

- ☑ **Objective #4:** Accurately and in a timely manner perform calculations used in pharmacy practice.
 - 4a. Demonstrate accuracy and timeliness in the mathematical computation of ingredient amounts, doses, infusion rates, or other relevant calculations.
 - 4b. Accurately perform calculations needed to determine ingredient amounts for an uncomplicated patient requiring total parenteral nutrition.
- ☑ **Objective #5:** Explain quality measurement or improvement activities.
 - 5a. Identify quality assessment activities in progress or recently completed at that site.
 - 5b. Design a quality measurement project that could be of value to pharmacy management in an institutional setting.
- ☑ **Objective #6:** Display professional behavior and a willingness to problem-solve.
 - 6a. Be prompt, appear neat and cheerful, display a positive attitude, adjust adequately to new or unexpected situations, and display a willingness to work in a collegial fashion with other health care practitioners and allied health personnel.

How Competencies Are Certified

Students will need to obtain a signature from you or another qualified preceptor for each competency after they have met the description as outlined in the “task” and “competency measure.” The competency measure is a *suggested* method of assessing a student. If an alternative method of assessment is used, please indicate this in the competency portfolio.

In addition to preceptor signature, students may be required to submit additional documentation clarifying or demonstrating their ability to meet a competency. You do not need to see this material in order to sign off the competency, if you many times observed the student perform and meet the “competency measure.” Alternatively, you can request that the student provide a copy of the required additional documentation if you feel you need it to determine whether the student has met the competency measurement.

Designing A Learning Plan For Your Student

Initially, please use the learning objectives and competencies only as a general guide for structuring learning activities. For example, you know that the student will need to spend time learning how orders are processed, how medications are organized and transported to patient care areas, and what safety checks occur during this process. You may then have the student spend a week with a technician who enjoys working with students to first observe and then to assist the technician in his or her tasks. You will ensure that the technician knows the different parts of product preparation and delivery that the student needs to learn.

It will work best to train the student the same way you would any newly-hired intern. Don’t worry about signing off any competencies for the first part of the training process but instead train the student in your workflow procedures as soon as you can. Start with training elements that will not interfere with your workflow but will help the student begin to grasp the rudiments of how to respond to common situations. A training module that is off-line and designed to orient new personnel to your computer system would be ideal, then move the student to shadowing and then beginning to perform the procedures, preferably at times where your site is least frantic. It would be good to have the student spend a couple of minutes at the end of each training day summarizing things learned or honed during that day.

Once you have a plan in mind for training, put it on paper. An activity calendar will make you appear more organized and welcoming for your student. Try to schedule some discussion time into that calendar so that you regularly check in with the student to determine how things are going from the perspective of the student. You can also discuss with other people involved in training the student how the student is making progress toward working without overt guidance. As always, remind your staff to discuss student progress only with people involved in the student’s training, not with other individuals.

Expectations of Preceptors

1. Orient student to practice site (i.e., schedule, responsibilities, workflow, parking, evaluation)
2. Be familiar with the required competencies for PHARM 528.
3. In collaboration with the student and the practice site demands, establish a plan for the experience that assures the student is able to complete the required competencies.
4. Monitor student progress in accomplishing the competencies making sure all of them are completed.
5. Regularly assess student in constructive ways to identify strengths and weaknesses.
6. At a minimum, complete the tasks and measurement methods with student and sign associated final *Preceptor Assessment of Student Competency* (the *Competency Portfolio*) forms.
7. Serve as a resource and mentor for student that enhances understanding of patient care.
8. Communicate concerns or questions about student progress or programmatic issues in a timely manner with the School.
9. Immediately notify the Associate Director of Experiential Education of any student experiencing difficulties as soon as they occur.
10. Maintain student confidentiality.

Expectations of Students

1. Exhibit professional behavior at all times.
2. Understand and self-monitor progress toward accomplishing required competencies.
3. Adhere to the work schedule developed by the preceptor.
4. Maintain strict confidentiality at all times.
5. Take initiative with patients, physicians, or other healthcare professionals within the policies and standard practices of the site.
6. Demonstrate the required competencies in collaboration with the preceptor, in consideration of the site's demands, and in cooperation with those the student is assigned to work with.
7. Complete and submit to the Office of Professional Education all assessment and documentation forms on time.
8. Complete at least 120 hours of unpaid learning during this experience and maintain honesty and integrity in estimating and reporting time spent on individual competencies.
9. At the end of the experience, complete a site/preceptor evaluation form.
10. Recognize that the optimum learning experience requires mutual respect and courtesy.

