University of Kansas School of Pharmacy
Doctor of Pharmacy (Pharm.D.) Program Highlights

As the State of Kansas’ only School of Pharmacy, the KU program trains Ph.D. scientists to discover, design, and develop new drugs and trains Pharm.D. practitioners to distribute, monitor, and deliver appropriate and effective medication therapy. The School’s mission is truly “bench to bedside” in its overall mission. Ph.D. graduates for the KU School of Pharmacy are placed all over the world largely due to the lack of pharmaceutical industry in Kansas. Conversely, approximately 65% of our Pharm.D. graduates remain and practice in the state of Kansas in community retail, hospital, and long term care facilities. The mission of the School in sustaining excellence in our education, practice, research and drug/technology development programs is consistent and complementary to the mission of the University and a vital component one of it’s higher priorities, achieving the National Cancer Institute’s Comprehensive Cancer Center Designation. Ranked #18 among public Schools of Pharmacy for Doctor of Pharmacy Program (#19 overall) according to US News & World Report, 2010 Edition of America’s Best Graduate Schools (based on last survey in 2008). Ranked #2 among all Schools of Pharmacy in National Institutes of Health research funding according to the American Association of Colleges of Pharmacy in 2009.
The University of Kansas

School of Pharmacy

Academic Program Review

2007-2012

Submitted on June 28, 2010
What do we do and why do we do it?
The Mission of the KU School of Pharmacy is to provide exceptional opportunities for professional, graduate, and postgraduate students; and professional continuing education for pharmacists. Through exemplary curricula and programs, the School encourages the advancement of pharmaceutical care so as to enhance health. The school maintains a leadership role in developing major advanced technologies, and drug therapy related research inclusive of pharmaceutical, clinical, and administrative sciences for the state, the nation, and the world.

The Kansas State Board of Pharmacy, by law, will license only graduates of an accredited School of Pharmacy. The KU School of Pharmacy is the sole provider of Pharmacy graduates in the State of Kansas. The last accreditation of the KU School of Pharmacy was conducted in February, 2008 and full accreditation has been granted through June, 2014 by the Accreditation Council for Pharmacy Education (ACPE). The School’s accreditation certifies that the School has implemented and meets the new national ACPE curricular standards for Pharmacy Education that went into full effect on July 1, 2007.

Our vision statement is as follows: “The KU School of Pharmacy will improve the health of Kansans and the world through excellence in teaching, research, service, and the advancement of all aspects of pharmaceutical care.” This vision statement reflects the vision of the pharmacy profession relative to practice, research and education as articulated by various professional organizations. For example American College of Clinical Pharmacy’s (ACCP) 20 to 30 year vision for the profession is that "Pharmacists will be recognized and valued as the preeminent health care professionals responsible for the use of medicines in the prevention and treatment of disease." The American Pharmacists Association’s (APhA) vision for pharmacy in 2015 states that: “Pharmacists will be the health care professionals responsible for providing patient care that ensures optimal medication therapy outcomes.” To achieve this vision, the profession must provide opportunities for students to obtain a firm understanding of the basic pharmaceutical sciences and the translation of scientific evidence into patient-focused care. Moreover, for the profession to continue to grow, it must not only develop student’s clinical skills but must also foster an environment of research and innovation that ultimately advances patient care.

Unit goals and plans are summarized in strategic plans. Many of the School’s 2003-08 strategic plan initiatives have been realized including addition of professional curriculum electives and development and implementation of an innovative Standardized Client (Patient) Assessment program and Introductory Pharmacy Practice Experience program. We are actively pursuing goals under the School’s 2007-2012 strategic plan. The process for development of the School’s strategic plan, with faculty concurrence of our mission and prioritization of goals, has utilized faculty retreat programs and input from advisory councils, employer and preceptor surveys and suggestions from students throughout their tenure in the program and at our annual Senior Retreat program. Major objectives for the next three years under the current strategic plan include:

