

Administrative Program Review
Program: College of Pharmacy

I. Program Assessment/Assessment of Student Learning

a) Program's learning outcomes

In response to the Accreditation Council for Pharmaceutical Education's revision of its accreditation standards in 1997, which spelled out the requirements for exclusive accreditation of the doctor of pharmacy degree as the entry-level degree for licensure, an ad hoc committee was formed in 1998 in the College to develop a doctor of pharmacy curriculum. The committee was to develop an entirely revised curriculum that embraced contemporary curricular content, transforming the baccalaureate degree to the doctor of pharmacy degree. To guide this process, the committee used the 1998 Educational Outcomes of the Center for the Advancement of Pharmaceutical Education developed by the American Association of Colleges of Pharmacy. Principle areas of content within the curriculum and associated outcomes are listed below.

1. Knowledge proficiency in the biomedical sciences, pharmaceutical sciences, and behavioral/social and administrative sciences.
2. Manage Patient-Specific Drug Therapy - The student shall formulate, implement, document and communicate a pharmaceutical care plan.
3. Manage the Pharmacy and Medication Use Systems - The student shall specify, develop and implement systems for the purchase of pharmaceuticals and other supplies, for inventory control, and for the preparation, dispensing, distribution and administration of medications. The student shall manage pharmacy operations, human resources, and fiscal resources. The student shall participate in a process for reporting and managing medication errors and adverse drug reactions, performing drug use evaluations, and participating in the development and implementation of a formulary system.
4. Health Promotion/Disease Prevention - The student shall provide emergency care on a limited basis and promote public awareness of health and disease.
5. Provide Drug Information and Education - The student shall provide pharmaceutical information and education on health-related topics to health professionals and the general public. The student shall retrieve, evaluate and manage professional information and literature.
6. Critical Thinking - The student shall find, understand, analyze, evaluate, and synthesize information and shall make informed, rational, and ethical decisions.
7. Communication - The student shall read, write, speak, listen and use data, media and computers to communicate effectively with various audiences for a variety of purposes.
8. Law, Ethics and Professionalism - The student shall articulate the influence of values on ideas and actions and shall demonstrate the ability and inclination to take responsibility for ethical conduct in personal and professional settings. The student shall demonstrate the ability and inclination to learn on one's own, to pursue new knowledge, to self-assess, to respond appropriately to assessment by others, and to modify one's ideas in light of new discoveries.
9. Social Awareness - The student shall demonstrate an understanding of self, the strengths and challenges of cultural diversity and the historic responses of society in times of rapid change. The student shall demonstrate effective interpersonal and intergroup behaviors in a variety of situations and circumstances.

b) What assessment measures are used, both direct and indirect?

An Assessment Committee was formed within the College in 2002. Initial efforts of the committee were focused on identification of assessment processes ongoing within the College followed by development of a comprehensive assessment program based on both summative and formative assessment. A summative assessment of the curriculum was implemented in the Spring of 2004 with the first large-scale administration of the Graduate Survey. To this point, every graduating class of the Doctor of Pharmacy program has participated in the Graduate

Survey. The 98-item instrument provides a complete assessment of the curriculum, both resources and content. The survey has been instrumental in identifying areas of concern. With the next large-scale administration in April 2005, the college will have evaluations from over 200 students to guide in curricular refinement. Additional summative assessments are listed below. A formative assessment process, to be conducted in the first through third professional years of the program, is under development by the Assessment Committee with anticipated implementation in academic year 2005-2006

Method/Course	Time	Type	Population	Standards
1. Prerequisite pre-pharmacy curriculum.	Entrance to professional program	N/A	Total	Minimum 2.5 GPA
2. Pharmacy College Admissions Test	Entrance to professional program	Standard	Total	Only admissions requirement at this point
3. Senior survey	Preceding graduation	Survey	Total	To be determined
4. NABLEX	Post-graduation	Standard	Total	To be determined
5. Employer survey	6 months post graduation	Survey	Sample	To be determined
6. Alumni survey	1 and 5 years post graduation	Survey	Sample	To be determined

c) What is the assessment cycle for the program?

Formative and summative assessments will be conducted annually and on an ongoing basis.

d) What assessment data were collected in the past year?

Summative senior surveys were collected in May and August, 2004, with an additional administration scheduled for April, 2005. As a component of both the required accreditation self-study and the Academic Program Review, an alumni and employer survey was conducted; results of the survey were limited in value due to the low number of graduates of the doctor of pharmacy in the Spring of 2004. The Academic Program Review also required administration of a faculty survey which was reported in the Academic Program Review. As an initial component of the development of a formative assessment program, a complete mapping of the curriculum was conducted. Scores and passing rates for the North American Pharmacy Licensure Exam and the Multi-state Jurisprudence Exam are also reported routinely to the College by the National Association of Boards of Pharmacy.

e) How have assessment data been used for programmatic or curricular change?

