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**AMERICAN PHARMACISTS ASSOCIATION'S  
PHARMACY-BASED IMMUNIZATION DELIVERY**

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**A CERTIFICATE PROGRAM FOR PHARMACISTS**

**WEST VIRGINIA UNIVERSITY SCHOOL OF PHARMACY**

**MAY 3, 2024 – 9:00AM TO 5:30PM**

**HEALTH SCIENCES CENTER, ROOM 3007 – WEST VIRGINIA UNIVERSITY – MORGANTOWN, WV**

For questions about this program, please contact:

**Lori Hindman 304-293-5103, Dr. Ginger Scott 304-293-1553, or [WVUSOPCE@hsc.wvu.edu](mailto:WVUSOPCE@hsc.wvu.edu)**

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**APhA's Pharmacy-Based Immunization Delivery** certificate training program is based on national educational standards for immunization training from the Centers for Disease Control and Prevention. This practice-based curriculum represents a fusion of science and clinical pharmacy. The program, which emphasizes a health care team approach, seeks to foster the implementation of interventions that will promote disease prevention and public health. The purpose of this certificate training program is to prepare pharmacists with comprehensive knowledge, skills, and resources necessary to provide immunization services to patients across the life span.

**HHS PREP Act and APhA's 20-hour Immunization Program**

Under the Authority granted to it by the Public Readiness and Emergency Preparedness (PREP) Act, the U.S. Department of Health and Human Services (HHS) has authorized pharmacists to order and administer (and interns to administer) COVID-19 vaccines that have been approved or licensed by the Food and Drug Administration (FDA) to all individuals age 3 or older. Pharmacist interns must do so while acting under the supervision of a qualified pharmacist. Additionally, HHS has authorized licensed pharmacists (and interns) to provide all vaccines recommended by the CDC's Advisory Committee on Immunization Practices (ACIP), and approved or licensed by the FDA, to all children ages 3 to 18 during the COVID-19 pandemic, regardless of state laws and regulations to the contrary.

Both of these authorizations by HHS require that pharmacists (and interns) complete a practical training program of at least 20 hours that is approved by the Accreditation Council for Pharmacy Education (ACPE). This training program must include hands-on injection technique, clinical evaluation of indications and contraindications of vaccines, and the recognition and treatment of emergency reactions to vaccines.

The APhA Pharmacy-Based Immunization Delivery Certificate Training Program provides 20 hours of training, including hand-on injection technique, clinical evaluation of indications and contraindications of vaccines, and the recognition and treatment of emergency reactions to vaccines. The APhA Pharmacy-Based immunization Delivery Certificate Training Program meets the 20 hour training requirement contained in the two HHS authorizations.

**Activity Preview**

APhA's Pharmacy-Based Immunization Delivery certificate training program is based on national educational standards for immunization training from the Centers for Disease Control and Prevention. This practice-based curriculum represents a fusion of science and clinical pharmacy. The program, which emphasizes a health care team approach, seeks to foster the implementation of interventions that will promote disease prevention and public health.

The purpose of this certificate training program is to prepare pharmacists with comprehensive knowledge, skills, and resources necessary to provide immunization services to patients across the life span

Activity Type: Practice-based

Target Audience: Pharmacists in all practice settings

Learning Level: Level 3

## Goals and Learning Objectives

### Educate pharmacists about:

- The impact of vaccines on public health.
- Pharmacists' roles in immunization.
- Immunologic principles of vaccine development and immunizations.
- Vaccine-preventable diseases and the vaccines used to prevent them.
- Strategies for improving immunization rates.
- Requirements for pharmacists who provide immunization services.

### Prepare pharmacists to:

- Read an immunization schedule and identify appropriate vaccines for individuals across the life span and with special needs.
- Educate patients about the benefits of vaccines and dispel myths about vaccines.
- Safely administer vaccines to patients via subcutaneous, intramuscular, intranasal, and intradermal routes.
- Operate an immunization service in compliance with legal and regulatory standards.
- Partner with immunization stakeholders to promote immunizations and the immunization neighborhood.