• Increase in enrollment in the Professional Pharmacy program through a new Lawrence building (Fall, 2010) and the development of a campus in Wichita (Fall, 2011).
• Development of a plan for fund-raising for a new building with modern research space on the West campus. (Meanwhile, continue to find creative ways to accommodate current and newly recruited faculty in limited and deficient space in Malott Hall.)
• Development of a plan for new Department of Pharmacy Practice facilities on the KUMC campus.
• Given the funding climate nationally, continue to promote the development of multi- and interdisciplinary research programs among faculty within the School, across the Lawrence campus, and KUMC (e.g., KU Cancer Center; Clinical and Translational Science Award).
• Increase in interdisciplinary curricular and degree opportunities for both professional and graduate programs to include development of formal research activities and opportunities for Pharmacy students in the professional curriculum and planning for a translational clinical research track (Pharm.D./M.S. or Pharm.D./Ph.D.) and public health (Pharm.D./M.P.H.).

The KU School of Pharmacy trains Ph.D. scientists to discover, design, and develop new drugs and trains Pharm.D. practitioners to distribute, monitor, and deliver appropriate and effective medication therapy. The School’s mission is truly “bench to bedside” in its overall mission. Ph.D. graduates for the KU School of Pharmacy are placed all over the world largely due to the lack of pharmaceutical industry in Kansas. Conversely, approximately 65% of our Pharm.D. graduates remain and practice in the state of Kansas in community retail, hospital, and long term care facilities. The mission of the School in sustaining excellence in our education, practice, research and drug/technology development programs is consistent and complementary to the mission of the University and a vital component one of it’s higher priorities, achieving the National Cancer Institute’s Comprehensive Cancer Center Designation.

The role of the KU School of Pharmacy’s Pharm.D. program has been to primarily focus on placing Pharmacy graduates in Kansas. KU has placed Pharmacy graduates in approximately 95 of the 105 counties in Kansas. Currently there are six counties with no pharmacy and 30 counties with only one pharmacy in the state. These counties span the state. Approximately 60% of the pharmacies in Kansas are independent (i.e., non-chain or grocery store, and non-hospital) and their average age is approximately 55 years old. That average age of 40% of all Pharmacists in Kansas is greater than 50 years of age. The number of retail prescriptions Pharmacists in Kansas fill each year increases largely due to the increased medication needs of a growing population of state residents over the age of 65. Community retail Pharmacists alone filled 36,214,744 prescriptions in 2009 in Kansas (Kaiser Family Foundation web-site: http://www.kff.org/). Thus, Kansas faces current shortages of Pharmacists across the state, an aging Pharmacist population, and an aging patient population with increasing needs for medications and pharmacy services.

The need and impact of our program can be summarized in hundreds of stories. However, just one story, such as the example below, emphasizes the importance of the training our Pharmacy graduates receive. In addition, the story emphasizes the type of training provided by the KU Pharmacy program and the importance of accessibility to health care professionals in preventing or avoiding catastrophic health events that can cost the patient his or her life and substantial dollar costs to the health care system. The e-mail below was sent from a corporate executive to all employees in Big Y Foods and to Harold Stones, Kansas Special Projects Director for U.S. Senator Pat Roberts. Janie Gray is Harold’s daughter and a KU Pharm.D. graduate. Scenarios
like the one below could occur potentially daily in small communities across Kansas lacking physicians.

----- Forwarded by Store 30 Store Director/Bigy on 03/02/2010 04:27 PM -----

To: Store 30 Store Director/Bigy@Bigy, Vincent Iannarone/Bigy@Bigy, Bill Hogan/Bigy@Bigy, Claire D'Amour-Daley/Bigy@Bigy, Charlie D'Amour/Bigy@Bigy, Donald D'Amour/Bigy@Bigy

cc: Mike Semanie/Bigy@Bigy, George Pappas/Bigy@Bigy, Jonathan Wilson/Bigy@Bigy

Subject: Employee saves customer's life in # 30

I just got off the phone with Vincent Lucente (860) 383-5724

He was in our store # 30 earlier this Friday and was not feeling well. He had a headache and could hear blood rushing in his ears. He walked to the pharmacy, and our Pharmacist, Janie Gray saw him. She gently asked him to sit down, and took his blood pressure. It was 180/75.

