Assessment Committee Annual Report

Assessment Committee Membership:

Candace Barnett (Committee Chair)
Jordana Stephens Berry (Office of Student Affairs & Admissions)
Lea Bonner (Experiential Education)
Phillip Bowen (Dept. Pharmaceutical Sciences)
Liza Chapman (Alum)
Melissa Chesson (Dept. Pharmacy Practice)
Jennifer Knaack (Dept. of Pharmaceutical Sciences)
Lydia Newsom (Dept. Pharmacy Practice)
Cathy Liu (P2 Student)
Lisa Sagardia (P3 Student)
Objectives (Status ✓ = complete, IP = in progress)

2015-16 Objectives:
1. Assist with the interview process for the Director of Assessment position. (✓)
2. Monitor the first administration of the Pharmacy Curriculum Outcomes Assessment (PCOA) and make recommendations. (✓)
3. Assist the Dept. of Pharmaceutical Sciences in the development of an exit survey of graduate students and alumni survey to measure employment and perspectives on the program. (✓)
4. Assist the Program Director for the Community Pharmacy Residency in the development of an exit survey for community pharmacy residents upon completion and alumni survey to measure employment and perspectives on the program. (IP)
5. Compile a list of new and improved practice models in which the COP participates. (✓)
6. Formulate a recommendation regarding whether the Health Science Reasoning Test should be adopted as a measure of critical thinking and problem solving, and if so make recommendations for administration. (IP)

On-going objectives:
1. Update the College Evaluation Plan. (IP)
2. Examine and distribute results from American Association of Colleges of Pharmacy (AACP) surveys and other recurring assessments (including licensure examination results, graduating students’ practice intentions survey, P3 self-assessment of preparedness for entering the fourth year, comprehensive progression examinations, Rho Chi tutoring program summary). Request disposition reports from data users on selected items. (✓)
3. Examine data on correlates of success in the Doctor of Pharmacy Program and transfer to data users. (✓)
4. Monitor course failures and attrition rate. (✓)
5. Remain available as individuals and a group to provide advice on assessments on an as-needed basis. (✓)

Director of Assessment. Two of the Assessment Committee members served on the search committee for the position. The entire Assessment Committee met with the candidates who were interviewed. The search was successful in assisting with the interview process. Dr. Jill Augustine was hired as the Director of Assessment effective July 1, 2016.

Pharmacy Curriculum Outcomes Assessment (PCOA). Accreditation Council for Pharmacy Education (ACPE) Standards 2016 require administration of the PCOA examination to students nearing completion of the didactic curriculum, i.e. third professional year (P3) students. The three available test windows for administration of the PCOA were: Jan12-Feb 6; March 30-April 24; and Aug 24-Sept 18. Our students were required to take the PCOA, but no minimum performance score was set. The examination was a professional engagement program requirement, and students took it upon completion of their institutional Introductory Pharmacy Practice Experience (IPPEs) and return to school January 25, 2016. Given there were no incentives to review for the PCOA or perform well, we are not confident that the results reflect our students’ knowledge of the subject matter covered in the first three years of the pharmacy curriculum. Our students’ performance was below the 50th percentile rank overall and in the four main sections of the examination. However, our performance exceeded national comparison data in the following subtopic areas: biochemistry, pharmaceutics, extemporaneous compounding/parenteral enteral, pharmacoepidemiology, pharmacy law & regulatory affairs, and social & behavioral aspects encountered in practice. We learned in April 2016 that ACPE will be monitoring PCOA scores compared to the national average. Lowest performing schools will be asked to explain their program’s overall performance and steps they will take to improve them. A survey was sent to the Class of 2017 which confirmed that the majority (70%) read the questions, but just picked a response and moved forward if they did not know the answer immediately. A focus group of P3 students was convened and provided the following suggestions for administration moving forward, which will be implemented. -Emphasize to the students that the exam counts in terms of the school’s reputation and results are being monitored by the accrediting body. -Emphasize to the students that this is in a sense a way to gauge if you are prepared for North American Pharmacist Licensure Examination (NAPLEX) in terms of P1-P3 content; -Use two class rooms and ask National Association of Boards of Pharmacy (NABP) to use better signage at the back of the sign-in lines and more trained support; -Make sure students receive the 20-30 item practice test from NABP and encourage them to take it (some of our students didn’t realize they had received a practice test and did not open the email); -Conduct a Professional Development Network (PDN) hour about the PCOA; -Encourage students to review their Comprehensive Progression Examination (CPE)/end of year exam study notes from P1 and P2 year as a way to prepare for PCOA; -Move test to the morning if possible; -Make sure Infectious
Disease courses are completed before the PCOA; -Move test closer to the end of the spring semester – suggested date is at the start of Hematology/Oncology (HEMONC) in 2017 and movement into the new P3 capstone course (PHA 590) in spring 2018. The PCOA date for the class of 2018 is now on the spring 2017 schedule for the morning of April 21, 2017.

