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Activity Announcement

Pharmacy Informatics Certificate

ACPE Activity Number: 0204-0000-19-701-H04-P & T thru to 0204-0000-19-720-H04-P & T
Release Date: January 30, 2019
Expiration Date: January 30, 2022
Activity Type: Knowledge-based
CE Credits: 21.00 hours *(no partial credit)*

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 20 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 Schedule of Activities

Activity CE Information	Title, Description, and Learning Objectives
ACPE #: **0204-0000-19-701-H04-P** **0204-0000-19-701-H04-T** **CE Hours: 0.75** **Activity Type: Knowledge**	**Title: Informatics & Medication Use Technologies: An Introduction** This activity discusses the roles that exist within pharmacy informatics, what technologies are supported, and successful factors to help improve performance. **Learning Objectives:** • Describe the growing area of Health IT and National Initiatives. • Discuss the various roles of individual pharmacy informatics. • List the key technologies used across the medication use spectrum. • Identify success factors that can improve your performance in pharmacy informatics.
ACPE #: **0204-0000-19-702-H04-P** **0204-0000-19-702-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Success Through Knowing Your IT Teammates and Tools** This activity discusses important information technology terms and roles individuals and teams have within the Information Technology Department of an organization. **Learning Objectives:** • Discuss the role of the information technology department in an organization. • List common information technology terminology.

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	• Identify common team assignments and the role of individual members of the information technology department. • Identify the major differences between the information technology department and the pharmacy information technology team.
ACPE #: **0204-0000-19-703-H04-P** **0204-0000-19-703-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Improving Medication Safety Through Electronic Order Entry Systems and Clinical Decision Support** This activity covers the importance of using electronic order entry systems and clinical decision support to help prevent errors and optimize patient care. **Learning Objectives:** • Define the different types of errors that can occur in the medication use process. • 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. • 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. • Explain how active forms of clinical decision support can promote the safe and cost-effective use of medications in health-systems.
ACPE #: **0204-0000-19-704-H04-P** **0204-0000-19-704-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: The Optimization of Informatics: Human Factors, Unintended Consequences, and Patient Care Outcomes** This activity discusses the importance of evaluating the usability of an electronic health record system prior to implementation. **Learning Objectives:** • Describe two major challenges associated with the growth and widespread use of health information technology. • Discuss three tools that can be used or questions that can be posed to evaluate the usability of software or a medical device. • Explain three potential patient care outcomes that might arise from implementation of a new information technology device or system. • Discuss 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.
ACPE #: **0204-0000-19-705-H04-P** **0204-0000-19-705-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Standards and Vocabularies: As Easy as ABC** This activity discusses the standards and normalized terminologies or vocabularies/ontologies used within health information technology. **Learning Objectives:** • Define the American National Standards Institute (ANSI) process for US health care Standards Development Organizations (SDO) Health Level Seven (HL7), National Council for Prescription Drug Programs (NCPDP) and Accredited Standards Committee (ASC X12).

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	• Explain the role of the SDOs in pharmacy informatics and their function in pharmacy health systems standards. • Describe and differentiate between NDC, RxNorm, SNOMED CT, NDF-RT, and other normalized terminologies or vocabularies/ontologies. • Discuss benefits and limitations of various normalized terminologies. • Explain the value of using normalized terminologies with standardized structured documents using clinical document architecture when exchanging clinical information between health care providers.
ACPE #: **0204-0000-19-706-H04-P** **0204-0000-19-706-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Knowledge Management in Health Systems: An Integrated Approach to Decisions, Processes and Implementation** This activity discusses the importance of keeping an electronic system current and effective management of clinical decision support alerts. **Learning Objectives:** • Explain knowledge management as it relates to health systems. • Describe update process considerations for managing knowledge in the electronic health record. • Outline the relationship between knowledge management and clinical decision support. • Define alert fatigue and describe factors contributing to its origination. • Express techniques for alert management used to reduce unnecessary alerting.
ACPE #: **0204-0000-19-707-H04-P** **0204-0000-19-707-H04-T** **CE Hours: 1.25** **Activity Type: Knowledge**	**Title: Determining a Strategy for Data Analysis: Basic Data Analysis Tools** This activity discusses how an electronic health record system data is stored and how to properly access and interpret its information. **Learning Objectives:** • Describe the difference between data and information. • List the skills required to obtain information from electronic health record system's (EHR) data. • Discuss relational database concepts and apply them to future report requests. • Identify accessible reporting tools.
ACPE #: **0204-0000-19-708-H04-P** **0204-0000-19-708-H04-T** **CE Hours: 1.25** **Activity Type: Knowledge**	**Title: Better Data Analytics: Building on the Basics** This activity describes the electronic health record system reporting and data analysis tools used for best practices. **Learning Objectives:** • List important characteristics of reporting and data analysis tools. • Describe the process to select the best reporting or data analysis tool for a task. • Discuss reporting and data analysis best practices.

