FOCUS ON
PNEUMOCOCCAL VACCINE AND SHARED CLINICAL DECISION-MAKING IN PHARMACY PRACTICE

This resource provides pharmacists with guidance and information on the application of shared clinical decision-making for pneumococcal vaccine recommendations.

SHARED CLINICAL DECISION-MAKING FOR VACCINES: A FOCUS ON PNEUMOCOCCAL VACCINATION

The Centers for Disease Control and Prevention (CDC) Advisory Committee on Immunization Practices (ACIP) has traditionally made vaccination recommendations based on age groups or high-risk populations; however, more recently, the ACIP has introduced "shared clinical decision-making" (SCDM) for four vaccines (Table 1).[1] This guide will focus on SCDM for the pneumococcal conjugate vaccine (PCV13) for adults aged 65 years and older who do not have an immunocompromising condition, cerebrospinal fluid (CSF) leak, or cochlear implant, and who have not previously received the vaccine.

Table 1. Vaccination Recommendations Based on Shared Clinical Decision-Making.[1]

- Hepatitis B vaccination for adults aged ≥60 years with diabetes mellitus.
- Human papillomavirus vaccination for adults aged 27–45 years.
- Meningococcal B vaccination for adolescents and young adults aged 16–23 years.
- Pneumococcal conjugate vaccination for adults aged ≥65 years who do not have an immunocompromising condition, cerebrospinal fluid leak, or cochlear implant.

SCDM allows providers to have discussions with patients about the risks of infection given their underlying conditions and age as well as the benefits of vaccination for their personal situation.[1,2] This differs from ACIP's routine, catch-up, and risk-based recommendations, which use the default decision to vaccinate patients based on their age group or other indication, unless contraindicated.[1]

According to ACIP, for SCDM, the decision to vaccinate may be informed by the best available evidence; the patient's characteristics, values, and preferences; the health care provider's clinical discretion; and the characteristic of the vaccine being considered.[1] It is important to note that SCDM is not about vaccine safety, because the safety of vaccines has been well documented.[2] Rather the purpose of SCDM is to determine the benefits of administering a select vaccine to an individual patient.[1] In the context of providers, ACIP specifically lists pharmacists as key members of the health care team that can engage in SCDM recommendations.[1]

THE SHARE APPROACH

SCDM is not a new concept, and organizations such as the Agency for Healthcare Research and Quality (AHRQ) have released guidance on shared decision-making.[3] In particular, AHRQ has developed a tool, *The SHARE Approach: Essential Steps of Shared Decisionmaking*, which can be applied to vaccinations. This tool outlines five steps that health care professionals can take to ensure they are effectively implementing shared decision-making with patients during clinical encounters (Table 2).

These steps can serve as prompts to help pharmacists engage patients in their health care decisions through meaningful dialogue about the benefits and risks of their health care options with consideration to what matters most to them. An example of using the SHARE Approach when discussing the pneumococcal conjugate vaccine appears later in this guide.

Table 2. The SHARE Approach: Essential Steps of Shared Decision-Making.[3]

- Step 1: **S**eek your patient's participation.
- Step 2: **H**elp your patient explore and compare treatment options.
- Step 3: **A**ssess your patient's values and preferences.
- Step 4: **R**each a decision with your patient.
- Step 5: **E**valuate your patient's decision.

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PNEUMOCOCCAL VACCINATIONS IN ADULTS

Streptococcus pneumoniae can cause serious illness such as sepsis, meningitis, and pneumonia; vaccinating patients with the pneumococcal vaccine can help prevent these complications.[4] Currently, in the United States, there are two pneumococcal vaccines licensed for use in adults: a 13-valent pneumococcal conjugate vaccine (PCV13; Prevnar 13—Pfizer) and a 23-valent pneumococcal polysaccharide vaccine (PPSV23; Pneumovax 23—Merck & Co.).

One dose of PPSV23 is recommended for all adults 65 years of age and older, regardless of previous history of pneumococcal vaccination, and for those 19 through 64 years of age with certain medical conditions (Table 3). Adults 65 years of age or older who received one or more doses of the PPSV23 before age 65 years should receive one additional dose at age 65 years or older and at least 5 years after the previous PPSV23 dose.[4]

For PCV13, one dose is recommended for patients aged 19 years or older with certain medical conditions and who have not previously received PCV13 (Table 3). The vaccine can be given to other adults aged 65 years and older on the basis of SCDM.[4]

Table 3. Recommendations for PCV13 and PPSV23 Among Adults Aged ≥19 Years.[4]

Medical Indication Group	Specific Underlying Medical Condition	PCV13 for Persons Aged ≥19 Years	PPSV23 for Persons Aged 19–64 Years	PCV13 for Persons Aged ≥65 Years	PPSV23 for Persons Aged ≥65 Years
None	None of the below	No recommendation	No recommendation	Based on SCDM	1 dose; if PCV13 has been given, then give PPSV23 ≥1 year after PCV13
Immunocompetent persons	Alcoholism Chronic heart disease Chronic liver disease Chronic lung disease Cigarette smoking Diabetes mellitus	No recommendation	1 dose	Based on SCDM	1 dose; if PCV13 has been given, then give PPSV23 ≥1 year after PCV13 and ≥5 years after any PPSV23 at age <65 years
	Cochlear implant Cerebrospinal fluid leak	1 dose	1 dose ≥8 weeks after PCV13	1 dose if no previous PCV13	1 dose ≥8 weeks after PCV13 and ≥5 years after any PPSV23 at age <65 years
Immunocompromised persons	Congenital or acquired asplenia Sickle cell disease/other hemoglobinopathies Chronic renal failure Congenital or acquired immunodeficiencies General malignancies HIV infection Hodgkin disease Iatrogenic immunosuppression Leukemia Lymphoma Multiple myeloma Nephrotic syndrome Solid organ transplant	1 dose	2 doses, 1st dose ≥8 weeks after PCV13 and 2nd dose ≥5 years after first PPSV23 dose	1 dose if no previous PCV13	1 dose ≥8 weeks after PCV13 and ≥5 years after any PPSV23 at age <65 years

PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine; SCDM = shared clinical decision-making.

