

INSTRUCTIONAL DESIGN AND ASSESSMENT

An Advanced Professional Pharmacy Experience in a Community Setting Using an Experiential Manual

Karen W. Lee, PharmD, Matthew R. Machado, PharmD, Marie M. Wenzel, PharmD, James M. Gagnon, PharmD, and Joseph M. Calomo, MBA, PharmD

Massachusetts College of Pharmacy and Health Sciences-Boston

Submitted August 18, 2005; accepted September 16, 2005; published April 21, 2006.

Objectives. To determine the usefulness of a teaching and learning tool used to create structure for advanced pharmacy practice experiences (APPEs) in community pharmacy settings, and to identify differences between respondents' perspectives on the relevance and practicality of implementing specific community pharmacy-related topics during the experience.

Design. Community practice faculty members designed a manual that outlined a week-by-week schedule of student activities, consistent with the Center for the Advancement of Pharmaceutical Education (CAPE) outcome-based goals, and included associated teaching, documentation, and assessment tools. The manual was distributed to site preceptors and students.

Assessment. Eighty-six PharmD students responded to a questionnaire upon completion of their community APPE. Student feedback concerning the impact of the manual relative to interactions with site preceptors and their overall learning experience was relatively positive.

Conclusion. The manual was an effective teaching and learning tool for students completing a community APPE.

Keywords: Center for the Advancement of Pharmaceutical Education, advanced pharmacy practice experience, manual, community pharmacy

INTRODUCTION

According to the National Association of Boards of Pharmacy (NABP), 60% of students matriculating through a college of pharmacy seek employment at a community pharmacy.¹ With the paradigm shift within the profession of pharmacy from product to patient, a competent community pharmacist is a professional who can effectively communicate and is competent in performing both operational and clinical services pertaining to community pharmacy. Early hands-on training can assist students through coursework as well as prepare them for practice upon graduation. Hands-on training is often provided during internships, mock pharmacy practice laboratory settings, and during introductory pharmacy practice experiences (IPPEs) and advanced pharmacy practice experiences (APPEs). The American Association of Colleges of Pharmacy (AACP) recently refined its 1998 version of its CAPE document to reflect a broader, more contemporary framework that includes pharmaceutical

care, systems management, and public health as new major headings for its 2004 Educational Outcomes.^{2,3} Each APPE should be modeled to fulfill practice-related CAPE outcomes-based goals. Student achievement of these goals is best assessed during the APPE since the student is able to demonstrate and build on knowledge gained from introductory practice experiences and didactic education.

Despite the intended goals, exposure to community pharmacy is often strongly focused on the mechanics of processing a prescription rather than other practice-related CAPE goals, especially in pharmacies with a considerably high prescription volume.^{4,5} Data obtained from a survey conducted by the Accreditation Council for Pharmacy Education (ACPE) show that not all core community APPEs assess baseline skills, such as students' ability to provide patient education on prescription and nonprescription medications and conduct initial patient or caregiver interviews.⁴ In fact, ACPE identifies community pharmacy as the practice setting that is the least progressive in the provision of pharmaceutical care.^{4,6} There are community pharmacies that afford students the opportunity for broad exposure to the profession, including a community pharmacist's role in systems management and public health promotion. However, many APPEs in community pharmacy do not properly train and prepare students

Corresponding Author: Karen W. Lee, PharmD. Address: Massachusetts College of Pharmacy and Health Sciences, School of Pharmacy – Boston, Department of Pharmacy Practice, 179 Longwood Avenue, Boston, MA 02115. Tel: 617-732-2832. Fax: 781-891-1649. E-mail: karen.lee@bos.mcphs.edu

for mastery of practice skills in such a comprehensive manner. As a result, upon obtaining licensure, students may not be adequately prepared for transition into practice despite fulfillment of internship hours.