Three potential problem areas were identified by comparative statistics as part of the Graduate Survey process and have been flagged for closer follow-up in subsequent senior surveys. The Assessment Committee completed mapping the program outcomes against each course to determine where in the curriculum each outcome was addressed. The results are being used to develop a formative assessment program for the college that will be implemented beginning with the entering class in August of 2005. In addition to the assessment data gathered over the last year, the College has consistently utilized student comment to guide course refinement. In the last year, several modifications have been implemented based on student input. The include:

- a. Second Professional Year (P-2): Significant revision of the P-2 early experiential component with additional faculty supervision and guidance. The experience is centered in local nursing homes and provides students with an in-depth look at issues related to chronic disease and residence in an institutional setting

- b. Third Professional Year (P-3): Experiential requirements have been modified to allow for greater flexibility in scheduling and greater utilization of more distant affiliated sites. Additionally, the Pharmacotherapy course sequence has been modified with a modular format adopted and a greater alignment with the Integrated Laboratory course sequence.
- c. Fourth Professional Year (P-4): The clinical seminar course has been expanded to include a writing as well as oral component. The evaluation instrument for the oral presentation has been modified to reflect a higher level of objectivity.

II. Course Outcomes Assessment

- a) Do all multi-sectioned courses have common outcomes?
Common outcomes/objectives are utilized for all sections of multi-section courses. Most courses, except for laboratories, are taught as single sections in the first- and second-professional years while the distribution of students between two instructional sites in the third professional years forces multiple sections of several courses. Utilization of synchronous distance learning for the Pharmacotherapeutics course in the third professional year ensures common outcomes for students in either instructional site.
- b) If not, how do you plan to address discrepancies?
To this point, discrepancies have not been detected between the sections taught at the two off-campus instructional sites. A study is underway to determine if students' performance is affected by the location of the lecturer – i.e. present in class or broadcast via distance learning,. Results of the study will guide further refinement and utilization of distance learning.
- c) How do individual course outcomes meet programmatic goals?
- d) Course outcomes are currently linked to programmatic goals through summative assessment and extensive mapping of the curriculum. In addition, the College Curriculum Committee regularly evaluates course content to guard against significant shifts. Implementation of a formative assessment program beginning Fall 2005 will better enable the College to track the ability of students to meet the programmatic outcomes.

III. Program Features

1. Advisory Boards

The College has three boards that provide, from varied perspectives, input regarding the College's operation and curriculum. The longest standing of the three boards is the College of Pharmacy Alumni Board composed of twelve alumni representing a broad range of practice interests. Meetings are held three times annually to review College activities, offer suggestions for College operations and develop strategies for extramural support of the College's operations. The Alumni Board has been successful, in collaboration with the Dean, in securing substantial support from corporate and alumni donors. This support has played a key role in the development of the College's off-campus instructional sites and renovations of the on-campus facility. In addition, Alumni generated funding is relied upon to support a variety of students' functions including stipends for travel to national meetings and academic/needs-based scholarships for several students in the program. The broader perspective of the National Advisory Board complements the local and regional perspective provided through the input of this board.

The National Advisory Board is composed of twelve thought leaders within the pharmacy profession and includes several alumni. Formed approximately eight years ago, the Advisory Board meets annually in the fall to explore, in-depth, the College's curricular offerings, providing

suggestions to position the College strategically based on their collective view of the Pharmacy Profession's future. The Advisory Board has played a key role in the development of the College's "three-campus" implementation plan and the recently developed international clerkship options. Committee members met last year in conjunction with the College's "College of Pharmacy Day", providing board members with an opportunity to interact with the entire student body and gain an understanding of their concerns and desires for the College's future.

The most recently formed of the three boards is the Experiential Review Committee. The Accreditation Council for Pharmaceutical Education's Guidelines 2000 require the appointment of a review board, responsible for oversight of the College's experiential offerings. This group of twelve Adjunct Faculty members is responsible for review of the breadth and quality of experiential offerings within the curriculum, particularly the Advanced Pharmacy Practice Experiences in the fourth year of the program. The Committee meets twice annually and reviews student evaluations of both adjunct- and faculty-precepted clerkships. Through their clinical expertise, they provide valuable insight regarding experiential requirements and changing trends in practice.

Through the current advisory board structure, the College is provided valuable insight from several key constituencies in the profession; this input has been utilized to enhance the quality of education students receive. As mentioned above, a significant portion of the "one-time" implementation costs for the Doctor of Pharmacy program were provided through the Alumni Board's efforts. Recent recommendations from the Experiential Review Committee resulted in restructuring of the P-3 clerkships to accommodate unique aspects of institutional practice.

2. Internships/Cooperative or Experiential Learning

Experiential learning plays a key role in the curriculum with a sequence of coursework initiated in the first professional year (P-1) and culminating with the program's final year which consists of eight, month-long, clinical clerkships. The P-1 introductory experience is a structured visitation to ambulatory (community) and institutional (hospital) practice facilities. The students complete a structured site "inventory" upon their visit and discuss pertinent issues with the pharmacist(s). The inventory includes:

- Basic description of the practice site;
- Services provided by the pharmacist;
- Role of the pharmacist relative to other health care practitioners (e.g. pharmacist, nurse, dentist, etc.);
- Extent to which the pharmacist is involved in patient education;
- Advantages and disadvantages of the practice site;
- Applications of the coursework being covered during the P-1 year; and
- Level of student interest in pursuing these sites for advanced experiences.

At the conclusion of each semester, each student group (comprised of the two students) completes a written summary of their experience and synthesizes a 10-12 minute presentation to the class based on this experience.

