccine.....	11/5/15
Cholera.....	7/6/17	PCV13.....	11/5/15
DTaP.....	5/17/07	PPSV.....	4/24/15
Hib.....	4/2/15	Polio.....	7/20/16
Hepatitis A.....	7/20/16	Rabies.....	10/6/09
Hepatitis B.....	7/20/16	Rotavirus.....	4/15/15
HPV.....	12/2/16	Shingles.....	10/6/09
Influenza.....	8/7/15	Td.....	4/11/17
Japanese enceph.....	1/24/14	Tdap.....	2/24/15
MenACWY.....	3/31/16	Typhoid.....	5/29/12
MenB.....	8/9/16	Yellow fever.....	3/30/11

A handy list of current VIS dates is also available at www.immunize.org/catg.d/p2029.pdf.



Saint Paul, Minnesota • 651-647-9009 • www.immunize.org • www.vaccineinformation.org

Technical content reviewed by the Centers for Disease Control and Prevention

www.immunize.org/catg.d/p2027.pdf • Item #P2027 (7/17)

(For information on special circumstances involving vaccination of a child when a parent/legal representative is not available at the time of vaccination, see CDC's *Frequently Asked Questions* at www.cdc.gov/vaccines/hcp/vis/about/vis-faqs.html.)

Prior to vaccination, VIS may be:

- Provided as a paper copy
- Offered on a permanent, laminated office copy
- Downloaded by the vaccinee (parent/legal representative) to a smartphone or other electronic device (VISs have been specially formatted for this purpose)
- Made available to be read before the office visit, e.g., by giving the patient or parent a copy to take home during a prior visit, or telling them how to download or view a copy from the Internet. These patients must still be offered a copy in one of the formats described previously to read during the immunization visit, as a reminder.

Regardless of the way the patient is given the VIS to read, providers must still offer a copy (which can be an electronic copy) of each appropriate VIS to take home following the vaccination. However, the vaccinee may decline.

FACT 3 VISs are required in both public and private sector health care settings.

Federal law requires the use of VISs in both public and private sector settings, regardless of the source of payment for the vaccine.

FACT 4 You must provide a current VIS *before* a vaccine is administered to the patient.

A VIS provides information about the disease and the vaccine and must be given to the patient **before** a vaccine is administered. It is also acceptable to hand out the VIS well before administering vaccines (e.g., at a prenatal visit or at birth for vaccines an infant will receive during infancy), as long as you still provide a current VIS right before administering vaccines.

FACT 5 You must provide a current VIS for *each* dose of vaccine you administer.

The most current VIS must be provided before **each dose** of vaccine is given, including vaccines given as a series of doses. For example, if 5 doses of a single vaccine are required (e.g., DTaP), the patient (parent/legal representative) must have the opportunity to read the information on the VIS before each dose is given.

FACT 6 You must provide VISs whenever you administer combination vaccines.

If you administer a combination vaccine that does not have a stand-alone VIS (e.g., Kinrix, Quadracel, Pediarix, Pentacel, Twinrix) you should provide the patient with individual VISs for the component vaccines, or use the Multi-Vaccine VIS (see below).

The Multi-Vaccine VIS may be used in place of the individual VISs for DTaP, Hib, hepatitis B, polio, and pneumococcal when two or more of these vaccines are administered during the same visit. It may be used for infants as well as children through 6 years of age. The Multi-Vaccine VIS should not be used for adolescents or adults.

FACT 7 VISs should be given in a language /format that the recipient can understand, whenever possible.

For patients who don't read or speak English, the law requires that providers ensure all patients (parent/legal representatives) receive a VIS, regardless of their ability to read English. To obtain VISs in more than 30 languages, visit the Immunization Action Coalition website at www.immunize.org/vis. Providers can supplement VISs with visual presentations or oral explanations as needed.

FACT 8 Federal law does not require signed consent in order for a person to be vaccinated.

Signed consent is not required by federal law for vaccination (although some states may require it).

FACT 9 To verify that a VIS was given, providers must record in the patient's medical record (or permanent office log or file) the following information:

- The edition date of the VIS (found on the back at the right bottom corner)
- The date the VIS is provided (i.e., the date of the visit when the vaccine is administered)
- In addition, providers must record:
 - The office address and name and title of the person who administers the vaccine
 - The date the vaccine is administered
 - The vaccine manufacturer and lot number

FACT 10 VISs should not be altered before giving them to patients, but you can add some information.

Providers should not change a VIS or write their own VISs. However, it is permissible to add a practice's name, address, and contact information to an existing VIS.

Additional resources on VISs and their use are available from the following organizations:

Immunization Action Coalition

- VIS general information and translations in more than 30 languages: www.immunize.org/vis
- Current Dates of Vaccine Information Statements: www.immunize.org/catg.d/p2029.pdf

Centers for Disease Control and Prevention

- VIS website: www.cdc.gov/vaccines/hcp/vis
- VIS Facts: www.cdc.gov/vaccines/hcp/vis/about/facts-vis.html
- VIS FAQs: www.cdc.gov/vaccines/hcp/vis/about/vis-faqs.html



YOU CAN'T BUNDLE UP AGAINST THE FLU

A Flu Shot is Your Best Protection

Infection: Don't Pass It On
www.publichealth.va.gov/infectionDontPassItOn
VA EXCELLENCE in the CARE
Flu 42 - 08

Stop Spreading Germs in Seconds!

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Infection: Don't Pass It On
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SECTION

7

Flu Vaccination Campaign: Planning, Conducting, and Evaluating



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Flu Vaccination Campaign: Planning, Conducting, and Evaluating

Effective communication strategies can help Veteran patients, VHA staff, and the VA community to take steps to decrease chances of contracting or spreading flu viruses. VHA is committed to maintaining a culture of safety within its facilities by preventing infections. Each year, seasonal influenza infection has a significant impact on the well-being and health of our patients, staff, and their families and caregivers. It is truly a public health and community issue that we cannot afford to ignore. Communications with VA staff and patients is key to preventing influenza, and the best defense is vaccination.

VHA facilities plan and coordinate seasonal influenza vaccination campaigns for patients and health care personnel (HCP) annually. Many flu coordinators and planning teams have outlined communication strategies to educate target audiences on a variety of topics:

- influenza
- influenza illness
- vaccine information
- reporting adverse reactions
- flu prevention
- reasons to get vaccinated
- flu myths
- availability and access to vaccine

A myriad of communications forums and social media are utilized to “get the word out” and educate individuals on the importance of vaccine and other strategies to prevent the spread of influenza. These include:

- emails
- letters
- posters and signage
- educational fact sheets
- newsletters
- meeting announcements
- Facebook
- Twitter
- websites
- electronic bulletins

This section will outline the nine steps for a successful communications campaign. After understanding the campaign’s goals, the section will lead you through the steps to understand your audience and addressing any misconceptions they may have about flu. It will also describe key messages and using them to create effective content. After the content is created, the last steps will include utilizing social media and both applying and executing a communications plan. We hope your flu team will utilize these communications strategies, tools, and examples of effective messaging to mitigate the spread of influenza.

STEP 1: Understanding Communications as a Framework for Influenza Vaccination

STEP 2: Using Goals to Build Strategies

STEP 3: Understanding Your Target Audience

STEP 4: Addressing Misconceptions

STEP 5: Developing Key Messages

STEP 6: Creating Effective Content

STEP 7: Utilizing Social Media and Other Communications Tools

STEP 8: Applying a Communications Plan

STEP 9: Executing the Communication Plan

STEP 1: Understanding Communications as a Framework for Influenza Vaccination

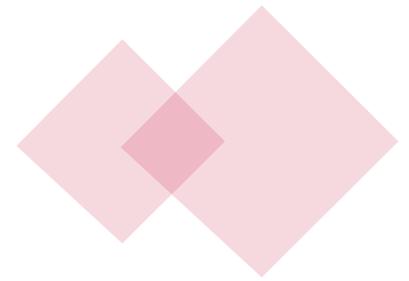
Effective communication between leadership and the flu team will cultivate a more successful and effective flu prevention campaign. Numerous messages and approaches are described in this section, and information and materials are also provided via the Infection: Don't Pass It On (IDPIO) campaign emails ("flu tips") over the course of each season.

As your facility integrates and/or coordinates your health care personnel (HCP) and patient vaccination campaigns, it is important to make sure your leadership, team, staff, and patients are well informed about flu prevention and vaccination programs over the course of the season. Inform people early and often; carry out a sustained communications effort. Your public affairs officer (PAO) is an essential part of this effort and knows best practices in internal staff communications, communications with Veterans, updating websites, including SharePoint and VA Pulse sites, and use of multiple means of traditional and social media to get the word out.

During flu season, note the key opportunities below that you and your PAO can use to frame campaign communications with leadership, health care personnel, and patients.

- ◆ **Campaign planning** – Enlist the support of your leadership by keeping them informed and seeking their support. Make sure that the team of people you recruit to help you are communicating early and often.
- ◆ **Campaign start up** – Use the days and weeks before you get your vaccine supply to inform patients and health care personnel about the importance and availability of vaccination.
- ◆ **Sustained reminders** – Seek opportunities for regular reminders about flu vaccination over the course of the season. Put out reminders to key audiences over time and in plenty of locations throughout your facility use multiple means including email, newsletters, handouts, and electronic bulletin boards and signage around your facility. Read further in this section for examples.
- ◆ **National efforts** – Participate in national campaigns that help you promote flu vaccine.
 - **Participate in national calls to get the most recent recommendations**
 - **National Influenza Vaccination Week**
 - **VA Staff Vaccination Week**
- ◆ **It's not too late** – Flu has been known to peak as late as May (but usually around February) and it is useful to continue to let people know they can be vaccinated later in the season.
- ◆ **Wrap up and restart** – Collect and monitor flu vaccination rates and share your successes with leadership, patients and staff. Use data to drive areas for improvement as well.

The full range of steps for carrying out your campaign, from planning and ordering supplies to monitoring and reporting progress, are presented in a seasonal flu campaign calendar in Section 5. The campaign calendar can be used to develop, carry out, and evaluate your campaign over the course of the whole year. The calendar can be viewed, downloaded, or printed from <https://www.publichealth.va.gov/flu>.



STEP 2: Using Goals to Build Strategies

The foundation of an effective communications strategy is rooted in the campaign's goals. Each year, the Infection: Don't Pass It On team publishes goals for the campaign. This year's goals are as follows:

1. Within each VA health care facility, gradually increase the seasonal influenza vaccination rate of health care personnel toward the 2020 Healthy People goal of 90%.++
2. Promote seasonal influenza vaccination to all Veteran patients. Note: This is based on the Federal recommendation of universal influenza vaccination of all people aged 6 months and older.
3. Reduce disparity of influenza vaccination rates by increasing the rate of vaccine uptake among female patients and those patients under age 50.
4. Promote consistent and proper documentation and tracking for all influenza vaccinations.
5. Promote non-vaccine methods of preventing influenza, particularly hand hygiene and respiratory etiquette.
6. Encourage the entire VA health care community to promote and support influenza vaccination.

++ Beginning FY13, VHA facilities are expected to align their influenza vaccination for HCP with the 2020 Healthy People goal which is to achieve a rate of 90% by 2020. Facilities will need to look at their vaccination rates for the previous year and set a goal to increase which will meet the Joint Commission standard. For example, a site may strive to raise HCP flu vaccination rates by 5% each year until 90% is attained by 2020. For most VHA health care facilities, this will translate into a gradual increase of the seasonal influenza vaccination rate of health care personnel to meet the 2020 Healthy People goal of 90%. To view these objectives for health care personnel, visit https://www.healthypeople.gov/node/4668/data_details

STEP 3: Understanding Your Target Audience

As you craft your communications strategies, identify and discuss your two basic flu vaccination target audiences with your team.

1. **Enrolled Veterans.** Identify your target patient groups by the following subsets:
 - Gender
 - Age
 - By level of risk for complications from flu
 - By location, such as inpatient and outpatient areas. Consider community-based outpatient clinics, community living centers, VA social workers, and OIF/OEF coordinators.
2. **Employees.** Identify your target health care personnel (HCP) groups by the following subsets:
 - Clinical HCP – physicians, physician assistants, nursing staff, pharmacists, trainees, service chiefs, chief residents, and academic affiliates.
 - Nonclinical HCP – public affairs employees, food workers, environmental management, police/security, volunteers, and hospital leadership.
3. **Veteran supporters.** Work through those who may not be employees or enrolled Veterans but may play an active role in Veterans' health care decision making and getting the word out about vaccination and access to vaccine:
 - Representatives of Veteran Service Organizations
 - Caregivers, such as spouses, parents, or children
 - State/county public health departments.



STEP 4: Addressing Misconceptions

Misinformation, myths, and personal experience can influence those who choose not to get the flu vaccine. Given the many reasons people offer about why they don't get the flu vaccine, it can be a challenge to respond to these concerns. Make sure your audiences are provided with the correct information. The messages below can assist you in responding to these reasons with facts, respect, and empathy.

The reasons and their accompanying messages fall into four common themes: 1) safety, effectiveness, and fear; 2) vaccination timing; 3) confusion about appropriate vaccine and "risk groups;" and 4) overconfidence in one's own health.

1. Safety, Effectiveness, and Fear

What people say:

"I don't want to get the flu shot because..."

"I hear there are side effects."

"The flu shot will give me the flu."

"I don't know what's in the vaccine, so I won't take it."

"I don't like putting things in my body, especially when no one knows if it is safe."

"I got the flu last year even though I had been vaccinated. So, what's the point?"

"How do I know the vaccine really works?"

"I'm very afraid of needles."

"I can't get the flu shot because I'm allergic to eggs."

"I'm pregnant, so getting the flu shot is scary to me."

Points to share with Veterans and health care personnel with regard to safety, effectiveness, and fear:

- ◆ The most effective way to protect yourself from the flu is by getting an annual flu vaccination. Studies show that both the flu shot and the nasal spray vaccine are effective in preventing the flu.
- ◆ You cannot get the flu from the flu shot. The vaccine is not made from a live virus and cannot infect you with the flu. Although the nasal spray vaccine is made with live, weakened flu viruses, it also does not cause the flu.
- ◆ Some people who get the flu shot can still get the flu. However, it is not caused by the vaccine. Sometimes you can already be exposed to the flu a few days before you received the vaccine, but you just didn't develop symptoms until around the same time you got vaccinated. Because it can take up to two weeks for the vaccine to work, you could also get the flu during that time after receiving a flu shot.
- ◆ The U.S. Food and Drug Administration (FDA) ensures that vaccines undergo a rigorous and extensive development program. After a vaccine is approved by the FDA, its safety is continuously monitored. Ingredients used during the manufacture of flu vaccines include substances to help prevent contamination, inactivate or "kill" the viruses, and stabilize the vaccine from changing. VA health care personnel and Veterans can learn more about the composition of the seasonal flu vaccine at <https://www.cdc.gov/flu/professionals/vaccination>
- ◆ One mild side effect from the flu shot is tenderness at the site of the shot (injection) that can last for several days. There may be soreness, redness, or swelling that can be relieved by putting ice on the injection site. Moving the arm to keep the muscle loose may also help.
- ◆ Some people who get the injection may have a slight fever, chills, headache, tiredness, or muscle ache within the first 48 hours of getting the shot. These reactions may begin 6 to 12 hours after the shot, can last for 1 to 2 days, and are more likely to happen in people who have never received a flu vaccine. Two days of discomfort are better than getting the flu and its related complications, which can last for many days or even weeks. Veterans who have shoulder pain after being vaccinated should report the issue to their health care provider. HCP vaccinated as a VHA HCP should report pain to employee occupational health staff.

- ◆ The flu vaccine is changed each year to match the type of flu currently circulating. Each year the vaccine is formulated to provide a close match to the known circulating strains of flu virus in the most recent flu season. In years when there is a good match between the circulating viruses and the corresponding vaccine strains, the vaccine's effectiveness in reducing illness can be as high as 70-90 percent. In years where the match is not close, the chances of getting the flu without getting a flu shot is still going to be higher.
- ◆ Being afraid of needles means you are normal! If you are afraid of needles you may be a candidate for the nasal spray vaccine (FluMist®). The most common side effects from this delivery method are a runny nose and nasal congestion. If you are age 49 or under, healthy, and not pregnant, the nasal vaccine may be right for you. Discuss the nasal spray with your health care provider to see if it is an option for you.

2. Vaccination Timing

What people say:

"I don't want to get the flu shot because..."

"I got the seasonal flu shot last year. I've heard that once is enough."

"It's past October, I waited too late to get the flu shot. I'll just get it next year."

"The flu is not circulating in my community."

"I don't have time to get my flu shot. I'm just too busy!"

Points to share with Veterans and VA staff with regard to timing:

- ◆ The flu vaccine is effective for about one flu season. Therefore, the flu vaccine is recommended EVERY year to get the latest protection.
- ◆ The circulating flu virus strains usually change from year to year. The components of the flu vaccine are updated every year in response to the most common circulating strains of flu virus, so you need an annual shot to get the latest protection for the current flu season. Even if the vaccine and the circulating strains are not an exact match, the vaccine can reduce the severity of the illness and help prevent influenza-related complications.
- ◆ Adults need only one seasonal flu vaccination each year.
- ◆ The flu vaccine stimulates production of antibodies by your body that provide protection against the flu viruses. The greater your antibody response the greater your protection against flu. Usually it takes about 2 weeks after your vaccination for your body to build enough antibodies to provide protection from flu.
- ◆ It is never too late to get the flu shot. Flu viruses begin circulating in the United States in the fall and continue into spring. VA encourages flu vaccination as soon as the vaccine is available, but you can get a flu vaccination at any time during flu season and be protected after that.





- ◆ Even if you think the flu is not circulating in your community, it can show up anytime. So it's best to be ready and get vaccinated before flu shows up in your community.
- ◆ Because it's sometimes hard to find the time to get the flu vaccine, the VA offers the flu vaccine at no charge to enrolled Veterans and HCP at VA health facilities throughout the country. Getting vaccinated will protect you and help prevent the spread of flu to your family, fellow Veterans, VA health care personnel, and others.

3. Confusion about Vaccination and “Risk Groups”

What people say:

- “I’m not going to get the flu shot because...”*
- “The rules keep changing about who should get vaccinated. I keep hearing mixed messages.”*
- “I hear that older people are supposed to get the flu shot. I’m too young to need a flu shot.”*
- “I’m not in a high-risk group.”*
- “I don’t like shots and wanted to get the flu nose spray, but I was told I couldn’t get it because I was too old. I am only 52 and the nurse said no one over 49 could get the nose spray for flu. Why is that?”*
- “I’m over 65 and I’m not sure whether I should get the regular flu shot or the high-dose one.”*
- “I hear that now even young people are supposed to get the flu shot. The government can’t seem to make up their minds on this. I’m at no more risk for flu than I was last year.”*

Points to share with Veterans and HCP to clarify confusion and hesitation with regard to the flu vaccine:

- ◆ Yearly flu vaccination is now recommended for all persons aged 6 months and older. The age range is expanded from previous recommendations and is supported by evidence that annual flu vaccination is a safe and effective preventive health action with potential benefit for all people 6 months and older.
- ◆ People younger than age 65 should be administered standard dose flu vaccine.

- ◆ People aged 65 years or older may receive either the standard dose or the high-dose flu vaccine. The high-dose vaccine, made available since 2010, contains four times the amount of antigen (the part of the vaccine that prompts the body to make antibodies) than in the regular flu shot. Because human immune defenses become weaker with age the high-dose vaccine is intended for people aged 65 and older. The additional antigen in the high-dose vaccine leads to greater immune response (more antibodies) in the person getting the vaccine. Thus, people aged 65 and older now have another option - the high-dose flu vaccine.

- ◆ Even if you are not at high risk, you should get a flu vaccination to protect yourself and help reduce your chances of spreading the flu to your family, other Veterans, VA health care personnel, friends, and others.

