

**AACP Task Force on IPPE Competencies
Report to the AACP Board of Directors
May 2009**

Background

The AACP Task Force on Introductory Pharmacy Practice Experience (IPPE) Competencies was charged by the AACP Board of Directors to develop a nationally defined set of IPPE competencies and mechanisms to evaluate the outcomes of those competencies based on feedback AACP has received from the ACPE. ACPE had asked the Academy to consider an effort that brought education and practice stakeholders together to address IPPE competencies and assessment. The Task Force met February 3, 2009. A list of Task Force members and staff observers is attached as Appendix A.

Methods

The Task Force addressed what competencies students should either be exposed to or have mastered during the IPPE through the use of two surveys and extensive discussion. The first survey was completed by all Task Force members and a staff representative from each of the stakeholder organizations before the Task Force's meeting. A second survey, which included several new competency statements and revisions of statements from the first survey, and a different ranking system, was only completed by Task Force members.

The pre-meeting survey was compiled using a set of competencies that was created from a number of sources. These included competency areas and activities identified through AACP's Experiential Education Section, the AACP Professional Affairs Committee, and the AACP Center for Advancement of Pharmacy Education (CAPE), information provided by individual schools/colleges of pharmacy, pharmacy practice associations, and a literature review. The competency statements did not attempt to distinguish between Advanced Pharmacy Practice Experiences (APPEs) and IPPEs. While the competency statements may not be exhaustive, Task Force members believe them to be comprehensive.

In the pre-meeting survey directions, Task Force members were asked to select the level of mastery a pharmacy student should have after completing IPPEs, and to add any additional competencies not contained in the list. The following rating scale was used to identify what level of mastery a pharmacy student should have achieved in each competency area outcome after completing IPPEs:

- Selection # 1: Observation/familiarity
- Selection # 2: Basic proficiency/skills developed
- Selection # 3: Competency attained to perform
- Selection # 4: Not applicable to an IPPE

After reviewing and discussing results of the pre-meeting survey at the Task Force meeting, Task Force members agreed that the survey be readministered after appropriate corrections, deletions and additions, using a new ranking system, and the ranking of each competency to be based on whether a student entering into their APPEs needed have basic or mastery competency, and whether the competency was essential or optional. Results showed a clear pattern of consensus and are attached as Appendix B.

The competency statements in the second survey were organized according to three general CAPE outcomes. Task Force members were asked to rate each competency statement in one of six ways:

- Selection BE: Basic proficiency/skill of this essential competency attained before APPEs
- Selection BO: Basic proficiency/skill of this optional competency attained before APPEs
- Selection ME: Mastery of this essential competency attained before APPEs
- Selection MO: Mastery of this optional competency attained before APPEs
- Selection AO: APPE competency
- Selection DD: Delete from list

Results and Discussion

The results of the pre-meeting survey demonstrated that there was some confusion as to how the competencies should be ranked. Some Task Force members attempted to rank the competencies as just those emanating from completing the 300-hour required IPPE. However, most Task Force members found that this was difficult, if not impossible, and ranked the competencies based on pre-APPE requirements. During Task Force meeting discussion, a consensus developed that the attainment of a definitive set of competency statements could not be attributed directly to the IPPE experience, specifically the five percent or 300-hour experience, the majority of which has to be completed in institutional and community practice settings. Instead, the Task Force focused its efforts in attempting to define a set of competencies that must be attained before a student begins APPEs.

In the pre-meeting survey analysis, there was reasonable consensus that students had to *achieve mastery* in areas such as obtaining and using drug information, providing self-care counseling, prescription processing, and professionalism prior to entering APPEs. There was also consensus that students had to demonstrate *basic familiarity* in areas such as developing, implementing and monitoring drug therapy, documentation, interprofessional communication, public speaking, management, and practice improvement. There was less consensus with *mastery* in areas such as ethical reasoning, problem solving, medication system improvement, and continuous quality improvement (CQI).

In the post-meeting survey, the Task Force members agreed on *mastery* of certain competencies, on *basic proficiency/understanding* on certain competencies, and on designating some competencies for the APPE experiences. There were few competencies selected as either *mastery optional* or *basic proficiency optional* (MO or BO.) There were differences of opinion amongst the Task Force members on a number of competency

statements, and in some cases, these differences were split almost evenly between *mastery essential* or *basic proficiency essential* (ME and BE.) A similar situation occurred between some of the competency statements with a split between *basic proficiency essential* (BE) and an APPE competency (AO.) In those situations where Task Force members selected to delete a competency from the list (DD), indicating the statement was not germane, others picked it as an APPE competency (AO.) In attempting to best illustrate these differences of opinion, we developed five categories:

Category	
BE	A student must have a basic understanding in the competency area prior to entering APPEs
BEME	A student must have basic and possibly mastery in the competency area prior to entering APPEs
ME	A student must have mastery in the competency area prior to entering APPEs
BEAO	A student may have a basic understanding in the competency area prior to entering APPEs or will have mastery of this competency upon successful completion of APPEs
AO	A student will have mastery of this competency upon successful completion of APPEs

In the post meeting survey using the new ranking system, competency areas where students should acquire *mastery* (ME) *prior to their APPEs* include:

- processing and documenting the prescription/drug order
- professional behavior
- understanding of dosage forms and devices and how their use should be communicated to patients
- patient self-care
- some public health competencies

Competency areas where students should acquire *basic understanding prior to their APPEs* or *have mastery of the competency prior to entering their APPEs* (BE/ME) include:

- more complex drug therapy management activities,
- patient referral to other health professionals
- resolving conflict in practice

- communicating toward a team approach to care
- vendor/product/formulary management, and more complex personnel and systems management

Competency areas where students should acquire *basic understanding (BE) prior to their APPEs* include:

- some patient-specific information
- communication with other health professionals about a patient's therapy plan
- understanding medical devices and their appropriate use and counseling patients
- dealing with ethical dilemmas
- dealing with emergency/overdose situations

Competency areas identified *most appropriately for APPEs (BE/AO, AO)* include:

- practice improvement activities
- complex medication use system/improvement activities
- DUE guidelines
- QA activities

As competence increases while students move from observing to doing and integrating, there are many teaching techniques and learning environments that may be used. In many states, students are gaining additional practice experience as they complete required paid internships. After considerable discussion, the Task Force agreed they would focus on the minimal set of competencies that students must have attained before they begin their APPE experiences, regardless of learning environment or teaching technique. The Task Force noted that many of the competencies required prior to APPEs may be more effectively and efficiently learned via methods other than an introductory pharmacy practice experience.

Further, with regard to service learning, the ACPE representative noted this could be used in the IPPE but not for the entire 5% IPPE requirement. He also noted ACPE would consider leadership opportunities related to pharmacy as part of the IPPE requirement. This is reflective of guidance in Appendix C of the ACPE Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree (Effective: July 1, 2007). As noted in Appendix C, IPPEs may use various formats, including: shadowing of practitioners or APPE students; interviews of real patients, service learning (as discussed in Appendix C); real practice experiences in community, institutional, long-term care pharmacies; etc. The ACPE Board of Directors adopted an IPPE Policy Statement on January 8, 2009 that also states, "The majority of students' assigned IPPE time (minimum of 300 hours) must be balanced between pharmacists' activities within community pharmacy and institutional health system settings."

Difficulties caused by State Board internship requirements and the new IPPE/APPE standards were noted by the Task Force. There are different standards for each state regarding internship hours. In some cases, a college/school's practical experience component meets the entire Board internship requirement. While in others, internship hours are required in addition to the IPPE/APPE requirements. Several Task Force members noted that some IPPE experiences are being moved into the summer, which consequently interferes with the student's ability to obtain State Board required internship hours or employment during the summer. Task Force members believe state boards of pharmacy should look at their internship requirements, in consultation with their schools/colleges, to ensure goals are met with the least burden. However, paid internships may be a reasonable way to acquire some competencies if coupled with a good overall assessment of skills and knowledge even though they would not be acceptable to fulfill IPPE hour requirements. Discussion at the NABP/AACP District Meetings was suggested. Perhaps recommending this to NABP should be considered.

Key Messages for ACPE

Key messages Task Force members believe should be conveyed by the Academy to ACPE include that:

- Simulation may be a very effective way to teach some pre-APPE competencies and should be considered as a substitute for a portion of the 300-hour IPPE requirement. A definition of simulation, a literature search on its use and effectiveness in other health profession's education, and development of assessment methods should be undertaken by the Academy.
- ACPE must consider preceptor burden, site saturation, and school resources in determining how IPPE hours are established and evaluated.
- ACPE must allow experimentation by schools to determine which instructional strategies work best to assist students in attaining specific competencies. Some schools/colleges view the current IPPE hour requirements and the ACPE interpretation of what is acceptable as an IPPE experience to greatly limit experimentation and innovation. Some Task Force members noted pharmacy schools/colleges (and their students) may be better served by curricula that do not have the artificial delineation between IPPE and APPE. In fact, a continuum of experiences throughout the curriculum was the initial goal of the first PharmD accreditation standards. The fact that some colleges/schools were not meeting this initial standard did not mean the goal was inappropriate or unenforceable. Arbitrarily assigning an hour requirement to separate IPPE and APPE requirements, while much easier to evaluate, changed the focus from outcomes of pharmacy education, to inputs. The key is how the various curricular components interface with each other to produce competent practitioners, which will vary among institutions. However, all should be held to the same outcome competencies.