Kirkpatrick et al have reported the importance of outcome-based assessment of pharmacy students relative to educational training in a classroom setting.⁷ Recently, Cerulli et al reported the success of outcome-based assessment of pharmacy students with respect to 5-week experiential training in chain and independent community pharmacy practice settings.⁵ In this 4-year research project, the development of standardized goals, objectives, and evaluation forms were discussed as necessary tools to assure that the mentioned CAPE outcomes are indeed fulfilled. Despite the continual emphasis on the importance of applying the CAPE outcomes in the experiential setting, there are still barriers that prevent site preceptors from implementing activities that cover all CAPE goals. Resource-related constraints were identified by preceptors as the primary barriers to fulfilling the CAPE outcome of “pharmaceutical care” in the community pharmacy setting.^{4,8} “Time” may indirectly be identified as the most recurring barrier. Reported barriers include time spent on third-party billing, high prescription volume, and insufficient technician and pharmacist staffing.^{4,8}

Most preceptor development programs primarily focus on training preceptors in pharmaceutical care and the provision of patient care.⁸ In addition to such training, some colleges of pharmacy provide additional training for community pharmacists in precepting and evaluating pharmacy students using college-designed assessment tools.⁹ There are limited data on methods to assist preceptors with incorporating student activities and assessments into the APPE at their respective practice sites. One study describes, but does not evaluate, a proposed 4-week rotation schedule for preceptors created from a focus group of community pharmacists.¹⁰ These data would be critical in addressing “time,” the most common preceptor-identified barrier to achieving CAPE outcomes. Given the challenge of precepting in a community pharmacy, most preceptors will need supportive tools in addition to training and college-based assessment forms in order to provide a good experience for students. Community pharmacists who participated in a focus group strongly agreed that a deterrent to full engagement in pharmaceutical care was the need for preceptors to spend many hours orienting the student to skills and values prior to delivery of pharmaceutical care.¹⁰ Therefore, students also need supportive tools, in addition to a college-based APPE orientation, in order to be successful in the APPE.

There was currently no published data on how to systematically map out student activities and provide

support mechanisms to assure fulfillment of APPE competencies. The creation of a teaching and learning tool, such as a comprehensive manual, will not only aid in clarifying the expectations of the college, but also provide guidance in a step-by-step approach to fulfill these expectations for both preceptors and students.

DESIGN

Due to changes in the pharmacy curriculum at the Massachusetts College of Pharmacy and Health Sciences, the original 5-week experiential manual was changed to a 6-week manual in July 2003; as a result, additional student activities were created. The Division of Experiential Education (DEE) identified the need to revise the manual distributed to preceptors and students in order to better facilitate the teaching and learning process during APPEs. At that time, community pharmacy faculty members at the College were charged with the task of revising the manual to best guide preceptors and students in community pharmacy settings. While redesigning the learning objectives for this APPE, skills and important issues theorized as critical needs of a “contemporary” community pharmacy in the 21st century were considered, such as maximizing effective drug therapy through patient counseling and addressing barriers to such outcomes.¹¹ Additionally, outcomes often identified as lacking in a student’s education were also addressed in the design of the APPE, such as effective nonprescription drug counseling.^{7,12} The activities outlined in the manual were adapted from criteria identified in CAPE outcome-based goals for an APPE at a community pharmacy setting. This initiative led to the revision of all student activities/assignments and assessment tools provided in the College’s APPE manual. The goal was that upon revision of the manual, preceptors and students using the manual would be able to better assess and fulfill goals and objectives consistent with CAPE outcomes and the College would have developed a tool to support APPEs that would be consistent with ACPE Standards and Guidelines for Pharmacy Practice Experiences. The faculty at the College voted to initiate the use of the new manual in the 2003-2004 academic year. Beginning in July 2003, the new manual was implemented in all the APPE community pharmacy practice sites affiliated with the College.

The Division of Experiential Education maintains 4 different preceptor manuals (ie, community pharmacy practice, institutional pharmacy practice, ambulatory care practice, and inpatient medicine) and a student manual for APPEs. The core contents of the manuals for preceptors and students was the same. The difference was that the student version included all of the material from each of the 4 preceptor manuals. This manuscript focuses

specifically on the community pharmacy practice section of the student manual. Student assessment was not dependent on use of the manual. Student learning during the APPE was primarily evaluated based on formative and summative assessments during the midpoint and final evaluation at the site. The preceptor and student were also required to complete student and site evaluations, respectively, online through the Pharmacy Education Management System (PEMS).