4. Overconfidence in One’s Own Health

What people say:

- “I don’t want to get the flu shot because...”*
- “I’m healthy. I’ve always been healthy. I don’t need to get vaccinated for flu.”*
- “I have a strong immune system, so I am willing to risk getting the flu.”*
- “I don’t need the flu shot. If I get the flu, I’ll just take an antiviral medication.”*
- “If I get the flu, I’ll just take an antibiotic.”*
- “My immune system is working just fine, thank you. I never get sick!”*
- “I’ve been around a long time and probably been exposed to all kinds of flu. In fact, because I’m 70, I probably have some immunity to it.”*

Points to share with Veterans and HCP with regard to feeling overconfident about their own health:

- ◆ Influenza can cause serious illness and death even in the healthiest of people. The flu is not a disease that affects just the elderly. The flu can infect any person of any age. If you get the flu, you can spread it to your family, other Veterans, VA health care personnel and other staff,

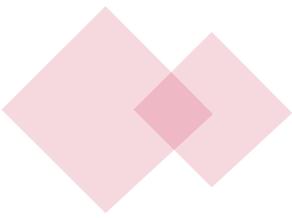
co-workers, and others. This puts everyone at risk for severe illness and complications from the influenza virus. Getting vaccinated protects you, your family, other Veterans, HCP, and others.

Key Points For Health Care Personnel (HCP)

- ◆ VA's culture of safety involves everyone.
- ◆ HCP are the leaders in preventing flu by:
 - Getting vaccinated
 - Promoting vaccination to patients and other a staff
 - Promoting and exercising proper hand hygiene and respiratory etiquette
 - Staying home or away from others when sick
 - Recording vaccination and infection data to appropriate sources (e.g., patient records)
- ◆ Even without direct contact with patients, you still share the same space and facilities and can still spread flu.
- ◆ Getting a flu shot will help protect you AND your co-workers who may have direct patient contact.
- ◆ Encouraging your co-workers to get their flu shots is crucial to fighting the spread of flu.
- ◆ By not getting your flu shot, you may be endangering patients.
- ◆ Patients look to you to educate them on flu vaccination.
- ◆ Clinical staff: Reporting flu activities in VISTA is very important. Make sure reporting is accurate and timely.
- ◆ HCP can find more information on flu and the flu vaccine at <https://www.publichealth.va.gov/flu/index.asp> or at their local employee occupational health office.

- ◆ The flu virus changes almost every year, so even if you were immune one year, you may not be immune to the strains of flu virus spreading the next year. It's better to be protected by getting vaccinated against flu each year.
- ◆ Antiviral medications do not eliminate flu symptoms. They do shorten the duration by about 3 days, but you'll feel sick, miss out on your daily activities for several days, and/or need to be out of work. There is a cost associated with these antivirals, and they must be taken very early during your illness to be effective in reducing the symptoms of flu.
- ◆ The flu is a virus. Antibiotics only work against bacteria and, therefore, cannot help treat the flu.
- ◆ Remember, you can spread flu to others before you have symptoms. To protect yourself, your family, other Veterans, VA health care personnel and other staff, your co-workers, and others, you should get vaccinated.
- ◆ Most people who get the flu experience the full effect of its symptoms. There are some people who get flu without noticeable symptoms. Anyone can spread the flu to others before realizing they are ill.





STEP 5: Developing Key Messages

After goals and target audiences are understood, and keeping in mind the myths and misconceptions of flu vaccination, the next step is to determine the key points your campaign will emphasize through a variety of outlets and messages. The Infection: Don't Pass It On team, in conjunction with the leadership of our public health programs, has developed the following key communication points for the campaign:

Key points emphasize to Veterans and Veteran supporters

- The flu vaccine is effective in preventing flu.
- Benefits of the vaccine greatly outweigh the side effects.
- You cannot get the flu from the flu shot.
- Hand hygiene and respiratory etiquette, along with the flu shot, are a vital to preventing the spread of flu.
- You need a flu shot every year because every year flu viruses may change.
- Stay home or away from others when sick.
- Veterans may find more information on flu and the flu vaccine at <https://www.publichealth.va.gov/flu/index.asp>.



STEP 6: Creating Effective Content

Communication strategies work best when campaign messages are motivational, educational, and actionable. While crafting messages, run through the check list below.

For what audience is this message intended? Does the message speak to that audience? Using your list of target audiences, consider how to reach them effectively by using plain language and population-specific information. For example, if you wish to target a Veteran audience, do not use the same language intended for a clinical audience.

What information should you provide to the target audience to increase comprehension and pinpoint facts most relevant to them? For example, provide fact sheets, brochures or links to websites containing specific information.

What do I want from the target audience after reading or seeing the message? State clearly what you want your target audiences to do. For example:

- Get vaccinated (let them know when and where)
- Keep hands and surfaces clean
- Cover coughs and sneezes
- Stay home or away from others when sick
- Encourage others to get vaccinated

What are the key points to emphasize in facility-wide communications?

- VHA promotes a culture of safety through influenza vaccination and prevention
- The flu vaccine is free to paid employees, volunteers, trainees, and enrolled Veterans
- This is how and when you can get vaccinated (provide time and place specific to your facility)
- Flu vaccine, in combination with other mitigation strategies, prevents influenza within VHA facilities

Creating effective communications for Veterans about vaccination and proper hand hygiene helps prevent the spread of illness to other Veterans with whom they come in contact. Let Veterans know they play an important role in flu prevention by helping to protect their fellow Veterans from the flu.

ALL ENROLLED VETERANS:

Key Action Items for Veterans:

- Get vaccinated every year
- Keep hands and surfaces clean
- Cover coughs and sneezes
- Stay home or away from others when sick
- Encourage others to get vaccinated
- You play an important role in flu prevention. Help us keep our community healthy this flu season!

Female Veterans:

- Flu vaccination is important to every woman's health.
- Vaccination against flu is especially crucial for pregnant women, who are more likely to have severe illness, hospitalization, and even death if they do come down with the flu. By getting vaccinated against the flu, pregnant women also are protecting their babies, both before and after birth.
- Mothers can still protect their older children from getting the flu by getting vaccinated themselves, so they cannot spread the illness to their children. It also sets a good example for their children to “be brave” when getting their own vaccination.

Elderly Veterans:

- As we age, our immune system weakens. For seniors, the seasonal flu can be very serious, even deadly.
- Elderly Veterans have two options for vaccination – the standard-dose flu shot and the high-dose flu shot designed specifically for people 65 and older. Both vaccines protect against the same flu viruses.

Younger Veterans:

- Flu affects all age groups, including younger ones.
- Flu keeps you from doing the things you enjoy like sports and having fun on the weekend. Flu can knock you out for days or even several weeks. It may also impact work and wages.

Veterans by location:

- Flu vaccination resources are available to all Veterans, no matter where and how you seek medical care. (Provide location-specific vaccination information to Veterans located in inpatient areas, outpatient areas, community-based outpatient clinics, or community living centers. Let them know how and when they can get vaccinated.)

CREATING EFFECTIVE MESSAGING FOR HEALTH CARE PERSONNEL

Service chiefs, chief residents and other managers:

- Service chiefs and managers interact with a multitude of staff members on a daily basis. Your flu vaccination and healthy hand hygiene has a tremendous impact on the health of this facility.

Pharmacy personnel

- Each individual pharmacy professional comes in contact with a numerous medications distributed to Veterans on a daily basis. Your flu vaccination and hand hygiene protects the health of the Veterans you serve.
- Some pharmacists may also vaccinate patients and HCP if their license and training allows.



Nursing staff and physicians

- Nursing staff and physicians are the vanguard of a flu prevention campaign. Get vaccinated for flu to protect the Veterans you serve.
- Do not assume patients will get vaccinated on their own. Instead, check in with patients and advise them to get vaccinated.
- Provider recommendation for a patient to get a flu shot is typically the strongest influence leading to vaccination. Make sure you recommend vaccination to each of your patients.
- The work is not done after a vaccination or an influenza diagnosis. By documenting vaccination and infection data, providers play a vital role in their facility's ability to monitor influenza. (Provide education about flu surveillance through posters and emails) (see Section 11).

Leadership:

- VISN and facility leaders will lead the way to a healthy flu season by getting vaccinated. HCP look to you to set an example of a culture of safety at work!

Union leaders:

- Support from union leaders is critical to engaging union members. We need your support to help keep your members safe from flu. Please join us in our flu prevention efforts.

Food service personnel, volunteers and security staff

- Food service personnel, volunteers and security staff play a specific and important role during flu season. You have daily contact with patients and providers and share the same common areas and other spaces within facilities. Your flu vaccination has a huge impact in combating the spread of influenza at this facility!
- Healthy hand hygiene starts with you. Check out the best practices for hand hygiene (The Infection: Don't Pass It On team has developed a variety of hand hygiene posters available at <https://www.publichealth.va.gov/flu/materials/brochures.asp>)

KEY ACTION ITEMS FOR HEALTH CARE PERSONNEL:

- Get vaccinated
- Encourage patients and co-workers to get vaccinated
- Stay home when sick
- Practice proper hand hygiene
- Cover coughs and sneezes

CREATING EFFECTIVE CONTENT FOR VETERAN SUPPORTERS

Veteran Service Organizations (VSO)

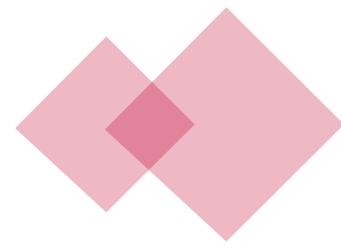
- Help promote vaccination and awareness to the Veterans they serve. Let your Veteran members know that flu vaccination is offered for free to all Veterans at this facility! Provide details about when and where your members can get vaccinated.

Caregivers

- Caregivers – such as spouses, parents or children – often play an active decision-making role in Veterans' lives. Encourage the Veteran in your life to get their flu shot. Vaccination is offered to all Veterans for free at this facility.
- Don't forget to get vaccinated through your physician or at your local pharmacy.

KEY ACTION ITEMS FOR VETERAN SUPPORTERS:

- Set the example by getting vaccinated themselves
- Encourage Veterans they know to get vaccinated



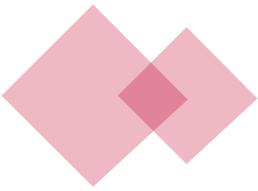
STEP 7: Utilizing Social Media and Other Communications Tools

Many communication formats and channels can be used to “get the word out” and educate target groups on the importance of vaccine and other strategies to prevent the spread of influenza.

Work with your facility’s Public Affairs Officer (PAO) to help you utilize the following tools within your facility. For specific examples, please see the “Examples of Effective Messaging” in Step 9 of this section.

TOOLS FOR PATIENT POPULATIONS

- ◆ Facebook: Facility Facebook pages are a fast and modern way to reach Veterans, especially those in a younger population. Messages posted on Facebook should follow the following guidelines:
 - Keep messages short – about 250 characters and at a reading level appropriate for your audience.
 - Post a photo to grab reader’s attention.
 - Provide links for additional resources such as those found at <https://www.publichealth.va.gov/flu>
 - Submit posts through your PAO and be prepared to help them respond to questions posed on social media.
- ◆ Twitter: Posts to Twitter (tweets) are under 140 characters in length. Use hashtags that are relevant to the post, for instance #flu, #fluseason, or #fluvaccine. Submit tweets through your PAO.
- ◆ Postcard mailings: Provide relevant information regarding where and when Veterans and staff can get vaccinated at your facility. Don’t forget to let them know that it’s free!
- ◆ Phone recording scripts: Record a 10 to 20 second message that informs listeners when and where they can get their flu shot.
- ◆ Local newsletter: Using a short article, outline the basic key messages of your flu campaign and advise readers when and where they can get vaccinated.
- ◆ Director blog entry: If your facility director has a blog on your facility’s website, ask them to write a piece on the importance of getting vaccination. Consider including a photo of the director getting their own shot!
- ◆ Text crawls for closed circuit TVs/eboards: Keep crawls to 5-10 words and advertise when and where vaccination is available if possible.
- ◆ Educational posters, fact sheets, and brochures in common areas: To view, download and print resources visit <https://www.publichealth.va.gov/flu>.
- ◆ VSO Newsletters: Using a short article, outline the basic key messages of your flu campaign and advise readers when and where they can get vaccinated.
- ◆ Flu videos in waiting areas: IDPIO provides videos for viewing and downloading at <https://www.publichealth.va.gov/flu>.



- ◆ Email from flu team: Communicate electronically prior to and throughout the vaccine season. Remind health care personnel of the importance of vaccination, plus where and when they will be able to get the influenza vaccine. Keep communications short and succinct.
- ◆ Email from hospital leadership: Ask your facility's leadership to write an email that encourages a culture of safety by reminding that all HCP should get a flu shot.
- ◆ Screen savers: Provide an attention-grabbing influenza fact, along with details on where HCP can get vaccinated.
- ◆ E-bulletin board materials: See Step 9 for horizontal poster designs in JPEG format for display on CCTV, desktops, and at staff meetings.
- ◆ Employee newsletters, bulletin boards, facility EOH SharePoint Sites, VA Pulse: Using a short article, advise HCP that they are critical in preventing the spread of flu in several ways:
 - Getting vaccinated
 - Encouraging patients and co-workers to get vaccinated
 - Staying home when sick
 - Practicing proper hand hygiene
 - Covering coughs and sneezes

TOOLS TO REACH VETERANS

- ◆ Facebook: Facility Facebook pages are a fast and modern method to reach anyone who lives with or cares for a Veteran. If a Veteran is too ill or unable to use social media, their family or friends may be able to do it for them. Messages posted on Facebook should follow the following guidelines:
 - Keep messages short – about 250 characters.
 - Speak to the audience: let caregivers know that this message is for them!
 - Post a photo to grab reader's attention.
 - Provide links for additional resources, visit the VA's flu page <https://www.publichealth.va.gov/flu>
 - Submit posts through your PAO.
- ◆ Twitter: Posts to Twitter (tweets) are under 140 characters in length. Use hashtags that are relevant to the post for Veteran supports, for instance #Veteransupporter, #FriendofVeteran, #flu, #fluseason, #flu-vaccine. Submit tweets through your PAO.
- ◆ Postcard mailings: Provide relevant information regarding where and when family members can take the Veterans in their lives to get vaccinated at your facility. Don't forget to let them know that it's free for the Veteran!
- ◆ Educational posters, fact sheets, and brochures in common areas: To view, download and print resources visit <https://www.publichealth.va.gov/flu>.

STEP 8: Applying a Communications Plan

Influenza Communications and Promotion Plan Medical Center Sample Communications Plan

Message/ Event	Purpose or Desired Outcome	Target Audiences	Promotions	Target date	Persons Responsible	Status
Describe the message to be published or event organized	Describe what you plan to accomplish with this activity. What are the key messages?	Who should this message target?	Describe how you'll get the word out	Identify the execution date	Who will execute?	Record relevant status
Recruiting Flu Team members	YOU can help prevent flu! Join the Flu Team	Pharmacy, infectious disease, nurses, facility mgmt, public affairs, facility leadership, occupational health, health promotion coordinators	Two facility emails to staff, posters in break rooms and staff bulletin boards, announcements at staff meetings	Begin promoting on April 15; meeting scheduled for May 1	Flu Team coordinator	-
Call for flu campaign theme contest	Engage interest from all employees	All employees	Two facility emails to staff	Emails begin June 1; announce theme on July 1	Public Affairs Officer	-
Kickoff event	Vaccinate staff and patients	All staff and patients	Posters in patient areas, email to staff	Late September or when vaccine is available	All team members	-
National Vaccination Week	Vaccinate staff and patients	All staff and patients	Posters in patient areas, email to staff on Mon/Wed/Fri, Facebook post, Director's letter or blog post	December	All team members	-
VA Staff Vaccination Week	Vaccinate staff	Staff members	Two facility emails to staff, posters in break rooms and staff bulletin boards, announcements at staff meetings, Facebook post	November	All team members	-
Follow up communications to staff and patients	Get the word out: it's not too late to get vaccinated	All staff and patients	Postcard mailing to patients and staff and email to staff	February 1-7	Promotions team	-
Communicate results of campaign to staff	Thank staff for their efforts and update on vaccination rates	All staff, union leaders, facility leadership	Email	Early April	Promotions team	-

STEP 9: Executing the Communication Plan

The following section includes examples of communications to health care personnel, Veterans, and the VA community. To view, download, and print resources such as posters and fact sheets on influenza, hand hygiene, and respiratory etiquette, visit: <https://www.publichealth.va.gov/materials/index.asp>

EMAIL ANNOUNCEMENTS

EXAMPLE 1 – From the flu team or Flu Coordinator to all employees:



EXAMPLE 3:

Reporting outside vaccinations, for all health care personnel (HCP):

Employees, Staff and Volunteers:

Did you already get your shot?
Was it outside of VA?
Please let us know!

Fill out this card and send it to the Occupational Health Office, located at _____

Thank you for helping VA prevent the spread of flu!
Our culture of safety starts with YOU!

Name: _____

Service: _____

Please check one:

I am an employee/veteran and have had the flu shot as a veteran at the VAMC on _____. (date)

I am a volunteer/veteran and have had the flu shot as a veteran at the VAMC on _____. (date)

I am a volunteer and have had the flu shot outside the VAMC on _____. (date)

I am an employee and have had the flu shot outside the VAMC on _____. (date)

I am an academic affiliate and have had the flu shot outside the VAMC on _____. (date)

Please place this postcard in the Occupational Health flu shot drop box located in the lobby or bring to Occupational Health (email – reply to sender, indicate the appropriate response, press send)

EXAMPLE 2:

From the public affairs officer or Flu Coordinator or occupational health to all staff:

The flu vaccine has arrived

No matter where you work, a flu shot protects you and the Veterans we serve.

Our culture of safety starts with you!

Free to all VA staff and enrolled Veterans.

Available at:

Room: _____

Date: _____

Time: _____

Contact _____

to find out more information,
or visit

<http://www.publichealth.va.gov/flu/index.asp>
for more information on how to stay healthy
this flu season.

EXAMPLE 4:

Email to all HCP for VA Staff
Vaccination Week

Did you know that nationally only about 50% of VHA employees were documented as receiving their shot last year?

Get your flu shot
during
VA Staff Vaccination Week

Room: _____
Date: _____
Time: _____



(substitute photo of your facility's leadership here)

TEXT FOR NEWSLETTERS OR MEETING ANNOUNCEMENTS

EXAMPLE 1:

“It’s not too late” messaging for all audiences

GET A FLU SHOT

Flu is still spreading –
and the season can last into spring time!

Flu Shots are available at _____

Protect yourself and your loved ones from flu and other germs by:

1. Getting the flu shot
2. Keeping your hands and surfaces clean
3. Covering your sneezes and coughs
4. Staying home or away from others when sick

EXAMPLE 5:

Message from the facility director to all staff:

VA employees:

To help stay healthy during the holidays and into next year, give the gift of health by getting a flu shot to not only protect you, but others as well. National Influenza Vaccination Week (NIVW), December 8-14, 2013, is a national observance established to highlight the importance of flu vaccinations and encourage more people to be vaccinated after the holiday season, into January, and beyond.

The flu season typically runs from October to May, with the peak around January. So get vaccinated today before all the holiday parties and family gatherings.

One of the biggest myths about the flu is a person gets the flu from a flu shot. The influenza vaccine cannot give you the flu. Why? Because the flu shot contains killed viruses, and the nasal spray has weakened viruses that cannot cause illness. If you get flu-like symptoms soon after being vaccinated, it can mean you may have been exposed to the flu before getting vaccinated, or during the two-week period it takes the body to build up protection after vaccination. It might also mean you are sick with another illness that causes symptoms similar to the flu.

Flu-like symptoms include fever, cough, sore throat, runny or stuffy nose, body aches, headache, chills and fatigue. Some people may have vomiting and diarrhea, but it is not typically associated with respiratory flu. If you are sick with flu-like illness, stay home for at least 24 hours after your fever is gone (without the use of a fever-reducing medicine.) You can also go to a doctor for antiviral drugs, which can make illness milder, shorten the time you are sick and may prevent serious complications.

Vaccination is important for health care workers and others who live with or care for high-risk people to keep from spreading flu to high risk people. For example, children younger than six months are at high risk of serious flu illness, but are too young to be vaccinated.

Flu shots are available here at the VA and are free to staff and enrolled Veterans. Please stop by _____ and get yours– like I did!

