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Session 2
Standing Orders Protocols: How They Work

William Atkinson, MD, MPH
Immunization Action Coalition
Associate Director for Immunization Education
Standing Orders Protocols: How They Work

In this session we will discuss:

• What are standing orders?
• What are the components of a standing orders protocol?
• Do standing orders improve vaccination vaccination rates?
• How do standing orders benefit medical practices?
The Problem

- Adult immunization rates are appallingly low.
- Patients aren’t receiving their recommended vaccinations during office visits.
- Clinicians must address acute and chronic medical issues first; results in lack time for vaccinations and other preventive health issues.
- Missed opportunities abound.
- Patients are not protected from vaccine-preventable diseases.
Standing Orders – A Solution

The goal of using standing orders is to increase vaccination coverage by:

• Reducing missed opportunities in your practice
• Routinizing vaccination by making it a program rather than relying on an individual clinician’s order for each dose of vaccine
• Empowering nurses (or other legally qualified individuals) to manage your vaccination program
• Freeing up clinician time
What are standing orders?
Standing Orders – What Are They?

Written protocols, approved by a physician or other authorized practitioner, that authorize nurses, pharmacists, or other health care personnel (where allowed by state law,) to:

• Assess a patient’s need for vaccination
• Administer the vaccine without a clinician’s direct involvement with the individual patient at the time of the interaction
Who Recommends Use of Standing Orders?

• The *Community Preventive Services Task Force* recommends standing orders to increase vaccination coverage among adults and children on the basis of strong evidence of effectiveness.
  – Applicable to patients in both inpatient and outpatient settings where improvements in coverage are needed.

• The *Advisory Committee on Immunization Practices* (ACIP) recommends standing orders for influenza and pneumococcal vaccinations and several other adult vaccines.
Use of Standing Orders

• In 2009, only 42% of physicians reported using standing orders for adult influenza vaccination

• Only 23% reported consistently using standing orders for both influenza vaccine and pneumococcal polysaccharide vaccine

Use of Standing Orders

The most important factors associated with greater likelihood of a practice consistently using standing orders are:

- being aware of the ACIP recommendations or Medicare regulations regarding adult immunizations
- agreeing that Standing Orders are effective
- having two or more clinical staff per physician

Adult Immunization Programs in Nontraditional Settings: Quality Standards and Guidance for Program Evaluation

A Report of the National Vaccine Advisory Committee

and

Use of Standing Orders Programs to Increase Adult Vaccination Rates

Recommendations of the Advisory Committee on Immunization Practices

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention (CDC)
Atlanta, GA 30333
DATE: October 10, 2002

FROM: Director
Survey and Certification Group
Center for Medicaid and State Operations

SUBJECT: Change in requirement for signed physician’s order for influenza and pneumonia vaccine

TO: Associate Regional Administrator, DMSO
State Survey Agency Directors

The purpose of this program memorandum is to provide information and guidance to regional offices, and state survey agency personnel regarding a new regulation that will remove the federal barrier requiring nursing home providers, home health agencies and hospitals to have individually signed physician’s order for influenza and pneumococcal vaccines.

The Survey Procedures and Interpretive Guidelines for Long Term Care Facilities, Home Health Agencies and Hospitals require physicians to sign and date all orders. The new regulation allows nursing home providers, home health agencies and hospitals to adopt strategies to increase influenza and pneumonia vaccination rates such as institution or physician-approved protocols i.e., standing orders, that do not require individually signed physician orders. Accordingly, surveyors should not be citing providers that have adopted standing orders for influenza and pneumococcal vaccinations for the failure to have individually signed physician orders.
Use of Standing Orders

Other important factors:

- being a family physician
- having an office staff that works well together and is open to innovation
- having an electronic medical record (EMR)
- having an immunization champion in the practice

Use of Standing Orders

Lack of standing orders implementation may be due to:

• weak or no organizational support
• small size of the clinical support staff relative to providers
• concerns about legal ramifications of SOs