Annually, the Division of Experiential Education distributes the manual to all preceptors of APPEs, either through mail and/or site visits. The Division also offers an annual preceptor training day during which the contents of the manual are reviewed. As anticipated, the number of preceptors present at the training session was low since attendance was not required. The manual was designed to provide direction with minimal instruction; therefore, lack of attendance at the training session was not entirely detrimental to the preceptors. Use of the manual was optional for preceptors. The manual served as a guide rather than a mandated protocol.

At the beginning of the fourth-professional year, approximately 230 PharmD students met at the College for a mandatory orientation during which they were informed they were required to purchase a manual. Since the 2003-2004 academic calendar year, each PharmD student has been required to complete at least 1 community APPE, regardless of work experience. Students could select a second community APPE as an elective experience at their discretion. The student manual was created with the intention of fulfilling 2 goals. The first goal was to provide a list of outcome-based objectives so that the student understood the expectations from an APPE in a community pharmacy setting. The second goal was to serve as a resource to guide students through APPE project work.

Sections of the student manual were developed and refined over a 1-year time period. The contents of the manual is listed in Table 1 and discussed here. The first section of the manual contained a general description of the program and included a brief description of the APPE and its association with the College and the pharmacy. The course objectives section included the College-derived objectives for an APPE in the community pharmacy setting (Appendix 1). These objectives were adapted from criteria identified in CAPE outcome-based goals to fulfill the needs of an APPE in a community pharmacy setting. Further, these objectives focused on cognitive, psychomotor, and affective domains.

In the second section, an orientation checklist contained the standard procedures to be followed when new students came to the site, such as review of the site mission statement, policy and procedure manual, exposure

Table 1. Student Manual for a Community Advanced Pharmacy Practice Experience

Sections
1. General Description
2. Course Objectives
3. Orientation Check-List
4. APPE Guidelines
5. APPE Evaluation Policy
6. Student Week-by-Week Plan
7. Community Pharmacy Practice Competencies
8. Documentation Forms
9. Evaluation Forms
10. Templates and Sample Work

plan, and Occupational Safety and Health Administration (OSHA) procedures. An introduction to the staff and a review of the daily responsibilities for the student at the site should be discussed as well.

The section entitled “APPE Guidelines” outlined rules on attendance, attire, preparedness, professionalism, and daily duties pertaining to the site and defined by the preceptor. Open fields were provided throughout the text of the document to allow the preceptor to tailor the clerkship to his/her site (ie, clerkship start and end times, daily duties).

A section on the APPE evaluation policy described how the student would be evaluated during the 6 weeks. Details regarding the components that would be considered for the final grade were specified, including a general student evaluation, as well as written and oral work. Other material in this section included details regarding scheduled progress report meetings, final grade determination, and preceptor concerns.

The next section in the manual was a week-by-week student plan. This section included a general distribution list of student activities throughout the weeks allotted to the APPE (Appendix 2). The week-by-week plan provided guidance for preceptors on how to cover the critical areas of assessment for the APPE.

The section entitled “Community Pharmacy Practice Competencies” included evaluation forms for assessing student knowledge of pharmacy issues and disease states commonly seen in the community setting. The students were required to prepare for the discussions on pertinent issues in the selected pharmacy topics or disease states. The competencies included community-related disease states, drug interactions, nonprescription drugs, pharmacy law, and pharmacy operations (eg, pharmacy management). These competencies were selected to assess the student’s proficiency in community pharmacy-related issues. Student competency was assessed by the preceptor through his/her contributions in these discussions. The

Community Pharmacy Practice Competencies were assessed through student-directed discussions and supplemented with student preparation of written templates. In general, a template that described a likely patient encounter was given to a student who would address the scenario by conducting patient counseling, making a product recommendation, or taking other action steps. The student's proficiency in various community pharmacy competencies was assessed using written means with the blank templates that the student had to complete to prepare for a topic discussion and oral means during topic discussions and patient interactions. A list of important teaching points within each disease state topic was provided in the manual in order to guide student-directed discussions; objectives for each competency were listed in respective evaluation forms. Discussions were facilitated by the preceptor, therefore, students were encouraged to consult the preceptor on any issues that remained unclear. Since the issues within each competency were substantial in quantity, the growing library of competency templates may never be complete. As such, students were often assigned the task of creating or completing pilot templates as part of their preparation work for the topic discussion.