EXAMPLE 6:

Messages for hand etiquette for health care personnel (HCP):



Wash your hands to help prevent the spread of flu!

If hands are visibly dirty or soiled, healthcare workers must wash their hands with soap and water.

In the remaining cases, alcohol-based hand rub may be used:

1. Before and after contact with a patient;
2. Before inserting an invasive device;
3. Before donning gloves and after removing gloves;
4. Moving from one contaminated body site to another on the same patient;
5. Before handling medication; and
6. After contact with inanimate surfaces and objects in the vicinity of the patient.

EXAMPLE 2:

Newsletter article to all health care personnel and Veterans:

A Flu Shot is Your Best Protection this Flu Season

Free vaccination to staff and enrolled Veterans

No matter your age or state of health, getting a flu shot is the best thing you can do to protect yourself this flu season.

- Influenza can cause serious illness and death even in the healthiest of people.
- If you get the flu, you can spread it to your family, other Veterans, VA health care personnel and other staff, co-workers, and others. This puts everyone at risk for severe illness and complications from the virus.
- The flu vaccine is recommended EVERY year to get the latest protection.



Because it's sometimes hard to find the time to get vaccinated the VA offers the flu vaccine at no charge to enrolled Veterans at VA health facilities throughout the country, as well as staff.

Flu shots are offered at _____ on _____.

Talk to your VA health care provider about how to stay healthy this flu season. For more information, visit www.publichealth.va.gov/InfectionDontPassItOn. All staff should check the EOH SharePoint.

EXAMPLE 3:

From flu team to clinical health care personnel:

Health care providers:

Why should you get vaccinated against influenza?

Health care providers have an ethical responsibility for promoting a culture of safety. Your flu vaccination protects you, those around you and the Veterans you serve.

Health care personnel should be vaccinated against influenza every year. Here's why:

- They can get the influenza virus from their patients, resulting in absence from their positions.
- They can acquire influenza infection and not have any symptoms, but still be able to transmit the disease.
- Health care personnel who are ill with influenza often continue to work and spread the virus to other employees, volunteers, patients, and family members.
- Unvaccinated health care personnel have caused influenza outbreaks in health care settings.

Check with Occupational Health for information on how to get your influenza vaccine.

EXAMPLE 4:

Thank you communications for staff and team members

Dear Employees:

Thank you....

For a helping reduce flu infections this year at our VA!

How did we do this year?

Over _____ staff members were vaccinated

Over _____ Veterans were vaccinated

Compared to last year, that's a _____ % increase in staff vaccinations and _____ % increase in Veteran vaccinations!

But there's always more we can do. Here are some ways we could improve:

More vaccinations in _____ departments

Higher vaccination rates in (insert demographic, gender, etc)

A special thank you to our dedicated flu team members:

EXAMPLE 5:

"Join the Kickoff Event"

DON'T LEAVE FLU PROTECTION TO CHANCE



Join us at this year's

Flu Vaccination Kick Off Event

Room: _____

Date: _____

Time: _____

EXAMPLE 6:

Postcard from your facility to all patients:

Postcard front

**The flu vaccine has arrived
at the _____ Medical Center!**

A flu shot protects you and those around you.
Help keep our community healthy this flu season!

Flu shots are free to all enrolled Veterans.

Available at:
Room: _____
Date: _____
Time: _____

*Have you already received your flu shot?
Let us know!*
Call _____

Postcard back:

From _____

TO: _____



EDUCATING CLINICAL PROVIDERS ON FLU VACCINATION

EXAMPLE 1 – Answering frequently asked questions

ATTENTION HEALTH CARE PERSONNEL:

Do you know patients who have concerns about the flu shot? Help address common concerns and encourage patients to get vaccinated.

“I’m healthy. I don’t need to get vaccinated for flu.”

Influenza can cause serious illness and death even in young, healthy people. It’s not just a disease that affects the elderly. If you get influenza, you can spread it to those around you, putting them at risk for severe illness and complications from the influenza virus. Protect yourself, your co-workers, and your family – get vaccinated for flu.

“I don’t want to get the vaccine because it has side effects.”

Studies have shown that the influenza vaccine is not associated with higher rates of systemic symptoms than are seen with injections of placebos among healthy working adults. The most common side effects of influenza vaccination include: soreness, redness, or swelling at the injection site; mild or low-grade fever; and aches. The symptoms should only last a day or two. The most common side effects from the nasal influenza vaccine are a runny nose and nasal congestion. Allergic reactions (anaphylaxis) rarely occur (less than 1 in 1 million). Neurological reactions (Guillain Barré Syndrome) are also rare (1 in 1 million).

“I got the influenza vaccine before and I still got influenza, so why should I get it now?”

In years when there is a good match between the circulating viruses and the corresponding vaccine strains, vaccine efficacy for reducing illness has generally been between 70-90 percent. However, even when the viruses are not well matched, the vaccine can protect many people and prevent flu-related complications.

“I’m pregnant. I shouldn’t get the vaccine.”

All pregnant women are at risk from influenza and its complications. It is important that pregnant women get the influenza vaccine to protect themselves and their babies. The influenza vaccine can be given any time during the pregnancy. However, pregnant women should NOT receive the nasal influenza vaccine.

“I don’t need the vaccine. If I get the flu, I’ll just take an antiviral medication.”

Antiviral medications do not eliminate flu symptoms. They do shorten the duration by about 3 days, so you will need to be off work. Like all medication, antivirals may have side effects. It’s better to get the flu vaccine.

“I always get ‘the flu’ when I take the vaccine.”

When you are vaccinated, you may develop temporary mild body aches, soreness at the injection site, and/or low grade fever. Any of these indicate a healthy normal response that may result in some mild discomfort, but this is different from actually getting influenza.

“My immune system is working just fine, thank you” or “I never get the flu.”

Remember, you can transmit influenza to others before you become symptomatic. You may transmit the flu virus to others before you develop any symptoms of the flu. To protect your patients and family, you should get vaccinated.

For more information about vaccination events or other influenza questions, please visit

<https://www.publichealth.va.gov/InfectionDontPassItOn> or contact the Flu Coordinator at _____

EXAMPLE 2 – Communications to clinical health care personnel about documenting flu activity:

ATTENTION HEALTH CARE PERSONNEL:

Do you know patients who have concerns about the flu shot? Help address common concerns and encourage patients to get vaccinated.

VA documents influenza activity because it helps protect the health of not only Veterans within VA but contributes to nationwide influenza planning. Accurate and timely documentation by health care personnel is essential to the surveillance process.

Documenting influenza vaccinations in CPRS:

- 1. Vaccinations can be entered via a reminder dialog progress note template or a clinical reminder dialog.**
This is the preferred method of documentation since manufacturer name, lot numbers, and expiration dates can be included in the dialog, and the entry will populate the patient's immunization list in CPRS.
- 2. Direct entry of the vaccination into the Patient Care Encounter (PCE)** can be made after administration of the vaccine.
- 3. Recording the administration of a vaccine dose in the Bar Code Medication Administration (BCMA) system on inpatients does not result in the entry of the vaccination on the patient's immunization list unless local programming has been accomplished to include this function.** If no local programming exists to perform this function, then the site needs to implement one of the processes above to ensure that ALL vaccinations administered to patients are appropriately recorded on the immunization list.
- 4. Entry of the Current Procedural Terminology (CPT) code for a vaccination will result in the automatic update of the patient's immunization list ONLY IF THE PCE CODE MAPPING file contains a link from that CPT code to the correct immunization.** Utilizing these processes will assure entry of the correct CPT Code for vaccine administration and the specific CPT code of the vaccine formulation given directly into the PCE VISIT files as well as the Immunization section of the encounter form. Completed documentation of the influenza vaccination can be viewed in the progress notes in CPRS with the actual immunizations and related CPT codes displayed in a window below the progress note.

For more information about vaccination events or other influenza questions, please visit

www.publichealth.va.gov/InfectionDontPassItOn or contact the Flu Coordinator at _____



EXAMPLE 3 – Documenting flu vaccination into the medical record

ATTENTION HEALTH CARE PERSONNEL (HCP):

Documenting flu vaccination is a critical part of VA's Flu Campaign

Accurate and timely documentation by health care personnel is essential to the surveillance process and meeting The Joint Commission requirements.

How can HCP's contribute to accurate surveillance?

- Utilize one of five CPT codes for each influenza vaccination administered. Using these processes will assure entry of correct CPT Codes for vaccine administration.
- Accurately code: Data is only as good as the recording.
- Code early in a timely manner: the faster the progress note is finished, the faster codes are assigned, and the faster VA can determine the true state of flu infections.

For more information about vaccination events or other influenza questions, please visit

<https://www.publichealth.va.gov/InfectionDontPassItOn> or contact the Flu Coordinator at _____

Social Media Posts

Facebook:

- ◆ Do I have a cold or the flu? Should I stay home or go to work? Learn important facts about the flu, flu vaccination and taking care of yourself while sick this flu season at <https://www.publichealth.va.gov/flu>
- ◆ It's an urban legend that you can get the flu from a flu shot. The vaccine contains non-living flu viruses. The truth is you can protect yourself and your family by getting a flu shot each year. <https://www.publichealth.va.gov/flu>
- ◆ Washing hands is a great way to prevent the spread of the flu, but you also need a flu shot. If you are a Veteran enrolled with the VA you can get one for free at your VA medical center. <https://www.publichealth.va.gov/flu>

Twitter:

- ◆ Any Vet who filled a sandbag in the military knows it was done for protection-just like getting a flu shot. <https://www.publichealth.va.gov/flu>
- ◆ Fall kicks off the football and flu seasons. Get your flu shot at your local VA and stay protected. <https://www.publichealth.va.gov/flu>



SECTION
8

Veteran Patients:

How to Improve
Vaccination Rates





Veteran Patients: How to Improve Vaccination Rates

The following strategies have been shown to be effective for increasing influenza vaccination rates, especially when used in conjunction with each other.

- 1. Use a team approach**
- 2. Use organizational approaches**
- 3. Make use of educational opportunities**
- 4. Understand obstacles and individual beliefs**
- 5. Employ systems strategies**
- 6. Make vaccination convenient**
- 7. Communicate, remind, and reinforce**

1. Use a team approach

“The Flu Team” is the collective driver to plan, implement, and evaluate flu vaccination campaigns. At the core of any successful flu team is the Flu Coordinator. This position should have recognized authority and be the champion of increasing access to and uptake of flu vaccine. The most successful flu teams comprise key partners from various disciplines and services. Some VISNs have coordinated meetings to support local facilities and share resources.

Organizing a vaccination campaign does not need to be complicated. The educational component of the program may take more planning than other aspects of the campaign. Forming an interdisciplinary team to plan and oversee the campaign to vaccinate Veteran patients against seasonal influenza is an approach that other hospitals have found useful. Members of the team might include: management, a facility champion, occupational health, infection control, infectious disease, hospital epidemiologist, pharmacy, public relations employees, and union representatives. Make sure key partners are included on the team. Select a leader. The Flu Coordinator should have the authority to make decisions on strategies to increase vaccina-

tion and be the lead champion of increasing access to and update of the flu vaccine. See Section 5 for additional information on flu teams and their roles in planning, executing, and evaluating seasonal influenza vaccination campaigns.

The team meets before the start of the influenza season to plan strategies, periodically during the season to make revisions to their plan, and at the end of the season to identify any lessons learned. The team may also identify a “theme,” which

may change from year to year, or sponsor a campaign slogan contest to raise awareness and increase interest. Health care organizations have found that having someone in charge of the influenza vaccination program is essential to be successful over time.

Make sure the members of the team are enthusiastic champions for vaccination.

Consider having a VISN team. Coordination across a VISN aids in development of new ideas and strategies and provides peer support for those who are members of facility teams.

Some VISNs have created Interdisciplinary Flu Teams with representatives from VISN medical centers/clinics and national leadership. These groups unify and support facility flu campaign efforts at VISN level and create a forum for sharing strategies and program efforts. Conference calls are used to discuss and identify current issues, strategies and best practices.





2. Use organizational approaches

BEFORE your vaccination campaign begins

- ◆ Make influenza vaccination an organizational priority.
- ◆ Develop and provide written policy or guidance stressing importance and effectiveness of patient influenza vaccination with clear direction from VHA leadership.
 - Establish an influenza vaccination campaign committee, with diverse clinical and support membership.
 - Schedule meetings prior to and during the vaccination season.
- ◆ Discuss successful strategies and what needs improvement.
- ◆ Set goals/benchmarks based on previous years' performance and current year's targets.
- ◆ Coordinate planned activities to coincide with the influenza vaccine delivery schedule.
- ◆ Develop a month-by-month calendar of activities to prepare for a vaccination campaign (see Section 5).
- ◆ Solicit local leadership buy-in and involvement.
 - Use photos of the hospital director or other opinion leaders getting their influenza vaccine in newsletters, on VA TV/monitor displays, and on the Medical Center's Internet home page.
- ◆ For each ward, clinic, domiciliary, community living center, and community-based outpatient clinic, recruit a Flu Vaccination Champion who will help keep the momentum flowing in their area.
- ◆ Customize information for local distribution (e.g., bulletins, announcements, email messages).
- ◆ Solicit information from Veterans for planning.
 - Consider a short questionnaire on the medical

center's internet web page about what they liked or didn't like about last year's campaign and what was most helpful. Also ask for suggestions to improve this year's campaign.

- ◆ Consider creative approaches such as drive-through clinics or enhanced transportation services to the drive-through or clinic location.
- ◆ Flu vaccine should be made available to both enrolled Veterans and VA health care personnel **as soon as flu vaccine is available** at the facility. Do not "hold" doses. Vaccination efforts should be structured to ensure the vaccination of as many persons as possible over the course of several months, with emphasis on vaccinating before influenza activity in the community begins. In any given year, the optimal time to vaccinate cannot be determined precisely because influenza seasons vary in timing and duration and more than one outbreak can occur in a single community in a single year. More information is available at <https://www.cdc.gov/flu/professionals/acip/index.htm>.

DURING your vaccination campaign

- ◆ Use performance feedback:
 - Monitor/assess the number and percentage of patients vaccinated and the number of women vaccinated.
 - Inform providers and teams regarding the number and percentage of patients vaccinated and the number of women vaccinated. Encourage friendly competition among providers or clinics.
- ◆ Provide incentives to providers, clinics, and wards with high patient-vaccination rates.
- ◆ Use Infection: Don't Pass It On (IDPIO) campaign and annual flu resource materials such as buttons, stickers, posters, and the VHA seasonal flu manual. Distribute flu buttons to staff and hang posters throughout the facility. Offer stickers to all who receive the vaccination. See Section 11 for ordering information or the



IDPIO website to download and print materials at www.publichealth.va.gov/flu.

- ◆ Critically review what is and isn't working well. Make midcourse corrections as needed.

AFTER your campaign

- ◆ Inform providers and teams on the number and percentage of high-risk patients and women vaccinated.
- ◆ Critically review and evaluate your campaign after flu season.
- ◆ Identify and document strategies that worked well as those that did not work well.
- ◆ Thank your flu champions.
- ◆ Celebrate your successes.

3. Make use of educational opportunities

- ◆ Provide fact sheets, brochures, and other flu information to Veterans and family sitting in clinic waiting areas. Written information should be direct and straightforward, using appropriate language and terminology, and at appropriate reading levels (see Section 11).
- ◆ Provide information on important everyday preventive actions: respiratory hygiene/cough etiquette (cough into tissue or sleeve) and hand hygiene (clean hands often after coughing, sneezing, or after touching items in a public place; keep hands away from eyes, nose, and mouth).
- ◆ Broadcast information on VA TV/monitors throughout the medical center to inpatients, employees, trainees, and volunteers. For example, this can include flu vaccine administration sites, dates, and times; flu facts vs. myths; and VA and Centers for Disease Control and Prevention (CDC) podcasts on vaccination and respiratory hygiene and cough etiquette.

- ◆ Enlist providers and clinical staff from multiple disciplines, as well as pharmacists, students, interns, and residents, to assist with inpatient and outpatient education efforts.
- ◆ Work with nurse managers, health educators, the prevention coordinator, and the flu champion on using consistent educational materials.

Inform patients about:

- ◆ Vaccination as the best way to prevent getting the flu.
- ◆ Who should get vaccinated each year?
 - All people over the age of 6 months should receive a flu shot each year.
 - When vaccine supply is limited, vaccination efforts should focus on delivering vaccination to the following persons (no hierarchy is implied by order of listing):
 - all children aged 6 months to 4 years;
 - all persons aged ≥ 50 years;
 - adults and children who have chronic pulmonary (including asthma), cardiovascular (except isolated hypertension), renal, hepatic, neurologic, hematologic, or metabolic disorders (including diabetes mellitus);
 - persons who have immunosuppression (including immunosuppression caused by medications or by HIV infection);
 - women who are or will be pregnant during the influenza season;
 - children and adolescents (aged 6 months through 18 years) who are receiving long-term aspirin therapy and who might be at risk for experiencing Reye's syndrome after influenza virus infection;
 - residents of nursing homes and other long-term care facilities;
 - Native American/Alaska Natives;
 - persons who are morbidly obese (body-mass index ≥ 40);
 - health care personnel; and

- household contacts and caregivers of children aged <5 years, adults aged ≥50 years, or persons with medical conditions that put them at higher risk for severe complications from influenza.

- ◆ Potential side effects.
 - The viruses in the flu shot are killed (inactivated) and cannot cause anyone to get the flu. Most people who receive the flu shot have no problems from it. Some people may get a low-grade fever and aches lasting 1-2 days after getting the shot—mild in comparison to the getting the flu. The injection may cause some discomfort, soreness, redness, or swelling where the shot was given, which resolves in a day or two. Re-emphasize that one cannot get the flu from the flu shot.
- ◆ Where to get flu shots, e.g., from their provider, at a walk-in flu clinic, or at a drive-through clinic.

Inform providers about:

- ◆ How to respond effectively to patient questions and concerns regarding the vaccine, flu, or other issues such as side effects (see Section 7). Have an RN, LPN, or health technician screen, offer vaccination, and make referrals as appropriate regarding patient concerns.
- ◆ How to access and review the Veteran's vaccination history. High-risk patients – use of clinical reminders and health factors to identify these Veterans.
- ◆ Annual seasonal influenza vaccination campaign goals and status of reaching them.
- ◆ Proper procedures for administration of flu vaccine.
- ◆ How to document flu vaccination.

4. Understand obstacles and individual beliefs

Vaccine acceptance may vary by individual, family, community, or other demographic. Understanding attitudes on vaccination and demographics of patients can guide the development of strategies to improve vaccine acceptance.

Some individuals may consider getting the vaccine if they were aware that:

- ◆ The vaccine was effective in preventing influenza.
- ◆ The vaccine protected them against multiple strains of the virus.
- ◆ They were in a high-risk group or had a serious health condition.
- ◆ Seasonal influenza causes illness, hospitalization, and deaths each year in the United States.
- ◆ They lived with a vulnerable household/family member.
- ◆ A loved one or family member recommended the vaccine.
- ◆ Influenza was prevalent in the community.
- ◆ The vaccine was safe.
- ◆ Yearly influenza vaccination was necessary.



In 2009, 20 focus groups were conducted with Veterans in VA facilities across the United States. Participants described what they do to keep healthy, including how important they believed it was for them to get vaccinated against the flu during the past flu season. Infection control behaviors and attitudes were then discussed, including why participants did or did not decide to get vaccinated, and barriers to getting vaccinated. These findings are outlined here.

Most vaccinated Veterans indicated that they made it a point to get the flu shot annually. **The most common reasons for getting the flu shot were:**

- ◆ Bad experiences getting the flu in the past
- ◆ Weakened immune systems or aging
- ◆ Habit (often began in the military when flu shots were required)
- ◆ Don't want to spread the flu to others
- ◆ Doctor recommendation

Most non-vaccinated Veterans said they routinely did not get the flu shot. **The most common reasons for not getting vaccinated included:**

- ◆ Fear of getting sick from the vaccine
- ◆ Vaccine not perceived as effective (doesn't protect against all types of flu)
- ◆ Never got the flu
- ◆ Bad experiences with vaccines
- ◆ Don't want to have the influenza virus put in their bodies
- ◆ Belief that the immune system is strong enough to fight off the flu (don't feel at risk for flu)

Therefore, there should be continuous and ongoing vaccine education updates emphasizing the seriousness of influenza and addressing misconceptions about influenza and the vaccine. Flu Coordinators, Infection Control Professionals/Preventionists, and other health care personnel should determine why patients elect not to get vaccinated and develop strategies that address those concerns. Targeted messaging is needed to provide information and eliminate fears surrounding vaccination and influenza. See Section 7 for how to address these issues.