## Table 2. Among Physicians with Differing Use of Standing Orders Programs (SOPs), Percent Reporting Various “Major Barriers” to Initiating or Maintaining SOPs for Adult Vaccinations

| Barrier                                                        | None, no Plans to Implement | None, Would Like to Implement | Uses Inconsistently | Uses Consistently |
|                                                              | n = 273                     | n = 142                       | n = 87              | n = 378           |
| Insufficient care staff                                      | 22.6                        | 22.6                          | 12.2                | 4.8**             |
| Inadequate training of staff                                 | 14.0                        | 5.3                           | 3.7                 | 2.1**             |
| Staff communication                                          | 6.7                         | 5.3                           | 11.0                | 3.3**             |
| Lack of reliable tracking system                             | 15.4                        | 19.5                          | 15.7                | 4.5**             |
| Work flow pattern                                            | 21.9                        | 20.0                          | 12.2                | 5.4**             |
| Resources to change policy                                   | 26.0                        | 26.5                          | 15.9                | 6.0**             |
| Patient preference for physician management of care          | 15.1                        | 8.9                           | 4.9                 | 2.4**             |
| Physician preference for management of care                  | 25.7                        | 5.2                           | 4.9                 | 2.4**             |
| Fear of malpractice                                          | 17.1                        | 5.3                           | 2.5                 | 2.4**             |
| Frequently changing recommendations                         | 8.7                         | 10.5                          | 4.9                 | 2.7**             |
| Physicians do not support vaccination as a preventive measure| 2.1                         | 1.5                           | 0.0                 | 0.9†              |

*aComparisons are for each vaccine across all physician groups; values represent column percents.
**p<.001 by χ².
†Not significant.
Vaccine Injury Compensation Program

• Established by National Childhood Vaccine Injury Act (1986)

• Provides no-fault compensation for specified injuries that are temporally related to specified vaccinations

• Program has greatly reduced the risk of litigation for both providers and vaccine manufacturers

• Covers all routinely recommended childhood vaccines, including those administered to adults

www.hrsa.gov/vaccinecompensation/index.html
What are the components of a standing orders protocol?
STANDING ORDERS FOR
Administering Influenza Vaccine to Adults

Purpose
To reduce morbidity and mortality from influenza by vaccinating all adults who meet the criteria established by the Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices.

Policy
Where allowed by state law, standing orders enable eligible nurses and other health care professionals (e.g., pharmacists) to assess the need for vaccination and to vaccinate adults who meet any of the criteria below.

Procedure
1. Assess Adults for Need of Vaccination against influenza
   - All adults are recommended to receive influenza vaccination each year.
   - People who do not recall whether they received influenza vaccine this year should be vaccinated.

2. Screen for Contraindications and Precautions
   - Contraindications for use of all influenza vaccines
     Do not give live attenuated influenza vaccine (LAIV; nasal spray) to a person who has:
     - a history of either an allergic or non-allergic reaction to eggs
     - is pregnant
     - has immunosuppression (including that caused by medications or HIV)
     - is age 50 years or older
     - received influenza antivirals (e.g., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours or will not receive them within 14 days after vaccination
     - provides care for a severely immunosuppressed person who requires a protective environment
   - Precautions for use of all influenza vaccines
     - Moderate or severe acute illness with or without fever
     - History of Guillain-Barré syndrome within 6 weeks of a previous influenza vaccination
   - Precautions for use of LAIV only
     - Asthma
     - Other chronic medical conditions (e.g., other chronic lung diseases, chronic cardiovascular disease [including isolated hypertension], diabetes, chronic renal or hepatic disease, hematologic disease, neurologic disease, and metabolic disorders)

   NOTE REGARDING PATIENTS WITH HIV/AIDS AFTER EATING EGGS: An egg-free recombinant hemagglutinin influenza vaccine (HIV) may be used for people age 18 years and older with egg allergy of any severity. For people who experience onset of hives only (and not a more serious reaction) after ingesting eggs, health care providers should administer inactivated influenza vaccine (IIV) and observe the patient for at least 30 minutes after receipt of the vaccine for signs of a reaction.

3. Provide Vaccine Information Statements
   - Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Provide non-English speaking patients with a copy of the VIS in their native language, if one is available and desired; these can be found at www.immunize.org/vis. (For information about how to document that the VIS was given, see section 6 titled "Document Vaccination."

