Practical Strategies to Promote Adult Immunization

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- Has no relationships with any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients.

Overview

- Purchasing: Supply, Manufacturers, Storage, Returns
- Reimbursement
  - Codes
  - Billing Assistance
  - Commercial
  - Medicare

Creating a Vaccine Program

Overview

- Purchasing
  - Supply
  - Manufacturers
  - Storage
  - Returns
- Reimbursement
  - Codes
  - Billing Assistance
  - Commercial
  - Medicare

Supply side

- Buy direct from manufacturer
  - Merck, Aventis, Pfizer, Glaxo, etc.
- Group purchasing organization e.g. Atlantic Health Partners, USPPG et. al.
- Buy multiple vaccines for discount
- Defer paying invoice for several months
- Pay promptly on due date for further discounts
- Order what is needed to avoid vaccine loss from expiration
- Many manufactures will take back unused vaccines and credit account

Common Manufacturers and Vaccines for Adults

- Merck:
  - Gardasil-9 (HVP)
  - Pneumovax-23
  - PCV-15 and PCV-21
  - Hepatitis A (Vaqta)
  - Hepatitis B (Recombivax)

- Sanofi:
  - Adacel (Tdap) and Tenivac (Td)
  - Menactra (Meningitis A, C, Y, W-135)
  - Fluzone, Flublok, and Fluzone High Dose
  - Yellow Fever
  - Typhim
  - Polio inactivated

- Dynavax
  - Hepatitis B (Heplisav-B)

- Moderna
  - COVID-19
  - RSV (mResvia)

- Novavax
  - COVID-19

- Pfizer:
  - Prevnar-13
  - Prevnar-20
  - Trumemba (Meningitis B 3 dose)
  - Abrysvo (RSV)

- Glaxo Smith Kline
  - Bexsero (Meningitis B 2 dose)
  - Energix-B (Hepatitis B)
  - Havrix (Hepatitis A)
  - Fluarix and Flulaval (Influenza)
  - Tdap (Boostrix)
  - Shingrix
  - Arexvy (RSV)
  - Twinrix (Hepatitis A and B)

- Seqirus
  - Influenza vaccines Flucelvax, Afluria and Fluad

- Bavarium Nordic
  - Mpox (Jynneos)

- VBI
  - Hepatitis B (Prehevbrio)

Ordering, Storage and Process

- Designate a vaccine coordinator in your office
- Keep a list of vaccines provided and inventory on hand
- Estimate how many will be given and how many needed
- Most manufactures can deliver within days to a week of order
- For example, don’t let supply on hand go below 50 doses for most common administered vaccines
- Once ordered, keep record of order and shipment tracking
- When shipment arrives, unpack immediately and compare to order
- Store per manufacturers guidelines, freezer and refrigerator need to be maintained, keep a temperature log and use standardized thermometer in glycol
- Follow CDC best practices for vaccine storage
- Update inventory count
- Remove expired vaccines, may be able to get manufacturers credit

https://www.cdc.gov/vaccines/hcp/storage-handling/index.html.

Vaccine Storage and Handling Toolkit

Updated with Mpox Vaccines Storage and Handling Information Addendum
March 29, 2024

CDC
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Storage Best Practices for Refrigerated Vaccines–Fahrenheit (F)

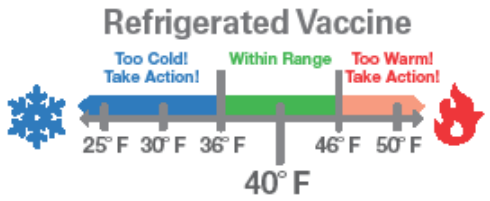
1 Unpack vaccines immediately

1. Place the vaccines in trays or uncovered containers for proper air flow.
2. Put vaccines that are first to expire in front.
3. Keep vaccines in original boxes with lids closed to prevent exposure to light.
4. Separate and label by vaccine type and VFC/public or private vaccine.

2 Store vaccine at ideal temperature: 40°F

Never freeze refrigerated vaccine!

Exception: MMR can be stored in fridge or freezer



Report out-of-range temperatures immediately!