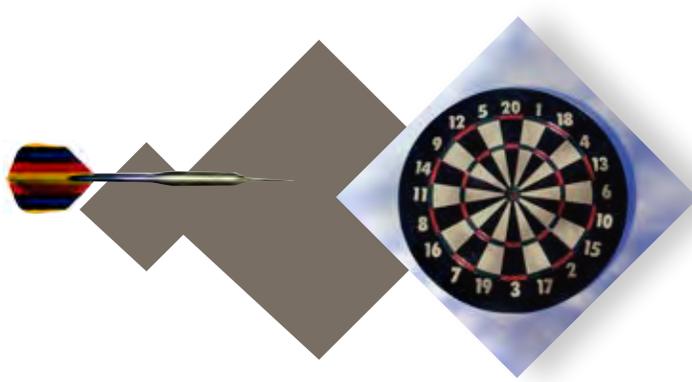
5. Employ systems strategies

- ◆ Use computerized clinical record reminders.
- ◆ Use standing orders or protocols for inpatients (acute, community living center, and mental health settings), outpatients, and home-care patients.
- ◆ Use patient reminders (postcards/letters) and recall systems to inform veterans of dates/locations/times of flu clinics.
- ◆ Print messages on the back of appointment reminder letters.
- ◆ Provide updates and information on the facility and VISN Internet websites.
- ◆ Use social media such as Facebook and Twitter.
- ◆ Utilize My HealthVet secure messaging for individual and group reminders.

- ◆ Remove actual and perceived barriers (e.g., provide easier parking for flu shot clinics).
- ◆ Provide clear signage with dates, times, location of, and directions to flu clinics.
- ◆ Have Care Coordination Home Telehealth coordinators encourage vaccination when interacting with patients.

6. Make vaccination convenient

- ◆ Expand access/outreach:
 - Extend clinic hours/days, and possibly try weekend clinics.
 - Schedule drop-in/walk-in vaccination days and "drive-through" vaccination.
 - Provide clear signage to direct veterans to the times and location of vaccinations/flu clinic.
 - Vaccinate in settings not routinely used for this purpose (hospital lobbies, Vet Centers, domiciliaries).



- Bring the vaccine to residents (if possible) in VA residential facilities.
- Include influenza vaccination with home visits.
- ◆ Target all patients, including special populations, in clinics where they are likely to be seen (e.g., spinal cord injury patients, womens health clinics, mental health and substance abuse patients, HIV/AIDS clinics, hepatitis C clinics, homeless and Stand-Down programs).
 - Include unusual locations such as all specialty clinics, dental clinics, and triage and emergency rooms/departments.
 - Offer vaccination at convenient times and places, such as before and/or after a scheduled patient event, educational event, or mental health group.
 - Offer vaccinations to inpatients prior to discharge or as soon as medically feasible during hospital stay.
 - Identify outside organizations to partner with, such as local state and county health departments, visiting nurses' associations, or even medical/nursing school students that you can work with to increase the impact of your vaccination campaign. The partner may be able to give vaccinations to family members and friends of Veterans that are not eligible for VA care.
- ◆ Screensavers with messages to providers and staff regarding the phases of the influenza campaign – “get ready,” “vaccinations being given date/time,” “it’s not too late for your patient to get vaccinated.”
- ◆ Provide “I got my flu shot” stickers to all clinicians who vaccinate patients. Also ask them to wear IDPIO “flu buttons” during flu season.

Marketing Tools for Veterans

- ◆ “On hold” telephone recorded messages for callers
- ◆ Newsletters
- ◆ Posters
- ◆ Buttons
- ◆ Stickers
- ◆ Pens
- ◆ Cafeteria tray liners
- ◆ Table tents
- ◆ Phone calls and/or mailed reminders to outpatients. Provide return envelope, card, or tear off section in the mailing for Veterans to provide information if vaccinated at another location.
- ◆ Place reminder on the back of appointment letters or other informational letters sent to Veterans asking them to let VA know if they were vaccinated at another location.
- ◆ Include reminders with pharmacy refills.

7. Communicate, remind, and reinforce

Use multiple message formats and tools. Regularly provide reminders and updates. Educational materials such as seasonal flu brochures or posters should be widely distributed and available for clinicians, Veterans, visitors, and staff.

Marketing Tools for Clinicians

- ◆ Provider email blasts to all staff to communicate awareness of influenza campaign and to encourage Veterans to get vaccinated.
- ◆ Ask reason for patient’s refusal of flu shot; discuss and dispel “flu shot myths” (see Section 7).
- ◆ Use facility and VISN websites to provide updates for the number of Veterans, employees, and volunteers vaccinated.
- ◆ Use facility Facebook page, Twitter, or other social media resources.

- ◆ Put flu clinic notices in local newspaper and on local radio stations.
- ◆ Display posters in elevators and restrooms. Change the posters at regular intervals.
- ◆ Keep surfaces clean within your home and your work place.
- ◆ Avoid/minimize contact with sick persons.

Addressing Concerns of Veteran Patients (or residents in long-term care facilities)

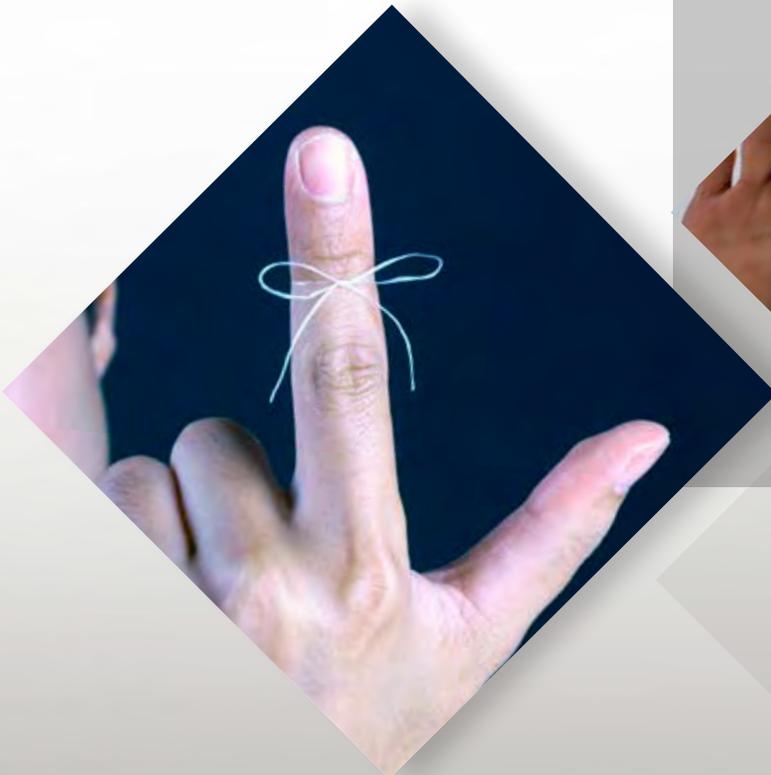
“Why should I get my flu shot?”

There are several reasons to be vaccinated against influenza every year:

- ◆ Influenza vaccine is the still the best way to avoid getting sick from flu.
- ◆ They can acquire influenza infection and not have any symptoms, but still be able to transmit the disease to friends, family and work colleagues.
- ◆ The virus changes from year to year, requiring vaccination each fall.

Messages for Veteran Patients

- ◆ **Stay home when you are sick.** To avoid spreading flu and other germs, don't go to work and don't visit friends, family, or others..
- ◆ **Keep your children or others within your household at home and away from others when they are sick.**
- ◆ **Clean hands frequently with water and soap or with alcohol-based hand gels.** Encourage those around you (friends, children, work colleagues) to practice hand hygiene, especially after touching items such as doorknobs, computer keyboards, countertops, and other surfaces. Clean hands after sneezing and coughing or making contact with your own secretions. Place alcohol hand gel in convenient places at work and at home.
- ◆ **Cover coughs and sneezes.** Keep tissues in convenient places. Dispose of used tissues properly. Sneeze into your sleeve if you don't have tissues.





“I’m healthy. I don’t need to get vaccinated for flu.”

Influenza can cause serious illness and death even in young, healthy people. It’s not just a disease that affects the elderly. If you get influenza, you can spread it to other patients, putting them at risk for severe illness and complications from the influenza virus. Protect yourself, your co-workers, your family, your friends, and other patients—get vaccinated for flu. The newest recommendation from the Centers for Disease Control (CDC) is to receive your flu vaccination early in the flu season (September or October). Ask your health care provider about when and where to receive your vaccination, or watch for the reminder you will get in the mail with the vaccination dates and times (no appointment needed). If you already have an appointment, ask to receive it then. Also, check the VA web page for updates and information.

“I don’t want to get the vaccine because it has side effects.”

Studies have shown that the influenza vaccine is not associated with higher rates of systemic symptoms than are seen with injections of placebos among healthy working adults. The most common side effects of influenza vaccination include soreness, redness, or swelling at the injection site; mild or low-grade fever; and aches. The symptoms should only last a day or two. The most common side effects from the nasal influenza vaccine are a runny nose and nasal congestion. Allergic reactions (anaphylaxis) rarely occur (less than 1 in 1 million). Neurological reactions (Guillain Barré Syndrome) are also rare (1 in 1 million).

“I got the influenza vaccine before and I still got influenza, so why should I get it now?”

Consider that influenza has similar symptoms to other conditions, such as the common cold. Sometimes it may be difficult to know if you have

flu or some other condition. We do know that the flu vaccine offers protection from flu in years when there is a good match between the circulating viruses and the corresponding vaccine strains. Vaccine efficacy for reducing illness has generally been between 70-90 percent. However, even when the viruses are not well matched, the vaccine can protect many people and prevent flu-related complications.

“I’m pregnant. Should I get the influenza vaccination?”

Yes. All pregnant women are at risk from influenza and its complications. It is important that women who are pregnant get the influenza vaccine to protect themselves and their babies. The influenza vaccine can be given any time during the pregnancy. However, pregnant women should NOT receive the nasal influenza vaccine (known as FluMist® or LAIV4).

“I don’t like needles, so I don’t want to get vaccinated.”

Discuss with your provider. You may be a candidate for the nasal spray that delivers live attenuated influenza vaccine (LAIV4). This is an option for healthy people up through age 49, especially when there is a shortage of inactivated influenza vaccine. There is also an intradermal vaccine available.

“I don’t need the vaccine. If I get the flu, I’ll just take an antiviral medication.”

Antiviral medications do not eliminate flu symptoms. They can shorten the duration, but you will still need to be off work. Like all medication, antivirals may have side effects. It’s better to get the flu vaccine.



“I’m not in a high-risk group.”

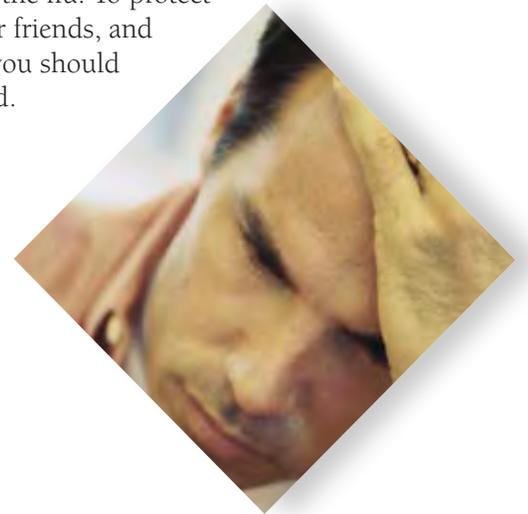
CDC recommends influenza vaccination for all people aged 6 months or older. You may be at a high risk if you have a chronic health problem such as diabetes. Vaccination helps to protect your friends, your co-workers, your family, and all those with whom you come in contact.

“I always get ‘the flu’ when I take the vaccine.”

When you are vaccinated, you may develop temporary mild body aches, soreness at the injection site, and/or low-grade fever. Any of these indicate a healthy normal response that may result in some mild discomfort, but this is different from actually getting influenza.

“My immune system is working just fine, thank you.”

or “I never get the flu.” Remember, you can transmit the flu virus to others before you develop any symptoms of the flu. To protect yourself, your friends, and your family, you should get vaccinated.



Checklist of a Successful Influenza Vaccination Campaign	
<input type="checkbox"/>	Identify a facility champion as the Flu Coordinator. This person may want to work with the occupational health staff to combine resources and efforts to establish a facility-wide flu vaccination campaign for Veterans and staff.
<input type="checkbox"/>	Encourage facility leadership to be active members of the influenza vaccination program.
<input type="checkbox"/>	Enlist peer vaccination champions to encourage influenza vaccination. Make sure they are trained and know how to properly document vaccination.
<input type="checkbox"/>	Sponsor a kickoff event. Make it fun.
<input type="checkbox"/>	Make the vaccine accessible by encouraging all staff to promote vaccinations to Veteran patients. Increase vaccination events and locations where vaccination is available, and take the vaccine to clinics via mobile carts.
<input type="checkbox"/>	Provide training or educational materials on why it is important to get vaccinated.
<input type="checkbox"/>	Identify why individuals do not wish to get the influenza vaccine and develop targeted messages to address those concerns.



SECTION

9

Mitigation Strategies:

- A. Hand Hygiene
- B. Respiratory Etiquette



Mitigation Strategies: Hand Hygiene

The Veterans Health Administration (VHA) is committed to reducing the spread of infections within its facilities and recognizes effective hand hygiene practices as an important component to infection prevention. Hand hygiene is a necessary complement to vaccinations and respiratory hygiene in stopping the spread of flu, health care-associated infection (HAI), and other infection. While flu prevention primarily focuses on vaccination and respiratory hygiene, hand hygiene is essential in any comprehensive flu campaign, particularly in:

- ◆ Reducing the spread of flu from contaminated surface where the influenza virus can live for 2 to 8 hours
- ◆ Protecting patients, families, and health care workers who are unable to receive a flu vaccine

Health care-associated infection (HAI), also called “nosocomial” or “hospital” infection, is an infection occurring in a patient during the process of care in a hospital or other health care setting that was not present at the time of admission. HAI can affect patients in any type of setting where they receive care and can also appear after discharge. Infections from HAI result in long-term disability, increased resistance of microorganisms to antimicrobials, massive additional costs for health systems, high costs for patients and their family, and unnecessary deaths. Infections from influenza can result in prolonged illness, extended hospital stays, and even death. Effective hand hygiene practices can reduce the spread of these infections, reduce the need for additional care and services, and help minimize the monetary and physical burden to VA patients, staff, and the VA health care system.

Hand hygiene doesn't apply solely to health care personnel (HCP). Patients and visitors to VHA facilities have a recognized role in the transmission of infections, including influenza and HAI.

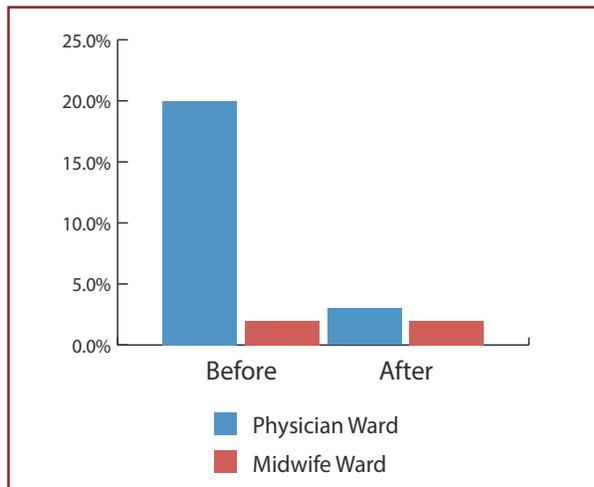
Everyone has a personal responsibility to promote and practice effective hand hygiene. VHA has a commitment to advancing the culture of safety, with minimized risk of spreading or acquiring infection, throughout its health care system. HCP are expected to model effective hand hygiene behaviors and encourage the same among other HCP, patients, and visitors. HCPs can do so by educating and demonstrating hand hygiene at various interactions as outlined in policies and guidelines. Fostering participation from patients and visitors will increase the success of reducing the spread of influenza, HAIs, and other infections.

Encourage patients to ask their health care providers if they have cleaned their hands prior to touching them.

History

The importance of hand hygiene was first introduced by Dr. Ignaz Semmelweis in 1847 before scientists had discovered bacteria and the role of germs in the spread of infection. He observed postpartum mortality rates were very different on two wards in Vienna General Hospital. Although both performed approximately 3500 deliveries per year, 600-800 mothers died each year on wards overseen by physicians and medical students, and 60 mothers died per year on wards overseen by midwives. This led to Dr. Semmelweis' groundbreaking experiment in which he required all physicians and medical student to rub their hands in chlorinated lime solution before every vaginal exam. The impact was dramatic. Before implementing his intervention, 13-18% of the mothers on the physician ward died, while 2% of mothers died on the midwife wards. After physicians began using the chlorinated lime solution, mortality rates dropped to 1.2% in physician wards.

Figure 1. Dr. Ignaz Semmelweis' 1847 Chlorinated Lime Solution Experiment



Role of Hands in Transmission of Influenza Virus

Evidence for the importance of hand hygiene has continued since Dr. Semmelweis' experiment. Multiple studies have shown decreases in overall hospital infection rates with hand hygiene compliance improvement.

Research studies also demonstrate that hand hygiene can reduce the rate of transmission of flu and respiratory infections. A systematic review found that hand cleansing cut the risk of respiratory infection by 16%. Specifically, hands play a role in the transmission of the influenza virus when droplets carrying influenza virus contaminate animate and inanimate objects. It has been shown that a cough or sneeze from an infected person can spread the virus to surfaces 5-6 feet away. A non-infected person touching a contaminated surface can spread the virus to him or herself by then touching his or her eyes, nose, or mouth. The same transmission route may occur during patient care. Therefore, it is essential to follow hand hygiene guidelines to prevent the transmission of the influenza virus.

Health Care Personnel (HCP): When to Disinfect Your Hands

VHA's Directive 2011-007, "Required Hand Hygiene Practices," provides guidance to facilities on structure and process of acceptable hand hygiene practices. This Directive incorporates The Joint Commission's National Patient Safety Goal 07.01.01 as well as the World Health Organization's (WHO) guidelines and Centers for Disease Control and Prevention (CDC) recommendations on hand hygiene practices within medical facilities. The directive requires VHA health care workers to disinfect their hands at specific points during patients care. Those are listed below.

- If hands are visibly dirty or soiled, or have been exposed to *Clostridium difficile*, health care workers must wash their hands with soap and water
- In the remaining cases, alcohol-based hand rub may be used
- Before and after contact with a patient
- Before inserting an invasive device
- Before donning gloves and after removing gloves
- Moving from one contaminated body site to another on the same patient
- Before handling medication
- After contact with inanimate surfaces and objects in the vicinity of the patient



Strategies to Increase Hand Hygiene Practice within VHA Facilities

1. Leverage Partnerships: The existing partnerships between VHA and labor leadership, Veterans Service Organizations (VSOs), and health care personnel can provide an opportunity for improving our culture of safety. Coordinated communications from VHA, VSOs, and labor leadership set an expectation for hand hygiene for patients, visitors, and HCP in the spirit of a culture of safety. Whether seeking care or working within the VHA health care system, it is understood that VHA, one of the nation's premier health care systems, expects a culture of safety. Framing hand hygiene as both an individual and community responsibility is essential to protect HCPs, patients, and others in VHA facilities.