The next section contained all the necessary documentation forms for completion of the APPE. Such documentation included an experiential education program agreement, student profile, adapted learning contract, 6-week plan mapping, and any pertinent patient care forms. The documentation forms included in the manual were used for organizing the APPE in terms of day-to-day student and site requirements. The experiential education program agreement was a signed document that indicated compliance with all ethical and professional guidelines associated with education and training during the community experience. The student profile gave the student the opportunity to explore professional goals and objectives as well as strengths and areas for improvement; such information allowed the preceptor to tailor the experience to meet the needs and interests of the particular student. The adapted version of the learning contract documents the projects that the student chose to complete in order to fulfill project work required for the APPE. The contract enabled the student to take personal accountability and autonomy in determining manageable workload and identifying areas of interest.¹³ (A copy of the learning contract is available from the corresponding author by request).

A section with evaluation forms for all potential assignments for the student was also included. The forms were used to evaluate student progress, oral presentations, written presentations, peer critique, and site/preceptor evaluation. The students were encouraged to review the evaluation form for project expectations.

The final section of the manual included templates and samples of most of the assignments the student would be responsible for completing during the APPE. The preceptor utilized information in this section to facilitate project assessment. The student referred to the sample work to facilitate project design and completion; however, creative deviations from the provided samples were strongly encouraged.

Since use of the manual was optional for preceptors, the decision of a preceptor to use the manual during the APPE indicated some degree of usefulness of the manual from the preceptor's perspective. However, since the student was the most important stakeholder in their education, the authors chose to conduct a study focused on "student" evaluation of the tool used in APPEs in community pharmacy settings.

ASSESSMENT

Upon completing an APPE in the community pharmacy setting, students were asked to participate in an anonymous survey on the usefulness of the student manual and the relevance/practicality of implementing various community-related topics during the APPE. The survey was approved by the College's institutional review board. The overall usefulness of the manual was determined based on how the student graded the usefulness of certain sections of the manual. Therefore, specific sections of the manual were listed for each question on the survey. Usefulness was assessed on a 5-point Likert scale ranging from 5 = very useful, 4 = useful, 3 = neutral, 2 = not useful, and 1 = not useful at all.¹⁴ In addition, unanswered questions and responses indicating "non-applicability" were also recorded. Student demographic information was collected in order to assess if such factors would influence the students' response. The survey instrument also evaluated the relevance and practicality of covering specified community-related topics in an APPE which is graded on a similar 5-point Likert scale.¹⁴ Topics included the core Community Pharmacy Practice Competencies. A free-text comment box was provided in the survey instrument in which students could suggest other topics for incorporation into the APPE. The data from the student survey instruments were compiled for the academic year. A cumulative percentage was tabulated for each response to each question on the survey.

Of the 86 students who completed the survey instrument, 67% used the manual and 31% did not. Use of the manual during the rotation was not influenced by the faculty status of the preceptor because approximately half (48%) of the students who completed the survey instrument had a faculty preceptor and half (49%) had a non-faculty preceptor. Ninety-five percent of students who

completed the survey instrument understood the objectives of their community APPE. This information is important in order to extrapolate that the students are better suited to assess the value of subsections of the manual during their experience since students understood what is expected during the APPE. Only the 58 students who used the manual evaluated the manual. Of the students who evaluated the manual, the majority rated each of the 8 subsections of the manual as either very useful or useful: student profile (61%), learning contract (62%), 6-week plan (65%), patient care forms (60%), project templates (85%), project evaluation (88%), midpoint evaluation (87%), and final evaluation (90%). Most of the other students gave neutral rather than negative responses concerning the various subsections of the manual: student profile (35%), learning contract (29%), 6-week plan (26%), patient care forms (29%), project templates (13%), project evaluation (11%), midpoint evaluation (12%), and final evaluation (10%). Of the various components of the manual, students found the project templates and evaluation forms most useful.