The ACPE representative asked for feedback from the schools/colleges regarding the "optimal" number of hours for IPPEs as they continue experimentation with integration

of practice throughout the curriculum. Given that an hour requirement is an inappropriate measure of attaining competence in any area, the Task Force declines to provide an optimal number.

With regard to simulation as a teaching technique for IPPEs, the Task Force recommends the Academy undertake a project to describe/define effective simulation techniques, how they are defined, how they have been used in higher education and in health education in particular, how they can be used for teaching/learning pharmacy practice skills, how they should be evaluated to assure quality education and learning, and other appropriate analysis to serve its members in utilizing simulation effectively. Simulations may also promote greater uniformity in the teaching and learning of practice skills, whereas learning of these skills will be varied when completed at a large number of practice sites and preceptors across the country.

Assessment Methods

Task Force members agreed there was not one “magic bullet” to assess outcomes related to the competencies. Rather, several assessment methods and multiple assessors should be used. Assessment should be continuous, preceptor efficient, and appropriate to the level of the activity and the competency being evaluated. Some of the specific methods discussed include: preceptor evaluation (not by itself, however), faculty evaluation, Objective Structured Clinical Examinations (OSCEs), student self-reflection, and student portfolios. Further research is needed and recommended by the Academy to validate various assessment methods.

The Task Force hopes their work to construct a comprehensive competency document will help guide schools/colleges in their IPPE/APPE pharmacy practice implementation and assessment.

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Appendix A

AACP Task Force on IPPE Competencies Members

AACP

Council of Deans

Marilyn K. Speedie, Ph.D.
Dean and Professor
College of Pharmacy
University of Minnesota
5-130 Weaver-Densford Hall
308 Harvard St., S.E.
Minneapolis, MN 55455
Tel: 612-624-1900
Fax: 612-624-2974
Email: speed001@umn.edu

Council of Faculties

Dan Brazeau
Research Asst Professor
University of Buffalo
School of Pharmacy and Pharmaceutical Sciences
126 Cooke Hall-Box 601200
Buffalo, NY 41260-1200
Tel: 716-645-2842 ext 260
Email: dbrazeau@buffalo.edu

Experiential Education Section

Rhonda M. Jones, Pharm.D.
Associate Professor and Director, Office of Experiential Education
Creighton University
School of Pharmacy and Health Professions
2500 California Plaza
Omaha, NE 68178
Tel: 402-280-2020
Email: rjones@creighton.edu

Robin Corelli, Pharm.D.
University of California, San Francisco
521 Parnassus Avenue
Clinical Sciences, Room C-156
San Francisco, CA 94143-0622
Tel: 714-731-0604
Email: corellir@pharmacy.ucsf.edu

Pharmacy Practice Section

Paul Jungnickel, Ph.D., R.Ph.

Professor of Pharmacy Practice and Associate Dean for Academic and Student Affairs

Auburn University

Harrison School of Pharmacy

2316 Walker Building

Auburn, AL 36849-5501

Tel: 334-844-8355

Email: jungnpw@auburn.edu

ACCP Member and Staff

Krystal Haase, Pharm.D., FCCP, BCPS

Associate Professor, Dept. of Pharmacy Practice

Texas Tech UHSC School of Pharmacy

1300 Coulter, Room 206

Amarillo, Texas 79106

Tel: 806-356-4000 ext. 282

Email: krystal.haase@ttuhsc.edu

C. Edwin Webb, Pharm.D., M.P.H.

Associate Executive Director

American College of Clinical Pharmacy

1101 Pennsylvania Ave., NW

Suite 600

Washington, DC 20004-2514

Tel: 202.756.2227

Email: ewebb@accp.com

ACPE Member and Staff

Heidi Milia Anderson, Ph.D.

Associate Provost for Faculty Affairs

University of Kentucky

Office of the Provost

Frazee Hall

Room 205

Lexington, Kentucky 40506-0031

Tel: 859-323-6589 (Rita Wilkie or Jim Lindsay)

859-257-4846 (FAX)

Email: Hande2@email.uky.edu

Jeff Wadelin

Associate Executive Director, and

Director, Professional Degree Program Accreditation

Accreditation Council for Pharmacy Education

20 North Clark Street, Suite 2500

Chicago, IL 60602-5109

Tel: (312) 664-3575
Fax: (312) 664-4652
Email: jwadelin@acpe-accredit.org

AMCP Nominee and Staff Member

Ann Marie Rakoczy, Pharm. D.
HealthSpring Inc.
1503B Ferguson Avenue
Nashville, TN 37212
Tel: 615-565-8110, ext. 8796
Email: annie.rakoczy@healthspring.com

