

Activity Announcement

Pharmacy Informatics Certificate

ACPE Activity Number:

- 0204-0000-21-798-H04-P&T
- 0204-0000-21-799-H04-P&T
- 0204-0000-21-800-H04-P&T
- 0204-0000-21-801-H04-P&T
- 0204-0000-21-802-H04-P&T
- 0204-0000-21-803-H04-P&T
- 0204-0000-21-804-H04-P&T

Release Date: November 17, 2021

Expiration Date: November 17, 2024

Activity Type: Application-based and Knowledge-based

CE Credits: 19.5 contact hours / 7 activities (see below for details)

Accreditation for Pharmacists and Pharmacy Technicians



The American Society of Health-System Pharmacists is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education.

Target Audience

This program is intended for pharmacists and pharmacy technicians who are informaticists or interested in becoming a pharmacy informaticist.

Activity Overview

These 7 modules provide pharmacy informatics professionals a focused education on the essential and unique skills for managing medication-related information in electronic health records, pharmacy information systems, and automated systems. The Pharmacy Informatics Certificate is designed to enhance the skills and resources of pharmacy informaticists who serve an integral role in managing medication-related information.

Learning Objectives and Educational Activities

Activity CE Information	Title, Description, and Learning Objectives
<p>ACPE #: 0204-0000-21-798-H04-P&T</p> <p>CE Hours: 2.75 contact hours (0.275 CEUs)</p> <p>Activity Type: Knowledge-based</p>	<p>Title: Introduction to Pharmacy Informatics</p> <p>This activity discusses the roles that exist within pharmacy informatics, what technologies are supported, and successful factors to help improve performance.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Describe the growing area of health information technology (HIT) and national initiatives. 2. Discuss the various roles of individuals in pharmacy informatics.

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	<ol style="list-style-type: none"> 3. List the key technologies used across the medication use spectrum. 4. Identify success factors that can improve your performance in pharmacy informatics. 5. Discuss the role of the information technology department in an organization. 6. List common information technology terminology. 7. Differentiate common team assignments and member roles of the information technology department. 8. Differentiate between the information technology department and the pharmacy information technology team. 9. Define the American National Standards Institute (ANSI) process for U.S. healthcare, Standards Development Organization (SDO), Health Level Seven (HL7), National Council for Prescription Drug Programs (NCPDP), and Accredited Standards Committee (ASC X12). 10. Explain the role of the Standards Development Organizations (SDOs) in pharmacy informatics and their function in pharmacy health systems standards. 11. Differentiate between the normalized terminologies. 12. Discuss benefits and limitations of various normalized terminologies. 13. Explain the value of using normalized terminologies with standardized structured documents using clinical document architecture when exchanging clinical information between health care providers.
<p>ACPE #: 0204-0000-21-799-H04-P&T</p> <p>CE Hours: 2.5 contact hours (0.25 CEUs)</p> <p>Activity Type: Application-based</p>	<p>Title: Basics of Electronic Health Records and Automation</p> <p>This activity provides the benefits of computerized provider order entry (CPOE) and workflow benefits and challenges associated with electronic medication administration records (EMAR), barcoded medication administration (BCMA), and smart pumps.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Define the different types of errors that can occur in the medication use process. 2. Discuss how content provided by a drug database vendor is used by a computerized prescriber order entry system vendor to inform providers of potential safety issues. 3. Describe how specific types of passive clinical decision support are applied in prescriber order entry systems to prevent or minimize the occurrence of medication errors. 4. Explain how active forms of clinical decision support can promote the safe and cost-effective use of medications in health-systems.