**Technical content reviewed by the Centers for Disease Control and Prevention**

<table>
<thead>
<tr>
<th>ROUTE</th>
<th>INSTRUCTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
<tr>
<td>Intradermal (ID)</td>
<td>Insert needle of the microinjection system at a 90 degree angle in the deltoid area.</td>
</tr>
<tr>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
<tr>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
</tbody>
</table>

- For IM injection, the injection is made into the deltoid muscle only if the deltoid is firm or if the injection is made at a 90 degree angle to the skin.

- For intradermal injection, the injection is made at a 90 degree angle to the skin.

**Specifically, choose the needle gauge, needle length, and injection site:**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>NEEDLE LENGTH</th>
<th>INJECTION SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>Deltoit muscle of arm</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>Deltoit muscle of arm</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>Deltoit muscle of arm</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>1-1/2&quot;</td>
<td>Deltoit muscle of arm</td>
</tr>
</tbody>
</table>

- The skin (240 kg) for IM injection in the deltoid muscle only if the box, and the injection is made at a 90 degree angle to the skin.

**NOTE:** Take a STAND! Use Standing Orders to Vaccinate Adults.
Components of a Standing Orders Protocol

A comprehensive standing order should include these elements:

• Who is targeted to receive the vaccine
• How to determine if a patient needs or should receive a particular vaccination (e.g., indications, contraindications, and precautions)
• Provision of any federally required information (e.g., Vaccine Information Statement)
• Procedures for preparing and administering the vaccine (e.g., vaccine name, schedule for vaccination, appropriate needle size, vaccine dosage, route of administration)
A comprehensive standing order should include these elements:

- How to document vaccination in the patient record
- A protocol for the management of any medical emergency related to the administration of the vaccine
- How to report possible adverse events occurring after vaccination
- Authorization by a physician or other authorized practitioner
Components of a Standing Orders Protocol (1)

Who is targeted to receive the vaccine – assessing the need

**Procedure**

1. **Assess Adults for Need of Vaccination** against influenza
   - All adults are recommended to receive influenza vaccination each year.
   - People who do not recall whether they received influenza vaccine this year should be vaccinated.
Components of a Standing Orders Protocol (2)

How to determine if the patient can receive a particular vaccination (e.g., screen for contraindications and precautions)

2 Screen for Contraindications and Precautions

Contraindications for use of all influenza vaccines
Do not give influenza vaccine to a person who has experienced a serious systemic or anaphylactic reaction to a prior dose of the vaccine or to any of its components. For a list of vaccine components, refer to the manufacturer’s package insert (www.immunize.org/packageinserts) or go to www.cdc.gov/vaccines/pubs/pinkbook/downloads/appendices/B/excipient-table-2.pdf.

Contraindications only for use of live attenuated influenza vaccine (LAIV; FluMist, nasal spray)
Do not give live attenuated influenza vaccine (LAIV; nasal spray) to a person who:
- has a history of either an anaphylactic or non-anaphylactic allergy to eggs
- is pregnant
- has immunosuppression (including that caused by medications or HIV)
- is age 50 years or older
- received influenza antivirals (e.g., amantadine, rimantadine, zanamivir, or oseltamivir) within the previous 48 hours or will possibly receive them within 14 days after vaccination
- provides care for a severely immunosuppressed person who requires a protective environment

Precautions for use of all influenza vaccines
- Moderate or severe acute illness with or without fever
Screening Checklist for Contraindications to Live Attenuated Intranasal Influenza Vaccination

For use with people age 2 through 49 years: The following questions will help us determine if there is any reason we should not give you or your child live attenuated intranasal influenza vaccine today. If you answer “yes” to any question, it does not necessarily mean you (or your child) should not be vaccinated. It just means additional questions must be asked. If a question is not clear, please ask your healthcare provider to explain it.

1. Is the person to be vaccinated sick today?

2. Does the person to be vaccinated have an allergy to eggs or to a component of the influenza vaccine?

3. Has the person to be vaccinated ever had a serious reaction to influenza vaccine in the past?

4. Is the person to be vaccinated younger than age 2 years or older than age 49 years?

5. Does the person to be vaccinated have a long-term health problem with heart disease, lung disease (including asthma), kidney disease, neurologic disease, liver disease, disease (e.g., diabetes), or anemia or another blood disorder?