Frequently-Asked Questions

How can I tell if my student has mastered the competencies?

Your student is responsible for providing you with the *Preceptor Assessment of Student Competency* forms. We also call this the *Competency Portfolio* because the student must reflect on his or her mastery of the specific competencies. This document is several pages long and contains competency assessment forms (which you check-off and sign) and a series of worksheets with one competency placed on each page (which the student completes). The whole set of documents together (your assessment with the student's worksheets) constitute the student's *Competency Portfolio* for skills honed through this course.

Under each competency is a task that outlines the activity your student needs to perform, along with a measurement criterion for determining when the competency has been met. Your signature on the competency assessment page indicates that you feel the student has mastered the listed competency.

Competencies should be signed by pharmacists who are trained preceptors. In Washington State, pharmacist preceptors are required to complete a state-approved preceptor-training program. You may elect to have a pharmacy technician (who is not required to undergo preceptor training) teach the student in competencies that involve product preparation. In such cases, it is reasonable to have the technician trainer sign when the competency has been met and you will then co-sign the competency.

Why does each competency have a task and a competency measurement?

“Competency” is the ability to perform a task or skill at a pre-defined level. The task defines the scope of the skill; the competency measure attempts to define the level at which the skill needs to be demonstrated. We hope this will provide a uniform “standard of practice” so that all students enrolled in this course are judged by the same criteria.

Does my student really need to do each suggested competency measure exactly as it is outlined in the manual?

Your signature after the competency indicates to us that you feel confident your student has mastered the competency. This means that you either had your student perform the suggested measurement or you are confident that he or she could perform it as stated, because you have seen him or her do this task many times. Some of the suggested competency measures may not work optimally at your site. If you choose a different measurement than the one listed, please write down method in the “comments” section of each sheet.

Do I need to be registered as a pharmacist preceptor with the Washington State Board of Pharmacy?

Yes. The process of becoming a pharmacist-preceptor in Washington State is not cumbersome and is a professional obligation of any pharmacist training a student. If your student is doing these competencies outside of Washington state, then you need to meet the requirements to be a preceptor in the state in which you practice (or are licensed, in the case of pharmacists working in the federal health care system).

When does my student need to have all the competencies completed?

Students have four months from the time they are notified (via email) about their site assignment to complete their competencies and 120 unpaid hours. Without exception, all students must demonstrate completion of their practice experience by submitting all required documents to the School no later than the end of winter quarter of their third professional year. We strongly suggest that students submit the required documents as soon as they complete their practice experience, instead of waiting until winter quarter of the next academic year.

What schedule of hours should the student follow?

You and the student will plan the schedule that the student will follow. It would be best if the student could spend at least 4 hours and more optimally 6 or 8 hours at a time on site. Students and preceptors can elect to finish the experience full time over 3 weeks or part-time over the course of 4 months. All students will have some documentation and assignments to complete for this experience and it is fine if some (e.g., 10%) of the 120 hours are used off-site for this purpose. Students without previous exposure to inpatient practice will likely spend the majority of their 120 learning hours completing competencies 1 through 4, and proportionately few hours working the quality assessment activity (learning objective #5). Experienced students who can get their competencies signed off quickly will use the majority of their 120 learning hours to complete their quality assessment activity.

Once a schedule is agreed upon between a student and preceptor, the student is expected to adhere to it. Significant deviation from agreed upon schedules and expectations is considered unprofessional behavior and a violation of our student code of conduct, so could result in a grade of “no credit” for this experience.

How do students get assigned to sites?

The school will place students at approved IPPE sites for this experience. As this is a new part of our program, we are always looking for interested and innovative practice sites and preceptors for this experience. Therefore, we will coordinate preferences for schedule and location from students with preferences for schedule and numbers of students from sites in the site placement process. All attempts will be made to coordinate desires of the sites and students when placing students in this experience.

Generally, the students will not begin this experience until their second professional year in the curriculum, but we will be flexible where possible to accommodate site needs and preferences.

What if the student is an employee for a site?

Our accreditation standards state that, “Students must *not* receive remuneration for any pharmacy practice experiences (introductory or advanced) for which academic credit is assigned.” In addition we follow the policy below to minimize real and perceived conflicts of interest. The student cannot be considered an employee during the 120 hours of learning time required for this class.

What is the school’s conflict of interest policy?