3 Use vaccine storage best practices

DO

- Do make sure the refrigerator door is shut!
- Do replace crisper bins with water bottles to help maintain consistent temperature.
- Do label water bottles "Do Not Drink".
- Do leave 2-3 inches between all vaccine containers and refrigerator walls.
- Do post "Do Not Unplug" signs on refrigerator and near electrical outlet.

DON'T

- Don't use dormitory-style refrigerator.
- Don't use top shelf for vaccine storage.
- Don't put food or beverages in refrigerator.
- Don't put vaccines or diluents in doors or on floor of refrigerator.
- Don't drink from or remove water bottles.

CS243541-C Revision June 22, 2016

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

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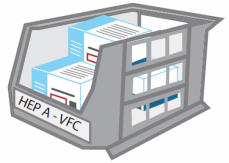
Visit www.cdc.gov/vaccines/SandH or contact your state health department for more information.

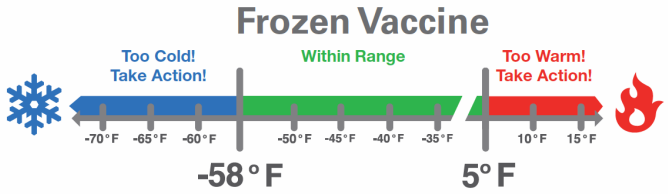
Vaccine Storage Best Practices for Frozen Vaccines–Fahrenheit (F)

1 Unpack vaccines immediately



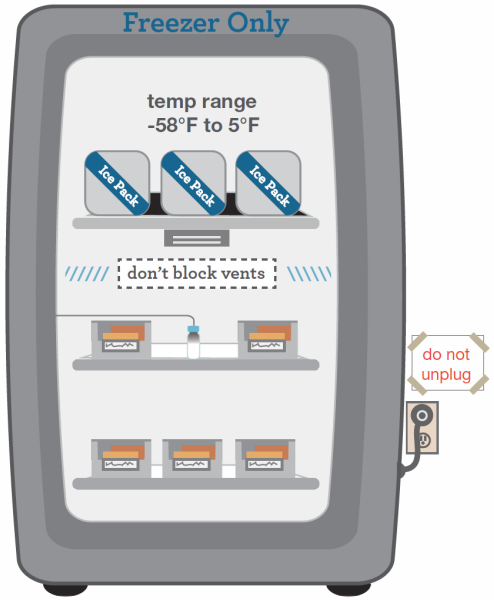
1. Place the vaccines in trays or uncovered containers for proper air flow.
2. Put vaccines that are first to expire in front.
3. Keep vaccines in original boxes with lid closed to prevent light exposure.
4. Separate and label by vaccine type and VFC/Public or private vaccine.

2 Store vaccine at ideal temperature range: -58°F to 5°F



Report out of range temperatures immediately!

3 Use vaccine storage best practices



DO

- Do make sure the freezer door is shut!
- Do use ice packs to help maintain consistent temperature
- Do leave 2 to 3 inches between all vaccines and freezer walls
- Do post "Do Not Unplug" signs on freezer and by electrical outlet

DON'T

- Don't use dormitory-style refrigerator/freezer
- Don't use combo fridge/freezer unit
- Don't put food in freezer
- Don't store vaccines in doors

CS243541-D Revision Jan 24, 2014

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

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Visit www.cdc.gov/vaccines/SandH for more information, or your state health department.

Standing Orders

- Great Resource is Immunize.org (formerly Immunization Action Coalition)
- WWW.IMMUNIZE.ORG
- Identify population to vaccinate
- Instruct staff on requirements and guidelines
- Follow Manufacturers' administration instructions
- Have staff review chart, call and schedule patients
- Make sure patients read and sign consent
- Make sure patients receive Vaccine Information Sheet (VIS)
- Examples to follow:

Standing Orders for Administering Pneumococcal Vaccines (PCV15, PCV20, PCV21 and PPSV23) to Adults

Purpose

To reduce morbidity and mortality from pneumococcal disease 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, pharmacists, and other healthcare professionals 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 *Streptococcus pneumoniae* (pneumococcus) infection according to the following criteria:

Routine Pneumococcal Vaccination

Age 65 years or older

Risk-Based Pneumococcal Vaccination

Age 19 through 64 years with any of the following conditions:

- **Non-immunocompromising chronic health conditions:** Alcoholism, chronic heart disease[1], chronic liver disease, chronic lung disease[2], cigarette smoking, diabetes mellitus, cochlear implant, cerebrospinal fluid (CSF) leak
- **Immunocompromising conditions:** Chronic renal failure, congenital or acquired asplenia, congenital or acquired immunodeficiencies[3], generalized malignancy, HIV infection, Hodgkin disease, iatrogenic immunosuppression[4], leukemia, lymphoma, multiple myeloma, nephrotic syndrome, sickle cell disease and other hemoglobinopathies, solid organ transplant

www.immunize.org/wp-content/uploads/catg.d/p3075.pdf

2 Screen for Contraindications and Precautions

Contraindications

Do not give pneumococcal conjugate vaccine (PCV15 [Vaxneuvance] or PCV21 [Capvaxive], Merck; PCV20, Prevnar20, Pfizer) or pneumococcal polysaccharide vaccine (PPSV23, Pneumovax 23, Merck) 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/fda) or go to www.fda.gov/vaccines-blood-biologics/vaccines/vaccines-licensed-use-united-states.

Precautions

Moderate or severe acute illness with or without fever

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. The PCV VIS and its translations can be found at www.immunize.org/vaccines/vis/pcv/ and the PPSV VIS and its translations can be found at www.immunize.org/vaccines/vis/ppsv/. (For information about how to document that the VIS was given, see section 6 titled "Document Vaccination.")

4 Prepare to Administer Vaccine

All PCVs (PCV15, PCV20, PCV21) must be given IM. PPSV23 may be administered either intramuscularly (IM) or subcutaneously (Subcut). For vaccine that is to be administered IM, choose the needle gauge, needle length, and injection site according to the following chart:

BIOLOGICAL SEX AND WEIGHT OF PATIENT	NEEDLE GAUGE	NEEDLE LENGTH	INJECTION SITE
Female or male less than 130 lbs	22–25	⅝"*–1"	Deltoid muscle of arm
Female or male 130–152 lbs	22–25	1"	Deltoid muscle of arm
Female 153–200 lbs	22–25	1–1½"	Deltoid muscle of arm
Male 153–260 lbs	22–25	1–1½"	Deltoid muscle of arm
Female 200+ lbs	22–25	1½"	Deltoid muscle of arm
Male 260+ lbs	22–25	1½"	Deltoid muscle of arm
Female or male, any weight	22–25	1"*–1½"	Anterolateral thigh muscle

* Alternative needle lengths may be used for IM injections if the skin is stretched tightly, the subcutaneous tissues are not bunched, and the injection is made at a 90° angle to the skin as follows: a) a 5/8" needle for adults weighing less than 130 lbs (<60 kg) or b) a 1" needle for administration in the thigh muscle for adults of any weight.

If you prefer Subcut injection of PPSV23, choose a 23–25 gauge, ⅝" needle for injection into the fatty tissue over-lying the triceps muscle.

Standing Orders for Administering Pneumococcal Vaccines (PCV15, PCV20, PCV21 and PPSV23) to Adults

www.immunize.org/wp-content/uploads/catg.d/p3075.pdf

Standing Orders for
Administering Pneumococcal Vaccines (PCV15, PCV20, PCV21 and PPSV23) to Adults

www.immunize.org/wp-content/uploads/catg.d/p3075.pdf

5 **Administer PCV15, PCV20, PCV21, or PPSV23,** 0.5 mL, by choosing between two options displayed on the following schedules based on the recipient's history of pneumococcal vaccination:

Table 1. Recommendations for adults age 65 years or older

PRIOR VACCINES	OPTION A	OPTION B
None, unknown, or PCV7 only	PCV20 or PCV21	PCV15 followed by PPSV23 in at least 1 year**
PPSV23 only (at any age)	PCV20 or PCV21 at least 1 year after PPSV23	PCV15 at least 1 year after PPSV23
PCV13 only (at any age)	PCV20 or PCV21 at least 1 year after PCV13	PPSV23 at least 1 year** after PCV13
PCV13 (at any age) & PPSV23 before age 65 years	PCV20 or PCV21 at least 5 years after last pneumococcal vaccine dose	PPSV23 #2 at least 5 years after previous PPSV23†
Complete series of PCV13 at any age & PPSV23 at age 65 years or older	May administer PCV20 or PCV21 at least 5 years after most recent pneumococcal vaccination	

**Consider minimum interval (8 weeks) for adults with an immunocompromising condition, cochlear implant, or cerebrospinal fluid leak (CSF).