Graduate Program Exit and Alumni Surveys. Separate questionnaires were developed for administration to Ph.D. program graduating students and alumni with significant input from the Department of Pharmaceutical Sciences. The instruments were sent electronically to three graduating students and 82 alumni. Respondents numbered 3 (100%) for the exit survey and 17 (21%) for the alumni survey. Respondents were positive about their education overall and gave specific suggestions for curricular enhancement. The results from both surveys will be used by the Department of Pharmaceutical Sciences for continuous quality improvement as well as program marketing.

Community Pharmacy Residency Exit and Alumni Surveys. The Director of the Community Pharmacy Residency program will assign development of the residency exit and alumni surveys as a project for the 2016-17 community pharmacy residents. The Assessment Committee will review the instruments and offer assistance.

Health Science Reasoning Test (HSRT). The Assessment Committee will examine the HSRT in 2016-17 and determine if the HSRT should be recommended for administration to our students. The Center for the Advancement of Teaching and Learning (CATAL) journal club recently reviewed an article about the HSRT and held a discussion about the use of such data if collected. This literature and discussion will be considered in the process of addressing this objective.

New and Improved Practice Models. A questionnaire was designed to capture a description of the faculty’s participation with other stakeholders in the development of new and improved practice models (mission-based goal #11). New and improved practice models include activities outside standard patient care responsibilities. Examples of such activities include transitions of care, medication therapy management, collaborative drug therapy management, and/or pharmacist led initiatives targeting clinical or quality outcomes. The instrument was administered electronically to 28 pharmacy practice faculty and 11 (39%) responded. Of these, 86.2% participated in new and improved practice models and were involved in the implementation of these practice models. The survey results provide evidence that the mission-based goal is being met. The results will be shared with the Department of Pharmacy Practice for their discussion and use.

RECURRING ASSESSMENTS:

College Evaluation Plan (CEP). The Assessment Committee reviewed the CEP. With the data gathered from the survey of new and improved practice models (described above) the committee confirmed the College is meeting the COP mission-based goal #11 (“Participate with other stakeholders in the development of new and improved practice models”). The Committee continues to consider implementation of direct assessments of mission-based goal #5 (“Provide an environment where students participate in active learning and interprofessional education and develop critical thinking and problem solving skills”). See the description above regarding the HSRT.

Examination of Results from AACP Surveys. Alumni Survey (Graduating class of 2013): Overall, responses were favorable; however, the response rate was low, 16.7%. The percent of respondents answering strongly agree or agree to positively worded statements about the curriculum ranged from 71.4% to 100% and about development/communication ranged from 71.5% to 100%. Results about the curriculum were transferred to the Curriculum Committee, and results about general impressions were transferred to the Dean and Executive Committee.

Graduating Student Survey (Graduating class of 2015): The response rate was high, 74.3%. It was noted that the graduating students had been given time to complete the survey in their P4 capstone course (PHA 650). Overall, the results were favorable. The percent of respondents answering strongly agree or agree to positively worded statements about professional competencies and outcomes ranged from 81.8% to 99.1%, curriculum- 90% to 99.1%, pharmacy practice experiences- 84.5% to 100%, student services- 71.3% to 84.8%, the student experience- 80% to 100%, facilities/experiential sites/educational resources- 80% to 97.3%, and overall impressions- 80.9% to 98.2%. Results were transferred to appropriate data users for use in continuous quality improvement. Open-ended comments about interprofessional education were transferred to the Chair of the Interprofessional Education (IPE) Committee. Responses to items about professional competencies/outcomes and curriculum were transferred to the Curriculum Committee. Responses to items about experiential education were transferred to the Directors of Advanced Pharmacy Practice.
Experiences (APPEs) and IPPEs. Responses to items about student services and the student experience were transferred to the Office of Student Affairs and Admissions.