He said she looked at him like a loving mother, (He's 42 and an executive at Lowes) and said, "I don't want to scare you, but you need to go to the doctor or a hospital right now. Would you like me to drive you or call an ambulance"

He went to the hospital, 2 miles away and was told that he was minutes away from a stroke. They put him on blood thinners and blood pressure pills. He told me tearfully that he owes her his life.

He called the store to see if she was in, as he is bringing her flowers.

Way to go Janie!

Thank you,

Betti Boggis
Corporate Consumer Relations
Big Y Foods Inc.
2145 Roosevelt Ave
PO Box 7840
Springfield, MA 01102-7840
(800) 828-2688
(413) 731-0087 (Fax)

“It really impresses students that these individuals who are teaching them are at the new frontiers of science and are bringing the latest in scientific discovery. It is cutting edge and it makes a tremendous impression on students who are in the classroom.” Victor A. Yanchick, Ph.D., immediate Past-President of the American Association of Colleges of Pharmacy and Dean of the Virginia Commonwealth University School of Pharmacy quoted in a recent article on the mark the KU School of Pharmacy has made on the pharmaceutical industry (Pharmacy Practice News, Volume 36, page 36, 2010).

The inventory of instructional programs in the KU School of Pharmacy reside in each of the four academic departments: Medicinal Chemistry, Pharmaceutical Chemistry, Pharmacology & Toxicology, and Pharmacy Practice. In addition to the Doctor of Pharmacy (Pharm.D.) degree, Ph.D. and M.S. graduate degrees are offered by each of the Departments and are summarized in separate documents developed for each discipline.
**Who does it?**

The **quantitative and qualitative indicators** are summarized in each of the Department’s self-study reports. The KU School of Pharmacy’s faculty include individuals with expertise in a variety of clinical and basic science specialties as well as internationally recognized researchers in the pharmaceutical sciences. Collaborative opportunities with scientists and health care professionals on both the Lawrence and Kansas City campuses provide a rich environment for education and research. Faculty on the Lawrence campus are actively involved in the discovery of new drugs and new drug delivery techniques. Pharmacy Practice faculty are conducting applied research which focuses on patient outcomes, risk stratification and cost-benefit analyses. Much of this research has resulted from collaborative efforts between pharmacy practice and other departments at the KU Medical Center including preventive medicine, cardiology, cardiothoracic surgery infectious disease and other clinical specialties. Recently, KU has formed an Office of Therapeutics, Discovery and Development. This office works with both campuses to facilitate the movement of new drug/technology discoveries from the laboratory to the patient care community. The unit’s director has a courtesy faculty appointment in the School of Pharmacy and is working with several faculty to develop models for collaborative research and drug development.

To maintain quality in the KU School of Pharmacy as a whole the strategic plans have included steps to gain parity in faculty compensation and reward. A KU five-year tuition enhancement plan funded several new faculty positions, merit pay raises, six successful retention challenges (six current faculty heavily recruited by other programs), and use of private funding to create faculty salary enhancements. Start-up funds are generally available to new faculty, but are highly variable depending on the discipline. The School must examine additional funding sources for development of clinical faculty. Junior faculty are typically assigned a senior faculty member in the department as a mentor. The University’s Center for Teaching Excellence offers assistance on aspects of teaching to facilitate faculty retention and promotion. Sabbatical leaves are available on a competitive basis for scholarly work and learning new skills. Merit raises, when available, consider excellence in research, teaching, service, and professional recognition. Merit raises and allocation of time/effort expectations are tied to annual evaluations. The School is considering faculty teaching reward strategies applicable to both tenure and clinical track faculty positions. Until recently, state appropriations have been relatively consistent and positions supported by state funds sustained until the past two years. In the past two years there have been no salary increases except for faculty receiving promotion and/or tenure. The School’s differential tuition fee, now designated by the University as a ‘course fee’, has facilitated recruitment and funding of new faculty positions including the Associate Dean for Academic Affairs, Directors of the IPPE and Standardized Client programs, and a Web Design/Developer. Beginning the Fall, 2010, the School has proposed an increased but fixed course fee for four years and thus Pharmacy students would be guaranteed a fixed cost on admission for all four years in the program. The new fixed tuition plan will support personnel recruitment and operating expenses for the expansion of the Pharmacy program in Lawrence and in Wichita.