### Direct pharmacists to resources necessary to:

- Promote public health through immunizations.
- Access regularly updated information about vaccines and their use.
- Effectively communicate with patients and other stakeholders about resources.
- Operate an immunization service in compliance with legal and regulatory standards.

***This ACPE activity does not provide a certification in this topic but rather advanced professional training which upon successful completion the learner will be able to download a certificate of achievement.***

### There are three components to the certificate training program:

- 12 hour (1.2 CEU) self-study modules with case studies and assessment exam
- 8.0 hour (0.80 CEU) live seminar with **Hands-on assessment of intramuscular and subcutaneous injection technique** and final exam

## Self-Study Learning Objectives

The self-study learning activity is designed to ensure that all participants understand vaccine-preventable diseases and the role of pharmacists and student pharmacists as vaccine advocates and administrators. There are 23 core learning modules and several optional modules that present in-depth information on immunology, practice implementation, and legal and regulatory issues with appropriate references to the Centers for Disease Control and Prevention (CDC) resource publication, *Epidemiology and Prevention of Vaccine-Preventable Disease*.

## Core Modules

### Module 01 - Immunizations and the Role of Pharmacists

*At the completion of this activity, participants will be able to:*

- Describe the impact that vaccines have had on public health
- Explain how pharmacists and student pharmacists can help to improve vaccination rates
- Identify opportunities for pharmacists and student pharmacists to be immunization advocates

### Module 02 - Introduction to Immunology

*At the completion of this activity, participants will be able to:*

- Identify the differences between active and passive immunity
- Explain how vaccines elicit an immune response via the adaptive immune process
- Discuss the rationale for timing of vaccine administration and intervals between doses, including spacing between other vaccines and antibodies
- Describe principles of herd immunity

### Module 03 - Vaccine Types and Technologies

*At the completion of this activity, participants will be able to:*

- Identify vaccines that are live and inactivated
- Describe the characteristics and distinctions between live and inactivated vaccines
- Discuss the rationale for timing of vaccine administration and intervals between dosing

### Module 04 - Immunizations and the Pharmacists' Patient Care Process

*At the completion of this activity, participants will be able to:*

- Apply the Pharmacists' Patient Care Process to immunization services
- Identify how and when to assess patients for vaccination needs
- Determine appropriate screening questions to identify precautions and contraindications to vaccinations

### Module 05 - Immunization Recommendations and Schedules

*At the completion of this activity, participants will be able to:*

- Differentiate between immunization recommendations, vaccine product approvals, and emergency use authorizations
- Locate and apply the Advisory Committee on Immunization Practices (ACIP) recommendations
- Explain how to read and interpret the CDC's immunization schedules for children, adolescents, and adults

### Module 06 - Influenza

*At the completion of this activity, participants will be able to:*

- Describe the transmission and clinical features of influenza
- Compare and contrast symptoms of the common cold and influenza
- Identify age-appropriate influenza vaccination options for a patient
- Describe efficacy and safety information related to influenza vaccinations

### Module 07 - Pneumococcal

*At the completion of this activity, participants will be able to:*

- Describe the causes, clinical features, and potential complications of pneumococcal disease that can be prevented with vaccination
- Identify target groups who should receive the pneumococcal vaccination based on risk factors and on recommendations by the Advisory Committee on Immunization (ACIP)
- List the pneumococcal vaccines approved for use in the U.S. and how they differ

### Module 08 - Meningococcal

*At the completion of this activity, participants will be able to:*

- Describe the causes, clinical features, and potential complications of meningococcal disease that can be prevented with vaccination

- Identify target groups who should receive meningococcal vaccination based on risk factors, including outbreaks, and ACIP recommendations
- List the meningococcal vaccines approved for use in the U.S. and the ways they differ
- Identify the recommended groups and discussion points to include during shared clinical decision-making for meningococcal B vaccines

### **Module 09 - Human Papillomavirus**

*At the completion of this activity, participants will be able to:*

- Describe the clinical features and potential complications of human papillomavirus disease
- Identify target groups who should receive the human papillomavirus vaccine based on ACIP recommendations
- Develop patient education strategies for potential human papillomavirus vaccine recipients