April M. Shaughnessy, RPh, CAE
Director, External Relations
Academy of Managed Care Pharmacy
100 N. Pitt Street, Suite 400
Alexandria, VA 22314
Tel: 703-683-8416, ext. 630
Fax: 703-683-8417
Email: ashaughnessy@amcp.org

NABP Nominee and Staff Member

Anne Policastri, Pharm D, MBA, FKSHP
Member, KY Board of Pharmacy
Assistant Director of Experiential Education
University of Kentucky College of Pharmacy
725 Rose Street
Lexington, KY 40536-0082
KY Board of Pharmacy
University of Kentucky College of Pharmacy
Tel: 859-323-0893
Email: apoli2@email.uky.edu

Eleni Anagnostiadis, RPh
Associate Executive Director
National Association of Boards of Pharmacy
6701 Democracy Boulevard Suite 300
Bethesda, MD 20817
Tel: 301-214-9078
Fax: 847-375-1114
Email: EAagnostiadis@nabp.net

APhA Nominee and Staff Member

Melinda C. Joyce, Pharm.D.
The Medical Center
250 Park Street

Bowling Green, KY 42102
Tel: 270-745-1640
Email: mbjoyce@mcbg.org
Alt email: mcjoyce@mindspring.com

Elizabeth Cardello, RPh
Director, National Accounts and Business Development
American Pharmacists Association
39W188 Fryendall Court
Geneva, IL 60134
Tel: 630-845-9782
Email: ecardello@aphanet.org

ASCP Member

Roberta (Bobbie) Bullock, Pharm.D., FASCP, CGP
228 Marday Drive
Ruther Glen, VA 22546
Tel: 804-448-4469
Email: bbullrph@hotmail.com

ASHP Member Nominee and Staff

Charles E. Daniels, R.Ph., Ph.D., FASHP
Pharmacist-In-Chief
University of California San Diego
School of Pharmacy and Pharmaceutical Sciences
Pharmaceutical Sciences Bld. 1129 (fed ex deliveries)
200 W. Arbor Drive #8765
San Diego, CA 92103-8765
Tel: 612-543-6194
Fax 612-543-5829
Email: cdaniels@ucsd.edu

Douglas Scheckelhoff, M.S.
Vice President, Professional Development
American Society of Health-System Pharmacists
7272 Wisconsin Avenue
Bethesda, MD 20814
Tel: 301-664-8730
Fax: 301-634-5830
Email: dscheckelhoff@ashp.org

NACDS Nominee and Staff

Shawn Eaton, PharmD
Manager, Professional and College
Relations OH, KY, TN
CVS Caremark

1920 Enterprise Parkway
Twinsburg, OH 44087
Tel: 330-487-6820
Email: SREaton@cvs.com

Edith A. Rosato R.Ph.
Senior Vice President, Pharmacy Affairs
NACDS Foundation
NACDS
413 N. Lee Street
Alexandria, VA 22314
Tel: 703-837-4186
Fax: 703-683-3587
Email: erosato@nacds.org

NCPA Member Nominee and Staff

Keith Hodges
Gloucester Pharmacy
PO Box 9
Gloucester, VA 23601
Tel: 804-694-5815
Email: khodges@gloucesterpharmacy.com

Lisa Fowler
National Community Pharmacists Association
100 Dangerfield Road
Alexandria, VA 22314
Tel: 703-838-2684
Email: Lisa.Fowler@ncpanet.org

APPENDIX B: Competency Statements and Rankings

CAPE Outcome: Pharmaceutical Care

I. Provide Pharmaceutical Care to achieve optimal patient outcomes

A. Engage in patient management activities

Compile patient-specific information

Assess whether the pathophysiology of a specific disease can increase the potential for medication-related problems.	5 ME
Assess patient history for drug allergies or intolerances.	5 ME
Identify the patient's primary complaint(s) and reason(s) for seeking medical care.	4 BE/ME
Assess patient history for drug allergies or intolerances.	4 BE/ME
Assess patient adherence to previously prescribed medication regimens.	4 BE/ME
Evaluate and interpret patient and drug-related data needed to identify actual or potential drug therapy problems.	3 BE
Assure there is not excessive medication use or unnecessary drug duplication.	3 BE
Identify appropriate information in profiles or medical records that can potentially affect drug dose and dosing schedule.	3 BE
Employ clinical and physical assessment skills to determine the adequacy of patient therapeutic self-management and to evaluate therapeutic effectiveness or potential drug-related problems in the patient.	3 BE
Review patient profiles or medication administration records to determine the adequacy of patient therapeutic self-management.	2 BE/AO
Identify potential indicators of drug misuse or abuse.	2 BE/AO