The School has projected five to ten faculty retirements within the next five years (3 each in Medicinal Chemistry and Pharmaceutical Chemistry, 2 in Pharmacology & Toxicology, and 2 in Pharmacy Practice). Department chairs are developing strategies to replace these individuals at
retirement. Each Department has an associate Chair and the Deans office includes four Associate Deans, each capable of stepping in for School leaders if and when appropriate. While the current Dean and one of the current Chairs were promoted from within as part of national searches for replacements, when positions are vacated, the School and Departments fully evaluate the needs of the programs and have always generally conducted national searches for internal and external individuals that will strengthen the School and KU.

How well do we do it, and who thinks so?

Students in Profile: The ultimate test scores by which students in the School of Pharmacy are judged are the North American Pharmacy License Examination (NAPLEX, science content) and Multi-State Jurisprudence Examination (MJPE, law content) license exams. As summarized in data in a later section of this document, KU Pharmacy students consistently score above the national average.

Students in the first three years of the professional program receive mentoring primarily from three Associate Deans. A new mentoring program will begin in the next year where preceptors (practicing Pharmacists) will take a more active role in maintaining communication with students while they matriculate through the program.

The KU School of Pharmacy offers partial scholarship support (i.e., currently approximately $1700 per scholarship applicant) and on average only about 60% of our students apply for financial support from the School. The average age of students in the KU School of Pharmacy generally ranges from 19 years to as sometimes 50 years with the average at 23 years.

Program Productivity: The pre-Pharmacy curriculum is comprised of 68 credit hours that include a heavy representation of chemistry, anatomy, biology, physiology, and microbiology. The pre-Pharmacy curriculum may be taken at any accredited community or four-year college and in fact 50% of the students in the KU Pharmacy program are transfers from other programs largely from within the State of Kansas. Established per the national standards for accreditation of the KU Pharmacy program, the professional program is fixed at 140 credit hours of which 30% must and does include introductory and advanced Pharmacy Practice Experiential experiences in clerkships in community retail and institutional pharmacy sites across the State of Kansas. Degrees awarded by year are summarized later in this document.

Program Quality Outcomes: The quality of the pharmacy program is demonstrated by the success our students enjoy both in and out of the classroom. Examples of achievement of the various learning outcomes can be found below.

Students accepted to the school of pharmacy are selected based on impressive academic credentials. At the time of admission they possess a notable GPA (5 year average > 3.5) and have scored well on the Pharmacy College Admission Test (5 year average above 70th percentile). They also complete the professional curriculum and graduate from the pharmacy program with impressive results. Below is a table reporting the professional (four years in pharmacy school) GPAs listed on a 4.0-point scale since 2001.
<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>Professional GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of 2010</td>
<td>3.58</td>
</tr>
<tr>
<td>Class of 2009</td>
<td>3.48</td>
</tr>
<tr>
<td>Class of 2008</td>
<td>3.45</td>
</tr>
<tr>
<td>Class of 2007</td>
<td>3.44</td>
</tr>
<tr>
<td>Class of 2006</td>
<td>3.43</td>
</tr>
<tr>
<td>Class of 2005</td>
<td>3.36</td>
</tr>
<tr>
<td>Class of 2004</td>
<td>3.33</td>
</tr>
<tr>
<td>Class of 2003</td>
<td>3.31</td>
</tr>
<tr>
<td>Class of 2002</td>
<td>3.30</td>
</tr>
<tr>
<td>Class of 2001</td>
<td>3.30</td>
</tr>
</tbody>
</table>

The escalating GPA is believed to be evidence of the continued strengthening of the professional applicant pool. Over the past 10 years the pool has increased from approximately 300 per year to near 500 applicants. These numbers are affirmed by high graduation rates and performance on the licensure examinations.

In the following tables the percent of students who pass the North American Pharmacy License Examination (NAPLEX, science content) and Multi-State Jurisprudence Examination (MJPE, law content) license exams on the first try is compared to the national average.