Preceptor Survey: The response rate was low, 19%. This can be explained by the fact that the preceptors are receiving multiple surveys to assess experiential education from multiple schools. Responses to the majority of items were stable or had improved over the past. The percent of respondents answering strongly agree or agree to positively worded statements about communication ranged from 54.2% to 98.6%, curriculum and preparation for practice - 75% to 98.6%, resources/support - 75.7% to 96.6%. Results were sent to the Directors of APPEs and IPPEs and the Curriculum Committee. Dispositions about how the data would be used were requested for items where the responses had become more negative in comparison to the past.

Comprehensive Progression Examination Oversight. In October 2015 the item analyses from the 2015 administration of the Comprehensive Progression Examinations (CPEs) were distributed to course coordinators for use in teaching during the 2015-16 academic year and in making revisions to selected items for the 2016 CPEs. The faculty completed a form which documented which questions they would change and which questions would result in adjustments in teaching practices. Minor revisions were made to 20 questions, major revisions to 27 questions, and changes in teaching practices were made related to the content of six questions. The first time pass rates were 100% for P1 students, 99% for P2 students, and 100% for P3 students.

Graduating Students’ Practice Intentions. A survey of our 2015 graduates revealed that 54.9% planned to practice in chain or independent community pharmacies; 8.5% - hospital pharmacy practice; 22.5% - residency or fellowship; 0.7% - graduate school; and 9.2% undecided.

NAPLEX and Multistate Pharmacy Jurisprudence Examination (MPJE) Results from 2015 Graduates. The pass rate for Mercer’s 129 first time NAPLEX test takers in May-Aug 2015 was 93.80% compared to the national pass rate of 93.86% and state of 92.09%. The first time MPJE pass rates for Mercer’s 103 graduates testing for Georgia (GA) and 78 graduates testing for any state in May-Aug 2015 were 89.32% and 96.15% respectively (Nat’l=93.97%, state=90.08%). An ad hoc committee was convened to examine the decline in MPJE scores for those testing for GA. Recommendations made and implemented included an increased emphasis on reinforcement of law throughout the curriculum through testing in the practice of pharmacy courses and in the fourth year required Advanced Community and Advanced Institutional APPEs.

Student Evaluations of Didactic and Experiential Teaching. The cumulative and individual scores for student evaluations of faculty teaching and courses in the didactic and experiential curriculum were compiled and distributed to applicable data users. For the didactic curriculum, on a 5-point scale, the mean rating for course overall was 4.21 for Fall 2015 and 4.23 for Spring 2016. The mean rating for overall teaching ability was 4.47 for Fall 2015 and 4.38 for Spring 2016. For the experiential curriculum, the mean rating in academic year 2015-16 for overall teaching ability of primary APPE preceptors was 4.51 and for IPPE preceptors was 4.79 for P2 community and 4.79 for P3 institutional on a 5-point scale. The mean overall rating of the experience was 3.68 (4-point scale) for APPEs and 4.72 for P2 community IPPEs and 4.60 for P3 institutional IPPEs (5-point scale).

P3 Preparedness to Enter P4 Year. In spring 2016, P3 students (Class of 2017) rated on a 4-point scale (poor, fair, good, excellent) how well prepared they felt to perform 27 practice activities. The percent that rated their preparation as good or excellent ranged from 71.4% to 99.4%. Students entered their individual results in their portfolios and were encouraged to pursue self-directed learning prior to starting the P4 year. The Graduating Class of 2016 was administered the same survey to gauge their perceptions of preparedness for practice. Preparedness for each of the 27 practice functions was rated as good or excellent for 87.8% to 100% of the respondents, which was an improvement over their responses in 2015, prior to entering their P4 year, when responses of strongly agree or agree ranged from 61.4% to 99.3%. This provided evidence that continued learning related to these practice functions had occurred in the P4 year. All data were also transferred to the Curriculum Committee.