Activity CE Information	Title, Description, and Learning Objectives
	<ol style="list-style-type: none"> 5. Describe potential benefits of computerized provider order entry (CPOE) over traditional paper based ordering workflows. 6. Explain key required components of medication orders. 7. Use appropriate methods to identify risks, benefits, and levels of clinical decision support (CDS) that can be utilized to guide medication order entry. 8. Discuss important benchmarks to assist with monitoring the computerized provider order entry (CPOE) system. 9. Summarize e-prescribing functionality standards, workflows, and future potential. 10. List potential benefits of electronic medication administration records (EMAR) documentation over traditional paper based documentation workflows. 11. Describe basic EMAR functionality and challenging workflows associated with EMAR documentation. 12. Evaluate the impact of barcoded medication administration (BCMA) on EMAR workflow and medication safety. 13. Summarize benefits, limitations, and important features found in smart pump use. 14. List opportunities for clinical decision support associated with the use of EMARs, BCMA, and smart pumps.
<p>ACPE #: 0204-0000-21-800-H04-P&T</p> <p>CE Hours: 2 contact hours (0.2 CEUs)</p> <p>Activity Type: Application-based</p>	<p>Title: Managing Automation and Technology</p> <p>This activity discusses the challenges and opportunities of implementing technology and automation in a pharmacy practice.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Summarize the history of technology and automation used in pharmacy practice. 2. Differentiate between the four types of pharmacy distribution models. 3. List strategies for employing technology and automation. 4. Describe common types of technology and automation used in pharmacy practice. 5. Evaluate the benefits and challenges with the use of technology and automation. 6. Calculate the difference between price and cost. 7. Differentiate advantages and disadvantages of each charge capture point. 8. Describe the role of HCPCS and J-Codes in medication billing. 9. Discuss the challenges of having too much safety stock.
<p>ACPE #: 0204-0000-21-801-H04-P&T</p> <p>CE Hours: 3.5 contact hours (0.35 CEUs)</p>	<p>Title: Advanced Pharmacy Informatics</p> <p>This activity will describe common issues associated with transitions of care, effective informatics solutions, integrating smart pumps with an</p>

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<p>Activity Type: Knowledge-based</p>	<p>electronic medical record, and best practices relevant to informatics in pediatrics.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Identify common issues with information transfer between different care settings. 2. Describe informatics solutions that integrate the processes of medication histories, reconciliation, and discharge communication. 3. Discuss clinical and operational considerations for implementing smart pump integration. 4. Describe the safety benefits with integrating smart pumps and the electronic medical record. 5. Differentiate between the fundamental clinical characteristics of pediatric and adult populations and its relevance to informatics practice. 6. Apply best practices for utilization of smart pumps in a pediatric institution, including database design and maintenance. 7. List challenges associated with barcoded medication administration (BCMA) in a pediatric population and strategies to maintain patient safety. 8. Describe blockchain technology. 9. Discuss current blockchain applications in healthcare. 10. Identify potential roles and risks with blockchain in pharmacy.
<p>ACPE #: 0204-0000-21-802-H04-P&T</p> <p>CE Hours: 2 contact hours (0.2 CEUs)</p> <p>Activity Type: Application-based</p>	<p>Title: Health Information Technology Project Management</p> <p>This activity discusses challenges a health information technology project may encounter and the importance of managing and communicating with the key stakeholders of the project.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Define selected common project management terminology. 2. Differentiate between a project, a Project Management Office (PMO), and a Project Portfolio Management (PPM). 3. Contrast the phases of a project life cycle. 4. Differentiate of a project manager from a pharmacy operations manager. 5. Summarize potential project challenges encountered during a project's life cycle. 6. Explain how to use tools and technique to help the team understand the purpose of a project. 7. List three ways to keep key stakeholders informed of the status of a project. 8. Explain the interpersonal dimensions of project management: leadership, team dynamics, influencing and negotiating.