- The student will not be placed in a practice site where he or she has a paid position supervised by the site preceptor. However, the School may place a student at the site only if the site agrees to follow program requirements.
- The student will not be placed in a practice site where a relative provides supervisory authority over the student or a preceptor.
- The student must NOT be paid for activities relating to the practice experience.
- The student must report any other potential conflicts of interest due to personal, financial or other relationships to the Office of Professional Pharmacy Education.

Of course, if a site wishes to offer a paid position to a student once they complete their requirements for this experience, they may do so.

How will my students count the hours spent on this experience toward licensure?

Until state law changes, the student will need to record the hours spent learning in this experience on the Washington State Board of Pharmacy **Preceptor Evaluation and Certification of Experience**; you will need to fill out and sign this form as well. These hours can count as part of the 300 hours that students submit to the Board directly (outside of the 1200 hours they get credit for in their final year of school). Your student may not choose to submit these learning hours to the Washington State Board of Pharmacy if he or she plans to obtain learning hours through a different site (such as an internship site).

Must my site provide a quality assessment project for the student to participate in?

Students are only expected to complete an entire quality assessment project if they have already completed the majority of the competencies through a job of alternative training experience. Students who complete the majority of their 120 learning hours working on objectives 1 through 4 will only complete the design phase of a quality assessment project.

Must we have a signed affiliation agreement between my site and the school?

Yes. Standards set by the Accrediting Council for Pharmacy Education (ACPE: the governing body for schools of pharmacy) now require schools to have signed affiliation agreements with all sites. These are written agreements that stipulate liability and assigned responsibility. If your pharmacy is part of a health system, the agreement will be with the entire health system, rather than just your department or hospital. It outlines responsibilities of the school, site, and student to protect all parties involved, and is signed by legal authorities at the corporate or upper management level.

Benefits Received for being a Preceptor

Most health care professions and particularly pharmacy enjoy a history and a culture of apprenticeship — helping the next generation learn. We know that without your generous contribution of time and experience our students would have a much more difficult time maturing into competent pharmacists. We know that most pharmacists enjoy mentoring students who are passionate about the profession. We are in your debt. While we cannot offer you benefits commensurate with your contributions, here are some things to keep in mind.

Continuing Education Credit

Besides gaining the benefit of teaching students which keeps you and your site on your toes, preceptors have the opportunity to earn continuing education credit for completing online preceptor development

modules. For more information please visit: <http://depts.washington.edu/pharmopp/PreceptorDevelopment.htm>.

Workforce Recruitment

Precepting is a great recruitment tool — you have the chance to preview potential intern employees and create a relationship with them that may continue into paid positions once the student has completed the experience.

Clinical or Affiliate Faculty Appointments

All preceptors who regularly teach students or otherwise interact with the School are eligible for appointment to the Clinical or Affiliate Faculty in the Department of Pharmacy. This title (e.g., Clinical Instructor) and affiliation can be included in your résumé and list of job skills. In order to receive the remaining preceptor perks listed below, you must first obtain a clinical or affiliate faculty appointment.

All Clinical and Affiliate Faculty appointments are on an annual basis, with current evidence of teaching or other interaction with the School necessary to sustain the appointment. If you are not currently appointed but wish to be, please consult our web site at <http://depts.washington.edu/pharmopp/caf.htm>. Then email Terri O’Sullivan, Director of Experiential Education. New appointments will be made on a quarterly basis, in July, October, January, and April.

Our Clinical and Affiliate Faculty Appointment and Retention Committee meets annually in December. The committee is required by the University to review all Clinical and Affiliate Faculty members to consider re-appointment for the next calendar year. We look for evidence of clinical teaching or other significant interaction with the School as support for reappointment. Promotions are also considered at this meeting. You are welcome to review our promotion criteria on the web page and, if you feel you meet the criteria, you may request promotion in writing. Candidates for promotion are reviewed by the Provost’s office in February. Status of newly promoted faculty is official July 1st.

Access to Drug Information Resources

Clinical and Affiliate Faculty are eligible to set up accounts on the University computer system and to access *Healthlinks*, the Health Sciences computer system of web links to search engines, databases, and other information of interest to health care professionals. *Healthlinks* gives you online access through the web to resources such as

- Micromedex
- Drug Facts and Comparisons
- *Pharmacotherapy: A Pathophysiologic Approach*
- UpToDate
- AHFS Drug Information
- Natural Medicines Comprehensive Database
- electronically published journal articles and search engines (e.g., PubMed, Current Contents, International Pharmaceutical Abstracts, and EMBASE) that will allow you to locate medical literature

This is a very small sample of the many electronic resources available to our clinical and affiliate faculty.