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>NAPLEX (License Exam) First-Try Pass Rate</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of 2010</td>
<td>In process</td>
<td>In process</td>
</tr>
<tr>
<td>Class of 2009</td>
<td>98.0%</td>
<td>96.5%</td>
</tr>
<tr>
<td>Class of 2008</td>
<td>98.2%</td>
<td>96.5%</td>
</tr>
<tr>
<td>Class of 2007</td>
<td>95.0%</td>
<td>95.3%</td>
</tr>
<tr>
<td>Class of 2006</td>
<td>97.0%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Class of 2005</td>
<td>96.9%</td>
<td>91.4%</td>
</tr>
<tr>
<td>Class of 2004</td>
<td>97.6</td>
<td>96.5</td>
</tr>
<tr>
<td>Class of 2003</td>
<td>97.7%</td>
<td>95.3%</td>
</tr>
<tr>
<td>Class of 2002</td>
<td>100%</td>
<td>95.0%</td>
</tr>
<tr>
<td>Class of 2001</td>
<td>97.9%</td>
<td>95.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year of Graduation</th>
<th>MJPE (Law Exam) First-Try Pass Rate</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of 2010</td>
<td>In process</td>
<td>In process</td>
</tr>
<tr>
<td>Class of 2009</td>
<td>99.0%</td>
<td>92.3%</td>
</tr>
<tr>
<td>Class of 2008</td>
<td>99.0%</td>
<td>91.4%</td>
</tr>
<tr>
<td>Class of 2007</td>
<td>100%</td>
<td>91.0%</td>
</tr>
<tr>
<td>Class of 2006</td>
<td>98.0%</td>
<td>89.3%</td>
</tr>
<tr>
<td>Class of 2005</td>
<td>94.5%</td>
<td>88.0%</td>
</tr>
<tr>
<td>Class of 2004</td>
<td>95.2%</td>
<td>87.5%</td>
</tr>
<tr>
<td>Class of 2003</td>
<td>97.1%</td>
<td>85.6%</td>
</tr>
</tbody>
</table>
Students progressing through the curriculum enroll in a practical laboratory course every semester they are on campus. This series is titled the Pharmacy Skills Lab and provides skills used by current and future pharmacists. For example students learn to obtain blood samples and analyze them for lipid levels or serum glucose. They also learn the basic skills necessary to prepare prescriptions for dispensing in this series. Students earn letter grades in the Pharmacy Skills Lab courses. Since the 2006-07 year, student’s care delivery skills and knowledge has been assessed using the Standardized Client Assessment Program, independent from the Pharmacy Skills Lab and functioning as an extension of the Dean’s Office. This program uses trained actors to portray pharmacy clients with healthcare issues. Students are evaluated in their ability to apply critical thinking skills to solve pharmacy problems. Results from both the laboratory courses and SC assessment are reported below in tabular format.

<table>
<thead>
<tr>
<th>Class of 2010</th>
<th>SC Exam Results (% Below Communication Threshold)</th>
<th>Pharmacy Skills Lab GPA of class for final lab course in series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class of 2010</td>
<td>3 below threshold</td>
<td>4.0</td>
</tr>
<tr>
<td>Class of 2009</td>
<td>6 below threshold</td>
<td>4.0</td>
</tr>
<tr>
<td>Class of 2008</td>
<td>In development</td>
<td>3.96</td>
</tr>
<tr>
<td>Class of 2007</td>
<td>In development</td>
<td>4.0</td>
</tr>
<tr>
<td>Class of 2006</td>
<td>n/a</td>
<td>3.97</td>
</tr>
<tr>
<td>Class of 2005</td>
<td>n/a</td>
<td>3.97</td>
</tr>
<tr>
<td>Class of 2004</td>
<td>n/a</td>
<td>3.82</td>
</tr>
<tr>
<td>Class of 2003</td>
<td>n/a</td>
<td>4.0</td>
</tr>
<tr>
<td>Class of 2002</td>
<td>n/a</td>
<td>3.90</td>
</tr>
<tr>
<td>Class of 2001</td>
<td>n/a</td>
<td>3.59</td>
</tr>
</tbody>
</table>

The school enjoys a very low attrition rate, with between 2 and 10% of students matriculating not completing the four-year professional program. The following table provides the graduation rate of students over the four-year professional curriculum since 2001.