The early experiential visit in the second professional year is intended to build on the experience in the first professional year by exposing the student to pharmacotherapy review and clinical problem solving. This is done in the context of specific patients being cared for in an institutional (long-term care) setting. Students (again in pairs) conduct a complete pharmacotherapy review of a patient in one of the facilities. Students are asked to review drug therapy and present it in a problem-solving

format using SOAP (Subjective, Objective, Assessment, and Plan) and PWDT (Pharmacist Work-up of Drug Therapy) methods.

The student pair is expected to:

- Review the patient's medical history via on-site documentation (patient chart);
- Conduct a medication history with the patient if the patient is competent enough to do so;
- Research drug actions and indications;
- Prepare a pharmacotherapy “work-up” of the patient using the SOAP and PWDT; and
- Present to the class in a patient case format.

In the P-3 early practice experience, the students are assigned to one of several ambulatory (community-based practice) and institutional practice sites. As a result of these experiences, the students learn to integrate their knowledge into practice under the supervision of a licensed pharmacist. During these early pharmacy practice experiences students are responsible for many practice-related activities including patient-focused care interventions such as assisting with drug related problems, patient counseling and OTC assessment and recommendations as well as patient therapy reviews. The community-based experience comprises one day per week during one of the P-3 semesters. The institutional experience is provided either one day per week during the opposing semester of the P-3 year or in one three-week block during the summer following their P-3 courses.

With attainment of P-4 status, the student has fulfilled the didactic requirements of the pharmacy program. At this point in the curriculum, the student has also gained a limited practice experience from their previous P-3 clinical experience that serves as a foundation for the P-4 advanced pharmacy practice experiences.

The P-4 Advanced Pharmacy Practice Experiences (APPEs) include eight, one-month clerkships. Required APPEs include two months of Internal Medicine, two months of Ambulatory Medicine and one month of Advanced Community Pharmacy Practice. In addition to the required APPEs, the students choose three, one-month elective experiences from a variety of options. The APPEs are not designed to be taken in any particular sequence, however Internal Medicine or Ambulatory Care are prioritized early in the student's eight month experiential period.

While completing the P-4 advanced pharmacy practice experiences, the students are expected to be professional, utilize independent problem solving skills, effectively communicate with patients and other health care practitioners, show good literature evaluation skills, and demonstrate adequate understanding of the practice of pharmacy. At the end of the eighth months, each student has experienced different aspects of the practice of pharmacy and ideally demonstrated independence in the practice of pharmaceutical care. Clinical skills emphasized include, oral and written communication skills, ability to obtain medication history and perform discharge counseling, general knowledge of pathophysiology and treatment of diseases, pharmacology of drugs typically used, drug selection/drugs of choice, patient specific pharmacotherapy and medical literature evaluation.

Ongoing program expansion requires successful recruitment of tenure-track and adjunct faculty over the next several years. Further, successful recruitment requires identification of new practice sites for tenure-track positions and the identification of existing high-level practices that can be utilized as adjunct sites. Recruitment of additional faculty is especially challenging as the nationwide demand for faculty has increased significantly in response to the expansion of existing programs and the development of new programs. Further, continued reductions and mergers in health-care systems have reduced the level of adjunct faculty support for many of the institutional based clerkships.

Despite this, the College, by offering academic positions with concentration in practice and teaching, has been successful in recruiting a cadre of enthusiastic and capable faculty members complemented by an ever-growing pool of adjunct faculty members. It is anticipated that entry-level faculty salaries will continue to increase at a rate outpacing the University's agreement with the Ferris Faculty Association and the existing supplemental funding for adjunct faculty will require increases in the near future.

Student preparation for the APPEs and their performance is constantly monitored through input from faculty and adjunct faculty. As all clerkships are graded, with a letter grade assigned, all students are evaluated utilizing a comprehensive instrument. This provides the College with valuable feedback regarding curricular outcomes and student achievement as well as curricular content. Additionally, students complete evaluations of all clerkships, using the Student Assessment of Instruction for faculty-precepted clerkships and an internal form for all adjunct faculty-precepted clerkships. This "two-way" evaluation process ensures that evaluation of both the clerkship and the students' preparation occurs consistently.

3. On-Line Courses

a) Web-based courses, both partial internet and fully online, offered last year.

PHAD310 - The Profession of Pharmacy	PHCH330 - Introduction to Drug Action	PHPR524 - Pharmacotherapeutics – Cardiovascular/Renal
PHAD360 - Institutional Pharmacy	PHCL352 - Selected Topics in Pathophysiology	PHPR550 - Drug Literature Evaluation/Study Design
PHAD424 - Pharmacy Law and Ethics	PHCL424 - Pharmacology 2	PHPR556 - Advanced Topics in Infectious Disease
PHAD490 - Pharmacoeconomics	PHPR303 - Integrated Lab 1	PHPR558 - Palliative Care
PHAD502 - Sociopharmacy	PHPR304 - Integrated Lab 2	PHPR566 - Applications of Pharmaceutical Care in Ambulatory Practice
PHAR325 - Pharmaceutics 1	PHPR411 - Integrated Lab 3	PHPR570 - Medical Research: Methods and Design
PHAR326 - Pharmaceutics 2	PHPR412 - Integrated Lab 4	PHPR576 - Advance Cardiac Life Support
PHAR440 - Pharmacokinetics	PHPR501 - Integrated Lab 5	PHPR600 - Internal Medicine 1
PHAR446 - Novel Drug Delivery	PHPR502 - Integrated Lab 6	PHPR601 - Internal Medicine 2
PHCH320 - Medical Biochemistry	PHPR514 - Clinical Communications	PHPR602 - Ambulatory Care Pharmacy Experience
PHCH427 - Medicinal Chemistry I	PHPR521 - Pharmacotherapeutics – Tox/Nutrition/Nervous System	PHPR611 - Advanced Community Pharmacy Experience
PHCH428 - Medicinal Chemistry II	PHPR522 - Pharmacotherapeutics – Cardiovascular/Renal	PHPR652 - Oncology
PHCH430 - Chemotherapeutic Agents	PHPR523 - Pharmacotherapeutics – ID/Immunology/Oncology	PHPR680 - Clinical Seminar