6. If the person to be vaccinated is a child age 2 through 4 years, in the past 12 months, has a health care provider told you the child had wheezing or asthma?

7. Does the person to be vaccinated have cancer, leukemia, HIV/AIDS, or any other immune system problem? Or, in the past 3 months, have they taken medications that affect the immune system, such as prednisone, other steroids, drugs for the treatment of rheumatoid arthritis, Crohn’s disease, or psoriasis or anticancer drugs? Or have they had radiation treatments?

8. Is the person to be vaccinated receiving influenza antiviral medications?

9. Is the person to be vaccinated a child or teen age 2 through 17 years and receiving aspirin therapy or aspirin-containing therapy?

10. Is the person to be vaccinated pregnant or could she become pregnant within the next month?

11. Has the person to be vaccinated ever had Guillain-Barré syndrome?

12. Does the person to be vaccinated live with or expect to have close contact with a person whose immune system is severely compromised and who must be in protective isolation (e.g., an isolation room of a bone marrow transplant unit)?

13. Has the person to be vaccinated received any other vaccinations in the past 4 weeks?

FORM COMPLETED BY ___________________________ DATE __________
FORM REVIEWED BY ___________________________ DATE __________
Components of a Standing Orders Protocol (3)

Provision of federally required information: the Vaccine Information Statement

3 Provide Vaccine Information Statements

Provide all patients with a copy of the most current federal Vaccine Information Statement (VIS). Provide non-English speaking patients with a copy of the VIS in their native language, if one is available and desired; these can be found at www.immunize.org/vis. (For information about how to document that the VIS was given, see section 6 titled “Document Vaccination.”)
**Influenza (Flu) Vaccine (Inactivated or Recombinant): What you need to know**

1. **Why get vaccinated?**
   - Influenza ("flu") is a contagious disease that spreads around the United States every year, usually between October and May.
   - Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.
   - Anyone can get flu. Flu strikes suddenly and can last several days. Symptoms vary by age, but can include:
     - fever/chills
     - sore throat
     - muscle aches
     - fatigue
     - cough
     - headache
     - runny or stuffy nose
   - Flu can also lead to pneumonia and blood infections, and cause diarrhea and seizures in children.

2. **Inactive and recombinant flu vaccines**
   - A dose of flu vaccine is recommended every flu season.
   - Children 6 months through 8 years of age may need two doses during the same flu season. Everyone else needs only one dose each flu season.
   - Some inactivated flu vaccines contain a very small amount of a mercury-based preservative called thimerosal. Studies have not shown thimerosal in vaccines to be harmful, but flu vaccines that do not contain thimerosal are available.

3. **Some people this vaccine**
   - Tell the person who is giving you the vaccine if you have any of the following:
     - If you have any severe allergies, including an allergy to eggs, or have ever had an allergic reaction to any vaccine.
     - If you have ever had Guillain-Barré Syndrome (GBS).
   - Some people with a history of fever after a flu shot may need to be watched closely.

4. **Live, attenuated flu vaccine—LAIV, Nasal Spray**
   - A dose of flu vaccine is recommended every flu season.
   - Children younger than 9 years of age may need two doses during the same flu season. Everyone else needs only one dose each flu season.
   - The live, attenuated influenza vaccine (called LAIV) may be given to healthy, non-pregnant people 2 through 49 years of age. It may safely be given at the same time as other vaccines.

**Influenza (Flu) Vaccine (Live, Intranasal): What You Need to Know**

1. **Why get vaccinated?**
   - Influenza ("flu") is a contagious disease that spreads around the United States every year, usually between October and May.
   - Flu is caused by influenza viruses, and is spread mainly by coughing, sneezing, and close contact.
   - Anyone can get flu. Flu strikes suddenly and can last several days. Symptoms vary by age, but can include:
     - fever/chills
     - sore throat
     - muscle aches
     - fatigue
     - cough
     - headache
     - runny or stuffy nose
   - Flu vaccination is not required. However, it is important to prevent flu in people who may be at risk of serious illness or complications from flu.

