

## SECTION OF PHARMACY INFORMATICS & TECHNOLOGY

### SAG ON AMBULATORY CARE INFORMATICS

# AMBULATORY CARE INFORMATICS

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## FREQUENTLY ASKED QUESTIONS (FAQ)

- *What is pharmacy informatics?*
  - *What are the different areas of pharmacy informatics?*
  - *What skill set should an informaticist in the ambulatory care setting process?*
  - *What informatics-related curriculum do colleges or schools or pharmacy offer?*
  - *What new technologies/training should be included in informatics education?*
  - *What is the job market driver for someone with a pharmacy informatics certification?*
  - *Can we better prepare pharmacy informaticists to operate successfully in the ambulatory care environment?*
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## PHARMACY INFORMATICS BASICS

### WHAT IS PHARMACY INFORMATICS?

Few continuing education resources exist for the practicing pharmacist to expand their knowledge of informatics. More programs should be dedicated to general informatics knowledge in order to create interest and disseminate knowledge to pharmacists outside of the informatics community. Partnerships with strategic practice groups can enhance these programs. For example, incorporating report-building technology instruction in programs for administrators and operational managers is a synergistic educational partnership.

### WHAT ARE THE DIFFERENT AREAS OF PHARMACY INFORMATICS PRACTICE?

Some areas of information and technology that pharmacy informaticists work with:

- Clinical decision support systems (CDSS)
- Electronic Health Record (EHR)/Electronic Medical Record (EMR)
- Pharmacy Information & Knowledge Management Systems
- Operation Automation
- Health Outcomes & Management

## WHAT SKILL SET SHOULD AN INFORMATICIST IN THE AMBULATORY CARE SETTING POSSESS?

One of the fun and challenging aspects of the pharmacy informaticist's role is the need to engage with both clinical and technical experts. The pharmacy informaticist must be competent in a variety of skill sets, including, but not limited to:

- Medication use process across the ambulatory practice setting, including clinical documentation workflows within the EHR
- Regulatory, legal, compliance, billing, and reimbursement requirements
- Health data sources, standards, and management, including an overall understanding of system-wide interoperability
- Knowledge of different standards organizations and governance (i.e. National Council for Prescription Drug Programs (NCPDP), Food and Drug Administration (FDA), Health Insurance Portability and Accountability Act (HIPAA) , etc.)
- Project management skills
- Biostatistics and literature evaluation
- Foundational computer science competency

## EDUCATION & CERTIFICATIONS

### WHAT INFORMATICS-RELATED CURRICULUM DO COLLEGES OR SCHOOLS OF PHARMACY OFFER?

#### Educational Standard Changes

The Accreditation Council for Pharmacy Education (ACPE) 2016 Pharmacy Curriculum Standards incorporate an imperative to embed “utilize informatics” as part of basic curriculum for all graduating pharmacy professionals amongst other competencies.<sup>1</sup> The required didactic element reads, “Effective and secure design and use of electronic and other technology-based systems, including electronic health records, to capture, store, retrieve, and analyze data for use in patient care, and confidentially/legally share health information in accordance with federal policies.”<sup>1</sup> As a result, many colleges and schools of pharmacy now embed informatics and health information technology into the didactic and experiential curriculum.

#### Certificate Programs

Some colleges or schools of pharmacy do offer a certificate in pharmacy informatics or health information technology. The value of these certificate programs is evolving, as the baseline competencies associated with these programs continue to be defined and compared with practical experience in the field. However, these programs help strengthen the profession by creating a mechanism by which advanced practitioners may demonstrate informatics expertise. The structured learning experiences ensure employers that an individual meets a baseline competency in healthcare informatics. Individuals who successfully complete these programs also experience a personal and professional achievement.

#### Master's Degree in Pharmacy Informatics

As additional advanced training is available, the Masters-level degree in Pharmacy Informatics may also play a role in further developing skilled professionals to move into roles of leadership within healthcare and professional organizations. This level of training may provide more research and in-depth training to distinguish it from the certificate programs and experience in the field. The value of this degree type is in expanding knowledge and gaining advanced-level training to prepare the professional to move into higher level roles to enact wider impact in the healthcare technology environment.

As pharmacy informatics continues to grow and develop, the curriculum to introduce to students will change to further enhance learners' understanding of the importance and complexity of pharmacy informatics, including practice areas beyond institutional practice.

### **WHAT NEW TECHNOLOGIES/TRAINING *SHOULD BE INCLUDED* IN INFORMATICS EDUCATION?**

Much like the ever-changing environment of clinical practice of healthcare, the dynamic practice of informatics pharmacy will require vigilance in maintaining relevance and up-to-date training. A few opportunities important to education and training now include:

Knowledge and understanding of clinical workflows within the EHR, including documentation and e-prescribing

Access and competency in state and federal registries (i.e. prescription monitoring programs, state immunization registries, etc.)

Standardization of data across different platforms to enhance medication and healthcare data analytics (i.e. RXNorm, CVX, ICD, SNOMED, etc.)

Reporting and data analytics, including data visualization and standardization, dashboard development, relational database management, and predictive analytics

Consumer and mobile health technologies

EHR system interoperability and exchange of health data between systems (i.e. health information exchanges (HIE), health information systems programs (HISPs))

### **WHAT IS THE JOB MARKET DRIVER FOR SOMEONE WITH A PHARMACY INFORMATICS CERTIFICATION?**

As with any additional professional certification, there is value to many employers to hire an individual with additional training or enhanced knowledge base. Pharmacy informaticists may find a variety of roles to fill in different environments, including:

#### **Roles**

- Chief Medical Information Officer (CMIO)
- Front-line informaticist with a clinical team
- Data analyst
- Clinical informatics data architect
- Research data analyst

#### **Work Environments**

- Healthcare organizations
- Pharmaceutical industry
- Academia

## **WHAT'S NEXT**

### **CAN WE BETTER PREPARE PHARMACY INFORMATICISTS TO OPERATE SUCCESSFULLY IN THE AMBULATORY CARE ENVIRONMENT?**

As health care and electronic health records (EHRs) become increasingly integrated and interoperable, it is

Essential that pharmacy informaticists have an in-depth understanding of health care delivery across the continuum of care. The educational needs and requirements for pharmacy informaticists have been described; however, much of this has focused on the needs of acute care organizations.<sup>2-4</sup> While many of the concepts that have been described can be applicable in the ambulatory setting, there is a need to emphasize key ambulatory care informatics principles in pharmacy curriculum and residency programs.

### **SIGN ME UP!! HOW CAN I LEARN MORE?**

Join the fun in pharmacy informatics! To learn more, you can access a number of great resources on the ASHP website, specifically under the [Section of Pharmacy Informatics and Technology](#).

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## REFERENCES

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