<table>
<thead>
<tr>
<th>Graduation Rate</th>
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<tbody>
<tr>
<td>Class of 2010</td>
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<tr>
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<tr>
<td>Class of 2002</td>
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<tr>
<td>Class of 2001</td>
</tr>
</tbody>
</table>

**Satisfaction surveys (class evaluations, senior surveys):** Each year the School of Pharmacy holds a retreat for graduating students. During this retreat, among other things, a curriculum review session is held. This consists of two main activities. The first is an evaluation form where
students indicate their perception of preparedness in several areas of clinical skill and their opinions of the courses they completed. The second activity is an open forum discussion of their experience in school. Nineteen of the questions deal with the student’s perception of their level of preparation to provide pharmacy care or satisfaction with the courses to provide this preparation. Responses to these questions are on a ten-point scale with one being the worst and ten being the best. The average response on all of these nineteen questions was 7.4 in 2010, and has increased each of the past two years. Discussions during the open forum typically revolve around an issue or two of concern to the students. These issues are discussed and evaluated by the Deans and the Administrative Committee following the retreat.

Focus groups are utilized periodically to gain insight from stakeholders on a variety of topics. One of the recent uses of focus groups was during the design of the Introductory Pharmacy Practice Experience program. This program is used to provide introductory experiences to all students in their first and second years of the professional curriculum. Preceptors were gathered to provide input on the design of the program to maximize the learning experience. This process was successful judging by the positive experience students report in the program and the support of the program by preceptors.

**Placement, employer assessments:** Placement of graduates seeking employment has been at or near 100% since before 2005. Typically students are weighing multiple offers to determine which is best suited to meet their personal and professional expectations. Many students report signing bonuses in addition to escalating compensation packages.

Placement of graduates seeking post-PharmD residencies has been near 100% of those that apply for this type of educational experience. The percent of professional graduates that indicate an interest in residencies has steadily increased over the past 4 to 6 years. It has increased from approximately 15% of the graduates to 30% in this time.

Each of the past two years the School of Pharmacy has surveyed practitioners that precept final-year pharmacy students. To accomplish this the school has used an online survey tool prepared and offered by the Accreditation Council for Pharmacy Education (ACPE). Each of the two years this tool has been used the results have been very positive. When all responses are summarized the average percent of practitioners that agree or strongly agree with statements indicating well-prepared student graduates is over 85.

**Student awards:** KU School of Pharmacy students are recognized by awards nationally. Examples include the Clinical Skills competition at ASHP. Students in the student chapter of the American Society of Health System Pharmacists have reached the final round of the national Clinical Skills competition twice in the past five years. This is a significant accomplishment and is a testament to the skill, knowledge and preparation of students in the school. There are now well over 110 schools of Pharmacy in the United States and most participate in this competition.

NCPA Business Plan competition: Students in the National Community Pharmacy Association student chapter at KU have placed in the top 3 in the national business plan competition conducted annually twice since 2006. This award recognizes excellence in plan preparation and
rewards innovative, realistic approaches to business development in the current biomedical environment.

NCPA Chapter of the Year: The NCPA chapter has also been named national chapter of the year by the parent organization four times since 2001, demonstrating the prominence of this program.

**Outreach/engagement and corresponding impact:** Each year the administrative team conducts numerous (5 – 7) alumni and supporter watch parties centered around KU basketball games, which allow unofficial feedback and measurements of success. This provides the opportunity to thank pharmacy alumni for their ongoing support and solicit input on professional and educational issues that they feel impact student learning and the profession of pharmacy.

The student chapter of the American Pharmacists Association (ASP) has conducted immunization clinics, supervised by KU clinical faculty, across the state for the past several years. This began with clinics in Lawrence and expanded to include Greensburg, KS two years ago following the devastating tornado and the Guadalupe Clinic for the indigent population in Wichita, KS last year. This provides the opportunity for our students and faculty to be seen giving back to our communities across the state. It also provides the school another venue to listen to the needs of our alumni and fellow citizens as we contemplate curricular and service changes during the coming months and years.

The school of pharmacy conducts live and correspondence continuing education (CE) programs for licensed pharmacists throughout the state and across the nation. The CE programs are attended by many alumni and serve as a point of distribution for the most current pharmacotherapy and basic science information. This leadership in the profession is well received by our alumni and serves as a useful tool to gauge the needs of our graduates.