† For adults with an immunocompromising condition, cochlear implant, or CSF leak, the minimum interval for PPSV23 is at least 8 weeks since last PCV13 dose and at least
5 years since last PPSV23 dose; for others, the minimum interval for PPSV23 is at least 1 year since last PCV13 dose and at least 5 years since last PPSV23 dose.

Table 2. Recommendations for adults age 19 through 64 years with specified immunocompromising conditions[‡]

PRIOR VACCINES	OPTION A	OPTION B
None, unknown, or PCV7 only	PCV20 or PCV21	PCV15 followed by PPSV23 in at least 8 weeks
PPSV23 only	PCV20 or PCV21 at least 1 year after PPSV23	PCV15 at least 1 year after PPSV23
PCV13 only	PCV20 or PCV21 at least 1 year after PCV13	PPSV23 #1 at least 8 weeks after PCV13, followed by PPSV23 #2 in at least 5 years[§]
PCV13 & 1 dose PPSV23	PCV20 or PCV21 at least 5 years after last pneumococcal dose	PPSV23 #2 at least 5 years after PPSV23 #1 and at least 8 weeks after PCV13[§]
PCV13 & 2 doses PPSV23	May give PCV20 or PCV21 at least 5 years after last pneumococcal dose[§]	

[‡]See list of immunocompromising conditions on page 1.
[§]If PCV20 or PCV21 is not given, CDC recommends that you review pneumococcal vaccine recommendations again when your patient turns 65 years old (see www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

Table 3. Recommendations for adults age 19 through 64 years with a cochlear implant or cerebrospinal leak[‖]

PRIOR VACCINES	OPTION A	OPTION B
None, unknown, or PCV7 only	PCV20 or PCV21	PCV15 followed by PPSV23 in at least 8 weeks
PPSV23 only	PCV20 or PCV21 at least 1 year after PPSV23	PCV15 at least 1 year after PPSV23
PCV13 only	PCV20 or PCV21 at least 1 year after PCV13	PPSV23 at least 8 weeks after PCV13[§]
PCV13 & 1 dose PPSV23	May give PCV20 or PCV21 at least 5 years after last pneumococcal dose[§]	

[‖]Recommendations for vaccination in the presence of these conditions differ slightly from other non-immunocompromising chronic health conditions.
[§]If PCV20 or PCV21 is not given, CDC recommends that you review pneumococcal vaccine recommendations again when your patient turns 65 years old (see www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

Table 4. Recommendations for adults age 19 through 64 years with a non-immunocompromising chronic health condition[¶]

PRIOR VACCINES	OPTION A	OPTION B
None, unknown, or PCV7 only	PCV20 or PCV21	PCV15 followed by PPSV23 in at least 1 year
PPSV23 only	PCV20 or PCV21 at least 1 year after PPSV23	PCV15 at least 1 year after PPSV23
PCV13 only	PCV20 or PCV21 at least 1 year after PCV13	PPSV23 at least 8 weeks after PCV13[§§]
PCV13 & 1 dose PPSV23	No additional pneumococcal vaccines are recommended at this time.[§§]	

[¶]See list of non-immunocompromising chronic health conditions on page 1. Excluding cochlear implant and cerebrospinal fluid leak (see table 3).
[§§]CDC recommends that you review pneumococcal vaccine recommendations again when your patient turns 65 years old (see www.cdc.gov/vaccines/vpd/pneumo/downloads/pneumo-vaccine-timing.pdf).