Develop , implement, monitor drug therapy

Relate the chemical and/or biochemical structure of drugs to their therapeutic action.	5 ME
Evaluate patient characteristics that may influence the choice of a drug delivery system.	4 BE/ME
Integrate patient and drug information with drug dosing methods to calculate appropriate dosage adjustments.	4 BE/ME
Develop a plan to influence patients to effectively manage their therapy and reinforce appropriate behaviors.	3 BE
Communicate orally and in writing an analysis of patient therapeutic self-management problems to the patient's physician and/or other relevant health care providers.	3 BE
Communicate evidence of efficacy or potential for drug-related problems to the patient and/or caregiver and prescriber.	3 BE
Explain dosage recommendations and associated rationale to other health care team members.	3 BE
Evaluate any available laboratory test results and/or pharmacokinetics data that can influence dosing regimen.	3 BE
Relate psychosocial aspects of illness and health to the management of therapy-related problems.	3 BE
Communicate alternative delivery system or dosage strategies to the prescriber to help resolve specific patient therapeutic self-management problems.	2 BE/AO
Communicate alternative therapeutic strategies to the prescriber to correct or prevent drug-related problems.	2 BE/AO
Recommend revisions of therapeutic plans based upon changes in patient status.	1 AO

Medical Devices

Research the literature related to medical goods and devices in order to select or recommend the most appropriate device for an individual patient.	4 BE/ME
Obtain patient information relevant to the selection of a particular device.	3 BE
Assess the ability of the patient or caregiver to use the necessary medical goods or devices.	3 BE
Determine which of the available medical devices or products in the market place meets the patient's or caregiver's needs.	3 BE
Demonstrate the proper use of the medical goods and devices to help ensure that the patient or caregiver can effectively implement the use of the medical goods and devices.	3 BE
Ensure that equipment specific requirements for maintenance, testing, etc. are effectively communicated to the patient or caregiver.	3 BE
Make referrals to other health care agencies or professionals where indicated.	2 BE/AO

Provide education/information to patients and caregivers to appropriately use medication

Use effective written, visual, verbal, and nonverbal communication skills when providing medication self-management counseling to patients and/or caregivers.	5 ME
Demonstrate/describe proper administration technique for a selected drug delivery systems (e.g. inhalation, otic, eye, nasal, buccal, rectal, vaginal).	5 ME
Explain any action that should be taken in the event of a missed dose.	5 ME
Encourage patients/caregivers to contact the pharmacist for further information or advice regarding therapy.	5 ME
Use appropriate methods of patient education to review indications, adverse effects, dosage, storage, and administration techniques.	4 BE/ME
Advise patients on how to avoid potential interactions with other therapies.	4 BE/ME
Explain signs and symptoms associated with the common and/or severe adverse reactions to a therapy.	4 BE/ME

Explain the significance and frequency of adverse drug reactions and interactions associated with a given therapy.

3 BE

Assist patients seeking self-care

Assess a patient's self-identified problem (e.g., common cold, fever, pain, gastrointestinal problems) to determine if the problem is appropriate for self care or requires referral.	5 ME
Discuss options for treatment and recommend appropriate non-prescription product(s) if indicated.	5 ME
Teach a patient the proper and safe use of commonly used health products (e.g., condoms, thermometers, blood pressure monitoring devices, blood glucose meters, metered-dose devices, ear syringes, adherence devices).	5 ME
Counsel the patient about the proper use of self care products.	4 BE/ME
Instruct a patient about the proper use of a diagnostic agent or device, including directions for obtaining accurate results and how to interpret the results.	4 BE/ME

B. Engage in drug delivery and product management activities**Prepare and dispense medication(s) prescribed or recommended as part of the patient's care plan**

Evaluate the acceptability of prescription or medication order transmission and legitimacy of source.	5 ME
Verify that dose, frequency, formulation, and route of administration on prescription or medication orders are correct.	5 ME
Clarify, add, and/or correct prescription order information when necessary.	5 ME
Accurately enter patient information into the patient's pharmacy profile or medication record.	5 ME
Select a drug delivery system that will provide optimal therapeutic benefit to individual patients.	5 ME
Accurately prepare and dispense medications or supervise the preparation of medications.	5 ME
Correctly count, measure, and/or mix preformulated products.	5 ME
Correctly prepare the label for a finished prescription or drug order, assuring it conforms to all state and federal laws.	5 ME
Assure that the label conveys directions in a manner that is understandable to the patient and that appropriate auxiliary labels are attached.	5 ME
Select an appropriate container for the prescription that protects the integrity of the drug delivery system and that meets the patient's needs.	5 ME
Select an appropriate container for storage or use of medications with special requirements (e.g., child-resistant containers, compliance devices).	5 ME
Determine the validity of the patient-prescriber relationship.	4 BE/ME