The school designed and deployed a state-of-the-art student assessment program four years ago called the Standardized Client Program. To manage this program actors are trained to portray pharmacy clients with professional needs and students are evaluated on their ability to problem-solve in a realistic professional environment. A collaborative team including KU faculty and preceptors from the community write cases for the SC program. The meetings to write these cases create the opportunity to not only show appreciation for our preceptors but also to utilize their expertise in a way that enhances the school and improves student outcomes.

Four years ago a new program called the Introductory Pharmacy Practice Experience (IPPE) program was designed. At this time a director was hired to complete the design and develop of the program. This person oversees the IPPE program, including site assignment. One of his duties is to visit the clerkship sites throughout the state in preparation for student assignment. These visits provide another opportunity to hear alumni and community concerns and praise and provides information to help the school improve the education students receive.

**What is the overall quality of the Pharm.D. program?**

**By all external metrics** available, the KU School of Pharmacy impacts the profession and is widely recognized for achievements in research and academics at KU, in the state, nationally, and internationally. The following rankings and facts are:
• Ranked #18 among public Schools of Pharmacy for Doctor of Pharmacy Program (#19 overall) according to *US News & World Report*, 2010 Edition of America’s Best Graduate Schools (based on last survey in 2008).
• The KU School of Pharmacy and KU Hospital jointly sponsored Pharmacy Residency Program was named best in the nation by the American Society of Health-System Pharmacists in 2009.
• Ranked #2 among all Schools of Pharmacy in National Institutes of Health research funding according to the American Association of Colleges of Pharmacy in 2009.
• Ranked #8 among all Schools of Pharmacy in pharmaceutical sciences and medicinal chemistry faculty productivity according to the *Chronicle of Higher Education*, January, 2007.
• Professional Student Organizations in the School (National Community Pharmacists Association Chapter; Kappa Epsilon Chapter) have received national recognition as Chapters of the Year multiple times.
• Multiple members of the Faculty have held national leadership positions in the major professional organizations and editorships of top journals.
• Faculty in the School maintain a Regional Drug Information Center for healthcare professionals at the Kansas University Hospital.
• Faculty in the School direct one of the five national NIH Chemical Methodologies & Library Development (CMLD) Center of Excellence awards.
• Faculty in the School direct one of the two national Specialized Chemistry Centers (SCC).
• Faculty of the School direct three NIH-sponsored training grants that support predoctoral students in the areas of biotechnology, vaccine development, and chemical biology.
• Faculty in the School direct an NIH Center of Biomedical Research Excellence (COBRE) award in cancer chemotherapeutics.
• Faculty in the School direct an NIH Center of Biomedical Research Excellence (COBRE) award in structural biology.
• Faculty in the School have directed a National Cancer Institute contract to formulate anticancer drugs for more than three and a half decades.
• The School has had multiple faculty named as finalists and winners of the Honor for the Outstanding Progressive Educator (HOPE) award at the University of Kansas.
• The School has had multiple faculty named as Kemper Awardees for excellence in teaching and advising at the University of Kansas.
• The School has had multiple faculty named as Higuchi Research Achievement Awardees at the University of Kansas.
• The School has had multiple faculty achieve Fellow status in professional organizations.
• The School has multiple faculty members holding or previously holding officer positions in national organizations representing each of the professional disciplines within Pharmacy.
• The School has multiple faculty serving as editors of leading journals in the basic sciences and Pharmacy Practice disciplines.
• Professional Student Organizations in the School (National Community Pharmacists Association Chapter; Kappa Epsilon Chapter) have received national recognition as Chapters of the Year multiple times.
• The School has multiple professional students hold officer and other leadership positions at the national level in Professional Student Organizations.

The KU School of Pharmacy realizes the mission statement “KU has a School of Pharmacy because the discovery and delivery of effective medicines enhance and extend life.” in numerous ways including the following examples:
• Over the past two years, Pharm.D. students from the KU School of Pharmacy have raised funds, purchased flu vaccine, and administered immunizations to hundreds of members of the Greensburg, Kansas community, and the indigent population served by the Guadalupe Clinic in Wichita, Kansas.
• A faculty member in the KU School of Pharmacy has helped formulate seven of the last eighteen anticancer drugs developed by the National Cancer Institute’s Experimental Therapeutics pipeline.