UW Bookstore and Software Discounts

Clinical and Affiliate Faculty will be eligible to obtain the new Husky “smart” cards, which can be used for educational discounts on computer hardware and software through the University Book Store/Computer Center, as well as the annual University Book Store rebate program.

Access to UW Fitness Facilities

For a relatively low cost (currently \$200 annually or \$60 quarterly), Clinical and Affiliate Faculty can also purchase a card allowing unlimited access to the Student Intramural Activities Complex (IMA), which contains weight rooms and exercise equipment; two swimming pools; squash, basketball, racquet-

ball, and tennis courts, among other activities. The card also allows Clinical and Affiliate Faculty to use the services and equipment at the Waterfront Activities Center.

Chapter 3. Building An Individualized Learning Experience

Matching a student's responsibilities with his or her education and previous experience is an important task for effective learning and public safety. Depending on previous knowledge and experience, student performance will vary from task unfamiliarity to professionally capable in your setting. The learning goal and competencies for this course are considered minimum achievement requirements. However, the School recognizes that students with significant experience in inpatient practice will likely progress through these competencies quickly. Therefore, the suggested range of learning activities is divided into three levels: novice, advanced beginner, and competent practitioner. Preceptors should arrange learning experiences systematically, with assistance from the school, into levels to assure novice students are able to achieve the minimum skills while more experienced students are allowed to perform at their greatest potential.

Levels of Learning Activities

Novice Student Activities

A novice student is one who is completely new to a practice setting. Most students progress relatively quickly from novice to advanced beginner. We suggest you start with these initial objectives for students completely new to the inpatient setting.

- Identify location and function of key stations within the pharmacy and other important locations within the health care center.
- Describe procedures for processing medication orders.
- Identify data available through the medical record.
- Identify commonly used medical and drug references at the site.
- Explain correct procedures for aseptic technique.
- Perform calculations needed to determine correct doses of medications.

To master these objectives, it would be worthwhile to have the student work intensively with some of the pharmacy technicians who help with order processing, floor stocking, and mixing intravenous products. One example of a way to structure the first 80 hours of the experience is:

- First Week (hours 1–40) — Oral medication order processing and delivery to patients.
- Second Week (hours 40–80) — Intravenous admixture preparation.

In the final week of the experience, the students could work with pharmacy staff or other health care practitioners as well as on their own to:

- Describe procedures for medication reconciliation at admission and discharge.
- Describe quality assessment or improvement activities within the pharmacy or health care site.
- Correctly perform calculations needed for dosing a total parenteral nutrition product for an uncomplicated patient.
- Analyze a patient's medication list.

These objectives are the first step in acquiring the basic skills necessary for functioning in an inpatient pharmacy. Students with some experience in the inpatient environment will probably already have these skills intact upon arrival and can move directly to advanced beginner activities.

Advanced Beginner Activities

Students spend the majority of their learning time moving from an early advanced beginner to a seasoned advanced beginner who is nearly ready for independent practice. We anticipate that students with prior pharmacy experience will fall somewhere into this category at the beginning of their PHARM 528 experience. By the end of the experience, all students should perform at this level of achievement or beyond.

Students should achieve a performance level above that of a technician but less than a full pharmacist by the end of this experience.

- Correctly perform all or most steps in filling a medication order.
- Retrieve some information from the medical record.
- Perform intravenous admixture using correct aseptic technique.
- Display professional attitude and behavior toward pharmacy and health care staff and patients.
- Confirm adequacy of product preparation by other pharmacy personnel.

Students who already have some skills in the inpatient environment may progress quickly through objective 3; you may choose to have them work intensively with a pharmacy technician for anywhere from 8-40 hours to ensure that the student meets the competencies in this learning objective. The student can then quickly progress on to fulfilling learning objectives 1, 2, 4, and 5a, spending the majority of the unpaid learning time performing a quality assessment exercise. Such a student's schedule might thus look like this:

- Hours 1 to 20 or 40 — Oral medication order processing and delivery to patients, intravenous admixture preparation, check adequacy of product preparation by other pharmacy personnel.
- Hours 20 - 40 or 40 - 60 — Describe procedures for medication reconciliation at admission and discharge, describe quality assessment or improvement activities within the pharmacy or health care site, correctly perform calculations needed for dosing a total parenteral nutrition product for an uncomplicated patient.
- Hours 40 or 60 to 120 — Design and conduct a quality measurement project of value to the pharmacy.