Rho Chi Tutoring Program Summary. Statistics on the pass rate for students within courses for which they received tutoring indicated the tutoring program remains worthwhile. The pass rate among students receiving tutoring in a course because of a prior test failure was 75% for Fall 2015 and 95% for Spring 2016.

Professional Development Network (PDN). The PDN was evaluated as part of the 2016 student experience survey administered by the Office of Student Affairs and Admissions (OSAA). Of 108 student respondents, the majority answered very satisfied or satisfied with the following PDN features: PDN (overall) – 83.3%; academic advisement –
78.7%; PDN resources – 90.7%; career guidance – 80.6%. Student suggestions for improving the PDN included more alumni and P4 year involvement. Students also provided suggestions for PDN programming. The survey results will be transferred to the Assistant Dean for Student Affairs and Professionalism Committee for their use in continuous quality improvement of the PDN.

**Course Failures and Attrition Rate.** Data on attrition, academic dismissals, withdrawals, and delayed graduation were examined and compared to the ACPE monitoring parameters. At the end of spring 2016, for the Graduating Classes of 2016, 2017, 2018, and 2019 the attrition rates were 13%, 13.9%, 2.7%, and 5.1%, well below the ACPE monitoring parameter of 24% of matriculating class size. It was noted that the number of academic dismissals (defined as those permanently dismissed and those eligible to apply for readmission) and withdrawals are fluid numbers that change as students are readmitted. At the conclusion of spring 2016, the academic dismissal rates for the Classes of 2016-2019 were 4.5%, 3.5%, 13%, and 2.6% respectively and below the monitoring parameter of 6%. Withdrawal rates were 2.6%, 2.9%, 0%, and 2.6%, again below the 6% monitoring parameter. Delayed graduation rates were 5.8%, 7.5%, 1.3%, and 0%, below the monitoring parameter of 15%. Data on course failures were also examined. Total failures have increased from 39 in 2014-15 to 47 in 2015-16. Much of the increase can be traced to one courses and strengthened performance expectations for the students. The steps the school uses to address course failures including student led help sessions and the PDN advising system appear to be effective in addressing failure in many courses. Elsewhere the increase in failures has been attributed to a strengthening of expectations.

**Correlates of Success.** Data used for the 2015 analysis included students in the graduating classes of 2011 to 2017. The class of 2017 entered in August 2013. Pre-admission data includes undergraduate hours/degree completion, cumulative undergraduate grade point average (GPA), prerequisite GPA, science GPA, Pharmacy College Admission Test (PCAT) scores, a prescreening score, a global score, and pharmacy experience. Post-admission data includes GPAs in each professional year, course failures, status in program (e.g., on track to graduate), Comprehensive Progression Exam scores, NAPLEX and MPJE scores. Analysis was performed individually for most of these predictors.

**Pharmacy College Admissions Test (PCAT):** When examining PCAT sectional scores and GPA in each professional year, the Biology and Chemistry scores are the best predictors of GPA in the first and second professional years. The prediction value decreases from the first professional year to the fourth professional year. PCAT sectional scores for Biology and Chemistry are statistically significant multivariate predictors of performance on the P1 and P2 Comprehensive Progression Exams; the Biology sectional score is also a predictor of performance on the P3 Comprehensive Progression Exam. PCAT sectional scores for Biology and Chemistry are statistically significant predictors of NAPLEX Total score.

*Comments:* As this is a second year of analyses that has resulted in two sections (Biology and Chemistry) being found as a predictor of success, the Admissions Committee may need to consider placing more emphasis on the PCAT sectional scores in the admissions process.

**Undergraduate Degree:** Of the variables undergraduate degree status and number of undergraduate hours, degree status is the best predictor program GPAs, Comprehensive Progression Exam (CPE) scores, and course failures. A degree-hours interaction was found. Students who took many undergraduate hours without completing a degree had lower program GPAs than others. Students with degrees had higher CPE scores. The odds of a student having one or more course failures were about two times greater without a degree.

*Comments:* Over 60% of recent entering classes have earned degrees prior to enrollment. This data needs to be considered in light of the current applicant pool trends. The Admissions Committee may need to consider reviewing applicants with a higher number of undergraduate hours who have not/will not complete their degree prior to matriculation to identify possible signs of academic difficulty (e.g., repeating courses in undergraduate studies, changes to undergraduate major).