2. Integrate Programs for a Comprehensive Approach: Hand hygiene is one part of a comprehensive, measurable program to improve safety by reducing the risk of influenza and other infectious agents to others. Bundling hand hygiene with vaccination efforts and other important methods used to mitigate transmission (including respiratory etiquette and reducing the number of HCP who come to work while ill) is a proven disease prevention strategy. Linking hand hygiene, respiratory etiquette, and vaccination programs will strengthen VA's commitment to patient-centered care by building upon the energy, effort, and successes of our current infection control programs. Policy and operational strategy should be fully integrated to effectively target Veterans, visitors, and HCPs. Fully integrated programs include designated leads to address specific methodologies that advance a culture of safety.

3. Engage Resources: Seek ways to efficiently and effectively use facility HCP, information technology, and VACO program office resources to build a robust and successful hand hygiene campaign for HCP and the Veterans they serve. The Infection: Don't Pass It On (IDPIO) campaign continues to develop tools and resources to assist facilities in planning, implementing, and evaluating their influenza vaccination campaigns and hand hygiene compliance programs.

Encourage Patients & Visitors to Clean Hands

- ◆ Before eating
- ◆ Before touching a patient or some one sick
- ◆ Before entering the building/clinic or a patient room
- ◆ After using the restroom
- ◆ After sneezing or coughing
- ◆ After leaving the clinic or patient room.

Measuring Hand Hygiene

The Joint Commission and other organizations agree that each health care setting is challenged to establish and select the measurement approaches that will best fit their needs. Following effective hand hygiene practices has long been recognized as the most important way to reduce the transmission of pathogens in health care settings. Many studies, however, have shown that adherence to hand hygiene recommendations remains low and that improvement efforts frequently lack sustainability. In 2004, The Joint Commission added a National Patient Safety Goal requiring that accredited health care organizations comply with hand hygiene guidelines.

While most would agree that hand hygiene is of critical importance, many have found that measuring adherence to hand hygiene guidelines is not a simple task. Methods for measuring hand hygiene performance may include use of automated systems, direct observation, product use measurement, and surveys. Each has its own challenges and levels of validity. One method may prove effective in one environment but ineffective in another type of setting or clinic.

For additional information about measurements and standards, visit the VHA Hand Hygiene Toolkit or The Joint Commission monograph: *MEASURING HAND HYGIENE ADHERENCE: OVERCOMING THE CHALLENGES* at https://www.jointcommission.org/measuring_hand_hygiene_adherence_overcoming_the_challenges/

VHA Hand Hygiene Toolkit

VHA's Infection: Don't Pass It On (IDPIO) campaign, led by the Office of Clinical Public

Multimodal programs for increasing hand hygiene compliance are recommended as the most reliable, evidence-based method for ensuring sustainable improvement.

Health, has developed an online toolkit on hand hygiene. This toolkit provides relevant resources and tools for VHA facilities to use in promoting

effective hand hygiene practices among all health care personnel, patients, and visitors.

Within the toolkit, you'll find a myriad of resources. There are folders containing materials from different entities including the Centers for Disease Control and Prevention (CDC), the Joint Commission, the World Health Organization (WHO), and of course, VHA. You'll find educational materials such as posters, brochures, and links to videos. Visit the reference folder to read the latest in research and literature on hand hygiene and related topics. A host of monitoring and evaluation systems are outlined, as well as guidance on promotion of effective hand hygiene policy and practice.

Hand Hygiene in VHA

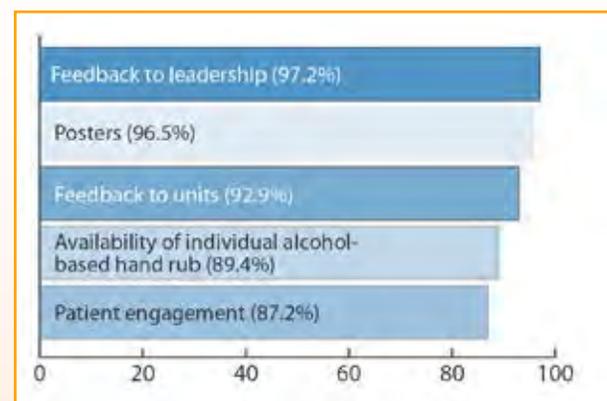
In 2013, VHA published a survey of 141 medical centers in the VHA national health care system. The survey covered three content areas of hand hygiene: 1) methods of measuring health care worker hand hygiene compliance, 2) interventions to improve hand hygiene compliance, and 3) site-specific targets for hand hygiene compliance.

The survey showed that a majority (98.6%) of the medical centers conducted direct observations to measure hand hygiene compliance rates, with 22.7% tracking product usage and 2.8% using automated systems. Room entry (69.1%) and exit (71.9%) were the most commonly monitored hand hygiene opportunities. The most common

interventions to improve hand hygiene compliance included posters (97.2%), feedback to leadership (98.6%) and units (92.9%), and improved access to hand hygiene products (e.g., 90.6% provided individual hand sanitizers to staff). Mandatory education programs for clinical staff were conducted in 88.5% of the medical centers. Findings from the national survey will assist decision making regarding standardizing surveillance, recommendations of interventions, and next steps in hand hygiene policy in VHA. For more details on the survey, please read:

Reisinger HS, Yin J, Radonovich L, Knighton VT, Martinello RA, Hodgson MJ, Perencevich E. Comprehensive survey of hand hygiene measurement and improvement practices in the Veterans Health Administration. *Am J Infect Control* 2013 Aug 7 [PMID: 23932826]. [http://www.ajicjournal.org/article/S0196-6553\(13\)00887-0/abstract](http://www.ajicjournal.org/article/S0196-6553(13)00887-0/abstract)

Top 5 Hand Hygiene Improvement Interventions



Hand Hygiene Resources

Infection: Don't Pass It On Websites <https://www.publichealth.va.gov/InfectionDontPassItOn/>.

CDC Guideline for Hand Hygiene in Health-Care Settings <http://www.cdc.gov/mmwr/pdf/rr/rr5116.pdf>.

WHO "Clean Care is Safer Care" Patient Safety Challenge and Guideline on Hand Hygiene in Health Care http://whqlibdoc.who.int/publications/2009/9789241597906_eng.pdf.

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Rabie T, Curtis V. Handwashing and risk of respiratory infections: a quantitative systematic review. *Trop Med Int Health* 2006;11:258e67.

Stewardson A, Allegranzi B, Sax H, Kilpatrick C, Pittet D. Back to the future: rising to the Semmelweis challenge in hand hygiene. *Future Microbiol*. 2011 Aug;6(8):855-76.

Weber TP, Stilianakis NI. Inactivation of influenza A viruses in the environment and modes of transmission: a critical review. *J Infect*. 2008 Nov;57(5):361-73.



Mitigation Strategies: Respiratory Etiquette

The primary mode of influenza transmission is thought to be the respiratory route through large, virus-laden particles called droplets. When an infected person coughs or sneezes, they generate droplets that can travel up to 6 feet or more. These particles may then settle on the mucosal surfaces of another person's upper respiratory tract, thereby infecting that person.

In addition to droplet transmission, influenza may also be transmitted through small aerosol particles and perhaps from contaminated surfaces.

Influenza can spread within health care settings among patients, health care workers, and visitors. Annual seasonal influenza vaccination is the most effective method of preventing influenza, and everyone 6 months of age or older should receive an annual influenza vaccination. Even so, there will be people who decline the vaccine or cannot take the vaccine, requiring a multifaceted approach to prevent the transmission of the influenza virus. The Centers for Disease Control and Prevention (CDC) have developed strategies for the prevention of seasonal influenza in all health care settings.

Respiratory Hygiene/Cough Etiquette

Respiratory hygiene/cough etiquette involves measures to contain respiratory secretions and is recommended for all individuals with signs and symptoms of a respiratory infection (e.g., cough, sneeze, runny nose, fever). These practices are used to minimize influenza exposure before arrival, upon arrival, and throughout the visit to a health care setting.

◆ **Before Arrival** – During the influenza season, telephone discussions with patients should include instructions to tell a health care worker if they have any symptoms of a respiratory illness to ensure they are provided a mask to wear

during their visit. Patients can also be offered a telephone consultation visit for mild respiratory illness to determine if they actually need to visit the facility or if their needs can be met without a face-to-face visit.

- ◆ **Upon Entry and During the Visit** – Processes should be in place to provide patients, visitors, and health care personnel (HCP) with the information and supplies needed to help prevent transmission of influenza virus upon arrival at a health care facility.
 - Display signs and posters at all facility entrances with instructions on respiratory hygiene and cough etiquette. Include all languages appropriate to the population served, with instructions on:
 - how to use masks or tissues to cover nose and mouth when coughing or sneezing;
 - disposal of contaminated items in a waste receptacle;
 - how and when to perform hand hygiene (soap and water, alcohol hand gel).
 - Provide masks to patients/visitors with signs and symptoms of respiratory infection.
 - Ensure easy access to supplies to perform hand hygiene at entrances, waiting rooms, and at patient check-in stations.
 - Provide dedicated space and encourage persons with symptoms of respiratory infection to sit at least 3-6 feet from others.
 - Establish dedicated triage stations, especially during periods of increased community influenza, to facilitate rapid screening of patients for symptoms of influenza and to separate from other patients.

Establish a culture of safety within your VHA facility. Encourage patients, visitors, and other staff to wear a mask if displaying symptoms of respiratory illness.

Health Care Personnel

- ◆ Facilities should establish and communicate sick leave guidance and practices that are non-punitive and encourage health care personnel to not report to work if they have a fever and symptoms of a respiratory infection.

Inform all visitors of procedures for standard or droplet precautions. Provide necessary supplies to promote compliance.

- ◆ Facilities should advise HCP to follow respiratory hygiene and cough etiquette after returning to work, especially if coughing or sneezing persists, including wearing a facemask when performing patient-care activities.
- ◆ All HCP should perform frequent hand hygiene, especially before and after every patient contact and any contact with any respiratory secretions.
- ◆ All HCP, regardless of direct patient contact, should be excluded from work until at least 24 hours after fever resolves without the use of a fever-reducing medication.
- ◆ Sites should consider strategies to separate HCP from working with high-risk patients (e.g., hematopoietic stem cell transplant patients) and from other colleagues.
- ◆ Detailed guidance on respiratory protection for HCPs is provided in the December 2012 Industrial Hygiene Guidebook (Chapter 9).



Adherence to Standard Precautions

- ◆ All health care personnel, patients, and visitors should follow standard precautions, which assumes that every patient is potentially infected or colonized with a pathogen that can be transmitted. The elements of standard precautions that apply to patients with respiratory infections include:
 - Hand Hygiene – Perform hand hygiene frequently, including before and after all patient contact, before and after contact with potentially infectious material, and before putting on and upon removal of personal protective equipment. Options for performing hand hygiene include alcohol-based hand rubs or soap and water (when hands are visibly soiled). Supplies should be readily available to HCP, patients, and visitors.
 - Gloves – Gloves should be worn for any contact with potentially infectious material, followed by hand hygiene. Gloves are for single patient use and should not be washed for the purpose of reuse.
 - Gowns – Gowns are worn when there is a potential for contact with blood, body fluids, secretions, or excretions. Remove gown after use and perform hand hygiene. Gowns are for single patient use and should be changed between patients.

Adherence to Droplet Precautions

- ◆ Patients with suspected or confirmed influenza should be placed under droplet precautions for 7 days after illness onset or until 24 hours after resolution of fever and respiratory symptoms, whichever is longer.
- ◆ Health care personnel should wear masks when entering the room of a patient under droplet precautions. The mask is removed before leaving the room, disposed of in a waste container, and hand hygiene is performed.
- ◆ Patients under droplet precautions are provided a mask if transport is necessary outside of the room.

- ◆ Provide information to other departments providing care to patients with suspected or confirmed influenza infection to ensure they take measures to protect themselves and other patients.

Use Caution when Performing Certain Procedures

- ◆ Procedures such as bronchoscopy, sputum induction, elective intubation, extubation, and autopsies may generate higher concentrations of infectious respiratory aerosols than coughing, sneezing, talking, or breathing. The following precautions are recommended for patients with suspected or confirmed influenza:
 - Only perform these procedures if medically necessary.
 - Limit the number of health care personnel present.
 - Conduct the procedure in a negative pressure room with at least 12 air changes per hour.
 - Consider the use of a portable HEPA filtration unit.
 - Adhere to standard precautions, replacing a mask with a fitted N95 mask.
 - Conduct a thorough environmental surface cleaning following the procedure.

Visitors of Patients with Influenza or Suspected Influenza

- ◆ Limit visitors to patients under droplet precautions for influenza to only persons necessary for emotional support. Visitors who have been in contact with the patient before and during hospitalization for influenza are a potential source of infection for other patients, visitors, and staff.
- ◆ All visitors should follow respiratory hygiene and cough etiquette precautions when visiting patients with influenza/suspected influenza.
- ◆ Screen visitors for symptoms of acute respiratory illness before they enter the hospital.
- ◆ Before visitors enter the patient's room, provide instruction on hand hygiene, limiting surfaces touched, and the use of gowns, gloves, and masks per hospital policy.
- ◆ Caution visitors to limit their movement within the facility.
- ◆ Provide information on influenza vaccination.

Monitor Influenza and Other Respiratory Activity – to ensure prompt notification of increased activity in the community or outbreaks within the facility.

Environmental Controls – Standard cleaning and disinfection procedures are adequate for influenza virus control, including applying disinfectants to frequently touched surfaces/objects for the indicated contact times. Management of laundry, food service utensils, and medical waste should follow standard procedures.

Engineering Controls – Use of physical barriers, including partitions or the use of curtains to separate patients, may help to reduce or eliminate exposures.

Training/Education for Health Care

Personnel – Information about influenza and other respiratory illnesses and their prevention should be provided to health care personnel. These include:

- Signs, symptoms, complications of influenza and other respiratory illnesses
- Importance of the role of vaccination, respiratory hygiene and cough etiquette, sick leave policies, and precautions during high-risk procedures
- Appropriate use of personal protective equipment, including respirator fit testing
- Use of infection control practices and engineering controls to reduce exposure

Use of Antiviral Treatment and Chemoprophylaxis of Patients and Health Care Personnel when Appropriate

- ◆ The most recent recommendations for the use of antiviral agents can be found in this manual and on the CDC website at <https://www.cdc.gov/flu/antivirals/index.htm>. Patients and staff are reminded that persons continue to shed influenza virus while being treated with antiviral medications. Hand hygiene, respiratory hygiene, and cough etiquette should continue while undergoing treatment.

Health Care Personnel at Higher Risk for Complications of Influenza

– Pregnant women and women up to 2-weeks postpartum; persons aged 65 years and older; persons with chronic diseases including asthma, heart disease, and diseases that suppress the immune system; other chronic medical conditions; and morbid obesity are considered at high risk for complications of influenza. They should understand the importance of vaccination, early treatment with antiviral medication, and avoidance of high-risk exposure scenarios to decrease the risk of hospitalization and death.

SEVEN ways to promote a culture of safety within VHA health care settings

1. **Get vaccinated against influenza.**
2. **Stay home when sick.** Establish and discuss expectations with your supervisor based on VHA policy.
3. **Cover your coughs and sneezes.** Use a tissue or some other barrier (arm or sleeve) to cover your nose and mouth. Always clean your hands afterward.
4. **Exercise and promote effective hand hygiene practice at work and at home.** Encourage patients, visitors, and other HCP to do the same. Make friendly reminders a norm within your facility.

5. **Make masks and tissues readily accessible to all.**

6. **Encourage patients and visitors to**
 - a) **wear masks if you hear them coughing frequently;**
 - b) **cover their coughs and sneezes;**
 - c) **comply with standard, droplet, or other posted respiratory precautions;**
 - d) **clean their hands frequently.**

Use these occasions as teachable moments that define VHA commitment to maintaining a healthy and safe environment.

7. **Encourage your colleagues and other HCP to wear masks or properly cover their mouths and noses if you hear them coughing or sneezing frequently or observe respiratory or flu-like symptoms.** Make this behavior standard within your facility.

References

VHA Industrial Hygiene Guidebook (see Chapter 9: Respiratory Protection)
Prevention Strategies for Seasonal Influenza in Healthcare Settings
<https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>.



Centers for Disease Control and Prevention “Seasonal Influenza – Cover Your Cough” <https://www.cdc.gov/flu/protect/covercough.htm/>.

Virginia Department of Health “Frequency asked questions about respiratory Hygiene / Cough Etiquette” <http://www.vdh.virginia.gov/content/uploads/sites/13/2016/03/HandHygieneFactSheet.pdf>

Centers for Disease Control and Prevention “Everyday Preventive Actions that Can Help Fight Germs Like the Flu.” <https://www.cdc.gov/flu/resource-center/freeresources/print/print-general.htm#stay>

Other sources of information

VA Public Health website, which offers a selection of posters for covering coughs/sneezes, etc. https://www.publichealth.va.gov/flu/materials/posters_respiratory_etiquette.asp.

VA Public Health website has a video about respiratory etiquette for patients <https://www.publichealth.va.gov/flu/materials/videos.asp>.

Centers for Disease Control and Prevention (CDC) <https://www.cdc.gov/flu/professionals/infection-control/resphygiene.htm>.

CDC for outpatient setting <https://www.cdc.gov/HAI/pdfs/guidelines/ambulatory-care-checklist-07-2011.pdf>.

World Health Organization (2006) http://www.who.int/csr/resources/publications/4EPR_AM2.pdf.

Occupational Safety and Health Administration https://www.osha.gov/SLTC/pandemicinfluenza/pandemic_health.html.

Institute for Health care Improvement <http://app.ihc.org/Workspace/tools/fmea/ProcessDetailDataReport.aspx?ToolId=8999&ScenarioId=10486&Type=1>.

U.S. Department of Health and Human Services (HHS) <http://www.flu.gov/#>.

Infection Control Today <http://www.infectioncontroltoday.com/archive/2012/08/ict-ppe-respiratory-protection-compliance-research-are-key-issues-for-the-future.aspx>

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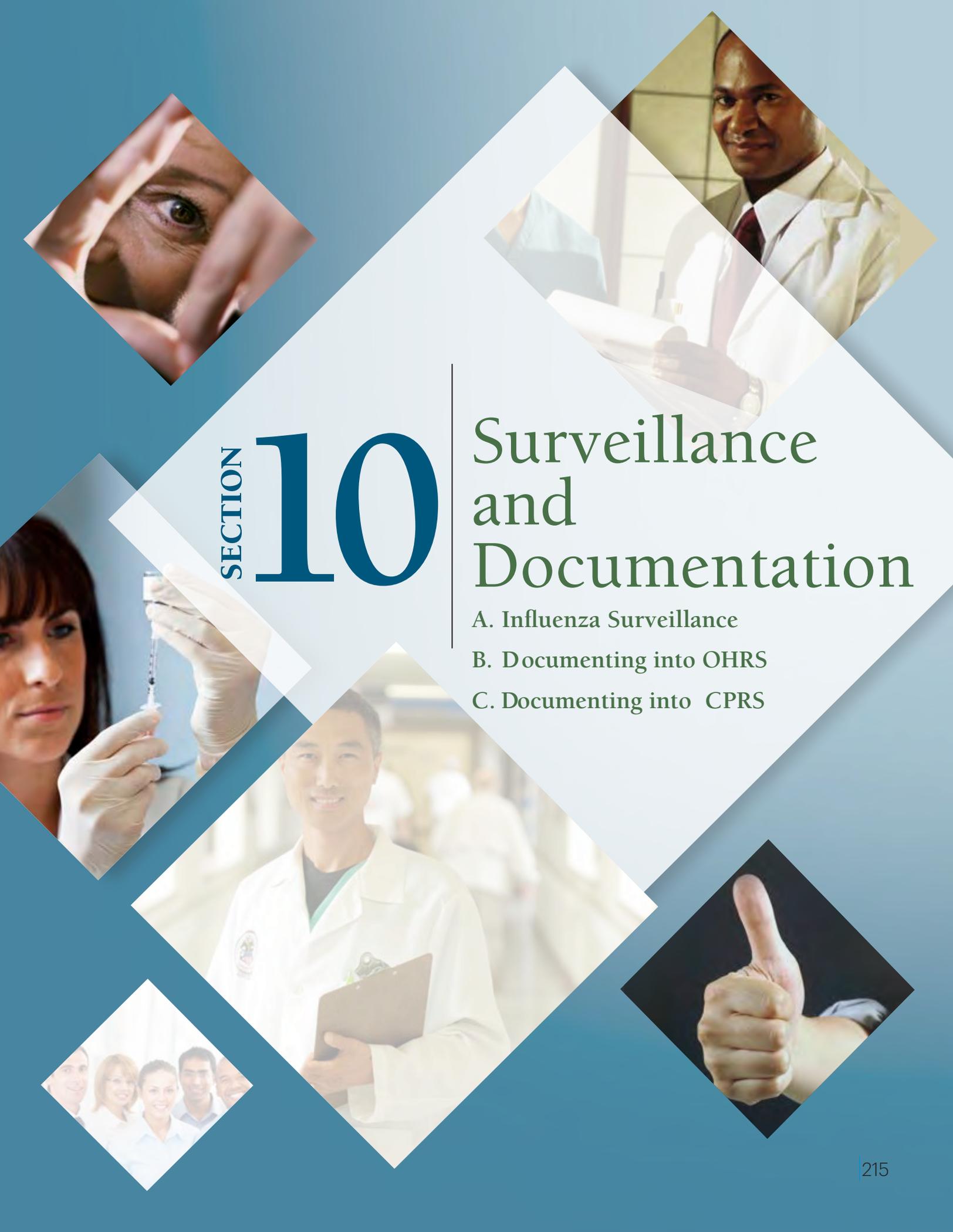
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SECTION
10

Surveillance and Documentation

- A. Influenza Surveillance
- B. Documenting into OHRS
- C. Documenting into CPRS

SECTION

10A

Surveillance and Documentation
Surveillance

Surveillance enables facilities and leadership to prepare for influenza and stay informed throughout flu season. It also helps VA prepare for future flu seasons and plays a crucial role in understanding influenza outbreaks.