Students also graded the relevance and practicality of implementing the Community Pharmacy Practice Competency topics during the APPE regardless of use of the manual. At the time the survey instrument was completed, the number of APPEs completed by respondents varied greatly from 1 (19%), 2 (20%), 3 (9%), 4 (13%), 5 (13%), and 6 (12%) APPEs. This large range in number of completed rotations did not influence survey results. Seventy-four percent of the students completing the survey instrument had previous work experience in a community pharmacy. This information is important in order to extrapolate that the students are better suited to assess the value of particular community-related topics for an APPE since students had practical experience in that working environment.

The majority of students indicated that all of the Community Pharmacy Practice Topics were both relevant and practical for implementation in the APPE in community pharmacy. Most students graded the various topics as either relevant or very relevant: pharmacy law (88%), pharmacy operations (83%), nonprescription drugs (96%), community disease states (94%), and drug interactions (95%). Likewise, most students graded the various topics as practical for implementation: pharmacy law (87%), pharmacy operations (85%), nonprescription drugs (95%), community disease states (94%), and drug interactions (94%).

DISCUSSION

Student evaluation of the manual was conducted to determine the usefulness of the tool and its subsections in

guiding the fulfillment of CAPE outcomes-based objectives during an APPE, especially at nonfaculty-precepted community pharmacy settings. The majority of students evaluated the various subsections of the manual favorably, and the majority of other students gave neutral rather than negative responses. Students found the evaluation forms most useful since their grades and expectations for projects and performance are based on those forms. A large number of students also rated project templates as valuable tools because these documents provided the student access to and insight on the College's standard for a given project. Since this initiative was still in the early stages of implementation, only a small percentage of community pharmacies were using the manual. This may be extrapolated from the unusually high number of students providing neutral responses to items concerning subsections of the manual. The student profile, learning contract, 6-week plan, and patient care forms were less useful to students. This may be due to the use of these documents relying heavily on their incorporation by the site preceptor. Since these 4 documents were the newest additions to the manual, preceptors may not have been as familiar with these forms. When used, the manual appears to be a useful tool for the student in completing his/her APPE in the community pharmacy setting. According to free-text comments, students were satisfied with the structured approach of the rotation according to activities outlined in the student manual. Although the 6-week rotation blocks were tightly structured on a day-to-day basis, the students were able to fulfill assignments and were provided an "adequate amount of time." The students reported gaining knowledge in the areas of nonprescription drugs and becoming more competent relative to their knowledge of common community-related disease states (ie, diabetes mellitus, hypertension, asthma, dyslipidemia). The disease state discussions were identified by the students as a very useful review of didactic knowledge.

As a second arm of the survey, students assessed the relevance and practicality of implementing specific community pharmacy practice topics during the APPE. The purpose of gathering this information was twofold. First, this information was important since it described the value that the students placed on APPE objectives and related activities. The experience the student had in the APPE may have influenced the survey responses on the usefulness of the manual. Overall, students rated each of the community pharmacy-related topics highly. Secondly, the survey identified other topics not covered during the APPE that may be beneficial to incorporate in the future. Relative to areas for improvement of the learning experience, students desired more training in pharmacy operations, involvement in community events, and discussion

of particular nonprescription products (eg, topical products, ophthalmic agents).

Community pharmacy practice faculty members rated the manual and the relevance and practicality of implementing the community pharmacy-related manual highly. However, this is likely a reflection of the strong influence that their input had in the design of the manual.