### **Module 10 - Tetanus, Diphtheria and Pertussis**

*At the completion of this activity, participants will be able to:*

- Describe the clinical features and potential complications of tetanus, diphtheria, and pertussis infections
- Compare and contrast vaccines to prevent tetanus, diphtheria, and pertussis
- Identify target groups who should receive the vaccines containing tetanus, diphtheria, and pertussis based on ACIP recommendations

### **Module 11 - Varicella and Zoster**

*At the completion of this activity, participants will be able to:*

- Describe the clinical features and potential complications of disease due to varicella zoster virus
- Identify target groups who should receive the varicella and zoster vaccines based on ACIP recommendations
- List the varicella and zoster vaccines approved for use in the U.S. and the ways they differ

### **Module 12 - Hepatitis A & B**

*At the completion of this activity, participants will be able to:*

- Describe the causes of, clinical features, and potential complications of hepatitis A and hepatitis B
- List the characteristics of the hepatitis A and hepatitis B vaccines, including the combination vaccine
- Identify target groups who should receive the hepatitis A and hepatitis B vaccines based on risk factors and ACIP recommendations
- Describe the causes of recent hepatitis A and hepatitis B outbreaks and the way such outbreaks can be prevented and managed
- Explain the pre- and post-testing recommendations for the hepatitis B vaccine

### **Module 13 - Measles, Mumps and Rubella**

*At the completion of this activity, participants will be able to:*

- Describe the causes of, clinical features, and potential complications of measles, mumps, and rubella
- List the characteristics and contraindications of the measles, mumps, and rubella (MMR) vaccine
- Identify target groups who should receive the MMR vaccine based on risk factors and ACIP recommendations
- Discuss the impact of recent measles and mumps outbreaks

### **Module 14 - Additional Pediatric Vaccine-Preventable Diseases (Polio, Hib, and Rotavirus)**

*At the completion of this activity, participants will be able to:*

- Describe the clinical features and potential complications of rotavirus, Haemophilus influenzae (Hib), and polio infections
- Identify recommended groups who should receive the rotavirus, Hib, and polio vaccines based on ACIP recommendations
- Incorporate combination vaccines into recommended vaccination plans for pediatric patients

## **Module 15 - COVID-19**

*At the completion of this activity, participants will be able to:*

- Describe the causes of, clinical features, and potential complications of COVID-19
- Recognize groups at high risk for COVID-19 disease or exposure
- List the COVID-19 vaccines available in the U.S.
- Differentiate a third dose from a booster dose
- Describe the safety concerns and adverse reactions with the vaccines, including when coadministered with other vaccines
- List the documentation required following COVID-19 vaccine administration

## **Module 16 - Educating Patients About Vaccines**

*At the completion of this activity, participants will be able to:*

- Define vaccine hesitancy and strategies to build patient confidence in vaccines
- Address vaccine misinformation and safety concerns
- Use a shared decision-making approach when recommending vaccines to patients
- Communicate risks and benefits of vaccines
- Provide postvaccination counseling

## **Module 17 - Vaccine Storage and Handling**

*At the completion of this activity, participants will be able to:*

- Explain the importance of maintaining the cold chain for vaccines
- Describe recommendations from the CDC regarding proper storage and handling of vaccines

## **Module 18 - Vaccine Administration Overview**

*At the completion of this activity, participants will be able to:*

- Describe how to prepare vaccines for administration
- Explain how to administer intramuscular and subcutaneous vaccines to adults and children
- List steps for preventing errors with vaccine administration

## **Module 19 - Managing Vaccine Reactions**

*At the completion of this activity, participants will be able to:*

- Compare and contrast local, systemic, and allergic reactions to a vaccine
- Describe the process to appropriately manage vaccine reactions
- Recognize and treat anaphylaxis owing to a vaccine

## **Module 20 - Standing Orders and Protocols**

*At the completion of this activity, participants will be able to:*

- Explain the purpose of standing orders and protocols
- Describe information that should be included in standing orders and protocols for immunization services.
- List resources for more information about standing orders and protocols for immunization services