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ACPE #: **0204-0000-19-709-H04-P** **0204-0000-19-709-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Project Management: Basic Principles and Overview** This activity describes a health information technology project life cycle and key characteristics of its team members. **Learning Objectives:** • Define selected common project management terminology. • Describe the differences between a project, a Project Management Office (PMO), and a Project Portfolio Management (PPM). • Identify the different phases of a project life cycle. • Describe the differences of a project manager from a pharmacy operations manager.
ACPE #: **0204-0000-19-710-H04-P** **0204-0000-19-710-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Project Management: Tools & Techniques and Challenges** 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. **Learning Objectives:** • Describe potential project challenges encountered during a project's life cycle. • Explain how to use tools and technique to help the team understand the purpose of a project. • List three ways to keep key stakeholders informed of the status of a project. • Explain the interpersonal dimensions of project management: leadership, team dynamics, influencing and negotiating.
ACPE #: **0204-0000-19-711-H04-P** **0204-0000-19-711-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: CPOE and E-Prescribing: Keys to Success for Ordering Medications Electronically in Both the Inpatient and Ambulatory Environment** This activity discusses the benefits of computerized provider order entry (CPOE) and how it needs to be complementary to the clinician's workflow. **Learning Objectives:** • Describe potential benefits of computerized provider order entry (CPOE) over traditional paper based ordering workflows. • Explain key required components of medication orders. • Identify risks, benefits, and appropriate methods and levels of clinical decision support (CDS) that can be utilized to guide medication order entry. • Discuss important benchmarks to assist with monitoring the CPOE system. • Summarize e-prescribing functionality standards, workflows, and future potential.
ACPE #: **0204-0000-19-712-H04-P** **0204-0000-19-712-H04-T**	**Title: EMAR, BCMA, and Smart Pumps: The Last Lines of Defense Against Medication Errors**

Activity CE Information	Title, Description, and Learning Objectives
CE Hours: 1.00 **Activity Type: Knowledge**	This activity discusses the workflow benefits and challenges associated with electronic medication administration records (EMAR), barcoded medication administration (BCMA), and smart pumps. **Learning Objectives:** • Review potential benefits of electronic medication administration records (EMAR) documentation over traditional paper based documentation workflows. • Describe basic EMAR functionality, and challenging workflows associated with EMAR documentation. • Evaluate the impact of barcoded medication administration (BCMA) on EMAR workflow and medication safety. • Identify benefits, limitations, and important features found in smart pump use. • List opportunities for CDS associated with the use of EMARs, BCMA, and smart pumps.
ACPE #: **0204-0000-19-713-H04-P** **0204-0000-19-713-H04-T** **CE Hours: 1.50** **Activity Type: Knowledge**	**Title: Managing Automation, Robotics and Technology within your Hospital** This activity describes the challenges and opportunities of implementing technology and automation in a pharmacy practice. **Learning Objectives:** • Review the history of technology and automation used in pharmacy practice. • Describe the four types of pharmacy distribution models. • List strategies for employing technology and automation. • Describe common types of technology and automation used in pharmacy practice. • Discuss the benefits and challenges with the use of technology and automation.
ACPE #: **0204-0000-19-714-H04-P** **0204-0000-19-714-H04-T** **CE Hours: 1.25** **Activity Type: Knowledge**	**Title: Optimizing Automation: Data, Safety, and Future Implications** 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. **Learning Objectives:** • Describe the essential elements for selecting technology or automation for use in the health care system. • Describe the safety, regulatory, and quality components for technology and automation. • Identify the principles for effective management and oversight of technology to ensure its safe use. • Describe the data model and the reporting capabilities for technology and automation. • Discuss the role of a vendor and the vendor relationship. • Describe the future roles for pharmacy personnel with the adoption of technology and automation.

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ACPE #: **0204-0000-19-715-H04-P** **0204-0000-19-715-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Production Support: Managing Requests and Resolving Incidents** This activity discusses the importance of efficient technology support by team members to optimize technology and ultimately improve acceptance from all members of the healthcare team. **Learning Objectives:** • Match important testing types to specific testing purposes. • Summarize options for handling formulary preferred product changes. • List the considerations when determining batch production times. • Describe the appropriate times to contact a customer during problem resolution.
ACPE #: **0204-0000-19-716-H04-P** **0204-0000-19-716-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: Keeping The Business Running: Financial and Compliance Concerns** This activity discusses the challenges and issues electronic databases have associated with medication billing and compliance. **Learning Objectives:** • Calculate the difference between price and cost. • List one advantage and one disadvantage of each charge capture point. • Describe the role of HCPCS and J-Codes in medication billing. • Recognize the challenges of having too much safety stock.
ACPE #: **0204-0000-19-717-H04-P** **0204-0000-19-717-H04-T** **CE Hours: 1.25** **Activity Type: Knowledge**	**Title: Smart Pump Integration** This activity describes how integrating smart pumps with an electronic medical record can improve patient safety. **Learning Objectives:** • Discuss clinical and operational considerations for implementing smart pump integration. • Describe the safety benefits with integrating smart pumps and the electronic medical record.
ACPE #: **0204-0000-19-718-H04-P** **0204-0000-19-718-H04-T** **CE Hours: 0.75** **Activity Type: Knowledge**	**Title: Handle with Care: Packaging Patient Transitions with Informatics** This activity will describe common issues associated with transitions of care and effective informatics solutions. **Learning Objectives:** • Identify common issues with information transfer between different care settings. • Explain informatics solutions that integrate the processes of medication histories, reconciliation, and discharge communication.
ACPE #: **0204-0000-19-719-H04-P** **0204-0000-19-719-H04-T**	**Title: Informatics in Pediatrics** This activity will discuss best practices relevant to informatics in pediatrics.