Since surveillance efforts are dependent upon proper documentation of influenza cases and vaccinations, surveillance is only as strong as the documentation performed by health care personnel. Documenting influenza vaccinations and illnesses accurately and in a timely manner is critical to combat influenza, both inside and outside of VA. Data created by the documentation efforts by VHA health care personnel contributes to the Centers for Disease Control and Prevention's (CDC) monitoring efforts as well, and is compiled with the surveillance efforts of health departments nationwide.

PHSR: VA's Public Health Surveillance & Research Group

Public Health Surveillance and Research began producing seasonal influenza reports during the 2009 H1N1 influenza pandemic. Surveillance reports are issued weekly during the influenza season (typically early October through mid-May). Surveillance reports are widely distributed to VA frontline staff and leadership. The reports contain information on influenza outpatient and emergency department encounters, hospitalizations, telephone triage encounters, influenza-like-illness (ILI) visits, influenza laboratory testing, and

influenza antiviral prescriptions. Data come from VA data sources, including the Corporate Data Warehouse and Bitscopic Data Platform. When available, strain typing and resistance testing data come from our on-site Public Health Reference Laboratory (PHRL). In addition to the weekly report, we produce a monthly appendix, which provides a breakdown of influenza vaccines and positive influenza test results by VA facility and a final summary report for the season. Figures in the surveillance report typically include geospatial information and several past seasons of comparison data, and some data are plotted against national CDC FluView data for comparison. Through these reports, VHA and individual facilities will be better able to understand vaccination activities and refine strategies for improving vaccination rates.

Health care personnel-driven documentation allows early event detection and monitoring of influenza outbreaks with aggregation and tracking of data at the local and national VHA level.





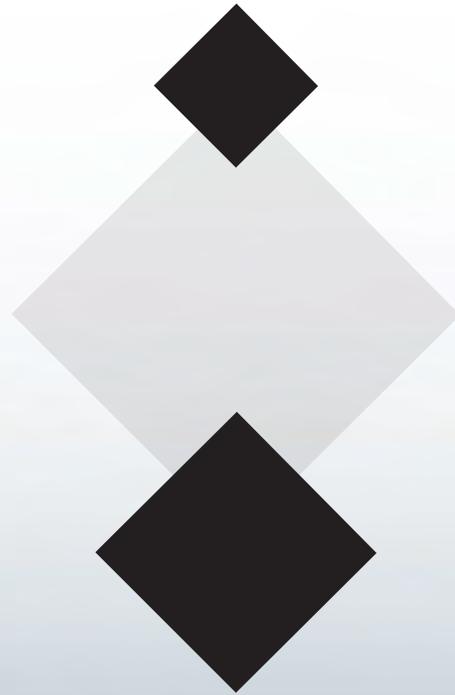
Outpatient surveillance data are de-identified, aggregated, and then sent to the CDC's National Syndromic Surveillance Program (NSSP) BioSense Platform, which helps monitor influenza's impact on the health of all Americans. It provides public health officials with the data, information, and tools needed to better coordinate responses to influenza. It also provides a snapshot of influenza's impact on the health of the nation. BioSense/NSSP pulls together information from multiple sources, including VA. These data guide the decisions and actions by public health agencies at local, regional, and national levels.

Health Care Providers – Role in Surveillance

VA documents influenza activity because it helps protect the health of not only Veterans within VA but contributes to nation-wide influenza planning. Accurate and timely documentation by health care providers is essential to the surveillance process.

How can providers contribute to accurate surveillance?

- ◆ Utilize the CPT code for both a general vaccine administration PLUS the CPT code for the influenza vaccine formulation administered. See the list of CPT codes on page 223.
- ◆ Accurately code: Data are only as good as the recording.
- ◆ Record in a timely manner.



Surveillance and Documentation

Documenting vaccination of health care personnel into OHRS

Appropriate documentation of influenza vaccine administration is necessary to provide an accurate record of VHA's staff (employees, volunteers, trainees, and other personnel) vaccination history. Documentation during mass influenza vaccination clinics can be a challenge, but a process should be in place to ensure it is complete and accurate. Be sure to use the CPT codes for general vaccine administration and the one(s) for specific vaccine(s) administered. (See the documentation instructions and the CPT codes in the patient vaccination section, as they are the same.)

Staff must document vaccination of health care personnel in the Occupational Health Record-keeping System (OHRS), an electronic health record. The Occupational Health Record-keeping System is a web-based application. Only VHA staff who have been granted access to OHRS are able to document influenza vaccination administration. Staff who will be assisting Occupational Health in vaccinating staff must complete the OHRS training prior to being granted access to OHRS. OHRS training is available in TMS. Staff assisting EOH must complete two modules. Access to OHRS is role based, and staff who assist Occupational Health in vaccinating employees, volunteers, and trainees have limited access to health information.

The person administering the vaccine must be the person who documents the administration of the influenza vaccination in OHRS. Remember to follow your facility's policy on timeliness of documenting vaccinations. This includes documenting in a timely manner. Delaying documentation is a patient safety issue. Also, delay will result in vaccination data not being captured and reported by DSS, which will directly impact workload capture.

The following process is to be used to document influenza vaccinations in OHRS:

1. Individual vaccination

- a. Search and select the individual who is to receive the vaccine. Note: You must search for volunteers using their last name. Search for employees using their last name, their full social security number, or the first letter of their last name and the last four numbers of their social security number.
- b. With the individual selected, click "Create Encounter."
- c. From the Category drop-down list, select "General Health."
- d. From the Type drop-down list, select "Vaccination."
- e. Enter the "Purpose" for the vaccination encounter (free text). Note: You may leave this field blank or type in "influenza vaccination."
- f. Click "Submit."
- g. A list of vaccines displays. Highlight "seasonal influenza vaccine." Click "Add." Note: If you are administering another vaccine at the same time, highlight both vaccines and click "Add."
- h. Click "Submit."
- i. A template appears.
- j. The template will display whether or not the individual has already received the vaccine if it was documented in OHRS. Note: If the individual has already received the vaccine this season, click on "cancel."





- k.** The template is divided into several sections: subjective, objective, assessment, plan, and encounter codes. Only those sections with a “*” are required (plan and encounter codes).
- l.** Click the “plan” tab and enter the required information. The template is dynamic and the required fields will change depending on what information is added.
 - ◆ The first question is was the vaccine received previously. If yes, document date received.
 - ◆ If no, additional information is required to document vaccination.
- m.** Under the encounter codes tab, staff must select diagnostic and procedure codes. Default codes have been identified, but staff have the ability of searching and selecting another code, if applicable. The diagnosis code is the same as those for Veterans.

2. Quickload

Quickload allows staff to pre-load information about the vaccine being administered to a group of individuals (VIS, dose, route, manufacturer, lot number, and expiration date). Once the vaccine information is completed, staff search and select the individuals who received the vaccine.

Staff may modify the injection site and time administered for each individual vaccinated, so that accurate information is collected. Once all the vaccination information is entered, the information is submitted. Documentation is now complete in all the selected records.

Occupational Health staff may generate summary and detailed reports on employee vaccination. Reports include: vaccination status, vaccination rate, vaccine administration, and immunity status.

Helpful Hints:

- ◆ Before loading several patients’ vaccination information, sign an encounter to make sure your electronic signature works.
- ◆ If the HCP’s duty station is different from the person administering the vaccine, use Quickload to find him or her.
- ◆ Vaccination Status and Vaccination Rate Reports: There is a difference in who is included in the denominator in vaccination status and vaccination rate reports. Reports where the data includes “as of” will include only those individuals who are active employees as of that date. Reports where the date range is “from” and “to” include any individual who worked even one day during that period.
- ◆ The vaccination administration report gives the number of doses of vaccine administered.

Frequently Asked Questions:

- ◆ ***I logged in, but I do not see the blue OHRS button.*** If you do not see the blue OHRS button in the upper right corner of your screen, you have not been granted access to OHRS. Call your local administrator who is an occupational health physician, nurse practitioner, physician assistant or registered nurse.
- ◆ ***I entered all of the encounter information, but I get an error message when I enter my VistA account information.*** A VistA electronic signature (ESig) account is required for OHRS users to use their electronic signature when signing an encounter. Contact your local IMR staff, who will verify that your VistA Esig user account is set up with at least one of the following:
 - The user must have the [XOBE ESIG USER] Broker option added to his or her secondary menu.

Surveillance and Documentation

Documenting vaccination of Veteran patients into CPRS

- The [XOBE ESIG USER] Broker option must be added to the Common Menu [XUCOMMAND] in Kernel. (For IRM: this is the recommended option which enables all users on the system to have access to the ESig options so that the Broker option need not be assigned specifically to individual users).

◆ **My signature code is not working.** Check to make sure you are using the correct duty station (facility where you work). Make sure you are using the correct signature code (the same code you use to sign a clinical note in CPRS). If you continue to have problems, contact your local Administrator: physician, nurse practitioner, physician assistant, or registered nurse working in occupational health).

◆ **I need additional VHA staff trained and granted access to OHRS to document influenza vaccination administration.** Contact your local EOH administrator, who has been trained in the correct process. Once their application has been completed and confirmed, your occupational health staff can grant you access to OHRS.

3. Generating Reports in OHRS

Types of Reports Occupational Health staff can generate three main types of reports on influenza vaccination. These reports include:

1. Vaccination Administration. This is a summary report on the actual number of vaccinations given. It does not include information on vaccination received elsewhere.
2. Vaccination Status. This report includes both vaccinations administered and vaccinations received elsewhere.
3. Vaccination Rate. This report provides a percent of patients who are vaccinated.

Date Selection:

There are two date selection choices. Information included in the report will vary depending on the selection.

1. As Of Date X: This report includes all patients that are active as of the date selected. If does not include patients who may have worked earlier in the seasonal influenza season and have left employment.
2. From X Date To X Date. This report includes all patients that worked even one day between the date selected. Therefore, if an individual worked up to December 1, 2014, and the report is generated for September 1, 2014, through March 1, 2015, the person is included in the denominator. The denominator in this report will be larger than that in the "As Of" report, especially if a facility is hiring large number of new employees.

Report Format:

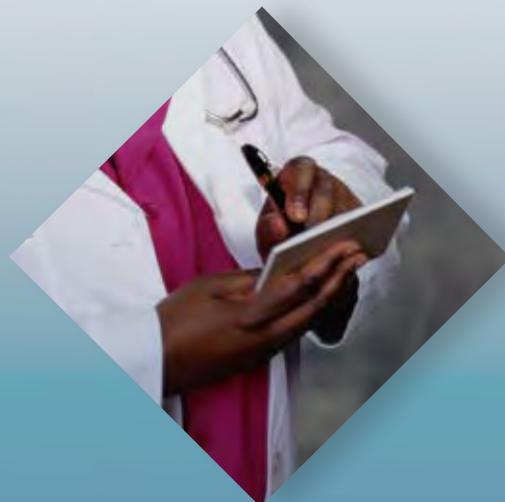
In general, all reports can be either detailed or summary.

1. Detailed reports include patient names.
2. Summary reports do not include patient names. The Vaccination Administration report can be generated as a summary report.

Vaccination Status:

There are three options for who is to be included in the report.

1. Individuals who are vaccinated
2. Individuals who are not vaccinated
3. Both individuals who are vaccinated and those who are not vaccinated





Patient Type:

There are several patient types which can be selected to be included in reports. Reports can include one, several or all categories of patients. When generating vaccination rate reports, only employees and volunteers should be selected. Categories of patients include:

1. Employee
2. Volunteer
3. Resident
4. Medical Student
5. Nursing Student
6. Other Student
7. Contractor
8. Applicant
9. Visitor
10. Non-paid employee
11. Other

File Type:

Reports can be either in pdf or Excel format.



Surveillance and Documentation

Documenting vaccination of Veteran patients into CPRS

Appropriate documentation of influenza vaccine administration is necessary to provide an accurate record of the patient's immunization history. Be sure to utilize the CPT codes for each influenza vaccination administered. (See the documentation instructions and the CPT codes within this section.)

All influenza vaccinations should be documented in a way that results in the vaccination being entered on the patient's immunization list (i.e., entered in the V IMMUNIZATION file). This can be done in a number of different ways depending on your site and the location of the patient, but the maintenance of an accurate and up-to-date immunization list is critical.

The following list contains instructions about options for documenting influenza vaccinations in CPRS:

1. Vaccinations can be entered via a reminder dialog progress note template or a clinical reminder dialog. This is the preferred method of documentation since manufacturer name, lot numbers, and expiration dates can be included in the dialog, and the entry will populate the patient's immunization list in CPRS.
2. Direct entry of the vaccination into the Patient Care Encounter (PCE) can be made after administration of the vaccine.
3. **IMPORTANT:** Recording the administration of a vaccine dose in the Bar Code Medication Administration (BCMA) system on inpatients does not result in the entry of the vaccination on the patient's immunization list unless local programming has been accomplished to include this function. If no local programming exists to perform this function, then the site needs to implement one of the processes above to ensure that ALL vaccinations admin-

istered to patients are appropriately recorded on the immunization list.

4. **PLEASE NOTE:** Entry of the Current Procedural Terminology (CPT) code for a vaccination will result in the automatic update of the patient's immunization list **ONLY IF THE PCE CODE MAPPING** file contains a link from that CPT code to the correct immunization.

Utilizing these processes will ensure entry of the correct CPT Codes for vaccine administration and the specific vaccine directly into the Patient Care Encounter (PCE) VISIT files as well as the Immunization section of the encounter form. Completed documentation of the influenza vaccination can be viewed in the progress notes in CPRS with the actual immunizations and related CPT codes displayed in a window below the progress note.

Never document flu vaccine administration directly in the progress notes only. Flu vaccinations must be recorded using a method that enters appropriate CPT codes – one reflecting that a vaccine was administered and the other reflecting the exact vaccine formulation given.





Make the CPT code information below available to all who give flu vaccine at your site. Some sites communicate these codes during trainings, meetings, and/or emails.

Documentation during mass influenza vaccination clinics can be a challenge, but a process should be in place to ensure it is complete, timely and accurate.

Accurate documentation of the influenza vaccination is essential for data tracking and measurement.

- ◆ 90688 - IIV4 Inactivated Influenza vaccine, Quadravalent, intramuscular, multi-dose.
- ◆ G8482 – influenza immunization administered or previously received. (This code is appropriate to use when documenting influenza vaccination that a Veteran received at a non-VA location. This code can be linked to any existing influenza vaccination clinical reminder. It is NOT a billing code, but will enable capture of these vaccinations for purposes of tracking influenza vaccination rates.)

CPT Codes for Influenza Vaccines

- ◆ 90656 – IIV3 – Inactivated Influenza Vaccine, Trivalent, preservative-free, intramuscular – single-dose syringe
- ◆ 90658 – IIV3 – Inactivated Influenza Vaccine, Trivalent, intramuscular – multi-dose vial
- ◆ 90662 – IIV3 Inactivated Influenza Vaccine, Trivalent, enhanced immunogenicity via increased antigen content, preservative-free, intramuscular – single-dose syringe
- ◆ 90673 – RIV3 – Recombinant Influenza Vaccine, Trivalent, preservative-free, intramuscular – single-dose vial
- ◆ 90654 – IIV3 Inactivated Influenza Vaccine, Trivalent, preservative-free, intradermal – single-dose syringe
- ◆ 90661 – ccIIV3 – Cell Culture-based Inactivated Influenza Vaccine, Trivalent, preservative-free, intramuscular – single-dose syringe
- ◆ 90686 – IIV4 – Inactivated Influenza Vaccine, Quadrivalent, preservative-free, intramuscular – single-dose microinjection system

NOTE: The above vaccination codes should be entered into the medical record in addition to the code for the actual administration of the vaccine, 90471.

In April 2006, the National Clinical Reminders Group recommended each VA build a uniform health summary that included any local reminders for influenza vaccination. This health summary allows the user to view a record of all immunizations given at any VA site and can be accessed from the Reports Tab of CPRS under Health Summaries or in VistA Web.



SECTION

10C

surveillance and Documentation

Documenting vaccination of Veteran patients into CPRS

For assistance creating reminder dialogs and/ or a health summary, contact your local facility's Office of Information Technology (OIT) staff. Members of the OIT staff are an important part of the team working on documentation of vaccine administration. Ideally, each facility/ VISN would have a designated staff person to work on projects such as this.

Clinical Reminder for Seasonal Flu Vaccination

There is NOT a national clinical reminder for staff to use in CPRS to document influenza vaccination. Individual facilities are encouraged to implement a locally developed influenza clinical reminder to help increase and track the rate of influenza vaccinations. There is a patient wellness reminder in My Health^eVet for use by in-person authenticated patients.





STAYING HEALTHY
is important
to me.

I got a
FLU SHOT
to protect
myself and
the ones I love.

SECTION

11

VHA Flu and Educational Resources

ASK NOW
about your
FLU SHOT



SECTION 11

VHA Flu and Educational Resources

IDPIO Catalog

The Infection: Don't Pass It On (IDPIO) campaign has developed resources to facilitate the implementation of seasonal influenza prevention and vaccination campaigns. These consist of posters, fact sheets, buttons, stickers, videos, and on-line learning webinars. Topic areas include seasonal and pandemic influenza, pneumonia, hand hygiene, and respiratory etiquette.

For more information, visit:
www.publichealth.va.gov/flu and
<https://www.publichealth.va.gov/infectiondontpasiton/materials.asp>

Flu Shots General Information

This information from the U.S. Department of Veterans Affairs (VA) is for Veterans and their families. This fact sheet answers some questions you may have about the flu shot.

Who should get a flu shot?
 Everyone age 6 months and older is recommended to get a flu shot each year by VA and the Centers for Disease Control and Prevention (CDC).

Why should I get a flu shot?
 Getting a flu shot is the best way to slow the spread of flu from person to person.
 A flu shot can protect you and your family or friends against flu.
 Because of flu, thousands die and many more are hospitalized each year in the U.S.
 Anyone can get flu, but some people are at high risk for complications from flu:
 people age 65 and older
 people with health problems like asthma, diabetes, heart disease, chronic lung disease, and other chronic illnesses or conditions
 pregnant women or people caring for an infant or a family member with health problems

Why do I need a flu shot every year?
 Flu viruses can change over time.
 Every year, the flu shot vaccine is updated to protect against the flu viruses most likely to spread that year.

Can I get flu from a flu shot?
 No! Only inactive (dead) flu virus is used to make flu shot vaccines, so you cannot get flu from a flu shot.