Competent Student Activities

Students will not be able to move to the level of “competent” in a 120-hour experience, but we hope that they will by the end of their professional program. Here it would be good to reiterate the difference between “competent” and “competency” as used in the context of this class. A “competent” student is ready to become an independent practitioner and thus will be honing skills through the fourth professional year of our program. The “competencies” we describe in this syllabus measure specific tasks that we think students are ready to master at a point about midway through the professional program. The following activities are what we hope students will be able to do by the end of their fourth professional year, not by the end of PHARM 528:

- Accurately and in a timely manner provide answers to questions about complex medication regimens.
- Analyze patient medication regimens to determine therapeutic success and occurrence of actual or potential drug-related problems.
- Appropriately triage multiple requests for medication-related needs.
- Dose and monitor a patient receiving total parenteral nutrition.
- Manage personnel and activities within an inpatient pharmacy setting.

What You Can Expect Your Student To Know

Your expectations for your student's baseline skills will depend not only on prior pharmacy experience but, particularly for students without pharmacy experience, on where the student is in the professional curriculum. The following list includes information about when students are taught practice-oriented skills in our curriculum:

Covered in the first professional year (PY1):

- Primary, secondary, and tertiary drug and medical information sources (PHARM 500) in autumn quarter.
- Human anatomy and physiology throughout the year.

- General drug dose formulation and compounding (PCEUT 531) in autumn quarter.
- Pharmacy calculations (PHARM 587) including TPN dosing in autumn quarter.
- Basic skills in aseptic technique, IV admixture, patient counseling, medication therapy monitoring, and prospective drug use review (PHARM 504) in winter quarter.
- Introduction to different practice settings (PHARM 501) in autumn quarter.
- Methods for clinical and patient communication (PHARM 540) in spring quarter.
- Antimicrobial and immunizing agents (MEDCH 501) in spring quarter.

Covered in the second professional year (PY2):

- Pharmacology and medicinal chemistry (two separate year-long courses).
- Pharmacy law and ethics (PHARM 543) in autumn quarter.
- Non-prescription drug therapy (PHARM 546) in autumn quarter.
- Chemical dependency concepts (PHARM 537) in autumn quarter.
- Clinical pharmacokinetics and biopharmaceutics (two different courses in winter and spring).
- Biostatistics (PHARM 479) in spring quarter.

Covered in the third professional year (PY3)

- Therapeutics and therapeutics skills.
- Medical literature evaluation.
- Health care and society.

Other things you can expect your student to be familiar with are our policies and guidelines. Rather than use up space in this syllabus, we would like to encourage you to go online to our website (depts.washington.edu/pharmopp/) to view these policies and guidelines:

- **Student guidelines for professional conduct.** The students have signed a statement that they agree to abide by these. Failure to follow the guidelines in certain situations could result in a grade of “no credit.”
- **Student guidelines for infection control and exposure management.** This document outlines the training the students undergo and the management plan for exposure to potentially infectious agents, as required by the Occupational Safety and Health Administration.
- **University of Washington indemnification policy.** This document explains the University indemnification policy for students enrolled in practice-based coursework.
- **University of Washington sexual harassment guidelines.** This document explains steps to take in the event of perceived sexual harassment.

Additional documents and links available on this website include:

- **PHARM 528 Student Competency Assessment packet.** This is the full version that the students will get, rather than the abbreviated version found in the back of this syllabus.
- **University of Washington School of Pharmacy Ability-Based Outcomes.** These are our official educational program outcome measures when a student graduates from our program.
- **Memorandum of Understanding.** This is a general affiliation agreement in effect unless a site-specific agreement has been made.
- **When things go wrong.** We hope you don’t need to read this document, but it was written to provide guidance for preceptors when facing a suboptimal educational experience.
- **Tips for teaching.** This includes a link to the CEI preceptor training modules, a link to the Washington State Board of Pharmacy preceptor training program, a link to the APhA-NACDS preceptor training program, and information about the Pharmacist’s Letter preceptor training program.

Chapter 4: Summary of Student Learning Objectives and Competencies

The following pages represent the information in the student's competency portfolio. As the student's preceptor, you are in charge of supervising the student at your site. This does not mean that you can't assign the student to work with others to learn specific skills. For instance, your intravenous compounding technician is probably best qualified to evaluate student competency in mixing intravenous admixtures and another technician can teach and evaluate how to fill floor stock. Even other more experienced students working at your site can help to teach the basics. Choose individuals who are good communicators, patient teachers, and honest (but tactful) evaluators.