2. **Inactivated and recombinant flu vaccines**
   - A dose of flu vaccine is recommended every flu season.
   - Children 6 months through 8 years of age may need two doses during the same flu season. Everyone else needs only one dose each flu season.
   - Some inactivated flu vaccines contain a very small amount of a mercury-based preservative called thimerosal. Studies have not shown thimerosal in vaccines to be harmful, but flu vaccines that do not contain thimerosal are available.

3. **Some people this vaccine**
   - Tell the provider of the person being vaccinated if you have any of the following:
     - Any severe allergies, including an allergy to eggs, or have ever had an allergic reaction to any vaccine.
     - Any long-term heart, breathing, kidney, liver, or nervous system problems.
     - Any asthma or breathing problems, or are a child who has had wheezing episodes.
     - Are pregnant.
     - Are a child or adolescent who is receiving aspirin or aspirin-containing products.
     - Have a weakened immune system.
     - Will be visiting or taking care of someone, within the next 7 days, who requires a protected environment (for example, following a bone marrow transplant).
Components of a Standing Orders Protocol (4)

Prepare to administer the vaccine (e.g., by choosing appropriate vaccine product, needle size, and route of administration)

<table>
<thead>
<tr>
<th>GENDER AND WEIGHT OF PATIENT</th>
<th>NEEDLE GAUGE</th>
<th>NEEDLE LENGTH</th>
<th>INJECTION SITE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female or male less than 130 lbs</td>
<td>22–25</td>
<td>5/8&quot;–1&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female or male 130–152 lbs</td>
<td>22–25</td>
<td>1&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female 153–200 lbs</td>
<td>22–25</td>
<td>1–1½&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Male 153–260 lbs</td>
<td>22–25</td>
<td>1–1½&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Female 200+ lbs</td>
<td>22–25</td>
<td>1⅛&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
<tr>
<td>Male 260+ lbs</td>
<td>22–25</td>
<td>1⅛&quot;</td>
<td>Deltoid muscle of arm</td>
</tr>
</tbody>
</table>

* A 5/8" needle may be used in 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 to the skin.

For vaccine that is to be administered intranasally or intradermally, prepare the vaccine according to directions in the package insert.
Components of a Standing Orders Protocol (5)

Specific guidance for administration of the vaccine (e.g., right patient, right vaccine, right age group, right dose, right route, and right site)

<table>
<thead>
<tr>
<th>TYPE OF VACCINE</th>
<th>AGE GROUP</th>
<th>DOSE</th>
<th>ROUTE</th>
<th>INSTRUCTIONS†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactivated influenza vaccine (IIV)</td>
<td>All ages</td>
<td>0.5 mL</td>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
<tr>
<td>IIIV-intradermal</td>
<td>18 through 64 years</td>
<td>0.1 mL</td>
<td>Intradermal (ID)</td>
<td>Insert needle of the microinjection system at a 90 degree angle in the deltoid area.</td>
</tr>
<tr>
<td>IIIV-high dose</td>
<td>65 years and older</td>
<td>0.5 mL</td>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
<tr>
<td>Recombinant influenza vaccine (RIV3)</td>
<td>18 years and older</td>
<td>0.5 mL</td>
<td>Intramuscular (IM)</td>
<td>Administer vaccine in deltoid muscle.</td>
</tr>
<tr>
<td>Intranasal influenza vaccine (LAIV)</td>
<td>Healthy, younger than age 50 years</td>
<td>0.2 mL (0.1 mL into each nostril)</td>
<td>Intranasal spray (NAS)</td>
<td>Spray half of vaccine into each nostril while the patient is in an upright position.</td>
</tr>
</tbody>
</table>

† For complete instructions on how to administer influenza vaccine, see “How to Administer Intramuscular, Intradermal, and Intranasal Influenza Vaccines” at www.immunize.org/catg.d/p2024.pdf.
Wrong!
Wrong!
Correct locations for intramuscular vaccine injections (gloves not required)
Components of a Standing Orders Protocol (6)

How to document vaccination in the patient record

6 Document Vaccination

Document each patient’s vaccine administration information and follow up in the following places:

**Medical record:** Document the date the vaccine was administered, the manufacturer and lot number, the vaccination site and route, and the name and title of the person administering the vaccine. You must also document, in the patient’s medical record or office log, the publication date of the VIS and the date it was given to the patient. If vaccine was not administered, record the reason(s) for non-receipt of the vaccine (e.g., medical contraindication, patient refusal).