Fast Facts: What is flu?
 Flu - short for influenza - is a respiratory illness caused by influenza viruses.
 Flu spreads easily. It occurs every year, mostly during fall, winter, and spring.
 Flu is different from a cold. People with flu usually feel achy and have a fever.



"STEP UP" TO PREVENT FLU

This information from the U.S. Department of Veterans Affairs (VA) is for Veterans and their families. This fact sheet explains some you can take to help into the summer of flu.

Step 1 Get your flu shot
 Everyone age 6 months and older is recommended to get a flu shot each year by VA and the Centers for Disease Control and Prevention (CDC).
 Getting a flu shot is the best way to slow the spread of flu from person to person.
 Get a flu shot every year. The flu virus can change from year to year.
 Anyone can get flu, but some people are at high risk for complications from flu:
 people age 65 and older
 people with health problems like asthma, diabetes, heart disease, chronic lung disease, and other chronic illnesses or conditions
 pregnant women or people caring for an infant or a family member with health problems

Step 2 Know how flu is spread
 When a person with the flu coughs, sneezes, talks, or sings, flu virus can spread into the air around them.
 The droplets can get into people's eyes, noses, or mouths.
 The virus can spread to other people's hands when they touch the virus on a person's hand or arms, nose, or mouth, they might get flu.
 A person can spread the virus about 1 hour before they start to feel sick to 5 days after getting sick.

Step 3 Know the symptoms of flu
 Fever 100°F or higher
 Aches and muscle aches
 Headache
 Feeling very tired or weak
 Cough
 Sore throat
 Runny or stuffy nose
 Redness and swelling
 Stomach or intestinal illness, such as diarrhea

Each year in the U.S., thousands die and many more are hospitalized because of flu.

Influenza Video Series

The IDPIO campaign has developed a total of seven videos, six of which are video clips approximately 2-3 minutes long.

- ◆ Four short clips are targeted toward a general audience (Veteran patients, family, visitors, and even VA staff) and focus on vaccination for seasonal flu, hand hygiene, respiratory etiquette, and how flu is spread. These four clips are not for clinical instruction or formal training.
- ◆ Two short clips are intended for health care providers and others within the medical care setting. These focus on donning and doffing personal protective equipment (PPE) for combined airborne infection isolation and contact precautions.
- ◆ A 14-minute video on seasonal flu for a general audience is also included. Its “game show” format is both fun and informational for staff, patients, and visitors.
- ◆ All of the videos are posted for viewing at <https://www.publichealth.va.gov/flu/materials/videos.asp>.



Flu and Educational Resource Materials

1. The VHA Seasonal Influenza Manual Manual is available in electronic format only at <https://www.publichealth.va.gov/docs/flu/va-flu-manual.pdf#>

2. Posters/flyers

These cover a myriad of topics, including flu, vaccination, hand cleaning, respiratory etiquette, and use of PPE.

Some posters have been designed for clinical audiences and other for general audiences. Hang them around clinics and facilities

in appropriate areas. <https://www.publichealth.va.gov/flu/materials/index.asp>

3. Buttons & Stickers

Over the years, many buttons have been designed and distributed to facilities. Some templates are on the VA's websites and can be used if sites want to make their own buttons. Visit <https://www.publichealth.va.gov/flu/materials/buttons.asp>. Some buttons are available to VA flu teams from our stock of IDPIO materials at the depot. Go to www.tms.va.gov and use keyword IDPIO.

4. Fact Sheets

These cover topics ranging from seasonal flu and hand cleaning to pandemic flu. Visit <https://www.publichealth.va.gov/flu/materials/brochures.asp>.



5. Cafeteria tray liners

Several designs are available if you want to work with your canteen service to have them printed and used during flu season. Visit <https://www.pub-lichealth.va.gov/flu/materials/trayliners.asp>

6. Webinars (www.tms.va.gov)

Clinical Staff

- Course #23974 – Influenza: Clinical & Public Health Perspectives

Non-clinical Staff

- Course #27474 – Part 1: All About Flu
- Course #27961 – Part 2: All About Flu

Hand Hygiene Resource Materials

Hand Hygiene Toolkit

This online resource will continue to evolve with the emergence of new guidance, research, and science. Sources are the Centers for Disease Control and Prevention (CDC), The Joint Commission, the World Health Organization (WHO), and Veterans Health Administration (VHA). There are folders on:

- Posters, brochures, and links to resources
- The latest research and literature
- Monitoring and evaluation systems
- Guidance on promotion of effective hand hygiene policy and practice

How can I get IDPIO and flu resources?

Utilize the websites noted in this section to view, download, and print materials directly from your desktop, or work with your local medical media department. A limited number of resources are available to VA staff for order (buttons, stickers, Men's Health Guide, and Women's Health Guide, etc.) through the Talent Management System (TMS) at www.tms.va.gov – keyword IDPIO.



Information is provided by the U.S. Department of Veterans Affairs for the benefit of its patients and employees. It describes ways to help protect ourselves and those we care for.

Getting a flu shot each year can help reduce the spread of flu. The National Center for Disease Control and Prevention recommends getting a flu shot every year.



SECTION

12

Pneumococcal Disease and Vaccine Information



Pneumococcal Disease and Vaccine Information

Pneumococcal Disease

Pneumococcal disease is caused by *Streptococcus pneumoniae*, a bacterium that has more than 90 serotypes. Most serotypes cause disease, but only a few produce the majority of invasive pneumococcal disease (IPD). The 10 most common types cause 62% of invasive disease worldwide. The disease is spread from person to person by droplets in the air. The pneumococci bacteria are common inhabitants of the human respiratory tract.

According to the Centers for Disease Control and Prevention (CDC) – *Manual for the Surveillance of Vaccine-Preventable Diseases (2016)*, each year in the United States, a substantial burden of disease and death results from both invasive and non-invasive pneumococcal disease, including meningitis, bacteremia, pneumonia, and acute otitis media. A recent analysis estimated that pneumococcal disease was responsible for 4 million illness episodes, 445,000 hospitalizations, and 22,000 deaths annually.

Pneumococcal pneumonia is the most common disease caused by pneumococcal infection. Pneumococcal pneumonia can occur in combination with bacteremia and/or meningitis, or it can occur alone. Isolated pneumococcal pneumonia is not considered invasive disease, but it can be severe. CDC estimates approximately 10% of all patients with invasive pneumococcal disease die of their illness, but case-fatality rates are higher for the elderly and patients with certain underlying illnesses.

Symptoms include abrupt onset of fever, shaking chills or rigors, chest pain, cough, shortness of breath, rapid breathing and heart rate, and weakness.

There are two major clinical syndromes of IPD: bacteremia and meningitis. They are both caused by infection with the same bacteria but have different manifestations.

Pneumococcal bacteremia occurs in about 25% - 30% of patients with pneumococcal pneumonia. Bacteremia is the most common clinical presentation among children less than 2 years, accounting for 70% of invasive disease in this group.

Pneumococci can also cause pneumococcal meningitis. Symptoms and signs can include headache, tiredness, vomiting, irritability, fever, seizures, and coma. Children less than 1 year have the highest rate of pneumococcal meningitis, approximately 10 cases per 100,000 population. The mortality rate is high (30% overall, up to 80% in the elderly).

Pneumococcal disease can cause sickness and death. In fact, it kills more people in the United States each year than all other vaccine-preventable diseases combined.

Pneumococcal Vaccine

At this time, two vaccines for prevention of pneumococcal disease are licensed for use in adults.

1. 13-Valent Pneumococcal conjugate Vaccine (PCV13; Prevnar 13®)

PCV13 was first licensed by the Food and Drug Administration (FDA) for prevention of IPD and otitis media in infants and young children in February 2010, supplanting PCV7. PCV13 is identical in formulation for the seven common serotypes in PCV7, but it includes six additional antigens. Subsequently in December 2011, FDA licensed PCV 13 for prevention of pneumonia and IPD in adults aged >50 years.

On June 20, 2012, the ACIP recommended routine use of PCV13 for adults aged ≥ 19 years with immunocompromising conditions, functional or anatomic asplenia, cerebrospinal fluid (CSF) leaks, or cochlear implants (See Table 1). PCV13 should be administered to eligible adults in addition to the 23-valent pneumococcal polysaccharide vaccine (PPSV23; Pneumovax 23[®]), the vaccine currently recommended for these groups of adults.

Current recommendations for vaccination with PCV13:

- ◆ Adults with specified immunocompromising conditions who are eligible for pneumococcal vaccine should be vaccinated with PCV13 during their next pneumococcal vaccination opportunity.
- ◆ In pneumococcal vaccine-naïve persons, The Advisory Committee on Immunization Practices (ACIP) recommends a single dose of PCV13 for adults aged 19 or older with:
 - Immunocompromising conditions
 - Functional or anatomic asplenia
 - CSF leaks
 - Cochlear implants

- ◆ This should be followed by a dose of PPSV23 no sooner than 8 weeks after initial vaccination with PCV13. The current PPSV23 recommendations should then be followed for subsequent doses of PPSV23 vaccine.
- ◆ Adults aged 19 or older who have the conditions listed above and have previously received ≥ 1 dose(s) of PPSV23 should be given a PCV13 dose ≥ 1 year after the last dose of PPSV23.
- ◆ For those who require additional doses of PPSV23, the first such dose should be given no sooner than 8 weeks after PCV13 and at least 5 years after the most recent dose of PPSV23.
- ◆ ACIP currently recommends a single dose of PCV13 for all persons aged 65 years or older who have not previously received PCV13. PPSV23 should then be administered at least 1 year later for most patients. Those younger than 65 with compromised immune systems or certain other conditions should receive PPSV23 at least 8 weeks after initial PCV13 administration.

2. 23-Valent Pneumococcal Polysaccharide Vaccine (PPSV23; Pneumovax 23[®])

PPSV23 contains 12 of the serotypes included in PCV13, plus 11 additional serotypes. PPSV23 is recommended for prevention of IPD among all adults aged ≥ 65 years and for adults at high risk aged 19-64 years (See Table 1, p. 240).

Although conflicting evidence regarding PPSV23 efficacy in HIV-infected adults has been published, the GRADE evaluation reviewed by ACIP concluded that potential benefits from PPSV23 use in this population outweigh any potential



harms. Given the high burden of IPD caused by serotypes in PPSV23 but not in PCV13, broader protection might be provided through use of both pneumococcal vaccines.

The current ACIP PPSV23 recommendations call for vaccination of adults at high risk aged 19-64 years at the time of diagnosis of the high-risk condition. A one-time revaccination dose of PPSV23 is recommended 5 years after the first dose for persons with functional or anatomic asplenia and for immunocompromised persons (See Table 1, p. 240).

All adults are recommended for a dose of PPSV23 at age 65 years regardless of previous PPSV23 vaccination; however, a minimum interval of 5 years between PPSV23 doses should be maintained.

Current recommendations for vaccination with PPSV 23:

- ◆ Depending on age and medical conditions, some people may need 2 or 3 vaccinations in their lifetime.
- ◆ May be given any time during the year.
- ◆ Recommended for all adults age 65 years or older.
- ◆ Also recommended for adults age 19 through 64 years who have:
 - Chronic heart, kidney, or liver disease, or who abuse alcohol
 - Chronic lung disease, asthma, or who smoke cigarettes
 - Diabetes
 - Cerebro-spinal fluid leaks
 - Cochlear implants
 - Sickle cell disease or other red blood cell disorders
 - Functional or anatomic asplenia
 - Medical conditions that weaken the immune system, such as HIV infection, leukemia, lymphoma, Hodgkin's disease, multiple myeloma, or cancer
 - Had an organ transplant or are taking chemotherapy, long-term steroids, or radiation therapy
- ◆ If elective splenectomy or cochlear implant is being considered, the vaccine should be given at least 2 weeks prior to the procedure. If that is not feasible, vaccinate as soon as possible after surgery.
- ◆ For persons starting chemotherapy or other immunosuppressive therapy, vaccine should be administered at least 2 weeks prior to therapy, if possible.

Frequently Asked Questions

PCV13

How often should PCV 13 be given?

- ◆ PCV13 is currently given in a single, one-time dose.
- ◆ If the patient's vaccination status is unknown, those in the recommended group should be administered pneumococcal vaccine.
- ◆ Consider supplying patients who have trouble remembering their vaccination history with a personal immunization card. Examples of cards are available at <http://immunize.org/catg.d/p2023.pdf>

How is PCV 13 administered?

- ◆ PCV 13 may be given IM (intramuscularly) with a 22-25 g 1-1½-inch needle in the deltoid.
- ◆ PCV 13 may be given at the same time as influenza vaccine, using a different site.

What are the risks from PCV13?

With any medicine, including vaccines, there is a chance of side effects. These are usually mild and resolve with home treatment measures, but serious reactions are also possible. Reported problems associated with PCV13 vary by dose and age, but generally:

- ◆ Adults receiving the vaccine have reported redness, pain, and swelling where the shot was given. Mild fever, fatigue, headache, chills, or muscle pain have also been reported.
- ◆ Life-threatening allergic reactions from any vaccine are very rare.



What are the contraindications and precautions for PCV13?

- ◆ PCV13 is contraindicated for people who have had an anaphylactic reaction to a diphtheria-toxoid-containing vaccine (e.g. DtaP, DT, Td, or Tdap) because the antigens in PCV13 are conjugated to diphtheria CRM197 protein.
- ◆ PCV13 is contraindicated for anyone with a history of anaphylactic hypersensitivity to any vaccine component. For a list of PCV13 vaccine contents, see the package insert.
- ◆ Although there is no evidence that PPSV is harmful to either a pregnant woman or to her fetus, as a precaution, women with conditions that put them at risk for pneumococcal disease should be vaccinated before becoming pregnant, if possible.
- ◆ PCV13 packaging does not contain latex.
- ◆ The presence of a moderate or severe acute illness with or without a fever is a precaution to administration of all vaccines. (The definition of “moderate or severe acute illness” is based on the clinical judgment of the provider.)

PPSV23

How often should PPSV23 vaccine be given?

Most adults 65 and older need only one dose. Those who need a second dose include:

- ◆ Adults aged 65 and older previously vaccinated should receive a second dose if 5 or more years have passed since the first dose and they were less than age 65 at the time of the first dose.
- ◆ Adults at the highest risk of pneumococcal in-

fections should receive a second dose 5 or more years after the first dose regardless of the age at which the first dose was given. Adults at the highest risk include those with:

- Chronic heart, kidney, lung or liver disease, or who abuse alcohol
- Asthma or who smoke cigarettes
- Diabetes
- Cerebro-spinal fluid leaks
- Cochlear implants
- Sickle cell disease or other red blood cell disorders
- Functional or anatomic asplenia
- Medical conditions that weaken the immune system such as HIV infection, leukemia, lymphoma, Hodgkin’s disease, multiple myeloma, or cancer
- A prior organ transplant or those currently taking chemotherapy, long-term steroids, or radiation therapy
- Medication that lowers immunity, such as chemotherapy or long-term steroids

Should a dose be repeated if a patient is uncertain of having received it before?

- ◆ ACIP does not recommend routine revaccination every 5 to 10 years for most persons for whom PPSV23 is indicated because of uncertainty regarding clinical benefit and safety.
- ◆ A second dose of PPSV23 is recommended 5 years after the first dose for persons aged 19-64 years with functional or anatomic asplenia and for persons with immunocompromising conditions.
- ◆ If the patient’s vaccination status is unknown, those in the recommended group should be administered pneumococcal vaccine.
- ◆ Consider supplying patients who have trouble remembering their vaccination history with a personal immunization card. Examples of cards are available at <http://immunize.org/catg.d/p2023.pdf>

How is PPSV23 administered?

- ◆ Pneumococcal polysaccharide vaccine may be given intramuscularly (IM) with a 22-25 g 1-1½-inch needle in the deltoid or subcutaneously (SC) in the fatty tissue over the triceps with a 23-25 g 5/8-inch needle.
- ◆ Pneumococcal polysaccharide vaccine can be administered at the same time as Influenza vaccine, using a different site.

Who should NOT get PPSV23?

- ◆ Anyone who has had a life-threatening allergic reaction to PPSV23 should not get another dose.
- ◆ Anyone who has a severe allergy to any component of a vaccine should not get that vaccine. Tell your provider if you have any severe allergies.
- ◆ Anyone who is moderately or severely ill when the shot is scheduled may be asked to wait until they recover before getting the vaccine. Someone with a mild illness can usually be vaccinated.
- ◆ Although there is no evidence that PPSV23 is harmful to either a pregnant woman or to her fetus, as a precaution, women with conditions that put them at risk for pneumococcal disease should be vaccinated before becoming pregnant, if possible.

What are the most common adverse reactions to PPSV23?

The most common adverse reactions, reported in >10% of subjects vaccinated with PPSV23 in clinical trials, were:

- Injection-site pain, soreness, or tenderness
- Injection-site swelling or induration
- Headache
- Injection-site erythema
- Asthenia and fatigue
- Myalgia

Simultaneous Administration with Other Vaccines for Adults Aged 60 years and older

The FDA-approved product information for zoster vaccine states that zoster vaccine and pneumococcal polysaccharide polyvalent vaccine should not be given concurrently because concomitant use reduces the immunogenicity of zoster vaccine; co-administration did not affect the immunogenicity of the pneumococcal vaccine. However, since the clinical relevance of this observation is not known, the CDC states that zoster vaccine and pneumococcal polysaccharide polyvalent vaccine can be co-administered to prevent missed opportunities for zoster vaccination. The National Center for Health Promotion and Disease Prevention recommends that the zoster vaccine and pneumococcal polysaccharide polyvalent vaccine should be administered 4 weeks apart if feasible but may be concomitantly administered to avoid a missed opportunity to provide both vaccines.



TABLE 1. Medical conditions or other indications for administration of 13-valent pneumococcal conjugate vaccine (PCV13), and indications for 23-valent pneumococcal polysaccharide vaccine (PPSV23) administration and revaccination for adults aged ≥ 19 years,* by risk group – Advisory Committee on Immunization Practices, United States, 2012.

Risk Group: Immunocompetent Persons

Underlying medical condition	PCV13 Recommended	PPSV23 Recommended	PPSV23 Revaccination 5 yrs after first dose
Chronic heart disease†	-	✓	-
Chronic lung disease§	-	✓	-
Diabetes mellitus	-	✓	-
Cerebrospinal fluid leak	✓	✓	-
Cochlear implant	✓	✓	-
Alcoholism	-	✓	-
Chronic liver disease, cirrhosis	-	✓	-
Cigarette smoking	-	✓	-

Risk Group: Persons with Functional or Anatomic Asplenia

Underlying medical condition	PCV13 Recommended	PPSV23 Recommended	PPSV23 Revaccination 5 yrs after first dose
Sickle cell disease/other hemaglobinopathy	✓	✓	✓
Congenital or acquired asplenia	✓	✓	✓

Risk Group: Immunocompetent Persons

Underlying medical condition	PCV13 Recommended	PPSV23 Recommended	PPSV23 Revaccination 5 yrs after first dose
Congenital or acquired immunodeficiency¶	✓	✓	✓
Human immunodeficiency virus infection	✓	✓	✓
Chronic renal failure	✓	✓	✓
Nephrotic syndrome	✓	✓	✓
Leukemia	✓	✓	✓
Lymphoma	✓	✓	✓
Hodgkin disease	✓	✓	✓
Generalized malignancy	✓	✓	✓
Iatrogenic immunosuppression**	✓	✓	✓
Solid organ transplant	✓	✓	✓
Multiple myeloma	✓	✓	✓

* All adults aged ≥ 65 years should receive a dose of PPSV23, regardless of previous history of vaccination with pneumococcal vaccine.

† Including congestive heart failure and cardiomyopathies, excluding hypertension.

§ Including chronic obstructive pulmonary disease, emphysema, and asthma.

¶ Includes B- (humoral) or T-lymphocyte deficiency, complement deficiencies (particularly C1, C2, C3, and C4 deficiencies), and phagocytic disorders (excluding chronic granulomatous disease).

** Diseases requiring treatment with immunosuppressive drugs, including long-term systemic corticosteroids and radiation therapy.