CONCLUSION

The manual was created to be a fluid document. Maintenance of the student manual requires ongoing evaluation and revision to reflect the rapid advancements in pharmacy today. Such revisions shall come primarily from the community pharmacy practice faculty members on a quarterly basis. Additionally, the success of the manual is highly dependent on the preceptor and student use and adherence to the manual. Therefore, an important initiative may include improved preceptor training on the manual and emphasis of the manual during student APPE orientation. The manual appears to be a valuable learning and teaching tool. Information presented in this manuscript may assist other colleges of pharmacy in the process of both developing and mapping out activities to assess CAPE outcome-based goals and objectives as well as creating a manual to facilitate both the preceptor and student in fulfilling these activities in a community pharmacy setting. The structure of the manual may be potentially extrapolated to other APPE rotation sites involving areas outside of community pharmacy.

REFERENCES

1. National Association of Boards of Pharmacy. 2005 Survey of Pharmacy Law. Mount Prospect, Ill.
2. 1998 Educational Outcomes, the AACP Center for the Advancement of Pharmaceutical Education (CAPE) Advisory Panel on Educational Outcomes. Available at: http://www.aacp.org/Docs/MainNavigation/Resources/6075_CAPE2004.pdf. Accessed August 31, 2005.
3. 2004 Educational Outcomes, the AACP Center for the Advancement of Pharmaceutical Education (CAPE) Advisory Panel on Educational Outcomes. Available at: http://www.aacp.org/Docs/MainNavigation/Resources/6075_CAPE2004.pdf. Accessed August 31, 2005.
4. Zarembski DG, Boyer G, Vlasses PH. A survey of advanced community pharmacy practice experiences in the final year of the PharmD curriculum at US colleges and schools of pharmacy. *Am J Pharm Educ.* 2005;69(1):Article 2.
5. Cerulli J, Malone M. Using CAPE outcome-based goals and objectives to evaluate community pharmacy advanced practice experiences. *Am J Pharm Educ.* 2003;67:Article 34.
6. Turner CJ, Altieri R, Clark L, Maffeo C, Valdez C. Competency-based Introductory Pharmacy Practice Experiences Courses. *Am J Pharm Educ.* 2005;69(2):Article 21.
7. Kirkpatrick MAF, Pugh CB. Assessment of curricular competency outcomes. *Am J Pharm Educ.* 2001;65:217-24.
8. Scott DM, Narducci WA, Jungnickel PW, Miller LG, Ranno AE, Maloley PA. Pharmaceutical care preceptor training and assessment in community pharmacy clerkship sites. *Am J Pharm Educ.* 1999;63:265-71.
9. Cerulli J, Briceland LL. A streamlined training program for community pharmacy advanced practice preceptors to enable optimal experiential learning opportunities. *Am J Pharm Educ.* 2004;68:Article 9.
10. Kassam R, Volume-Smith CI. Focus group methodology to develop a community pharmaceutical care clerkship program. *Am J Pharm Educ.* 2003;67(3):Article 88.
11. McDermott JH, Caiola SM, Kuhn KF, Stritter FT, Beza J. A Delphi survey to identify the components of a community pharmacy clerkship. *Am J Pharm Educ.* 1995;59:334-41.
12. Taylor JG, Berger BA, Anderson-Harper HM, Pearson RE. Pharmacist readiness for greater involvement in OTC product selection: implications for education. *Am J Pharm Educ.* 2000;64:133-40.
13. Hardigan P. Investigation of learning contracts in pharmaceutical education. *Am J Pharm Educ.* 1994;58:386-90.
14. Likert R. Technique for the measurement of attitudes. *Arch Psychol.* 1932;140:1-55.

Appendix 1. APPE Objectives

I. Cognitive Domain

- A. Demonstrate competency in performing pharmacy operations
 1. Processes a prescription order
 2. Retrieves and interprets patient specific data
 3. Identifies patient specific drug related problems
 4. Demonstrates knowledge of pharmacy laws and regulations
 5. Demonstrates knowledge of management skills needed to maintain a pharmacy department
 6. Assesses and evaluates the financial impact of drug therapy
- B. Demonstrate competency in community-related focus points
 1. Describes the day-to-day functions of a pharmacist in a community setting