**Personal immunization record card:** Record the date of vaccination and the name/location of the administering clinic.

**Immunization Information System (IIS) or “registry”:** Report the vaccination to the appropriate state/local IIS, if available.
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Type of vaccine</th>
<th>Date given mo/day/yr</th>
<th>Healthcare professional or clinic name</th>
<th>Date next due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hepatitis B (HepB, HepA-HepB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hepatitis A (HepA, HepA-HepB)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Measles, Mumps, Rubella (MMR)</td>
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<td></td>
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<tr>
<td>Varicella (chickenpox) (VZV)</td>
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<td></td>
<td></td>
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<tr>
<td>Zoster (shingles)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetanus, Diphtheria, Pertussis (whooping cough) (Tdap, Tet)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Pneumococcal (PPSV23, PCV13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influenza (IIV, LAIV)</td>
<td></td>
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<td></td>
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<tr>
<td>Human Papillomavirus (HPV2, HPV4, HPV9)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Meningococcal (MenACWY, MenB, MPSV4)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

To learn more about vaccines, visit www.vaccineinformation.org
Components of a Standing Orders Protocol (7)

A protocol for the management of any medical emergency related to the administration of the vaccine

7 Be Prepared to Manage Medical Emergencies

Be prepared for management of a medical emergency related to the administration of vaccine by having a written emergency medical protocol available, as well as equipment and medications. For IAC’s “Medical Management of Vaccine Reactions in Adults,” go to www.immunize.org/catg.d/p3082.pdf. To prevent syncope, vaccinate patients while they are seated or lying down and consider observing them for 15 minutes after receipt of the vaccine.
### Medical Management of Vaccine Reactions in Adult Patients

All vaccines have the potential to cause an adverse reaction. In order to minimize adverse reactions, patients should be carefully screened for precautions before a vaccine is administered. Every reaction may occur. These reactions can vary (e.g., soreness, itching) to others (e.g., anaphylaxis). If reactions occur, use the following procedures for their management. The table describes procedures to follow for different types of reactions.

<table>
<thead>
<tr>
<th>REACTION</th>
<th>SYMPTOMS</th>
<th>MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized</td>
<td>Soreness, redness, itching, or swelling at the injection site</td>
<td>Apply a cold compress. Consider giving an antihistamine. Remove the needle.</td>
</tr>
<tr>
<td>Slight bleeding</td>
<td></td>
<td>Apply an adhesive conforming bandage.</td>
</tr>
<tr>
<td>Continuous bleeding</td>
<td></td>
<td>Place a thick layer of gauze to maintain direct pressure over injection site.</td>
</tr>
<tr>
<td>Psychological fright and syncope (fainting)</td>
<td>Fright before injection is given</td>
<td>Have patient sit or lie flat for several minutes. Maintain an open airway.</td>
</tr>
<tr>
<td></td>
<td>Extreme paleness, sweating, coldness of the hands and feet, nausea, light-headedness, dizziness, weakness, or visual disturbances</td>
<td>Have patient lie flat for several minutes.</td>
</tr>
<tr>
<td></td>
<td>Fall, without loss of consciousness</td>
<td>Examine the patient to present before attempting to move. Place patient flat on back.</td>
</tr>
<tr>
<td></td>
<td>Loss of consciousness</td>
<td>Check the patient to ensure before attempting to move. Patient flat on back. Patient does not recover.</td>
</tr>
<tr>
<td>Anaphylaxis</td>
<td>Sudden or gradual onset of generalized itching, erythema (redness), or urticaria (hives); angioedema (swelling of the lips, face, or throat); severe bronchospasm (wheezing); shortness of breath; shock; abdominal cramping; or cardiovascular collapse.</td>
<td>See &quot;Emergency Medical Treatment of Anaphylactic Reactions in Adults&quot; next page for detailed information.</td>
</tr>
</tbody>
</table>

### Needed medications for a community immunization clinic

**FIRST-LINE medication**

- **Epinephrine** (1:1000) (i.e., 1 mg/mL), in ampules, small vials, or prefilled syringes, including epinephrine auto-injectors (e.g., EpiPen and Auvi-Q). If auto-injectors are stocked, at least one should be available.