In 2019, ACIP issued the decision to include SCDM for use of PCV13 in patients 65 years of age and older who do not have an immunocompromising condition, CSF leak, or cochlear implant and have not previously received the vaccine. This decision was made after a review of the available evidence indicated that use of PCV13 in children has led to a sharp decline in pneumococcal disease among adults and children because of the herd immunity from vaccinating the children.[4]

ACIP noted that some patients may be at a potentially increased risk for exposure to PCV13 serotypes and may attain higher than average benefit from PCV13 vaccination (Table 4). Pharmacists should assess these risk factors during the SCDM process. ACIP recommends that providers caring for many patients in these groups may consider regularly offering PCV13 to their patients aged 65 years and older who have not previously received PCV13.[5]

Table 4. Patients Who May Attain Higher Than Average Benefit From PCV13 Vaccination

- Persons residing in nursing homes or other long-term care facilities.
- Persons residing in settings with low pediatric PCV13 uptake.
- Persons traveling to settings with no pediatric PCV13 program.
- Persons with any of the following:
  - Chronic heart disease
  - Chronic lung disease
  - Chronic liver disease
  - Diabetes
  - Alcoholism
  - Cigarette smoking
  - More than one chronic medical condition

PCV13 = 13-valent pneumococcal conjugate vaccine.

The timing of the PCV13 and PPSV23 vaccines are also listed in Table 3. For adults without an immunocompromising condition, CSF leak, or cochlear implant, the interval for the PCV13 and PPSV23 should be 1 year or greater regardless of the order in which they were received. When possible, the PCV13 vaccine should be given first, before the PPSV23 vaccine. The interval is shorter for those who are routinely indicated to get the two vaccines due to immunocompromising conditions, cochlear implants, or CSF leaks (Table 3). The two vaccines should not be administered at the same time.

APPLYING THE SHARE APPROACH TO PCV13

Pharmacists, by nature of their access to and engagement with patients in need of immunizations, may have opportunities to identify patients who could benefit from PCV13 based on their medications, medical conditions, or living situation. The items listed in Table 4 can be used to identify patients who may attain higher benefit from PCV13. The SHARE Approach can also be applied to pneumococcal vaccine recommendations, as shown in Table 5.

Table 5. Application of the SHARE Approach to Pneumococcal Vaccine Recommendations[3,6]

AHRQ's SHARE Approach	Immunization Practice Examples
Seek patient participation	Let the patient or caregiver know that a pneumococcal vaccine is available that may be of benefit. Ask if the patient is willing to discuss the vaccine in more detail.
Help the patient explore and compare treatment options	Assess the patient's or caregiver's current knowledge of the vaccine. Describe patients who are at higher risk for pneumococcal disease and who may benefit from both the PCV13 and PPSV23 vaccines (Table 4). Discuss why the decision to vaccinate is worth exploring. Explain risks associated with the vaccine (e.g., adverse reactions, cost). Compare the risks and benefits of getting vaccinated versus not getting vaccinated (e.g., risk of infection).
Assess the patient's values and preferences	Ask if there are any barriers to vaccination, with special consideration to personal values, beliefs (e.g., cultural, religious), and preferences.
Reach a decision with the patient	Review the next steps (e.g., schedule an appointment to discuss further, vaccinate, give patient time to consider vaccination, follow-up). Discuss timing of PCV13 vaccination relative to PPSV23 vaccination. Document the patient's decision.
Evaluate the patient's decision	If the patient or caregiver declines vaccination, ask the patient or caregiver to reevaluate the decision if any of the risk factors change.

AHRQ = Agency for Healthcare Research and Quality; PCV13 = 13-valent pneumococcal conjugate vaccine; PPSV23 = 23-valent pneumococcal polysaccharide vaccine.

SCDM DURING THE PANDEMIC

As patients have sheltered in place during the COVID-19 pandemic, decreased use of routine preventive medical services, including immunization services, have been observed. The ACIP has emphasized the importance of maintaining immunization services during the COVID-19 pandemic in order to protect individuals and communities from vaccine-preventable diseases and outbreaks.[7]

The SCDM approach also applies during this time, as patients weigh the risk of pandemic infection versus the risk of acquiring another vaccine-preventable disease. Pharmacists should speak to patients about the importance of vaccination as well as the safety protocols and procedures implemented at the pharmacy to help provide reassurance to those who may otherwise be hesitant to present for vaccination visits.

RESOURCES

Centers for Disease Control and Prevention

ACIP Shared Clinical Decision-Making Recommendations
www.cdc.gov/vaccines/acip/acip-scdm-faqs.html

Immunization Action Coalition

Pneumococcal Vaccines (PCV13 and PPSV23)
www.immunize.org/askexperts/experts_pneumococcal_vaccines.asp

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