b) Challenges and/or opportunities created by web-based instruction

Challenges:

There are a number of challenges that are involved when utilizing web-based instructions. They fall into three categories: student, faculty and technology. The students may not be computer literate and have difficulty navigating the system. Getting them to do on-line homework in a timely fashion can be a problem at times, as well. The primary challenge for faculty is learning the system. WebCT is not intuitive for most faculty members, so it takes time a practice for faculty to be comfortable using the program. The last challenge is the limitations and complexities of the technology itself. It is relatively rigid in what can be done and can involve a great deal of repetitive processing of files and information within the program. The use of hyperlinks and bookmarks within slide presentations are restrictive, as well.

Opportunities:

Web-based instruction has provided opportunities for enhancement of our courses by improving communications, delivery of course content, and student assessment. Students are able to communicate with faculty who may not be teaching in their particular location easily and quickly. The faculty can post messages, course updated and grades, making them available to multiple sections/locations at the same instant. It also provides a mechanism for faculty to communicate between themselves for courses that are team-taught, allowing for better coordination. Much of the paper content of a course can be transferred to an online format for easy retrieval and storage. Links to existing on-line content can be readily organized and made available for students. Finally, it offers another efficient tool for student assessment via online quizzes, exams and assignments.

c) What faculty development opportunities have been encouraged/required in order to enhance web-based learning within the program?

Recognizing the significant number of newly appointed faculty members within the College in the last three years, a faculty development program was developed to emphasize enhancement of pedagogical skills for both didactic and experiential instruction. These college-wide sessions included several topics directly addressing web-enhanced courses including "Preparing Lecture Materials", "Distance Learning", "WebCT Basics" and "Teaching Techniques". Supplementing these college activities, faculty members have also participated in several of the university-wide activities provided through the Center for Teaching, Learning and Faculty Development. More recently, a consultant from the Accreditation Council for Pharmaceutical Education provided a workshop on distance learning techniques that also addressed several issues related to web-based course enhancement.

d) How has student feed-back been used to enhance course delivery?

Student comments regarding web-enhanced courses has been wide ranging with individual faculty members determining necessary revisions. In general, faculty members have been encouraged to develop materials that support their in-class activities.

e) Is there any plan to offer this program on-line?

Continued efforts to develop web-enhancements for existing courses will be pursued however no plans currently exist for development of on-line programming. Although offering far greater convenience, an on-line program would seem poorly suited to develop the extensive communication and interpersonal skills required for pharmacy practice.

- f) Is there any plan to offer this program on-line? No

4. Accreditation

- a) Is the program accredited or certified? Accredited
- b) By whom? American Council for Pharmacy Education (ACPE)
- c) When is the next review? The next accreditation visit will be in 2011. This represents the maximum accreditation cycle allowed.
- d) When is the self-study due? In preparation for the 2011 accreditation visit, a self-study will be prepared in 2010.
- e) How has the most recent accreditation review affected the program?
An interim report is to be completed by November 15, 2005 to address the following issues/concerns raised by the accreditation board:
- an update regarding ongoing strategic planning, with particular note of the development of a shared vision for enhanced research and scholarly activity;
 - an update regarding the College's assessment of the adequacy of faculty resources, including plans for enhancement in both the pharmaceutical sciences and pharmacy practice;
 - an update regarding resource allocation to accommodate the plan for expanded enrollment;
 - an update regarding continued enhancement to student support services;
 - an update regarding ongoing curricular review and refinement, including enhanced development of the professional experiences, especially in the introductory pharmacy practice experiences;
 - an update regarding the strength and stability of the College's relationships with the Medical Education and Research Center (MERC) in Grand Rapids and the Kalamazoo Center for Medical Sciences (KCMS);
 - an update regarding enhancements to the College's organizational structure, with particular note to the coordination of activities among the three campuses; and
 - an update regarding any other significant changes affecting the College or the Doctor of Pharmacy program.

5. Student/Faculty Recognition

- a) Student recognitions and achievements
- Charles Mollien, a member of the Academy of Students of Pharmacy was elected to the APhA-ASP Board as a National Member-At-Large.
 - Derek Quinn was awarded the Honors Shining Star Award by the Honors Program here at Ferris State University.
 - Sarah Lessard was awarded a \$7500 cash prize as the first place entry in this year's competition for the U.S. Department of Health and Human Services Secretary's Award for Innovations in Health Promotion and Disease Prevention for co-authoring and interdisciplinary paper titled "Development of a University-Based, Interdisciplinary Approach to Diabetes Care in a Rural Community Setting."
- b) Faculty recognitions and achievements
- See Appendix A for selected faculty recognitions/achievements.