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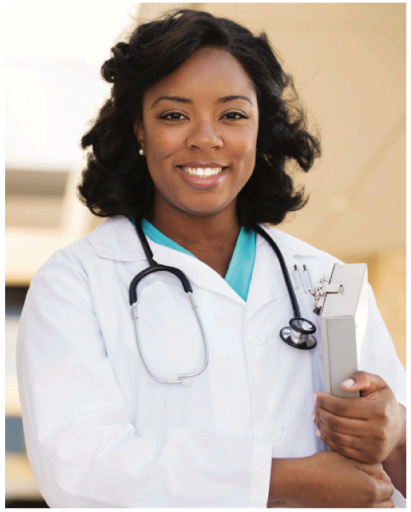
www.immunize.org/wp-content/uploads/catg.d/p3075.pdf

Steps to Implementing Standing Orders for Immunization in Your Practice Setting



Standing orders are written protocols that allow qualified healthcare professionals (who are eligible to do so under state law, such as registered nurses or pharmacists) to assess the need for and administer vaccines to patients.

- Standing orders must be approved by a physician or other authorized practitioner in advance of vaccination.
- Patients must meet certain criteria, such as age or underlying medical condition.
- The qualified healthcare professionals must be eligible by state law to administer certain medications, such as epinephrine, under standing orders should a medical emergency (rare event) occur.

https://www.immunize.org/wp-content/uploads/catg.d/p3067.pdf

Coding Common Adult Vaccines-Estimates and not limited too

Vaccine	CPT code	Average Reimbursement
Pneumovax-23	90732	$210
Prevnar-20	90670	$260
Influenza Quad	90686	$20
Influenza High Dose	90662	$45
Flublok Recombinant	90682	$65
Shingrix	90750	$180
Hepatitis A	90632	$100
Hepatitis B	90746	$70
Menactra	90734	$125
Bexsero	90620	$180
Gardasil-9	90651	$220
Tdap	90715	$65
Yellow Fever	90717	$150
Arexvy	90679	$300
Abrysvo	90678	$300
Typhim	90691	$100

Administration	CPT code	Average Reimbursement
Administration 1st dose	90471	$20
Administration 2nd dose	90472	$15
Flu Medicare	G0008	$25
Pneumonia Medicare	G0009	$25
Hep B Medicare	G0010	$25

Common Influenza Vaccine Codes

Influenza Vaccine Products for the 2024–2025 Influenza Season

Manufacturer	Trade Name (vaccine abbreviation)[1]	How Supplied	Mercury Content (mcg Hg/0.5mL)	Age Range	CVX Code	Vaccine Product Billing Code[2]
						CPT
AstraZeneca	FluMist (LAIV3)	0.2 mL (single-use nasal spray)	0	2 through 49 years	111	90660
GSK	Fluarix (IIV3)	0.5 mL (single-dose syringe)	0	6 months & older[3]	140	90656
	FluLaval (IIV3)	0.5 mL (single-dose syringe)	0	6 months & older[3]	140	90656
Sanofi	Flublok (RIV3)	0.5 mL (single-dose syringe)	0	18 years & older	155	90673
	Fluzone (IIV3)	0.5 mL (single-dose syringe)	0	6 months & older[3]	140	90656
		0.5 mL (single-dose vial)	0	6 months & older[3]	140	90656
		5.0 mL multi-dose vial (0.25 mL dose)	25	6 through 35 months[3]	141	90657
		5.0 mL multi-dose vial (0.5 mL dose)	25	6 months & older	141	90658
	Fluzone High-Dose (HD-IIV3)	0.5 mL (single-dose syringe)	0	65 years & older[4]	135	90662
CSL Seqirus	Afluria (IIV3)	5.0 mL multi-dose vial (0.25 mL dose)	24.5	6 through 35 months[3]	141	90657
		5.0 mL multi-dose vial (0.5 mL dose)	24.5	3 years & older[5]	141	90658
		0.5 mL (single-dose syringe)	0	3 years & older[3]	140	90656
	Fluad (aIIV3)	0.5 mL (single-dose syringe)	0	65 years & older[4]	168	90653
	Flucelvax (ccIIV3)	0.5 mL (single-dose syringe)	0	6 months & older[3]	153	90661
		5.0 mL multi-dose vial (0.5 mL dose)	25	6 months & older[3]	320	90661