## **Module 21 - Documentation and Liability**

*At the completion of this activity, participants will be able to:*

- Describe information that should be included in documentation for vaccinations
- Discuss the use of immunization information systems
- Describe national reporting systems for adverse events and errors associated with vaccines
- Explain liability risks and legal protections for authorized immunizers

## **Module 22 - Administrative and Operational Issues**

*At the completion of this activity, participants will be able to:*

- Describe the components of the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard
- Explain how to implement reminder and recall systems for multidose vaccine series

## **Module 23 - Payments for Immunization Services**

*At the completion of this activity, participants will be able to:*

- List opportunities to obtain compensation and reimbursement for vaccination services
- Identify codes that are used when billing third-party payers for vaccinations
- Describe the process and rules around billing for immunizations

## **Ancillary Modules**

### **Module - Vaccine Hesitancy and Motivational Interviewing**

*At the completion of this activity, participants will be able to:*

- Describe vaccine hesitancy
- Discuss the role of social determinants of health in vaccine hesitancy
- List steps of the transtheoretical model of health behavior change
- Describe key principles of motivational interviewing
- Explain how to apply motivational interviewing skills and strategies

### **Module - Pharmacy Workflow for Immunization Services**

*At the completion of this activity, participants will be able to:*

- Explain how the pharmacy practice setting affects workflow models for immunization services
- List factors that affect scheduling for vaccine services
- Describe roles for support staff in the delivery of pharmacy-based immunization services

### **Module - Mass Vaccination Clinics**

*At the completion of this activity, participants will be able to:*

- List situations in which a mass vaccination clinic would be appropriate
- Describe considerations for planning a mass vaccination clinic
- Identify best practices for a mass vaccination clinic

### **Module - Marketing an Immunization Program**

*At the completion of this activity, participants will be able to:*

- Describe print and nonprint strategies that can be used to market vaccination services
- List examples of free print and nonprint materials that can be used to market vaccination services
- Explain how pharmacists can develop relationships in their community that support their vaccination services

### **Module - Working with Pharmacy Technicians**

*At the completion of this activity, participants will be able to:*

- Explain roles for pharmacy technicians in supporting pharmacy-based immunization services
- Identify immunization-related roles that should be performed by only pharmacists
- List activities that pharmacy technicians can perform to streamline the workflow for vaccination and pharmacy operations

### **Module - Volunteer Opportunities and International Vaccine Programs**

*At the completion of this activity, participants will be able to:*

- Discuss volunteer roles for pharmacists in public health immunization programs
- Describe opportunities for pharmacists to become involved with international vaccination programs and global public health promotion
- Describe liability and scope-of-practice considerations for volunteering pharmacists

## **Live Seminar Learning Objectives**

The second component of the APhA's Pharmacy-Based Immunization Delivery certificate training program is an active learning seminar focusing on pharmacy practice implementation. The live training seminar is based

on the experience of practitioners involved in immunization advocacy and administration. The training seminar reinforces and expands on the self-study program and addresses areas such as immunization needs, legal and regulatory issues, and injection-technique training. Participants will be expected to practice giving intramuscular and subcutaneous injections.

At the completion of this activity, participants will be able to:

- Describe strategies for increasing immunization rates, including physician collaborations, community level activities, and immunization coalition activities
- Describe pharmacy operations and a process for administering vaccines in various pharmacy practice settings
- Evaluate patient histories and make patient-specific recommendations based on the appropriate immunization schedule
- Demonstrate effective strategies for communicating with patients who have concerns about vaccines
- Describe current evidence regarding vaccine safety
- Recognize the signs and symptoms of adverse reactions that can occur after vaccination
- Describe procedures for management of patients with adverse reactions to vaccination that constitute an emergency
- List the steps for administering currently available intranasal and intradermal vaccines
- Demonstrate appropriate intramuscular and subcutaneous injection techniques for adult immunization

All participants are strongly encouraged to obtain CPR or BCLS certification. However, certification is not a prerequisite of the program. A Certificate of Achievement is awarded to participants who successfully complete all program requirements. The Certificate of Achievement is invalid, however, without written proof of current CPR or BCLS certification.