6. Student Engagement

Multiple student organizations, professional and social, exist within the College with a significant percentage of students belonging to one or more organization. Routinely, these organizations provide volunteer services to the community including screenings for selected diseases such as diabetes mellitus and hypertension, drug education lectures to local schools, poison prevention training, and fund raising for selected charities. In addition to these volunteer activities, students are required to complete a community-based project in the fourth-year community pharmacy clerkship. These projects generally consist of some type of disease state screening or medication regimen review, providing service to the community.

A formal service learning component is not required in the curriculum, however, in the third professional year, students are required to complete a service-learning assignment in the Sociopharmacy course. Students identify appropriate charitable organizations in the Grand Rapids or Kalamazoo area and provide 3-6 hours of assistance. Following the experience, a paper is prepared documenting their involvement and identifying specific learning issues encountered.

Through the College's affiliation with the Grand Rapids Medical Education and Research Center (GR-MERC), selected pharmacy students are identified to participate in a unique community-based elective course linked to GR-MERC's Engaged Partners Program (EPP). The EPP embraces the principles of the American Democracy Project as it provides pharmacy students with community-based service learning opportunities. Interdisciplinary teams of students are placed with pre-specified community organizations to assess and prioritize the health needs of the community. The teams then develop, implement and evaluate programs or initiatives to address the identified health needs. Approximately eight students have participated in the EPP program this year with an annual enrolment of 8-10 students anticipated.

Areas of Strength:

1. The accreditation report from the Accreditation Council for Pharmaceutical Education (ACPE) granted full program approval for the maximal six-year period.
2. The original Doctor of Pharmacy program has been implemented and the first full Pharm.D. class graduated. Faculty recruitment was successful for this year and will continue as part of the expansion plan. Four clinical faculty and one basic science faculty were added this year.
3. The college completed year two of enrollment expansion and the admitting class this year was 18% higher than the inaugural class. This larger class was selected from a large pool of well qualified, diverse candidates (over 700 applicants).
4. Student satisfaction with distance education technology has increased significantly since its implementation in 2002. Reliability and quality of distance education instruction has been enhanced through software and hardware upgrades over the past year with additional hardware purchases planned for 2004-2005.
5. Renovations of the pharmacy building on the Big Rapids campus. These renovations have resulted in the creation of new lecture rooms, increased faculty office space, student lounge/study area and a faculty instructional preparation room from previously unused laboratory/storage areas. Remodeling and new furnishings have made the lounge area and classroom space more user/learner friendly. These renovations have allowed other programs to

schedule classes in the pharmacy building. Approximately 30% of these renovations were funded by non-general funds.

6. A successful fund drive generated an alumni scholarship endowment that is currently providing support for two students annually.
7. The retention rate continues to increase since conversion to the Doctor of Pharmacy degree. Attrition rate was 1.4% for 2004.
8. A far reaching faculty development series was instituted with sessions on topics ranging from developing excellence in teaching, to fostering scholarly activity, to setting career goals.
9. Curricular Assessment. The College was complimented by ACPE for its efforts in curricular assessment through implementation of a Graduate Survey. Further development of formative assessments is ongoing.
10. The College has established a significant off-campus presence with satellite teaching facilities in Grand Rapids (MERC) and Kalamazoo (KCMS). The College currently has faculty placed at advanced pharmacy practice sites in Grand Rapids, Kalamazoo, Lansing, Bay City, Marquette, and Flint. The college has recently increased utilization of adjunct faculty in Midland, Muskegon and Traverse City.
11. Collaboration with health professions programs has increased College of Pharmacy recognition statewide through participation in the Michigan Area Health Education Center.
12. Two international affiliations with Colleges of Pharmacy in the United Kingdom and France have been completed providing student exchange opportunities for fourth-year students in Bath, UK and Angers, France.

Areas of Concern (and proposed actions to address them)

As a result of the self-study process, the following areas were either recommendations or deemed as areas needing improvement.

1. The ad-hoc Self-Study Task Force has proposed the creation of a permanent standing committee tasked with ongoing monitoring of the progress being made in the areas graded as needing improvement by ACPE. In addition this group will be charged with preparing documentation over the next accreditation cycle that will expedite the preparation of the next self-study.
2. With the arrival of the new Vice-President for Academic Affairs, it is incumbent on both departments to develop complimentary workload documents that can be forwarded to the VPAA. This document should be given a high priority for completion in the next academic year.
3. The completion of curricular mapping has validated that the professional practice outcomes are covered in the didactic and pharmacy practice experiences. This mapping will also serve as the foundation for the design and implementation of the formative assessment program.
4. Addressing the systematic assessment of achievement related to formative assessment is seen as the primary area needing improvement. The college's Assessment Committee will be developing a more detailed Alumni Survey for initial use in the summer of 2005 and subsequently thereafter at

one, three, five and ten years post graduation. With the completion of the curricular mapping portion of assessment, the Assessment Committee has broken down the outcome competencies by year to use as a “blueprint” in developing specific formative assessment instruments to be used in each year of the curriculum. The 2004-2005 academic year will be used to beta-test the proposed instruments. Implementation of the full formative assessment program will then begin with the entering class of 2005 and each year of the formative assessment will be added as that class progresses through the curriculum. That being the case, full implementation of the formative assessment program will be accomplished by the fall of 2008. The Curriculum Committee will also be discussing in more detail writing across the curriculum during this next academic year with an eye towards having a tool requirement for a minimum competency in written communications evaluated possible through the use of a writing portfolio. While the Curriculum Committee would like to implement changes effective with the 2005-06 academic year, the current university mandate for advanced composition as a requirement for graduation may affect the implementation time-line.