https://www.immunize.org/wp-content/uploads/catg.d/p4072.pdf

Coding-Vaccines

Vaccine	Average Cost	Average Reimbursement	Average Admin Reimbursement	Profit
Pneumovax-23	$120	$150	$20	$50
Prevnar-20	$215	$260	$20	$65
Influenza Quad	$20	$20	$20	$20
Influenza High Dose	$40	$45	$20	$25
Influenza Recombinant	$45	$65	$20	$40
Shingrix	$160	$180	$20	$40
Hepatitis A	$65	$100	$20	$55
Hepatitis B	$45	$70	$20	$45
Menactra	$100	$125	$20	$45
Bexsero	$150	$180	$20	$50
Gardasil-9	$190	$220	$20	$50
Tdap	$45	$65	$20	$40
Yellow Fever	$140	$150	$20	$30
Arexvy	$250	$300	$20	$70
Abrysvo	$250	$300	$20	$70

Reimbursement tips for Commercial and Medicare

- Dx code for all vaccines Z23
- Know the CPT for each vaccines, check with manufacturer
- All vaccines need a specific CPT code for the vaccine and an administration code
- First administration code is 90471 for commercial, subsequent injection on same visit is 90472 x number of units
- Medicare vaccines for flu (G0008), pneumonia-23, PCV-15 and prevnar-13, Prevnar-20 (G0009), and Hepatitis B (G0010), use G code as first dose administration
- If given on the same day as visit then use modifier 25 on EM code with modifier 59 for vaccines and administration code
- All vaccines for commercial submitted through normal claims process
- Medicare part B vaccines (Flu, Pneumonia, Hepatitis B) submitted through normal claims process
- Shingrix, Tdap, Hep A for Medicare submitted through 3rd party vendor

Medicare part D

- Certain vaccines are considered Drugs and covered under part D
- To bill Medicare part D use www.mytransactRX.com
- Allows to check coverage of patients, print out proof, and submit claim through portal and then direct deposit to account
- Check for Tdap, Hep A, Shingrix and others
- Limited if patient not covered under drug plan or information not up to date
- Advisable to use Advanced Beneficiary Notice for vaccines such as Prevnar, Tdap, Hep A, Shingrix
- Medicare strict on coverage guidelines and if patient has received vaccine but does not remember then claim will not be paid, ABN protects provider and can allow reimbursement from patient

A. Notifier:

B. Patient Name: **C. Identification Number:**

Advance Beneficiary Notice of Noncoverage (ABN)

NOTE: If Medicare doesn't pay for **D. Prevnar-13 Vaccine** below, you may have to pay. Medicare does not pay for everything, even some care that you or your health care provider have good reason to think you need. We expect Medicare may not pay for the **D. Prevnar-13 Vaccine** below.

D.	E. Reason Medicare May Not Pay:	F. Estimated Cost
Prevnar-13 Vaccine	**Not all vaccines are covered**	**$220.00**

WHAT YOU NEED TO DO NOW:

- Read this notice, so you can make an informed decision about your care.
- Ask us any questions that you may have after you finish reading.

Choose an option below about whether to receive the D. Prevnar-13 Vaccine listed above.

Note: If you choose Option 1 or 2, we may help you to use any other insurance that you might have, but Medicare cannot require us to do this.

G. OPTIONS: Check only one box. We cannot choose a box for you.

☐ **OPTION 1.** I want the **D. Prevnar-13 Vaccine** listed above. You may ask to be paid now, but I also want Medicare billed for an official decision on payment, which is sent to me on a Medicare Summary Notice (MSN). I understand that if Medicare doesn't pay, I am responsible for payment, but I can appeal to Medicare by following the directions on the MSN. If Medicare does pay, you will refund any payments I made to you, less co-pays or deductibles.

☐ **OPTION 2.** I want the **D. Prevnar-13 Vaccine** listed above, but do not bill Medicare. You may ask to be paid now as I am responsible for payment. **I cannot appeal if Medicare is not billed.**

☐ **OPTION 3.** I don't want the **D. Prevnar-13 Vaccine** listed above. I understand with this choice I am **not** responsible for payment, and **I cannot appeal to see if Medicare would pay.**

H. Additional Information:

This notice gives our opinion, not an official Medicare decision. If you have other questions on this notice or Medicare billing, call **1-800-MEDICARE** (1-800-633-4227/**TTY:** 1-877-486-2048). Signing below means that you have received and understand this notice. You also receive a copy.