Task description: Each competency will contain a reasonably specific description of what the student is required to do as steps for the task. Although the steps of the tasks are outlined, the specific procedures you use to perform the steps of the task at your work site should be explained to the student. For example, although every institution has some method of storing and dispensing floor stock, the student will learn specifically how it is done at your institution.

Competency measure description. Each competency has a test that outlines the level at which the student needs to perform in order to be considered "competent" for that particular skill. Please sign and date in the appropriate box once the student has accomplished each competency on the form the student provides you from their guide.

The signature box for each competency looks like the following example.

Preceptor Assessment of Student (sign only one):	
<u>Meets Expectations.</u> The student accomplished the test as stated and is an "advanced beginner" in this skill when compared to a newly graduated pharmacist.	_____
	Print Name, Sign, & Date
<u>Exceeds Expectations.</u> The student accomplished the test more thoroughly than stated and is "competent" in this skill when compared to a newly graduated pharmacist.	_____
	Print Name, Sign, & Date

You or your designee will sign in the appropriate place attesting to the student's performance of each competency as described. *By signing each competency, you are attesting to your belief that the student spent adequate learning time to accomplish each competency as required.* It is the student's responsibility to provide you with the documentation form for you to sign and then include in the student's competency portfolio. The preceptor version of the syllabus is abbreviated and is for your information only; there is no place to sign off competencies. The student version of this syllabus is many pages longer and has space for evidence and reflection.

Unpaid learning hours certification. All student are required to complete at least 120 hours of unpaid time learning for this course. You will find a statement on the student's competency sheet for you to sign attesting to your belief that the student spent at least 120 hours of unpaid learning time during this experience.

A note regarding the ABOs. Ability-Based Outcomes (ABOs) are the final or terminal competency statements that are the objective of our curriculum. They are the desired endpoints or achievements of the activity. All course work in the PharmD degree program should point toward or prepare the student for mastery of one of our terminal ABOs.

For more information see http://depts.washington.edu/oppe/resources/UW_ABOs_Public.pdf. We have tied each of the following learning objectives to a corresponding ABO.

Objective 1: Distinguish the current and expanding patient care roles of pharmacists in institutional practice.

Competency 1a: *Determine the patient care role of pharmacists at the site.*

Task: Through interview and observation, determine all activities where pharmacists interact directly with patients, caregivers, or other health care professionals for the purpose of providing care to a patient.

Suggested Test: Distinguish in written form direct patient care activities performed by pharmacists at the site.

Related Ability-Based Outcome Statements:

ABO SM I.C: Describe the evolution of pharmacists' roles in the health care system.

Competency 1b: *Analyze a patient's medication list.*

Task: For any given patient medication list, explain generic and trade name, common indications, mechanism of action, dosing information (i.e., usual dosing range, starting dose and any method of titration, dose frequency, parameters affecting dose and how the dose should be adjusted), parameters to monitor for efficacy (name of parameter, target for parameter, and frequency of measurement), parameters to monitor for common adverse reactions (name of parameter, adverse event it would detect, frequency of measurement), and clinically important drug interactions for each listed medication.

Competency Measure: Relate correctly in written form the information listed in the task for at least two different patients.

Related Ability-Based Outcome Statements:

ABO PC II.A: Gather and organize all appropriate patient or drug-related information that will generate a new or revised care plan.

Competency 1c: *Summarize how medication-related information is obtained from patients on admission.*

Task: Determine how medications used prior to admission are identified and recorded (e.g., medication reconciliation) for individual patients.

Competency Measure: Distinguish in written form how medication reconciliation occurs upon admission.

Related Ability-Based Outcome Statements:

ABO PC II.A: Gather and organize all appropriate patient or drug-related information that will generate a new or revised care plan.

Competency 1d: *Explain how medication-related information is given to patients during hospitalization and upon discharge.*

Task: Determine how medication-related information is delivered to individual patients and caregivers during hospitalization and upon discharge, and how important information about medication changes are communicated to the patients' primary care providers and community pharmacies.

Competency Measure: Detail in written form the information listed in the task and assess the extent of pharmacy involvement in this process. Describe any modifications that could occur in the system to optimize pharmacist involvement in delivering medication-related information to patients and caregivers and communication of medication changes to the patient's community pharmacy.

Related Ability-Based Outcome Statements:

ABO PC III: Communicate and collaborate with patients, caregivers, health care providers, and others to improve patient care.

Objective 2: Provide appropriate information about medications.