The Assessment Committee recognizes that implicit in all of the outcomes measurements is the overriding need to revisit the outcomes, initially approved in 1997 prior to the implementation of the current all Doctor of pharmacy curriculum. A full review by the committee and subsequent recommendations to the faculty await the adoption of any modification to our professional academic standards. As part of the self-study process the committee already recognized that some modification of the outcomes will need to be made to include the mastery of foundation science materials and a draft proposal to change the outcomes was tabled by the faculty till after the completion of the self-study based on the recognition we needed to do evaluate the curriculum at this point based on the original outcomes.

5. An area that was identified as needing improvement in the last accreditation visit was the establishment of criteria and a mechanism for periodic review of administrative leaders was seen as an area needing improvement. The university historically has had a system in place to annually evaluate administrators and the process does allow for utilization of informal faculty input. Through the open door policies of the Dean, VPAA and President faculty input in the existing process has and will continue to be a component of administrative evaluations.

6. One of our professional guidelines requires that faculty responsibilities be balanced to enable the pursuit of scholarship. While “teaching” is the primary mission of the college and university, the importance of scholarly activity is acknowledged in the tenure process, the promotion/merit process, and the post-tenure review process. As such it is important that faculty members recognize that scholarship is a necessary component of his/her professional development. Fostering greater scholarship will require reinforcement on the part of university and college administration as to its importance in meeting the mission and goals of both the university and college. It will also require a commitment from both the university and the college to provide adequate resources though this does not imply the total resources required to foster this scholarship. It is important faculty recognize that scholarship includes not only discovery, but the scholarship of teaching, integration, and application and that disseminating the results of this scholarship in a peer-reviewed forum is an integral and necessary part of the process. The departments should work to help define scholarship expectations for all levels of faculty and develop a workload formula that allows for inclusion of scholarship in any workload calculations.

Standardization and balance of workload components continues to be a concern of the faculty. The administration recognizes this and continues to work to make progress in this area. and faculty are in agreement there is a workload issue, there is disagreement as to the magnitude of the workload issue. The administration is working with the faculty in the development and experimentation of

innovation for delivery of didactic content in addition to investigating the appropriate mix of adjunct and full time faculty to deliver the required clinical experiences.

7. Another area that was recently identified as needing improvement by ACP:E was that related to advancing the profession of pharmacy. The college continues to encourage the advancement of the practice through developing innovative practice models, striving to increase participation in professional and scholarly meetings and encouraging innovations in teaching. The administration recognizes the challenges of the faculty's teaching commitment and strives to accommodate through consulting leave and other mechanisms those faculty members who wish to enhance their professional involvement.

Future Goals:

Over the next year the areas identified by the accreditation report will need to be addressed and reported to ACPE in an interim report due November 2005.

Other Recommendations:

Appendix A – Selected Faculty Recognitions and Achievements

Dr. Allison Bernknopf

Publication:

Bernknopf A. Medicare Prescription Drug Improvement and Modernization Act of 2003. ACCP/DIPRN Newsletter. 2004;1(1):2-6.

Dr. Tracey Boncher

Grants:

Awarded \$4993 for a project entitled “The In vivo Testing of Promising Anti-cancer Compounds in Nu/nu Mice,” FSU Foundation Exceptional Merit Grant.

Awarded \$8,228 for a project entitled “The Development of Anti-Breast Cancer Agents”, FSU Faculty Research Grant.

Dr. Adnan Dakkuri

Service:

Elected as 2004-2005 Chair of FSU Faculty Senate.

Selected to serve on the FSU Steering Committee of the American Democracy Project.

Publications:

Coauthor, “Nasal administration of albuterol: an alternative route of delivery”, Journal of Pharmacy and Pharmacology, October 2004.

Invited Presentations:

Presentation on pharmacy education and practice to the faculty and students of Al-Isra University, Amman (Jordan) in May 2004.

Dr. Kimberly Daugherty

Invited Presentations:

“Hormone Replacement Therapy.” Michigan Pharmacists Association Education Vacation 2004, Platform Presentation. Traverse City, Michigan. Aug 2004.

Publications:

Daugherty KK, Ryan M, Slevin JT. Essential Tremor Treated with Topiramate: A Case Series. Hospital Pharmacy. 2004;39(8):772-775.

Daugherty KK. Prevention and Treatment: The Therapeutic Management of Stroke. Pharmat Series. Editor: Robert B. Supemaw. Jun 2004.

Daugherty KK and Kangas K. Enhancing Pharmacists' Recommendation Process in an Internal Medicine Resident Clinic. J Am Pharm Assoc. 2004;44:89-94.

Daugherty, K. (2004). Review of insulin therapy. Journal of Pharmacy Practice, 17.

Dr. George DeMaagd

Invited Presentation:

“Update: Treatment of Alzheimer’s Disease”, Continuing Education Program, Southwestern Michigan Pharmacist Association. Kalamazoo, MI on April 1, 2004.