**Optional medication: H, antihistamines**

- Diphenhydramine (e.g., Benadryl) 25 mg (1.25 mg/mL) liquid or 50 mg tablets (1 tablet) or injectable (10 mg/mL solution).
- Hydrocortisone (e.g., Hudson) 10 mg/mL liquid or 25 mg-tablet.

**Needed supplies for a community immunization clinic**

- Syringes (1 and 3 mL) and needles (22 g and 25 g; 17G and 21G) for epinephrine, diphenhydramine, or hydrocortisone. For ampules, use filtered needles.
- Nasal sprays
- Tourniquets
- Adult airways (small, medium, and large)
- Adult size pocket mask with one-way valve
- Oxygen (if available)
- Sympathomimetic (blood pressure measuring device) with adult size or extra large cuff
- Tongue depressors
- Flashlight with extra batteries (for examination of the mouth and throat)
- Wristwatch: wear second hand or other timing device
- Cell phone or access to someone who can make a phone call

### Emergency medical protocol for management of anaphylactic reactions in adults

1. If itching and swelling are confined to the injection site where the vaccination was given, observe patient closely for development of generalized symptoms.
2. If symptoms are generalized, activate the emergency medical system (EMS: e.g., call 911) and notify the patient's physician. This should be done by a second person, while the primary healthcare professional assesses the airway, breathing, circulation, and level of consciousness of the patient.
3. **DRUG DOSSING INFORMATION:** The first-line and most important therapy in anaphylaxis is epinephrine. There are NO contraindications to epinephrine in the setting of anaphylaxis.
4. **First-line treatment:** Administer aqueous epinephrine 1:1000 dilution intramuscularly. 0.3 mL (0.3 mg) dose (adult dose ranges from 0.3 mL to 0.5 mL, with maximum single dose of 0.5 mL).
5. **Optional treatment:** H, antihistamines for hive or itching; intradermal or subcutaneous administration. Standard dose is 1–2 mg/mL every 4–6 hours; up to 50 mg maximum single dose.
6. **Monitor the patient closely until EMS arrives.** Perform cardiopulmonary resuscitation (CPR) if necessary, and maintain airway. Keep patient in supine position flat on back unless he or she is having breathing difficulty. If breathing is difficult, patient's head may be elevated, provided blood pressure is adequate to prevent loss of consciousness. If blood pressure is low, elevate legs. Monitor blood pressure and pulse every 5 minutes.
7. **If EMS has not arrived and symptoms are still present, repeat dose of epinephrine every 5–15 minutes for up to 3 doses, depending on patient's response.**
8. **Record all vital signs, medications administered to the patient, including the time, dosage, response, and the name of the medical personnel who administered the medication, and other relevant clinical information.**
9. **Notify the patient's primary care physician.**

### REFERENCES


### Take a Stand!

*Using standing orders to vaccinate adults*
Components of a Standing Orders Protocol (8)

How to report possible adverse events occurring after vaccination

8 Report All Adverse Events to VAERS
Report all adverse events following the administration of influenza vaccine to the federal Vaccine Adverse Event Reporting System (VAERS) at www.vaers.hhs.gov. Forms are available on the website or by calling (800) 822-7967.
The Vaccine Adverse Event Reporting System (VAERS) is a national vaccine safety surveillance program co-sponsored by the Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA). VAERS is a post-marketing safety surveillance program, collecting information about adverse events (possible side effects) that occur after the administration of vaccines licensed for use in the United States.

VAERS provides a nationwide mechanism by which adverse events following immunization may be reported, analyzed, and made available to the public. VAERS also provides a vehicle for disseminating vaccine safety-related information to parents and guardians, health care providers, vaccine manufacturers, state vaccine programs, and other constituencies.

Have you or your child had a reaction following vaccination?

1. Contact your health care provider
2. Report the reaction
3. Submit Follow-Up Information
4. Visit the National Vaccine Injury Compensation (If appropriate)

Important note: CDC and FDA do not provide individual medical treatment, advice, or diagnosis. If you need individual medical or health care advice, consult a qualified health care provider.