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<p>ACPE #: 0204-0000-21-803-H04-P&T</p> <p>CE Hours: 3 contact hours (0.3 CEUs)</p> <p>Activity Type: Application-based</p>	<p>Title: Informatics Optimization</p> <p>This activity describes how technology can be implemented to improve efficiencies and safety, and the importance of developing a plan to maintain, optimize, and enhance the technology within a health care system.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Describe two major challenges associated with the growth and widespread use of health information technology. 2. Recommend three tools that can be used or questions that can be posed to evaluate the usability of software or a medical device. 3. Explain three potential patient care outcomes that might arise from implementation of a new information technology device or system. 4. Summarize at least three major, unintended consequences faced by clinicians when implementing a new or updated electronic health record, computerized order entry and/or clinical decision support system. 5. Describe the safety, regulatory, and quality components for technology and automation. 6. Identify the principles for effective management and oversight of technology to ensure its safe use. 7. Describe the data model and the reporting capabilities for technology and automation. 8. Discuss the role of a vendor and the vendor relationship. 9. Describe the future roles for pharmacy personnel with the adoption of technology and automation. 10. Choose important testing types for specific testing purposes. 11. Summarize options for handling formulary preferred product changes. 12. List the considerations when determining batch production times. 13. Recommend the appropriate times to contact a customer during problem resolution.
<p>ACPE #: 0204-0000-21-804-H04-P&T</p> <p>CE Hours: 3.75 contact hours (0.375 CEUs)</p> <p>Activity Type: Application-based</p>	<p>Title: Data, Analytics, Knowledge, and Reporting in Informatics</p> <p>This activity describes the electronic health record system reporting and data analysis tools used for best practices.</p> <p>Learning Objectives:</p> <ol style="list-style-type: none"> 1. Explain knowledge management as it relates to health systems. 2. Describe update process considerations for managing knowledge in the electronic health record.

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	<ol style="list-style-type: none"> 3. Summarize the relationship between knowledge management and clinical decision support. 4. Define alert fatigue and describe factors contributing to its origination. 5. Recommend techniques for alert management used to reduce unnecessary alerting. 6. Differentiate between data and information. 7. List the skills required to obtain information from electronic health record system's (EHR) data. 8. Apply relational database concepts to future report requests. 9. Evaluate important characteristics of reporting and data analysis tools. 10. Select the best reporting or data analysis tool for a task. 11. Summarize reporting and data analysis best practices. 12. Identify accessible reporting tools.

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Relevant Financial Relationship Disclosure

In accordance with our accreditor’s Standards of Integrity and Independence in Accredited Continuing Education, ASHP requires that all individuals in control of content disclose all financial relationships with ineligible companies. An individual has a relevant financial relationship if they have had a financial relationship with ineligible company in any dollar amount in the past 24 months and the educational content that the individual controls is related to the business lines or products of the ineligible company.

An ineligible company is any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients. The presence or absence of relevant financial relationships will be disclosed to the activity audience.

- No one in control of the content of this activity has a relevant financial relationship (RFR) with an ineligible company.

As required by the Standards of Integrity and Independence in Accredited Continuing Education definition of ineligible company, all relevant financial relationships have been mitigated prior to the CPE activity.

Methods and CE Requirements

This online activity consists of a combined total of 7 learning modules. Pharmacists are eligible to receive a total of 19.5 hours of continuing education credit by completing all 7 modules within this certificate.

Participants must participate in the entire activity, complete the evaluation and all required components to claim continuing pharmacy education credit online at ASHP Learning Center. Follow the prompts to claim credit and view your statement of credit within 60 days of completing the activity.

Important Note – ACPE 60 Day Deadline:

Per ACPE requirements, CPE credit must be claimed within 60 days of being earned. To verify that you have completed the required steps and to ensure your credits have been reported to CPE Monitor, check your NABP eProfile account to validate that your credits were transferred successfully before the ACPE 60-day deadline. After the 60-day deadline, ASHP will no longer be able to award credit for this activity.

System Technical Requirements

System Requirements Courses and learning activities are delivered via your Web browser and Acrobat PDF. Users should have a basic comfort level using a computer and navigating web sites.

View the [minimum technical and system requirements](#) for learning activities.