B. Engage in drug delivery and product management activities--continued**Compounding**

Use correct gravimetric and volumetric measuring procedures to obtain the desired quantity of any formulation component.	5 ME
Identify potential physical and chemical incompatibilities among components of compounded (parenteral or non-parenteral) prescriptions.	5 ME
Follow USP compendial standards (<795> or <797>) for the extemporaneous compounding of a non-sterile or sterile patient-specific drug delivery system.	4 BE/ME
Determine the appropriate storage of manufactured or compounded medications before and after dispensing.	4 BE/ME
Evaluate the suitability of an extemporaneously compounded prescription as opposed to available manufactured products	3 BE
Recommend appropriate alternatives to avoid physical and chemical incompatibilities among components of compounded prescriptions.	3 BE

C. Engage in practice management activities**Documentation**

Adjudicate third-party insurance claims using established billing systems.	5 ME
Demonstrate proper procedures for taking/giving a prescription transfer.	5 ME
Record all patient information accurately, legibly, and succinctly.	5 ME
Observe legal and ethical guidelines for protecting the confidentiality of patient information.	5 ME
Record actions taken and recommendation made to achieve desired therapeutic outcomes.	4 BE/ME
Document the effectiveness and adverse effects attributed to drug therapy.	4 BE/ME
Record the patient care plan.	3 BE
Consolidate and organize information that is already in the patient's medical record to facilitate its review.	2 BE/AO

D. Communication and Professional Behavior

Communicate effectively

Actively listen to patients, peers, and other health care professionals.	5 ME
Use proper grammar, spelling, and pronunciation in communications.	5 ME
Explain medication information to patients in understandable terms.	5 ME
Routinely verify patient or recipient understanding of communicated information.	4 BE/ME
Adjust communication based on contextual or cultural factors, including health literacy, language barriers, and cognitive impairment.	3 BE
Develop verbal, non-verbal, written and graphic communication materials for patients, peers, and other health care professionals.	3 BE
Communicate with prescribers, patients, caregivers, and other health care providers to engender a team approach to patient care.	2 BE/AO

Interact with patients & the health care team.

Articulate the pharmacist's role as a member of the health care team.	5 ME
Demonstrate sensitivity to and respect for each individual's needs, values, and beliefs, including cultural factors, religious beliefs, language barriers, and cognitive abilities.	5 ME
Demonstrate empathy and caring in interactions with others.	5 ME
Maintain patient confidentiality and respect patients' privacy.	5 ME
Establish professional rapport with patients and healthcare professionals.	3 BE
Demonstrate ability to resolve conflict in the pharmacy practice setting.	2 BE/AO

Behave in a professional and ethical manner.

Dress professionally and appropriately for the practice setting.	5 ME
Arrive punctually and remain until all responsibilities are completed.	5 ME
Distinguish professional interests from personal interests and respond appropriately.	5 ME
Accept responsibility for one's actions.	5 ME
Respond appropriately to feedback from preceptors, patients, peers, and other health care professionals.	5 ME
Demonstrate passion and enthusiasm for the profession.	5 ME
Manage time appropriately and efficiently.	5 ME
Be self-directed in undertaking responsibilities.	5 ME
Adhere to all state and federal laws and regulations as a pharmacy intern in the practice setting.	5 ME
Demonstrate awareness of personal competence and limitations and seek guidance or assistance from preceptors when appropriate.	4 BE/ME
Assess one's own knowledge and abilities independently.	4 BE/ME
Set personal knowledge and ability goals and take responsibility for attaining them.	4 BE/ME
Show initiative in interactions with patients, peers, and other health care professionals.	4 BE/ME
Be aware of and work appropriately within the culture of the assigned practice setting.	4 BE/ME
Demonstrates personal and professional growth.	4 BE/ME
Demonstrate awareness of site or institutional policies and procedures.	3 BE
Prioritize workload appropriately.	3 BE
Identify issues involving ethical dilemmas.	3 BE
Propose steps to resolve ethical dilemmas.	3 BE
Identify and analyze emerging issues, products, and services that may impact patient-specific and population-based pharmaceutical care.	2 BE/AO
Weigh and balance different options for responding to ethical dilemmas.	2 BE/AO

