

Description of APPE rotation categories

Acute/General Medicine: Various specialties including anticoagulation, critical care (adult and pediatric), cardiology, geriatrics, GI, infectious disease, nephrology, OB/GYN, emergency medicine, transplant (adult and pediatric), surgery (adult and pediatric), general pediatrics, psychiatry, pulmonary and hematology/oncology. Providing clinical pharmacy services in the inpatient setting in collaboration with an interprofessional team of healthcare providers. This usually includes working as part of an interprofessional medical team to provide pharmaceutical care services, including making drug therapy recommendations, performing medication reconciliation, participating in patient care rounds, answering drug information inquiries, providing patient education, monitoring therapy to assess efficacy and potential toxicity, and documenting patient care activities according to rotation site procedures.

Ambulatory Care: Providing clinical pharmacy services in the outpatient setting, often in collaboration with healthcare providers. This usually includes working as part of an interprofessional medical team to provide pharmaceutical care services, including making drug therapy recommendations, performing medication reconciliation, answering drug information inquiries, monitoring therapy to assess efficacy and potential toxicity, and documenting patient care activities according to rotation site procedures. Treatment team meetings may occur to discuss patient cases. Patient interactions include disease state education and drug monitoring, but may also include medication therapy management, immunizations, assistance with prior authorizations, and patient financial assistance applications.

- **Ambulatory Care Clinic:** Providing clinical pharmacy services, usually in the community pharmacy setting in collaboration with healthcare providers. Patient interactions may be face-to-face or by telephone and include medication therapy management and patient education.
- **Ambulatory Care Indian Health Services (IHS):** Ambulatory care clinic serving officially recognized Native American tribes and Alaskan Natives--medical and public health initiatives provided by IHS or Tribal Units in collaboration with IHS, a division of the United States Department of Health and Human Services.
- **Ambulatory Care Medicine:** Providing clinical pharmacy services, usually in the community pharmacy setting in collaboration with healthcare providers. Patient interactions may be face-to-face
- **Ambulatory Care Veterans Affairs:** Providing ambulatory care pharmacy services in the setting of anticoagulation management, Community Resource and Referral Center (CRRC), primary care, psychiatry, and specialty clinics (diabetes, pain management, etc) to qualifying patients (e.g. veterans, service members, and their dependents).
- **Ambulatory Care Non-Pharmacist:** Working closely with a healthcare professional who is non-pharmacist, including a physician, physician's assistant, nurse-practitioner, or other healthcare professional. This rotation is an elective category.

Community Pharmacy: Activities include processing and dispensing prescriptions, performing medication therapy management (MTM) and documenting interventions, providing drug information, immunizations, counseling patients, recommending OTC therapy, and compounding where applicable.

- **Community Chain:** Grocery or chain pharmacy practice site engaging in community pharmacy activities listed above.
- **Community Clinic:** Community Pharmacy located within a health system, focusing on medication distribution systems, medication dispensing, immunization, and other community pharmacy tasks. May also include medication therapy management and patient education.
- **Community Compounding:** Community pharmacy experience with a majority of activities emphasizing compounding various dosage formulations including, but not limited to, capsules, suppositories, and suspensions.
- **Community Discharge Counseling:** Community pharmacy experience emphasizing dispensing and counseling on outpatient medications for inpatients scheduled for hospital discharge. This service is often based from an outpatient pharmacy, with counseling and delivery services provided in the patient's hospital room.
- **Community Independent:** Independent practice site engaging in community pharmacy activities listed above.

Hospital/Health System: Engaging in hospital pharmacy practice, including processing medication orders, preparation of products (including sterile and non-sterile compounding), in-hospital drug distribution, controlled-substance receiving and dispensing, clinical trial participation, participation in Advanced Cardiovascular Life Support (code blue team). Depending on practice site, students may also engage in clinical functions such as pharmacokinetic and therapeutic drug monitoring, IV to PO conversion, or other clinical consults.

- **Hospital/Health System:** Provides experiences described above in traditional hospital settings
- **Hospital/Health System – Home Infusion/Infusion Center:** Participate in all aspects of pharmacy services offered through infusion services either for patients to receive home administration or at an infusion center. Provide drug information to patients and providers. Gain experience in different infusion drug delivery methods and appropriate selection of pharmacotherapy options. Understand types of IV access and appropriate care of these sites. Participate in review of USP 797 and 800 and clean room requirements as outlined by facilities' requirements.
- **Hospital/Health System – Medication Reconciliation & Care Transitions:** Correctly complete and document inpatient medication reconciliation. Participate in the process of discharging a patient to another level of care, including the processes involved in admitting the patient to that new level of care. Recognize the importance of clear, detailed, and accurate written information in effecting a patient handoff safely and effectively.

Elective Administration: Provides experience in managerial and administrative roles in pharmacy. This rotation may occur in a variety of settings including hospital/health system administration, community pharmacy management, and professional pharmacy organizations or associations.