Competency 2a: *Identify drug information and other information resources available to pharmacy personnel at the site.*

Task: Through interview or observation, determine resources pharmacists use to look up needed information for direct patient care or to answer requests from other health care providers. The student should spend time using these resources to see how they apply to pharmacy practice activities at the site. To do this, a preceptor could have the student look up something he recently had to use drug information resources to find. Once the student looks it up, compare notes on what resources each used to locate the needed information. How did each find the answer? Did each come to the same answer? How could the student have searched more efficiently or accurately?

Competency Measure: Summarize in written form the drug, medical, and other patient care-related resources available to pharmacy personnel at the site.

Related Ability-Based Outcome Statements:

ABO PC IV.C: Select resources that will accurately and efficiently find drug and health information.

Competency 2b: *Accurately respond to a drug information request from a patient or health care colleague using language appropriate to the person requesting the information.*

Task: Answer a drug information question that can be answered using tertiary drug information resources and another question that requires examination of one or more pieces of primary literature.

Competency Measure: Generate a written answer as outlined in the task above. In the document, identify the question and list the resources used to answer the question, using the National Library of Medicine reference format.

Related Ability-Based Outcome Statements:

ABO PC IV.A: Provide relevant health information appropriately targeted to patients and their families, caregivers, health care providers, and others.

Objective 3: Identify correct procedures for product distribution in an institution.

Competency 3a: *Describe the steps in processing new medication orders at the site.*

Task: Upon receipt of a new medication order, steps to fill it include choice of the correct product, generation of appropriate labeling, and placement of the correct amount of medication in the container that the nurse or patient will use. Through interview, observation, or demonstration the student should also determine how an order for a nonformulary drug is processed. How would someone look up what drugs are on the formulary at the institution? Preceptors and students should discuss with students how formulary decisions are made. If possible, have the student attend a P & T committee meeting.

Competency Measure: Upon receipt of a written or computerized medication order, the student will either describe or perform in a correct order the steps used at the site to process the order.

Related Ability-Based Outcome Statements:

ABO V.B: Review and interpret medical product orders for patients.

ABO PC V.C: Appropriately prepare and dispense medical products.

Competency 3b: *Prepare in advance prescribed routine medications for individual patients.*

Task: Fill medication cassettes (or any other medication distribution system used, such as an automated dispensing machine) with indicated daily medications for patients.

Competency Measure: The student must accurately fill cassettes or any other device for dispensing daily medications to inpatients of one floor or unit, independently, and accurately describe how the process of charging patients for inpatient medications works.

Related Ability-Based Outcome Statements:

ABO PC V.C: Appropriately prepare and dispense medical products.

Competency 3c: *Distinguish the process for supplying floor stock to patient care units.*

Task: Process floor stock medications, including controlled substance floor stock, if this task performed by pharmacy personnel at the site.

Suggested Test: The student must accurately fill and deliver floor stock, using whatever process is used in their institutional setting. The student must also accurately fill or describe the process of filling a controlled substance floor stock order.

Related Ability-Based Outcome Statements:

ABO PC V.C: Appropriately prepare and dispense medical products.

Competency 3d: *Accurately prepare sterile products using proper aseptic technique in a timely manner.*

Task: Parenteral fluid preparations must be compounded within the hood using correct aseptic technique.

Competency Measure: The student independently, efficiently, and accurately should compound one syringe product, one small- or large-volume bag parenteral product (i.e., product 50-1000 ml that contains at least one drug or electrolyte addition), and one hyperalimentation product (unless the site does not compound hyperalimentation products).

Related Ability-Based Outcome Statements:

ABO PC V.C: Appropriately prepare and dispense medical products.

Competency 3e: *Confirm accuracy of product preparation by other pharmacy personnel.*

Task: Confirm that the product preparer has selected the correct medication and dose, that the product used is not expired, and that the product has been properly labeled.

Competency Measure: The student should check both oral and IV medications within the same amount of time as a staff pharmacist or trained pharmacy technician and be able to articulate to the testing pharmacist exactly what was checked.

Related Ability-Based Outcome Statements:

ABO PC V: Prepare and distribute medical products prescribed as part of the patient's care plan.

Objective 4: Accurately and in a timely manner perform calculations used in institutional pharmacy practice.

Competency 4a: *Demonstrate accuracy and timeliness in the mathematical computation of ingredient amounts, doses, infusion rates, or other relevant calculations.*

Task: The student should be able to calculate doses for any given drug product. Dose calculations can include but are not limited to drug amounts for both individual doses and total quantity of dispensed product, conversion between dosage forms, infusion rates, dosing frequency, and adjustment for decreased renal function.