CAPE Outcome: Systems Management

II. Manage the Practice

A. Product-related

Determine which drugs require special storage conditions and insure that these drugs are properly stored.	5 ME
Communicate to the patient and/or other health care professionals the differences and similarities of generic and branded products.	5 ME
Evaluate the validity of experimental designs, analytical methods, and statistical analyses used in bioavailability studies.	4 BE/ME
Evaluate the validity of relevant bioequivalence studies.	4 BE/ME
Ascertain product availability and time required to obtain product from vendor.	3 BE
Identify alternative actions if product quality is compromised.	3 BE
Select the most cost-effective source of a given product.	3 BE
Evaluate pricing information, including relevant pricing structures for products under consideration.	3 BE
Evaluate characteristics of the product(s) under consideration that may impact cost and/or therapeutic outcome.	3 BE
Determine the availability of pharmaceutical alternatives.	3 BE
Determine the availability of generic counterparts to brand name products.	3 BE
Properly dispose of/return those drug products that have expired and/or exceeded their reasonable shelf life.	3 BE
Properly implement steps required for a manufacturer's product recall.	3 BE
Identify alternative actions if product quality is compromised.	3 BE
Use appropriate references for the evaluation of drug product quality.	3 BE
Apply management principles related to purchasing and inventory control.	2 BE/AO
Determine if a reasonable length of expiration time remains when products arrive from the vendor.	2 BE/AO
Determine if proper storage and shipment procedures have been followed by the vendor.	2 BE/AO
Ascertain dependability of the vendor.	2 BE/AO
Apply relevant regulations to product selection from among multi-source drug products.	2 BE/AO
Assess bioequivalence and therapeutic equivalence recommendations embodied in institutional, state and federal formularies, and documents.	2 BE/AO
Monitor compliance with policies and procedures for inventory management	2 BE/AO
Evaluate the quality record of drug products through the regular use of the FDA website and listservs.	2 BE/AO
Consider other factors that are indicative of a manufacturer's product quality and their ability to replicate the product and ensure an adequate supply.	2 BE/AO

B. Management

Comply with federal, state, and local laws and related regulations that affect the practice of pharmacy.	5 ME
Participates in social and professional interaction and teamwork.	5 ME
Promotes a team approach to health care.	5 ME
Recognize professional practice situations that may give rise to liability under civil law.	3 BE
Demonstrates trust, leadership, delegation, and interdependence.	3 BE
Apply principles of personnel management to train, develop, supervise, and motivate support staff.	2 BE/AO
Apply principles of personnel management to recruit, hire, retain, and evaluated support staff.	2 BE/AO
Use policies and procedures that improve the efficiency and effectiveness of a given drug distribution system.	2 BE/AO
Develop appropriate position descriptions for a given drug distribution system.	1 AO

C. Practice Improvement

Predict future patient care needs and professional service opportunities in various practice settings.	1 AO
Formulate and evaluate strategies to meet future patient care needs within a specific practice setting.	1 AO
Evaluate the achievements of a practice in relation to the established mission, fiscal resources, and customer needs.	1 AO
Continually review the operational functioning of the pharmacy and recommend strategic changes to improve the quality of care provided.	1 AO
Identify deficiencies in facilities design and equipment at an existing practice site.	1 AO
Develop/specify information system needs and implement an information management system that meets legal, business, archival, and patient care needs.	1 AO

III. Manage/Improve Medication Use Systems

A. Medication use system improvement & management

Identify appropriate drug use guidelines developed by governmental regulatory or health agencies.	4 BE/ME
Evaluate information obtained from adverse drug reaction and medication error reporting systems (e.g. MedWatch) to identify preventable causes.	3 BE
Identify and report medication errors and adverse drug reactions to appropriate individuals and organizations.	3 BE
Articulate the pharmacist's role in medication use oversight (e.g., formulary management, practice guidelines.)	2 BE/AO
Participate in established medication safety and quality improvement activities (e.g., adverse drug reaction reporting, medication reconciliation, health systems improvement)	2 BE/AO
Develop drug use evaluation criteria and/or indicators based on analysis of the literature.	2 BE/AO
Collect institutional data for a drug utilization review.	2 BE/AO
Manage the incidence of medication errors and adverse drug reactions.	2 BE/AO
Recommend actions to minimize the occurrence of adverse drug reactions and medication errors.	2 BE/AO
Apply criteria to collected drug utilization review data.	1 AO
Implement corrective actions to improve drug use.	1 AO
Monitor prescriber and pharmacist compliance with formulary standards.	1 AO
Communicate with managers and caregivers regarding formulary decisions.	1 AO
Implement corrective action if variances from the formulary standards occur.	1 AO