2. Demonstrates general non-prescription product knowledge and patient counseling for common self-treatable conditions with attention to patient-specific factors
 3. Demonstrates general community-related disease state (Diabetes mellitus, asthma/COPD, hypertension, dyslipidemia) knowledge with attention to pathophysiology, non/pharmacologic interventions, and patient counseling
 4. Utilizes available technology and/or patient interviewing techniques to properly manage a drug interaction
- C. Perform clinical operations
1. Identifies and counsels patients on therapeutic outcomes including effects of drug therapy on quality of life
 2. Conducts proper patient evaluations
 3. Provides and document patient interventions
 4. Provides and document drug information
- D. Demonstrate effective oral/written communication skills and research techniques
1. Selects a topic pertinent to the community setting
 2. Utilizes appropriate medical terminology and language
 3. Utilizes appropriate literature search strategies
 4. Presents a topic displaying organization and appropriate content
 5. Presents a topic displaying flow and consistency of the paper or presentation
- E. Provide effective patient counseling
1. Utilizes appropriate lay-term language
 2. Effectively communicates to patient the specific requirements for maintenance, testing, etc. of self-monitoring devices
 3. Explains the significance of routine monitoring
 4. Provides information to patient about his/her disease state
 5. Explains to patient what his/her therapeutic goals are
- II. Psychomotor Domain
- A. Demonstrates appropriate hands-on skills
1. Demonstrates the ability to process a prescription order
 2. Demonstrates the ability to properly monitor blood sugar levels
 3. Demonstrates proper insulin mixing and injection technique
 4. Demonstrates proper peak flow technique
 5. Demonstrates proper metered dose inhaler technique
 6. Demonstrates proper dry powder inhaler technique
 7. Demonstrates the ability to properly monitor pulse
 8. Demonstrates the ability to properly monitor blood pressure
 9. Demonstrates the ability to properly monitor cholesterol
- III. Affective Domain
- A. Demonstrate characteristics consistent with professionalism
1. Exhibits neatness and professionalism in appearance and work
 2. Accepts constructive criticism and conduct self-assessment
 3. Demonstrates dependability, punctuality, courteousness, and tactfulness when dealing with patients and members of the health care team
 4. Maintains professional and ethical standards – compliance with laws and regulations, good professional judgment, reliability and credibility when dealing with patients or colleagues
 5. Displays self-directed (independent) learning, conducts self-assessment, develops a personal learning plan, and pursues knowledge independently
 6. Demonstrates competency in organizing and planning, establishes management skills, sets meaningful and attainable goals and is consistently well prepared
 7. Maintains confidentiality
 8. Displays a patient and empathetic attitude towards patients Including appropriate body language showing genuine interest in the well-being of the patient
-

Appendix 2. Community Advanced Pharmacy Practice Experience week-by-week plan*

Community Advanced Pharmacy Practice Experience

I. Week 1

- A. Orientation
- B. Written Agreements
 - 1. Experiential Education Program Agreement
 - 2. Student Profile
 - a. APPE Goals and Objectives
 - b. Strengths and Areas for Improvement
 - 3. Learning Contract
 - a. Mapping of a 6-week Plan
- C. Introduction to Computerized Pharmacy System
- D. Training on Patient Care Services (e.g. blood pressure)
- E. Pharmacy Law Competency

II. Week 2

- A. Community-related Disease State Competency – Diabetes Week
- B. Pharmacy Operations Competency
- C. Project Review Day I

III. Week 3

- A. Community-related Disease State Competency – Asthma Week
- B. Over-the-Counter Competency I
- C. Journal Club Presentation and Peer Critique
- D. Midpoint Student Progress Report

IV. Week 4

- A. Community-related Disease State Competency – Hypertension Week
- B. Over-the-Counter Competency II
- C. Project Review Day II

V. Week 5

- A. Community-related Disease State Competency – Dyslipidemia Week
- B. Professional/Personal Development Strategy Discussion
- C. Drug Interactions Competency
- D. Written Assignment Due

VI. Week 6

- A. Final Oral Presentation Due
- B. Final Student Progress Report
- C. Final APPE/Primary Preceptor Evaluation

*The above is the “recommended” 6-week plan for the APPE; the inclusion of certain activities remains to be handled at the discretion of the site preceptor