Competency Measure: The student should calculate quickly and accurately all doses, ingredient amounts, infusion rates, dosing frequency or dosing adjustment for special populations (e.g., pediatric, geriatric, decreased kidney or liver function, abnormal or altered pharmacokinetic parameters) for at least two different patient scenarios.

Related Ability-Based Outcome Statements:

ABO PC II.4.a: Delete or add medications or change dose, dose form, route, frequency, or duration based on patient-specific concerns and pharmacokinetic pharmacodynamic, and pharmacoeconomic principles.

ABO PC V.C: Appropriately prepare and dispense medical products.

Competency 4b: *Accurately perform calculations needed to determine ingredient amounts for an uncomplicated patient requiring total parenteral nutrition.*

Task: Perform all ingredient amount calculations for a patient placed on a new TPN using standard TPN ingredient dosing guidelines. Information students will need for this exercise include patient age, weight, height, and a list of laboratory results including chem.-7 (Na, K, Cl, CO₂/HCO₃, BUN, Cr, glucose), Ca, P, albumin, Mg. If there are any complicating factors (e.g., volume depletion or overload, kidney impairment, concomitant diabetes, acidosis) students will need to note these. Other optional information: patient diagnosis; triglyceride, pre-albumin.

Competency Measure: Student can perform all calculations correctly for a new TPN patient within 20 minutes.

Related Ability-Based Outcome Statements:

ABO PC IIC.2: Integrate knowledge to design patient-specific care plans.

Objective 5: Explain quality measurement or improvement activities.

Competency 5a: *Identify quality assessment activities in progress or recently completed at the site.*

Task: Through interview and observation, determine quality assessment or improvement activities in process or recently completed at that site.

Competency Measure: Summarize in written form quality assessment or management activities performed by pharmacists at the site.

Related Ability-Based Outcome Statements:

ABO SM VI.A. Participate in the organization's system for defining, implementing, and improving quality systems that govern the prescription, selection, preparation, processing, distribution, and administration of medical products.

Competency 5b: *Design a quality measurement project that could be of value to pharmacy management in an institutional setting.*

Task: Through interview and observation, determine a quality assessment or improvement activity that might benefit the site. Design the methods for implementation of the activity.

Competency Measure: In written form, identify the background for the project, including justifying project need and potential benefit in the introduction, then describe in detail the methods to use to implement the project. This written document should be prepared as a research or business proposal. Novice students must complete the design phase in written form. In other words, the novice student should write a proposal that contains the background, justification, and suggested design of such a project as if it were to be implemented at your site, but they will not likely actually do the project. Advanced beginner students (those already experienced in inpatient pharmacy who quickly accomplish the other competencies) should implement the project and then write a summary report. Such a written report should include (in addition to the required elements already listed) results of the project and thoughtful commentary on benefits/things that went well and limitations/things that would be changed were the project to be redone.

Related Ability-Based Outcome Statements:

ABO SM VII. Apply principles of outcomes research and continuous quality improvement methods to the evaluation of pharmacy and health care services

Objective 6: Display professional behavior and a willingness to problem-solve.

Competency 9a: *Be prompt, and appear neat and cheerful, display a positive attitude, adjust adequately to new or unexpected situations, and display a willingness to work in a collegial fashion with pharmacists, technicians, and other health care practitioners.*

Task: As noted above in the competency. The preceptor must define at the beginning of the student's experience what attire is expected, how to meet/greet patients and pharmacy and health care personnel, when and how to ask for help, and what process to follow if the student desires to provide feedback to the preceptor on a specific situation. The student and preceptor will set a schedule and the student should appear at the pharmacy at the agreed-upon days and times. The student should strive to maintain a pleasant positive manner even when circumstances are outside of the student's experience or comfort.

Because the process of developing competency in technical tasks often involves instruction from non-pharmacist individuals, the student should value the information provided by technicians and other health care professionals. Under no circumstances should the student express condescension or other non-collegial attitudes toward individuals with whom they interact.

Students are encouraged to discuss with preceptors their responses to unexpected situations.

Competency Measure: The preceptor or co-workers should not document more than 1-2 instances where behavior is unprofessional. Any noted behavior problems should be discussed in a non-confrontational manner with the student. The student should show evidence of acknowledging the problem and working to correct it or prevent future occurrences.

Related Ability-Based Outcome Statements:

ABO PC I. Establish professional relationships with patients, caregivers, prescribers, and other members of the interprofessional health care team.