“Changing The Treatment Paradigm in Alzheimer’s Disease” presented for the Southwestern Michigan Pharmacist Association in Paw Paw on October 14, 2004.

“Geriatric Update, for Pharmacists and Nursing” Continuing Education Program presented at Bronson Methodist Hospital in Kalamazoo on October 19, 2004.

Publications:

DeMaagd GA. Management of coronary artery disease: A brief overview. Pharmacy Times Feb 2004.

DeMaagd GA, Freeman C. The pharmacological management of dementia. Pharmacy Times December 2003.

DeMaagd GA, ACEIs: A Brief Review of Their Pharmacotherapeutic Uses. Pharmacy Times 2004;70(9):46-48

Dr. Stephen Durst

Publications:

Durst SW. Pharmacy challenges—a viewpoint. *Academic Practice Assembly Matrix* 2004;18(1):15+

Durst SW, Schering D. Hypertension management in the diabetes patient. *Journal of Pharmacy Practice* 2004;17(1):55-60.

Awards:

Faculty Advisor: “Development of a University-Based Interdisciplinary Approach to Diabetes Care in a Rural Community Setting” Department of Health and Human Services Secretary’s Award for Innovations in Health Promotion 2004, National First Place Award for Interdisciplinary Proposals, May, 2004

Grants:

Buckingham B, Cairy M, Durst S, Jarvi E, Morton A, Rider J. “Interdisciplinary Diabetes Health Care Clinic” Ferris State University Foundation Merit Grant. May, 2004.

Dr. Cathleen Edick

Invited Presentations:

“Appropriate Medication Usage: A look at the Beers Criteria” Care Manager at the Tri-County Office on Aging on July 16, 2004.

Dr. Eric Jarvi

Publications:

Co-authored an article entitled "Elevated DNA-Protein Crosslinks in Red Blood Cells of German Carp, *Cyprinus carpi*, from the Lower Passaic River, New Jersey" accepted for publication in *Bulletins of Environmental Contamination and Toxicology* (Vol 73).

Grants:

Dr. Eric Jarvi, Assistant Dean and Department Head and Dr. Stephen Durst, Associate Dean and Department Head:
In conjunction with faculty from the Michigan College of Optometry and the College of Allied Health – Nursing were awarded \$4956 for a project entitled "Interdisciplinary Diabetes Health Care Clinic," FSU Foundation Exceptional Merit Grant Award

Dr. Michael Klepser

Invited Presentations:

"Inpatient community-acquired pneumonia: A case scenario" at Making a Difference In Infectious Diseases in Phoenix, Arizona on March 13, 2004.
"Outpatient community-acquired pneumonia: A case scenario" at Making a Difference In Infectious Diseases in Phoenix, Arizona on March 13, 2004.

Abstract:

Lien TC, Klepser ME, Ernst EJ. In vivo activity of caspofungin against amphotericin B-resistant isolates of *Candida albicans*, *Candida glabrata*, and *Candida lusitanae*. 44th Interscience Conference on Antimicrobial Agents and Chemotherapy, 2004. Washington, DC.

Dumond J, Bickel R, Klepser ME. Evaluation of vancomycin tolerance in blood isolates of methicillin-resistant *Staphylococcus aureus* (MRSA): prevalence, susceptibility patterns, and clinical outcomes. American Society of Health-Systems Pharmacists. 2004 Midyear Clinical Meeting, Orlando, Florida.

Publications:

Role of nebulized antibiotics for the treatment of respiratory infections. *Current Trends in Infectious Disease*. 2004;17:109-112.

Contributor: Sinus and Allergy Health Partnership. Antimicrobial treatment guidelines for acute bacterial rhinosinusitis. *Otolaryngology-Head and Neck Surgery*. 2004; (Supplement):S1-S45.

Dr. Teresa Klepser

Invited Presentations:

Klepser, TB. "Dietary Supplements- Safe and Effective?" Michigan Pharmacy Association Annual Meeting, Dearborn, Michigan, February.

Klepser, TB. "Alternatives to Estrogen or the Management of Menopausal Symptoms." ASHP Annual Meeting, New Orleans, December.

Publication:

Klepser TB, Beryhill B, Dixon K, McGinnis MM, Mulholland S, Pomeroy S. Evaluation of Dietary Supplements with Claims of Antimicrobial Activity. *J Infect Dis* 2003;6(3):1-29.

Appointment:

American College of Clinical Pharmacy Mini-sabbatical Committee

Dr. Robert Krueger

Publications:

Two book reviews accepted for publication in the *Society of Economic Botany* journal, Volume 58 (3) and Volume 58 (4), "Breeding Research on Aromatic and Medicinal Plants" edited by Johnson and Franz; and "Bacterial Disease Resistance in Plants: Molecular Biology and Biotechnological Applications" by P. Vidhyasekaran.

Presentations:

"Herbs: What Patients are Taking and Their Implications in Dental Treatment" to the Mid-Michigan Dental Hygienists Society in Mount Pleasant, May 2004;

Co-presented with Dr. Robert Friar a three-hour workshop entitled "Aphrodisiacs and Botanical Remedies: Fact and Fiction" at the Mid-continent and Eastern Regions Joint Conference of the Society for the Scientific Study of Sexuality at the University of Wisconsin, June 2004.