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CE Hours: 1.00 **Activity Type: Knowledge**	**Learning Objectives:** • Describe the fundamental clinical differences between pediatric and adult populations and its relevance to informatics practice. • Identify best practices for utilization of smart pumps in a pediatric institution, including database design and maintenance. • List challenges associated with BCMA in a pediatric population and strategies to maintain patient safety.
ACPE #: **0204-0000-19-720-H04-P** **0204-0000-19-720-H04-T** **CE Hours: 1.00** **Activity Type: Knowledge**	**Title: An Introduction to Blockchain Technology for Healthcare** This activity will describe blockchain technology and how it can be used in healthcare. **Learning Objectives:** • Describe blockchain technology. • Discuss current blockchain applications in healthcare. • Identify potential roles and risks with blockchain in pharmacy.

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Faculty Information

Mark Baumgart, R.Ph., Pharm.D.
Content Editor, Clinical Drug Information
Wolters Kluwer Health
Indianapolis, Indiana

Sylvia Belford, Pharm.D., M.S., CPHIMS, FASHP
Operations Administrator
Mayo Clinic
Rochester, Minnesota

Beth Breeden, D.Ph., M.S., CPHIMS
Associate Professor, Director of Graduate
Studies in Health Care Informatics
Lipscomb University, College of Pharmacy &
Health Sciences
Nashville, Tennessee

Michael J. Brownlee, Pharm.D., M.S., FASHP
Chief Pharmacy Officer
University of Iowa Health Care
Clinical Associate Professor and Associate Dean
University of Iowa College of Pharmacy
Iowa City, Iowa

Bruce W. Chaffee, Pharm.D.
Assistant Director, Pharmacy Analytics, Quality,
Regulatory, & Safety and Adjunct Clinical
Professor of Pharmacy
Michigan Medicine & University of Michigan
College of Pharmacy
Ann Arbor, Michigan

Kevin A. Clauson, Pharm.D.
Associate Professor
Lipscomb University, College of Pharmacy &
Health Sciences
Nashville, Tennessee

Jeff Chalmers, Pharm.D.
Assistant Director, Pharmacy Informatics
Cleveland Clinic
Cleveland, Ohio

Seth W. Hartman, Pharm.D., M.B.A.
Director, Pharmacy Informatics
University of Chicago Medicine,
Chicago, Illinois

Maritza Lew, Pharm.D., PMP
IT Project Manager
El Camino Hospital
Saratoga, California

Wing Liu, Pharm.D.
Manager, Inpatient Orders
Vanderbilt University Medical Center
Nashville, Tennessee

Sean P. O'Neill, Pharm.D.
Chief Clinical Officer, Co-Founder
Bainbridge Health
Philadelphia, Pennsylvania

Shelly Spiro, R.Ph., FASCP
Executive Director
Pharmacy HIT Collaborative
Alexandria, Virginia

Lisa Starost, Pharm.D.
Manager, Pharmacy Informatics
Indiana University Health
Indianapolis, Indiana

Jack Temple, M.S., Pharm.D.
Manager, Information Technology and
Medication Use Systems
University of Wisconsin Hospital and Clinics
Waunakee, Wisconsin

Kyle Utecht, Pharm.D., M.S., BCPS
Clinical and Informatics Pharmacist
Aspirus Wausau Hospital
Wausau, Wisconsin

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Disclosures

In accordance with the ACPE's and ACCME's Standards for Commercial Support, all those in a position to control the content of an educational activity is required to disclose to the accredited provider their relevant financial relationships. *An individual has a **relevant financial relationship** if he or she (or spouse/domestic partner) has a financial relationship in any amount occurring in the last 12 months with a commercial interest whose products or services are discussed in the activity content over which the individual has control.* In accordance with these Standards, all potential conflicts of interest have been resolved.

As defined by ACCME, a **commercial interest** is any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients. The Standards for Commercial Support do not consider providers of clinical service directly to patients to be commercial interests.

- **All planners, presenters, reviewers, and ASHP staff report no financial relationships relevant to this activity.**

Methods and CE Requirements

This online activity consists of a combined total of 20 learning modules. Pharmacists and pharmacy technicians are eligible to receive a total of 21.00 hours of continuing education credit by completing all 20 modules within this certificate program.

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

Important Note – ACPE 60 Day Deadline:
Per ACPE requirements, CPE credit must be claimed within 60 days of being earned – no exceptions!
To verify that you have completed the required steps and to ensure your credits have been reported to CPE Monitor, we encourage you to check your NABP eProfile account to validate 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.