I. Signature:	J. Date:

Billing examples

- Patient comes in only for high dose flu shot, Medicare or Medicare advantage
  - No physician visit
  - Bill 90662 and G0008
- If see physician for visit then bill:
  - E/M code appropriate level such as 99213-25 G0008-59 and 90662-59
  - Do not use 99211 and vaccines unless patient is specifically having a separate service such as blood pressure adjustment etc

More examples

- Patient comes in for Flu, Hep B and Pneumonia with Medicare
  - G0008,90662,G0009,90732,G0010,90746
- If commercial then bill:
  - 90471,90686(quadrivalent),90472 for 2 units, 90732,90746
- Again if with E/M then modifier 25 on E/M and modifier 59 on each administration and each vaccine

More examples

- Flu, pneumonia and hep B with other vaccines
  - Patient with pneumonia and Shingrix
  - Medicare G0009,90732,90472,90750
  - Commercial 90471,90472,90732,90750
- Flu, pneumonia and Shingrix
  - Medicare G0008,90662,G0009,90732,90472,90750
  - Commercial 90471,90472 x 2 units,90732,90750,90686

Common Vaccine Myths and response

- Vaccine will cause infection
  - Most vaccines not live so no infectious material
- Vaccine is fetal tissue
  - Some vaccines use fetal cells in manufacturing, no fetal tissue in vaccines
- Vaccines alter the DNA
  - Vaccines do not integrate in the DNA, get degraded by normal cell processes and can not affect a persons DNA
- Vaccines use government microchips to track people
  - Microchip wont fit through needle, you would see the microchip, and people can already be tracked through cell phone
- Vaccines make you sick
  - A vaccine reaction of fever, chills, body aches, etc., is a an immune response and not illness
- Vaccines weaken your immune system
  - Immune system decreases with age, vaccines do not lower immune response but teach the immune system to fight infections
- Natural immunity is better then vaccine immunity
  - While infection may expose the immune system to more diverse antigens, the person has to be infected to develop natural immunity and could die. The risk of natural immunity has to great a chance of adverse outcome compared to the safe, effective and predictable response of vaccine induced immunity
- Vaccines need to be spaced out and can not be co-administered
  - Studies suggest vaccine coadministration is safe and effective and no need to space out the schedule
- Vaccine doesn't always prevent getting infection so they are useless and don't work
  - Vaccines help to prevent hospitalization and death, not always transmission. The vaccines work by preventing a disease from getting worse, causing hospitalization and death. Prevention of infection is not always the most important factor

Case Example

- 50 year old male with diabetes, heart disease, and actively smokes 1 ppd since age 18 while also drinking 1-2 alcohol equivalents a day presents for his first visit in September and has already declared he does not want vaccines, never had any vaccines and is not interested in vaccines. What is the best approach to this patient and what vaccines are indicated?
  - Indicated vaccines as follows:
    - Pneumonia given risk factors of heart disease, diabetes and active smoker
    - Shingles vaccine given age 50
    - Hepatitis A and B vaccines given age under 59, diabetes and active drinker
    - Flu vaccine given the month of September
    - Covid vaccine given that he is unvaccinated
    - Tdap should also be given every 10 years
  - Approach
    - Try to find out the source of his vaccine hesitancy, such as personal experience, family experience, religious belief, misinformation, fear, cost, etc.
    - See if can get at least one vaccine started such as Tdap as many patient can understand the risk of getting an injury leading to tetanus and are less hesitant.
    - Many patient confuse pneumonia, flu and covid so need to explain the difference of each
    - Patient may agree to some vaccines that are not yearly
    - Explain the nature of the disease being protected against and why it is important
    - Be patient and may need to repeat conversation over several visits

Summary

- Vaccines Save Lives
- Vaccine programs can be easily implemented
- Vaccines are reimbursable and will not have a negative financial impact
- Vaccine programs will have a positive financial impact
- Several resources available to ensure success
- Keep Calm and Vaccinate

Questions?