### **Seminar Agenda**

- **8:30am** – Check-in and Continental Breakfast
- **9:00am** – Welcome, Introductions and Acknowledgements  
Clinical Review
- **11:00am** – **Morning Break**
- **11:15am** – Managing a Pharmacy-Based Immunization Program  
Strategies for Increasing Immunization Rates
- **1:00pm** – **Lunch**
- **2:00pm** – Applying ACIP Immunization Schedules  
Communicating with Patients
- **3:15pm** – **Afternoon Break**
- **3:30pm** - Vaccine Administration Technique  
Transitional/Summary Remarks
- **5:00pm** – Skills Assessment

### **Faculty**

Ashleigh L. Barrickman, PharmD, BCACP, CTTS  
Director of Skills Development  
Clinical Associate Professor  
West Virginia University School of Pharmacy  
Morgantown, WV

## Accreditation Information



The American Pharmacists Association is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. APhA's Pharmacy-Based Immunization Delivery certificate training program is approved for a total of 20.0 contact hours of continuing pharmacy education (CPE) credit (2.0 CEUs). The ACPE Universal Activity Numbers (UAN) for this activity are listed below.

Successful completion of the self-study component involves passing the self-study assessment with a grade of 70% or higher and will result in 12 contact hours of CPE credit (1.2 CEUs).

ACPE UAN: 0202-0000-23-154-H06-P - Release Date: March 31, 2023; Expiration Date: March 31, 2026

Successful completion of the live seminar component involves attending the full live seminar, successfully completing the injection technique assessment, and completing the online assessment and evaluation.

Successful completion of this component will result in 8 contact hours of CPE credit (0.8 CEU). ACPE UAN: 0202-9999-23-155-L06-P; Release Date: March 31, 2023; Expiration Date: March 31, 2026

To obtain 20.0 contact hours of CPE credit (2.0 CEUs) for APhA's Pharmacy-Based Immunization Delivery certificate training program, the learner must complete all components listed above, and CLAIM credit for each component. Participants will need to have a valid APhA (pharmacist.com) username and password, as well as a **CPE Monitor** account to claim credit. After credit has been claimed, please visit CPE monitor for your transcript. The Certificate of Achievement will be available online upon successful completion of the necessary activity requirements on the participant's **My Training** page.

**Release Date:** March 31, 2023

**Expiration Date:** March 30, 2026 - PLEASE NOTE: NO Home Study credit granted after this date; Live Credit can only be granted within 60 days from the day of the seminar attended.

## Development

APhA's Pharmacy-Based Immunization Delivery was developed by the American Pharmacists Association. Copyright © 2022 by the American Pharmacists Association.

**Technology Requirements** - Computer and Internet access is required to complete this activity. These technology requirements and suggestions will allow you a better online learning experience. In order to participate in any APhA online learning activity, participants must have access to a computer with these minimum system requirements:

### Hardware Requirements

- 128MB of RAM
- 16-bit video card capable of 1024x768 screen resolution or better
- Speakers or headphones, if accessing content with audio

### Software Requirements

- **Internet Browsers**
  - IE 9 and greater
  - Microsoft Edge 12 and greater
  - Firefox 4 and greater\*
  - Google Chrome\*

- Safari 5 and greater

\* These browsers automatically update themselves behind the scenes to the most current version.

- **Operating Systems**

- Windows XP
  - Windows 7 and 8
  - Windows Vista
  - Mac OSX
  - iOS devices (tablets and phones): Please note iPads do not currently allow Adobe Support to be downloaded onto the device.
  - Android devices (tablets and phones)
  - Windows 10
- If you are able to see a course window displayed, but no content within the display, you can check your pop-up blocker settings. Each web browser is different. To find out how to check the pop-up blocker settings, click here: <http://elearning.pharmacist.com/technology-troubleshooting>

## **Program Costs**

Each seminar is limited to a maximum of 30 people. Registration will be taken on a first-come, first-served basis. Participant cost will be:

\$400 per pharmacist

\$300 per student

This amount includes the cost of self-study and live seminar materials, continuing pharmacy education credit, continental breakfast, lunch, and breaks. Lodging, travel, and dinner expenses will be the responsibility of the participant. Cancellations received in writing at least 7 days prior to each program (**Lori Hindman at 304-293-5103, Dr. Ginger Scott at 304-293-5103 or WVUSOPCE@hsc.wvu.edu**) will be charged a \$150 cancellation fee then refunded the remaining registration fee. We reserve the right to cancel the entire program. In the event of a seminar cancellation, each participant will be notified via phone and a full tuition refund will be made.