**Science GPA:** An analysis of Science GPA indicates a negative correlation of grades in Natural Science courses to program course failures (the higher the Science GPA, the less likely for course failure), and a positive correlation to program GPAs, Comprehensive Progression Exam scores, and NAPLEX total scores.

*Comments:* The Admissions Committee may need to consider using the Science GPA along with the cumulative undergraduate GPA in the admissions review process. It should be noted we currently use the prerequisite GPA, which is limited to best grades in all prerequisites coursework (Natural Science and non-Science).
Global Score: The Global Score is statistically significant and positively correlated with program GPAs and Comprehensive Progression Exam scores, and is negatively correlated with course failures (the higher the Global Score, the fewer course failures). The Global Score includes points for the following criteria: cumulative undergraduate GPA, pre-pharmacy GPA, PCAT composite percentile and writing scores, interviews, and prescreening scores (personal statements, letters of reference, undergraduate college/university, whether a bachelor’s degree will be received prior to enrollment, work/pharmacy experience, and extracurricular activities). When isolated, the prescreening score is not a statistically significant predictor of program GPAs, Comprehensive Progression Exam scores, or course failures.

Comments: Based on this analysis and the previous year’s analysis, the Global Score appears to be a good tool in the admissions process. If the Admissions Committee decides to place more emphasis on Science GPA, the distribution of points will need to be revised.

Interview Scores: Interview scores from the Associate Dean for Student Affairs and Admissions, the Director of Admissions and Student Affairs, Faculty Interviewers, and Student Hosts were not statistically significant predictors of GPAs, Comprehensive Progression Exam scores, course failures, NAPLEX scores, or MPJE scores. Students’ interview scores were statistically significant, but negatively correlated to NAPLEX Total and MPJE Scores (i.e., the higher the student interview scores, the lower the performance on licensure exams).

Comments: The Admissions Committee may want to consider changing the student interview rubric and narrowing the areas of assessment (i.e., limiting to peer-to-peer / teamwork and verbal communication skills).

Licensure Exams: Of the post-admission variables, the best predictors of NAPLEX scores were GPA in the fourth professional year (cumulative program GPA) and Comprehensive Progression Exam (CPE) scores in the second and third professional years. Of these three predictors, CPE in year three is the single best predictor. The grade received in the Law class is the best predictor of MPJE scores. It should be noted that for the graduating classes in this current analysis, the Law class was taken during the third professional year.

Comments: This information will be shared with the Ad Hoc Committee on MPJE scores and with faculty teaching the Law class.

Preadmission Factors as a Set of Predictors Indicating Program Success: Data used for analysis of preadmissions predictors of program success includes the graduating class of 2011 – 2014 as it contains a complete data set defined as: GPAs in each professional year, Comprehensive Progression Exam scores in first through third years, course failures, NAPLEX scores, and MPJE scores for the majority of graduates. Analysis was performed using the set of predictors.

Program GPAs: The most reliable multivariate set of preadmission predictors for program GPAs includes degree, hours, and a degree-by-hour interaction. Students who have completed a bachelor’s degree prior to enrollment are most likely to have higher program GPAs in each year.

Comprehensive Progression Exam (CPE) Scores: A reliable multivariate model for predicting CPE scores includes degree and hours. Students who have completed a bachelor’s degree prior to enrollment are likely to have slightly higher CPE scores in each year.

Failures: The best model for predicting whether a student will fail one or more courses is one that includes degree and undergraduate hours completed. Those with more hours without a degree are more likely to have a course failure. Those with a degree are less likely to have a course failure. The odds of a student with a degree having a course failure is about half that of a student without a degree having a course failure.

Comments: The Admissions Committee may need to consider reviewing applicants with a higher number of undergraduate hours who have not will not complete their degree prior to matriculation to identify possible signs of academic difficulty. More emphasis may need to be placed on the PCAT sectional scores (instead of or in addition to the composite percentile score) in the admissions process. While adjustments have been made to weight the Biology and Chemistry sectional scores in the current admissions Global score, the Admissions Committee may decide to require a minimum score for these sectional scores in future years.