B. Quality Improvement in Practice/Health Systems

Apply elements of continuous quality improvement to pharmaceutical care.	2 BE/AO
Apply principles of pharmacoeconomics in making pharmaceutical care decisions.	2 BE/AO
Apply principles of humanistic outcomes in determining impact of pharmaceutical care services on patient's quality of life.	2 BE/AO
Use appropriate structure, process, and outcome measures to evaluate the quality of pharmaceutical care.	1 AO
Document patient services in practice, analyze them against comprehensive pharmaceutical care processes, develop, and implement practice improvements.	1 AO
Use appropriate critical pathways, clinical practice guidelines, and disease management protocols in the delivery of pharmaceutical care.	1 AO

C. Value-added activities

Identify appropriate drugs for DUE review.	1 AO
Compile and evaluate drug use data across patients and prescribers within the system.	1 AO
Develop therapeutic interchange guidelines.	1 AO
Document quality assurance activities according to the specifications of relevant accrediting and regulatory bodies.	1 AO
Use report cards in assessing the quality of health care.	1 AO

CAPE Outcome: Public Health

IV. Public Health, Health Promotion, Disease Prevention

Promote to patients the importance of managing their diseases and therapies to optimize outcomes.	5 ME
Participate in activities that promote health and wellness and the use of preventive care measures.	5 ME
Describe the role of immunizations in disease prevention.	5 ME
Administer subcutaneous, intramuscular, or intradermal injections, including immunizations.	5 ME
Screen for common medical conditions and make appropriate referrals	5 ME
Conduct smoking-cessation interventions when appropriate.	5 ME
Raise public awareness about the role of a pharmacist as a public health educator.	5 ME
Identify at-risk populations requiring immunizations.	4 BE/ME
Assess the needs of a target population relative to disease prevention/detection.	3 BE
Select and implement an appropriate strategy to prevent (e.g., immunizations) or detect (e.g., blood cholesterol screening) disease in a target population.	3 BE
Apply basic principles of nutrition to the management of patient health.	3 BE
Articulate the concept of advocacy - what it means both professionally and personally.	3 BE
Relate the major components of the American health care system and their relationship to pharmaceutical care delivery.	3 BE
Evaluate program impact on the target population.	2 BE/AO
Explain how to assure availability of effective, quality health, and disease prevention services.	2 BE/AO
Assess the health needs of a specific patient population by analyzing epidemiologic data and identifying risk factors that would adversely affect patient health.	2 BE/AO
Develop appropriate criteria and outcome indicators and conduct medication reviews in specific populations.	1 AO

Demonstrate how evidence-based disease management programs are incorporated into outcome indicators, drug treatment protocols, risk reduction strategies, and education programs for providers and patients.

1 AO

Value-added activities

Identify and evaluate common emergencies including those requiring CPR.

4 BE/ME

Describe legal and ethical implications of intervention in emergency situations.

4 BE/ME

Assist individuals in obtaining emergency transportation to a medical facility.

3 BE

Describe legal and ethical implications of intervention in poisoning/drug overdose situations.

3 BE

Determine urgency of the situation and necessity to summon emergency medical service personnel.

3 BE

Apply appropriate emergency care in relationship to available personnel, equipment, and facilities.

3 BE

Apply effective communication techniques when responding to requests for information on poisoning and drug overdose.

3 BE

Consult appropriate resources for identification of the symptoms, signs, and management of a specific poisoning or drug overdose.

3 BE

Provide recommendations for management and/or refer patients for further medical evaluation.

2 BE/AO

V. Provide Drug Information and Education

Recognize the type of content that is available in general (tertiary), secondary, and primary information sources.

5 ME

Collect accurate and comprehensive drug information from appropriate sources to make informed, evidence-based decisions.

4 BE/ME

Collect accurate and comprehensive information to be used in monitoring therapeutic outcomes.

4 BE/ME

Use abstracting and indexing services to access necessary information.

4 BE/ME

Use computerized programs for monitoring and identifying adverse reactions, drug interactions, etc.

4 BE/ME

Consult personal and organizational sources of information.

4 BE/ME

Evaluate information obtained from available sources.

4 BE/ME

Use appropriate written and verbal communication techniques to respond to information requests.

4 ME

Document responses to information requests.

4 ME

Identify the educational needs and background of the intended audience.

4 BE/ME

Choose appropriate media to communicate effectively.

4 BE/ME

Choose health education strategies that are appropriate to the type of health care education program.

4 BE/ME

Demonstrate effective oral and written communication tailored to the individual needs of the audience and type of setting.

4 BE/ME

Determine the nature and specific aspects of the request by obtaining appropriate background information and establishing the urgency of the response.

3 BE

Apply knowledge of the content of general (tertiary), secondary, and primary information sources.

3 BE

Provide accurate information applicable to the question/case.

3 BE

Use health education strategies effectively.

3 BE

Compile and update literature for ready reference in the provision of patient care.

3 BE

Evaluate the impact of an educational program on the behaviors/performance of program participants.

2 BE/AO