## **Location, Directions, Parking**

Located at the intersection of I-79 and I-68, West Virginia University is approximately 70 miles south of Pittsburgh and 200 miles northwest of Washington DC. It is accessible by the Morgantown Municipal Airport (MGW) or the Pittsburgh International Airport (PIT).

From I-79, take exit 155 (West Virginia University and Star City) and turn towards Morgantown. At the 2nd traffic light, bear slightly to the right onto US 19 South and proceed to the 2nd traffic light (West Virginia University Coliseum - large domed concrete building on the right). Turn left onto Patteson Drive. Get into the right lane and proceed through the next four traffic lights, following the main road which changes from Patteson Drive to Van Voorhis Road as it turns to the left after the 4th light. At the next stop light (Applebee's will be on the left), turn right into Lot 81 and continue through the parking lot to the Mountaineer Station parking garage. Take a ticket at the entrance, park, and take the elevator to the 7th floor. After exiting the elevator, follow the covered walkway to the Robert C. Byrd Health Sciences Learning Center. There will be WVU School of Pharmacy signs outside and inside directing you to the program.

**Pharmacy-Based Immunization Delivery Certificate Program Registration Form**

**May 3, 2024 – Health Sciences Center, Room 3007 – West Virginia University – Morgantown, WV**

The program is limited to a maximum of 30 people. Registrations will be taken on a first-come, first-served basis. Registration is required at least seven days prior to the program.

Preferred registration and payment are online in our continuing education management system at **<https://pharmacyce.wvu.edu/user/login>**. Select the APhA IMZ Certificate Program under Live Activities. After registering, click on the payment link to pay with a Visa, MasterCard, American Express, or Discover Card.

You can fax registration form to (304) 293-7672. For registration and payment assistance please contact **Lori Hindman at 304-293-5103, Dr. Ginger Scott at 304-293-5103, or [WVUSOPCE@hsc.wvu.edu](mailto:WVUSOPCE@hsc.wvu.edu)**.

**Please print or type: (One form per pharmacist)**

First Name \_\_\_\_\_ MI \_\_\_\_\_ Last Name \_\_\_\_\_

Preferred First Name \_\_\_\_\_

Home Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Place of Employment \_\_\_\_\_

Work Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Mobile Phone \_\_\_\_\_ Work Phone \_\_\_\_\_ Fax Number \_\_\_\_\_

E-mail \_\_\_\_\_

Please list any special dietary needs (ex. vegetarian, etc.): \_\_\_\_\_

**Program Fee (check one)**

- Student
- Pharmacist

**Please circle**

- \$300
- \$400

**Self-study materials will be available online prior to program date. Information to access the online self-study materials will be *emailed* to participants.** If you have not received an email with this information, please contact the WVU School of Pharmacy at 304-293-5103/304-293-1553. Cancellations received in writing at least 7 days prior to the program (fax 304-293-7672 or e-mail [lori.hindman@hsc.wvu.edu](mailto:lori.hindman@hsc.wvu.edu)) will be charged a \$150 cancellation fee then refunded the remaining registration fee. We reserve the right to cancel the program. In the event of a seminar cancellation, registrants will be notified by phone and a full registration refund will be made. Questions regarding the program should be directed to the WVU School of Pharmacy Office of Continuing Education to **Lori Hindman at 304-293 5103, Dr. Ginger Scott at 304-293-1553, or [WVUSOPCEhsc.wvu.edu](mailto:WVUSOPCEhsc.wvu.edu)**. Visit us on the web at **<https://pharmacy.hsc.wvu.edu/continuing-education/>**.