Co-presented with Dr. Robert Friar a three hour professional CE workshop entitled "Botanical Remedies and Aphrodisiacs" at the recent Society for the Scientific Study of Sexuality conference in Orlando in November.

Presented a medical CME lecture entitled "Herbal Supplements: Benefits and Toxicity" for the medical staff at Mecosta County General Hospital in October.

Honors:

Reappointed as grants coordinator for the Wildflower Association of Michigan.

Reappointed Treasurer of the American Society of Pharmacognosy Foundation and serves on The Society's Executive Board.

Served as a judge for the poster competition at the International Congress on Natural Products Research. Over 650 people attended the conference with 65+ oral presentations and 590+ posters being delivered.

Dr. Renee Koski

Invited Presentation:

"Current Issues in the Treatment of Hyperlipidemia" presented at the UPMPA meeting on September 11, 2004.

Dr. Rodney Larson

Honors:

Selected as a Fellow in the inaugural American Association of Colleges of Pharmacy Academic Leadership Fellows Program.

Dr. Norwood Neumann

Publications:

Co-authored "The Safety and Heartworm Prophylactic Activity of Proheart 6® in 10 to 12 Week-old Puppies" at the 11th Triennial 2004 Heartworm Symposium, July, Philadelphia, PA.

Dr. Joan Rider

Publications:

Guest editor for the Journal of Pharmacy Practice.

Rider, J. Treatment considerations and options for the management of diabetes mellitus. Journal of Pharmacy Practice, 17;2004.

Stewart, K., Wilson, M., Rider, J. Insulin delivery devices. Journal of Pharmacy Practice, 17;2004.

Poster Presentation:

"Development of a University-Based Interdisciplinary Diabetes Clinic in a Rural Community" presented with Stephen Durst and Eric Jarvi at the AACP Annual Summer Meeting in Salt Lake City, Utah.

Invited Presentation:

"Prescriptions, Pills, Alternative Potions: The Effects on Diabetes Management" presented at an interdisciplinary seminar at the 4th Annual Diabetes and Endocrinology Conference sponsored by Saint Mary's Health Services at Western Michigan University's Grand Rapids campus on Wednesday, November 3, 2004.

Appointments:

Chair AACP Professional Experiential Programs (PEP)-Specialty Interest Group: International Experiential Opportunities.

Honor:

Dr. Rider will be recognized with a biographical entry in the 2004-05 National Register's WHO'S WHO in Executives and Professionals.

Dr. Claire Saadeh

Invited Presentation:

"Supportive Care in the Oncology Patient". Michigan Pharmacists Association Annual Meeting and Exposition, February 28, 2004.

"Update on Breast Cancer 2004" presented at the Employee Wellness Program - Brown Bag Lunch at Lansing Community College on September 22, 2004.

Dr. Curtis Smith

Publications:

Smith, C. Pharmacotherapy of diabetic foot ulcers. Journal of Pharmacy Practice, 17;2004.

Invited Presentations:

Presented at the 2004 ACCP BCPS Prep Course in Austin TX. Topics included Infectious Diseases, HIV/Infectious Diseases II, and Pharmacokinetics: A Refresher

Instruction of the Immunization Certification Program for Pharmacists at the MPA on October 13, 2004.

Dr. Kristine Stewart

Stewart, K., Wilson, M., Rider, J. Insulin delivery devices. Journal of Pharmacy Practice, 17;2004.

Dr. Vicki Sternhagen

Invited Presentation:

"Drug therapy for Alzheimer's disease: Fact or fiction?" 35th Annual WMSHP Spring Seminar on May 6, 2004.

"Cardiovascular Pharmacology" presented for the PA Certification and Recertification Review at Western Michigan University on August 20, 2004.

Dr. Craig Straley

Invited Presentations:

"Uses and Limitations of Atypical Antipsychotics" Michigan Pharmacists Association Annual Convention and Exposition, Feb. 28, 2004.

"Pharmacotherapy for Psychology Interns" in-service to the VA Psychology Interns on October 5, 2004.

"Antipsychotics" in-service to WMU Nursing Students on October 8, 2004.

"Antipsychotics" presented at an in-service to KVCC Nursing Students on Thursday, November 4, 2004.

Dr. Heather VandenBussche

Invited Presentation:

Roundtable discussion facilitator on New Otitis Media Guidelines at the 13th Annual Pediatric Pharmacy Advocacy Group meeting in St. Petersburg, Florida on October 8, 2004.

Dr. Dean Van Loo

Invited Presentation:

"Pharmacokinetics in the HIV Patient" Michigan Pharmacists Association Annual Convention and Exposition, February 28, 2004.

Dr. Natalie Vazzana

Publication:

Vazzana NY, Chu M, "Clinical Case Study: Diabetes," in "Ansel's Pharmaceutical Dosage Forms and Drug Delivery Systems," Allen LV Jr, Popovich NG, Ansel HC, Eighth Edition, Lippincott Williams and Wilkins, Baltimore MD 2004, pp. 503-504.

Dr. Greg Wellman

Publications:

Authored an article entitled "Drug Attributes and Patient Out-of-Pocket Cost Impact on Preference: Conjoint Analysis of Physicians, Pharmacists and Consumers" published in the Journal of Pharmaceutical Marketing and Management.