Resources

Pneumococcal Conjugate (PCV13) and Pneumococcal Polysaccharide Vaccine Information Statements (VIS). <https://www.cdc.gov/vaccines/hcp/vis/current-vis.html>

Tomczyk S, Bennett NM, Stoecker C, Gierke R, Moore MR, Whitney CG, et al. Use of PCV-13 and PPSV-23 vaccine among adults aged 65 and older: recommendations of the ACIP (<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6337a4.htm>). *MMWR*. 2014;63(37):822-5.

Kobayashi M, Bennett NM, Gierke R, Almendares O, Moore MR, Whitney CG, et al. *Intervals between PCV13 and PPSV23 vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP)* (<https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6434a4.htm>). *MMWR*. 2015;64(34):944-7.

Immunization Action Coalition (2016). *Pneumococcal Disease*. http://www.immunize.org/askexperts/experts_pneumococcal_vaccines.asp.

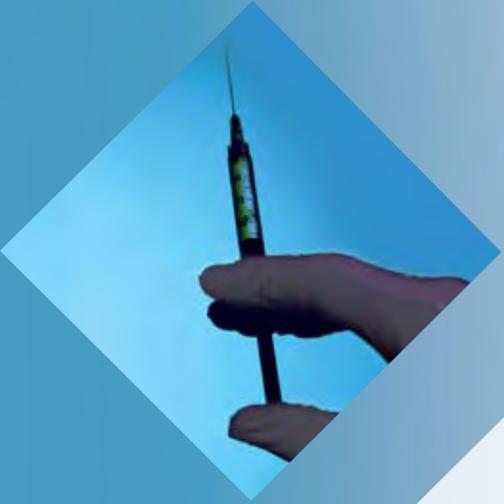
CDC (2016). *Vaccines and Preventable Diseases: Pneumococcal Vaccination*. <http://www.cdc.gov/vaccines/vpd-vac/pneumo/index.html>.

CDC (2015). *Pneumococcal Vaccine Timing for Adults*. <https://www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf>

CDC (2016). *Manual for the Surveillance of Vaccine-Preventable Diseases (5th Edition)*. Chapter 11: Pneumococcal. <https://www.cdc.gov/vaccines/pubs/surv-manual/index.html>

®Use of trade names and commercial sources is for identification only and does not imply endorsement by the U.S. Department of Veterans Affairs.





SECTION
13

Appendices:

**A. Resources and
Websites**

B. Acknowledgments



Appendix

References and Websites

Resources & the EOH SharePoint Websites

- ◆ This VA Seasonal Influenza Manual is available on the VA Internet sites <https://www.publi-health.va.gov/flu/> and <https://www.publi-health.va.gov/infectiondontpassiton/index.asp>.

Videos

Veterans Health Administration (VHA) – Infection: Don't Pass It On

Target Audience: General (patients, Veterans and their families, colleagues, all VA staff, friends, family, and community partners and organizations) <https://www.publichealth.va.gov/flu/materials/videos.asp>

Guidance on Influenza Immunization Prevention and Control of Seasonal Influenza with Vaccines, Recommendations of the Advisory Committee on Immunization Practices. Available at: https://www.cdc.gov/mmwr/volumes/66/rr/rr6602a1.htm?s_cid=rr6602a1_w

Guidance on Immunization/Vaccination in General CDC: Recommended Adult Immunization Schedule – United States. Available at <https://www.cdc.gov/mmwr/volumes/66/wr/mm6605e2.htm>

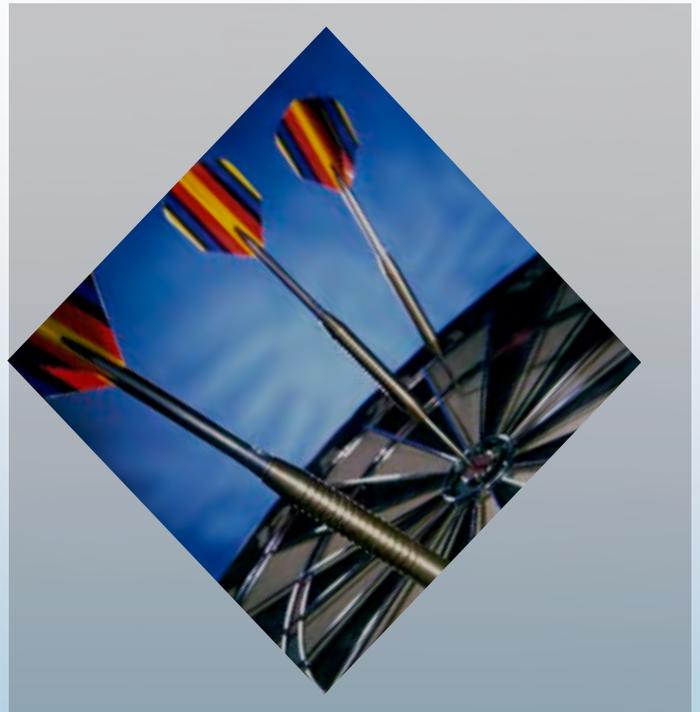
Vaccine Information Statements (VISs) U.S. Department of Health and Human Services, CDC. Available at: <https://www.cdc.gov/vaccines/hcp/vis/index.html>

Flu Vaccine Package Inserts Influenza Virus Vaccine, Trivalent, Types A and B¹⁹ Multiple manufacturers. <https://www.fda.gov/BiologicsBloodVaccines/Vaccines/ApprovedProducts/ucm093833.htm>

Guidance on Flu Vaccination in People with Egg Allergies <https://www.cdc.gov/flu/professionals/acip/2017-18summary.htm>

www.vaccines.gov

Vaccines.gov is a Federal government website that brings together the best in federal resources on vaccine and immunizations. It provides easy-to-understand health information specifically designed for consumers. The site includes content about vaccine recommendations, the diseases that vaccines prevent, important information for getting vaccinated, and tips on travel health. It also links consumers with resources in their states to learn about vaccine requirements for school or child care entry and local community information.



Hand Hygiene and Respiratory/ Cough Etiquette

Videos

Veterans Health Administration (VHA) – Infection: Don’t Pass It On

Target Audience: General (patients, Veterans and their families, colleagues, all VA staff, friends, family, and community partners and organizations)

[https://www. publichealth.va.gov/flu/materials/videos.asp](https://www.publichealth.va.gov/flu/materials/videos.asp)

CDC Patient Admission Video

This video, available in English and Spanish, teaches two key points to hospital patients and visitors to help prevent infections: the importance of practicing hand hygiene while in the hospital, and that it is appropriate to ask or remind their health care providers to practice hand hygiene as well.

[http://www.cdc.gov/ handhygiene/Patient_materials.html](http://www.cdc.gov/handhygiene/Patient_materials.html)

The Joint Commission Center for Transforming Healthcare

These Joint Commission videos from the Hand Hygiene Project focuses on improving and sustaining hand hygiene compliance. **<http://www.centerfortransforminghealthcare.org/projects/detail.aspx?Project=3>**



The New England Journal of Medicine

The New England Journal of Medicine website offers this video as a comprehensive resource that addresses equipment, indications, hand hygiene technique, appropriate use of gloves, jewelry and fingernails, skin irritation, fire hazard and religious issues. **<http://www.nejm.org/doi/full/10.1056/NEJMvcm0903599#t=article>**

Posters and Factsheets

Veteran Health Administration (VHA)

These posters provide information on hand hygiene for target audiences throughout the VA health care system. See Section 10 for ordering information. **[http:// www.publichealth.va.gov/flu/materials/posters.asp](http://www.publichealth.va.gov/flu/materials/posters.asp)**

This factsheet targeting a general audience (patients, veterans, and visitors) addresses hand washing and using alcohol hand rubs. **[https://www. publichealth.va.gov/docs/flu/Clean-Your-Hands-FS.pdf#](https://www.publichealth.va.gov/docs/flu/Clean-Your-Hands-FS.pdf#)**

Association for Professionals in Infection Control and Epidemiology (APIC)

APICs resources on hand hygiene. **<https://apic.org/Resources/Topic-specific-infection-prevention/hand-hygiene>**

The Ambulatory Surgical Center (ASC) Quality Collaboration

The ASC Quality Collaboration has assembled a variety of resources and information that may be used to supplement your current processes to improve hand hygiene practices. The BASIC Hand Hygiene Toolkit includes four essential resources: Hand Hygiene: What CMS Surveyors Are Looking



For; How to Handwash poster; How to Handrub poster; Hand Hygiene Policy and Procedure template. The EXPANDED Hand Hygiene Toolkit contains both essential resources and a broader array of materials including: Assessment Tools, Implementation Aids, Training Materials, Monitoring Tools, Workplace Reminders, and Guidelines from Leading Authorities. <http://www.ascquality.org/handhygienetoolkit.cfm>

Centers for Disease Prevention and Control (CDC)

Main page for hand hygiene
<https://www.cdc.gov/handhygiene/>

These posters will further emphasize the concepts and techniques to increase hand hygiene at your facility. <http://www.cdc.gov/handhygiene/training/interactiveEducation/index2.htm>

- ◆ These posters demonstrate hand hygiene techniques using traditional soap and water and alcohol-based hand sanitizer. <https://www.cdc.gov/handhygiene/Basics.html>
- ◆ This CDC poster focuses on hand hygiene for patients and visitors. <https://www.cdc.gov/handwashing/posters.html>
- ◆ Provides posters and flyers in multiple languages on “stop the spread of germs” for health care settings as well as community and public settings like schools and child care facilities. https://www.cdc.gov/flu/pdf/protect/cdc_cough.pdf

Masks and Respiratory Etiquette

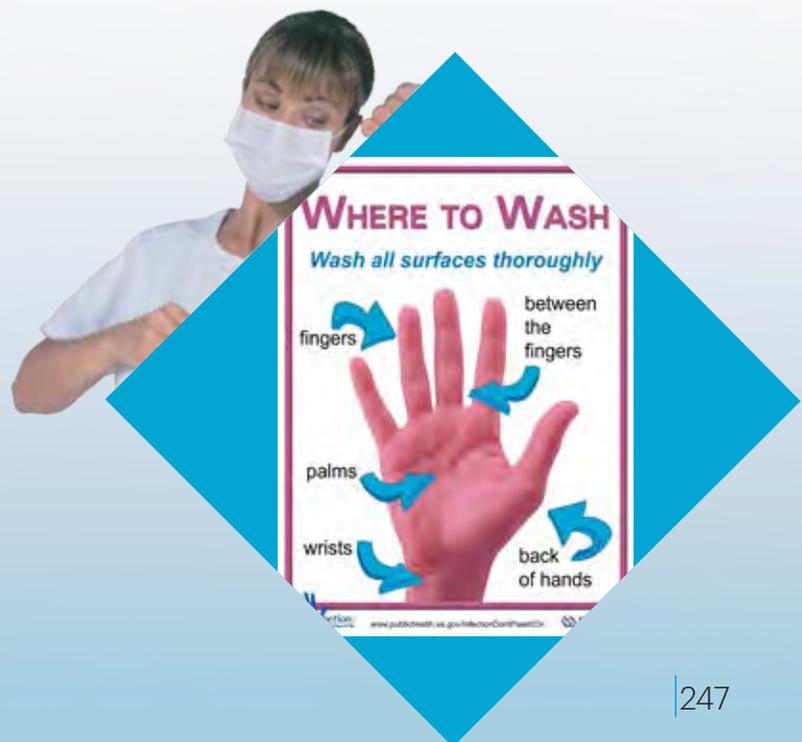
CDC - Respiratory Hygiene/Cough Etiquette in Healthcare Settings
<https://www.cdc.gov/flu/professionals/infection-control/resphygiene.htm>

CDC - Interim Guidance for the Use of Masks to Control Influenza Transmission
<https://www.cdc.gov/flu/professionals/infection-control/maskguidance.htm>

CDC - Cover Your Cough materials
<https://www.cdc.gov/flu/protect/covercough.htm>

FDA - Masks and N95 Respirators
<https://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/GeneralHospitalDevicesandSupplies/PersonalProtectiveEquipment/ucm055977.htm>

APIC - Mask Use Poster
http://www.apic.org/Resource/_TinyMceFileManager/consumers_professionals/APIC_DosDontsofMasks_hiq.pdf





Websites

Influenza and Immunization Websites

Department of Veterans Affairs

<https://www.publichealth.va.gov/flu/>

– Influenza Websites for the Department of Veterans Affairs. These include links on the influenza virus and influenza vaccine, VA policy and guidance on influenza, and VA resources for implementation of seasonal influenza vaccination campaigns.

https://www.cdc.gov/flu/pdf/protect/cdc_cough.pdf

– Websites for the VA public health campaign “Infection: Don’t Pass It On,” which focuses on prevention of infection within the VA medical system through hand and respiratory hygiene, resources for infection emergencies and vaccination against influenza and pneumonia.

<https://www.vaccines.gov> – Vaccines.gov is a Federal government website that brings together the best in federal resources on vaccine and immunizations. It provides easy-to-understand health information specifically designed for consumers

<https://www.cdc.gov/vaccines> – This is the Website for the National Immunization Program of the Centers for Disease Control and Prevention (CDC) and has a great deal of information for the public and health care providers on all immunization topics.

<https://www.cdc.gov/vaccines/acip/index.html>

– This page on the NIP site lists all recommendations of the ACIP (Advisory Committee for Immunization Practices).

<https://www.cdc.gov/vaccines/schedules/> – This page includes easy-to-read, printable schedules of adult immunization recommendations, an interactive tool to download, and an adult vaccination screening form.

<https://www.cdc.gov/flu/weekly/fluactivitysurv.htm>

This page provides weekly updated reports about national and international influenza activity and has fundamental information concerning influenza surveillance methods.

<https://www.cdc.gov/vaccines/hcp/adults/for-practice/increasing-vacc-rates.html>

– This page includes Strategies for Increasing Adult Vaccination Rates (NIP), Updated June 2010.

<https://www.cdc.gov/flu/> – This is the main influenza web page of the CDC. It includes extensive information about influenza and its prevention and control for patients and health care professionals.

<https://www.cdc.gov/vaccines/events/niam.html>

– A toolkit to use for National Immunization Awareness Month (August), including sample tweets and e-cards.

<https://www.fda.gov/drugs/drugsafety/informationbydrugclass/ucm100228.htm> – This web page from the Food and Drug Administration has links for influenza vaccine information and antiviral drug information.

<https://www.fda.gov/BiologicsBloodVaccines/SafetyAvailability/VaccineSafety/ucm110288.htm>

– FDA web page on Influenza Vaccine Safety & Availability

Non Federal Government

<http://www.immunize.org> – This is the website for the Immunization Action Coalition (IAC) with a wide variety of information about immunizations, including Vaccine Information Statements in many languages. The Directory of Immunization Resources is full of useful information on organizations, websites, hotlines, and agencies that are immunization resources.

<http://www.vaccineinformation.org/> – This page from the IAC is comprehensive, organized, and easy to access. For each vaccine-preventable disease, there are answers to many questions about the disease and the vaccine, as well as sections containing photos, case histories, recommendations, references, and links to useful resources. Also included is material about vaccine safety, travel, bioterrorism, state laws – and much more. Has information in Spanish.

<https://www.acponline.org/clinical-information/clinical-resources-products/adult-immunization> – This site from the American College of Physicians provides resources and tools to support physicians in their immunization efforts, with the goal of improving adult immunization rates. It includes physician education, patient education, and practice management tools for immunization and reimbursement.

<http://www.nfid.org/> – This is the website for the National Foundation for Infectious Diseases and contains a call to action and strategies for increasing influenza immunization among employees, trainees, and volunteers.

<http://www.vaccines.org> – This website provides access to up-to-the-minute news about vaccines and an annotated database of vaccine resources on the internet.

<http://www.ImmunizationEd.org> – This is a web page from the Group on Immunization Education of the Society of Teachers of Family Medicine. On this site you will find news and reports to keep family physicians up-to-date on vaccines for children and adults, links to the most current immunization schedules and vaccine information, downloadable slide presentations and photographs of diseases.

<http://www.atpm.org/> – This website of the Association of Teachers of Preventive Medicine has several educational resources available for download or purchase for training health care professionals and students about immunization issues.

<http://www.naccho.org/> – This is the website of the National Association of County and City Health Officials and has links to toolboxes for influenza and immunizations as well as links to training and resources pages.

<http://www.mayoclinic.com/invoke.cfm?objectid=5CB89570-8B46-4961-8BFE66D06D5BDD1B> – This is the Mayo Clinic patient information page on influenza.

<http://www.health.state.mn.us/divs/idepc/diseases/flu/index.html> – This is the influenza section of the Minnesota Department of Health.

<http://www.medscape.com/resource/influenza> – On this site you will find comprehensive clinical information and educational tools for clinicians and other health care professionals.

Pandemic Influenza Websites

Department of Veterans Affairs

VA Pandemic Influenza Information

<http://www.publichealth.va.gov/flu/pandemic>

This site contains VA Pandemic Influenza Plan and links to other documents, including information on use of the antiviral drug oseltamivir, respiratory infectious disease emergency plan for facilities, hand and respiratory hygiene, personal protective equipment.



Hand Hygiene and Respiratory/ Cough Etiquette Websites

Department of Veterans Affairs <https://www.publichealth.va.gov/infectiondontpassiton/index.asp>. Infection: Don't Pass It On (IDPIO) campaign. IDPIO is an ongoing public health campaign to involve VA staff, Veterans, their families, and visitors in preventing the transmission of infection.

Federal Government <https://www.cdc.gov/handhygiene/providers/index.html> Provides guidance on infection control measures that can be implemented at the first point of contact with a potentially infected person.

http://www.apic.org/Resource_/EducationalBrochureForm/e1498a81-9326-4877-b857-9234445e22d4/File/APIC-Respiratory-Etiquette.pdf
Brochure for health care personnel on promoting respiratory etiquette and decreasing respiratory illnesses in the workplace. (2003) Association for Professionals in Infection Control and Epidemiology, Inc.

State Governments

http://www.apic.org/Resource_/EducationalBrochureForm/e1498a81-9326-4877-b857-9234445e22d4/File/APIC-Respiratory-Etiquette.pdf
Virginia Department of Health's Fall 2011 Informational poster/ pamphlet with "Frequently Asked Questions" about Respiratory Hygiene/ Cough Etiquette.

<http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/cover/hcp/stoppat.html>

Provides key elements of the Minnesota Department of Health's guidance on concepts of respiratory hygiene and cough etiquette using source control measures to prevent patients with respiratory infections from transmitting infection.





Appendix

Acknowledgments

This manual is developed by the Infection: Don't Pass It On (IDPIO) campaign. IDPIO is an ongoing public health campaign to involve VA staff, Veterans, their families and visitors in preventing the transmission of infection. The campaign develops and distributes education and communication resources for the VA community to promote:

- ◆ Hand hygiene and respiratory etiquette
- ◆ Annual seasonal influenza vaccination
- ◆ Pandemic flu preparedness and response
- ◆ Correct and appropriate use of personal protective equipment
- ◆ Basic public health measures to prevent transmission of infection

Infection: Don't Pass It On Campaign

VHA National Center for Health Promotion and Disease Prevention
Veterans Health Administration

Campaign Contributing Team

National Center for Health Promotion and Disease Prevention (lead office)

Occupational Health Services

Patient Care Services

Women Veteran Health Services

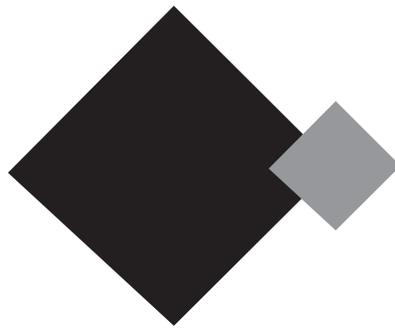
Employee Education System

National Infectious Diseases Service

Office of Nursing Services

VA National Center for Patient Safety

Facility Health Care Professionals



IDPIO Clinical Advisors

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VA Pharmacy Benefits Management

VA National Acquisition Center

VHA Employee Education System

and the

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Infection: Don't Pass It On Campaign A Campaign for Public Health

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VHA National Center for Health Promotion
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<https://www.publichealth.va.gov/flu/>
<https://www.publichealth.va.gov/InfectionDontPassItOn/>
202-461-1040

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