¿Ha tenido usted o su hijo una reacción adversa después de recibir una vacuna?

1. Contacte a su proveedor de salud
2. Reporte una reacción adversa
3. Visite el Programa Nacional de Compensación por Daños Derivados de Vacunas (si es necesario)

Featured Resources

Seasonal Flu Update
- Summary of 2015-2016 Influenza Vaccine Information

Government Agencies
- Immunization Safety Office
- National Center for Immunization and Respiratory Diseases

vaers.hhs.gov
Components of a Standing Orders Protocol (9)

**Authorization:** In general, standing orders are approved by an institution, physician, or authorized practitioner. State law or a regulatory agency might authorize other healthcare professionals to sign standing orders.

**Standing Orders Authorization**

This policy and procedure shall remain in effect for all patients of the ____________________________ until rescinded or until ______________.

NAME OF PRACTICE OR CLINIC

DATE

Medical Director's signature ____________________________ Signature date __________ Effective date __________
Do standing orders improve vaccination rates?
Are Standing Orders Effective?

• Based on a review of 29 studies (1997-2009) that examined standing orders either alone or combined with other activities, the Community Prevention Services Task Force found:
  – used alone, standing orders increased adult vaccination coverage by a median of 17 percentage points (range, 13% to 30%)
  – used in combination with other interventions,* standing orders increased adult vaccination coverage by a median of 31 percentage points (range, 13% to 43%)

* Such as expanding access in healthcare settings, client reminder and recall systems, clinic-based education, provider education, provider reminder and recall systems, or provider assessment plus feedback

www.thecommunityguide.org/vaccines/standingorders.html
Based on a review of 29 studies (1997-2009) that examined standing orders either alone or combined with other activities, the Community Prevention Services Task Force found:

- standing orders were effective in increasing vaccination rates when implemented in a range of clinical settings, among various providers and patient populations

- standing orders were effective for vaccine delivery to children (universally recommended vaccinations) and adults (influenza and pneumococcal)
Example 1: Use of Standing Orders for Influenza Vaccine in an Ambulatory Care Setting

No Standing Order: 38%
Standing Order: 63%

Percentage of Patients Vaccinated With and Without a Standing Order


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<thead>
<tr>
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<tbody>
<tr>
<td>Tdap</td>
<td>86.0</td>
<td>87.1</td>
<td>95.9</td>
</tr>
<tr>
<td>MCV4</td>
<td>77.8</td>
<td>73.6</td>
<td>93.5</td>
</tr>
<tr>
<td>HPV – Females ≥1</td>
<td>57.3</td>
<td>58.2</td>
<td>89.8</td>
</tr>
<tr>
<td>HPV – Females ≥3</td>
<td>37.6</td>
<td>39.1</td>
<td>66.0</td>
</tr>
<tr>
<td>HPV – Males ≥1</td>
<td>34.6</td>
<td>33.5</td>
<td>89.3</td>
</tr>
<tr>
<td>HPV – Males ≥3</td>
<td>13.9</td>
<td>9.9</td>
<td>52.5</td>
</tr>
</tbody>
</table>
How do standing orders benefit medical practices?
Standing Orders in Clinical Practice

• **Efficiency**
  – Clinician time is not required to assess vaccination needs and issue verbal or written orders to vaccinate
  – Nurses (or others) take charge of vaccination program

• **Increased number of patients seen = increased income stream**

• **Patient safety**
  – improved vaccine coverage, less vaccine-preventable disease
Summary: Standing Orders Protocols

• Standing orders can improve vaccine coverage levels among adults in a variety of settings.

• Use of standing orders is endorsed by major vaccine policy-making institutions.

• Standing orders are not difficult to implement but require the “buy in” of everyone in the office.

• Use of standing orders is facilitated by having an Immunization Champion on the staff.
Standing Orders for all routine vaccines are available on the IAC website

www.immunize.org/standing-orders
Resources

• *Take A Stand™*
  – www.standingorders.org

• Immunization Action Coalition
  – www.immunize.org

• IAC Weekly Updates Via Email
  – www.immunize.org/subscribe

• Standing Orders Protocol Templates
  – www.immunize.org/standing-orders