Elective Academia: Gain an understanding of the different roles of faculty inside and outside of the classroom. Activities may include participation in scholarship (e.g. manuscript writing), didactic and non-didactic teaching, and academic service and administration.

Elective Antimicrobial Stewardship: Promotion of appropriate antimicrobial use through direct medication recommendations, formulary review, development of health system protocols, education for health care providers and administrators, patient and caregiver education. Students may also be exposed to outcome surveillance and utilization of outcomes data. Other educational opportunities may include participation in development of policies to reduce transmission of infections (e.g. patient isolation, appropriate use of physical barriers, and environmental controls). This rotation focuses on population-based health, and does not heavily emphasize direct patient care.

Elective Drug Information: Receiving drug information inquiries from a variety of sources, including health care professionals and members of the public. Performing literature searches and documenting answers using a variety of primary, secondary and tertiary resources. Students frequently participate in pharmacy and therapeutics committee meetings for drug formulary review, create drug monographs, present journal clubs, complete drug cost analyses, and perform outcomes data collection and analysis.

Elective Industry: Exposure to a variety of non-clinician pharmacist career pathways, including Medical Science Liaison roles, Pharmaceutical Sales Representative roles, and other administration roles. Engage in education of and networking with a variety of other healthcare providers to heighten awareness of pharmaceutical agents being marketed.

Elective Informatics: Work with Information Systems and Pharmacy staff to assess medication-use systems for possibility of medication errors and implement medication error prevention strategies. Participate in development of clinical decision support systems. Utilize clinical decision support tools for monitoring, evaluating, responding, and reconciling medication-related events and information. Assist in mining, aggregating, analyzing, and interpreting data from clinical information systems to improve patient outcomes.

Elective International: Work in a variety of pharmacy settings in international locations. Develop cultural awareness and competency. Experience differences in pharmacy practice in the global environment.

Elective Investigational Drug Services: Gain an understanding of the FDA regulations related to clinical trials. Developing a working knowledge of the FDA regulations related to investigational drugs. Developing an understanding of proper investigational drug

documentation. Developing understanding of investigational drug dispensing. Participating in daily operations of a pharmacy-based investigational drug service. Responding to requests for investigational drug information. Reviewing investigational drug protocols.

Elective Long Term Care: Understand physiologic and pharmacokinetic changes associated with the aging process and the socioeconomic issues of aging. Gain working understanding of Medicare and Medicaid Services. Evaluate geriatric patients for medication appropriateness and monitoring. Monitor and counsel patients regarding the purposes, uses and effects of their medications. Make recommendations for prescription and nonprescription medications, dietary supplements, diet, nutrition as part of the pharmacy care plan as necessary. Communicate and collaborate with other healthcare professionals.

Elective Mail Order Pharmacy: Filling prescriptions, performing final verification of the prescription to ensure appropriateness. Collaborating with physicians and other health care providers to provide recommendations to drug therapy. Counseling patients using variety of techniques that a mail order pharmacist can use to meet mandated patient counseling requirements. Effectively communicating with prescribers regarding necessary adjustments to a patient's drug regimen, where necessary.

Elective Nuclear Pharmacy: Prepare radioisotopes used in diagnostic imaging and other medical procedures.

Elective Poison Center: Introduces student to the operation of a poison information center and provides opportunity to develop knowledge of clinical toxicology. Activities may include exercises in understanding administrative duties, financing of the center, and legal/ethical obligations for providing toxicology services, as well as developing understanding of drug literature and toxicology references. Under direct supervision, the student may provide assistance in poison call center inquiries and toxicology referral, conduct follow-up, and collect/organize clinical outcome data.

Elective Research: Preparing research protocols including goals, objectives, background, study design, methods, timeline, statistical analysis plan and budget. Performing statistical analysis using variety of software. Maintaining and managing data. Drafting hypothesis statements related to selected research. Preparing and delivering presentation of research results collected during the rotation.

Elective Specialty Pharmacy: Gaining an understanding of medications that are considered specialty pharmaceuticals and which chronic/genetic conditions they are used to manage. Counseling and educating patients about specialty pharmaceuticals are prescribed. Monitoring patients' clinical response to the specialty pharmaceutical in collaboration with the healthcare provider.

Elective Veterinary: Determine appropriate drug therapy based on species-specific pharmacokinetic parameters of canines, felines and other companion pets. Communicate with veterinarian and recommend use of human and veterinary label pharmaceuticals in companion animals where appropriate. Apply known principles of the human-animal bond to human and animal patient care scenarios. Meet the legal counseling requirements for medications dispensed to animal owners. Accurately interpret and compound prescriptions from veterinarians for human label drugs used in companion animals. Interpret and evaluate data for the purpose of assessing the accuracy and reliability of information from veterinary reference sources.