The overall assessment of the Pharm.D. program is: Exceptional.

What plans are there to advance the degree program?
The 2007-2012 strategic plan builds upon the numerous successes achieved in fulfillment of the previous plan. The final document describes the School’s major goals and objectives for 2007-2012 within the following four areas: 1) professional program education, 2) graduate and post-doctoral education and research, 3) service, and 4) the School’s organization and administration. Within each of the four major areas, action steps are outlined along with an anticipated timeframe for completion. Major plans and changes are consistent with newly revised expectations for ACPE accreditation as well as changes occurring within pharmacy and the healthcare system. The five-year plan continues to build upon the School’s commitment to excellence in both education and research, the importance of graduate and postdoctoral education and the need for service to the University, community and the profession.

Major priorities for the School relative to Pharm.D. education are focused on providing greater opportunities for experiential learning and assessment. These include expansion of the Introductory Pharmacy Practice Experience (IPPE) program beginning in the first professional year (3P), expansion of the Advanced Pharmacy Practice Experience (APPE) program, continued use of standardized client assessment activities, and program expansion to additional campus locations in Kansas (e.g., Wichita in 2011). The updated strategic plan builds on the success and past experience with the distance learning based Nontraditional Pharm.D. pathway in planning for transmission of didactic courses to remote campuses and initiating additional distance education based programs such as the current M.S. degree offering in pharmaceutical chemistry.

The strategic plan strives to expand activities in support of diversity through developing greater financial support for the continued participation in the Multicultural Scholars program as well as new initiatives such as enhanced recruitments efforts for Hispanic students and elective courses such as Spanish for pharmacists.

The strategic plan includes numerous strategies to strengthen the School’s graduate and postdoctoral education and research programs including the exploration of new post-graduate
residency programs, new international exchange programs and expanding the School’s role in translational research. A major goal of the School is to increase NIH funding from its current level to eventually over $25 million.

Service goals within the updated plan are aimed at maintaining and promoting strong relationships with alumni and Kansas pharmacists. The School recognizes the importance of these relationships in developing the vision for the school and securing the necessary resources for future expansion and growth. The School also remains committed to its role as a provider of continuing professional education for pharmacists.

**How will future progress and success continue to be evaluated?**

**Unit Metrics:** Graduation rate (greater than 90%). In the future the school will continue to evaluate graduation rates as a metric of success. It is anticipated that the graduation rate will remain above 90%, even when considering the increased enrollment beginning in the Fall 2010 semester. The school will also continue to monitor success of students as measured by grade performance. It is anticipated that the graduating GPA will remain above 3.0 on a 4.0 scale. Alumni feedback has been a valuable component of school evaluation in the past and will continue to serve as a metric as the school moves forward. In addition to the basketball watch parties the school also utilizes more formal alumni feedback methods, such as focus groups and advisory committee meetings. The later two methods are typically driven by an agenda and provide better opportunities to address a much broader topic list.

Leader placement: The faculty and students of the school hold numerous leadership positions. A few notable examples include Dean Harold Godwin, who is the current president of the American Pharmacist Association, and Distinguished Professor Ronald Borchardt, who was president of the American Association of Pharmaceutical Scientists and is the long-standing editor of the Journal of Pharmaceutical Sciences. Students hold many national committee appointments in the various student organizations.

**College metrics:** The college will continue to strive for exceptional graduation rates and license pass-rates as well as expanding the national and international presence currently enjoyed.

**University metrics:** Increase in extramural funding The University will continue to look to the School of Pharmacy to lead in the areas of clinical training and research. Success will be measured again by student graduation and in addition by alumni and colleague feedback. The research mission of the University will continue to be advanced by the three basic science departments in the school, with an emphasis on funded research.
University of Kansas School of Pharmacy
Doctor of Pharmacy (Pharm.D.) Program

The Mission of the KU School of Pharmacy is to provide exceptional opportunities for professional, graduate, and postgraduate students; and professional continuing education for pharmacists. Through exemplary curricula and programs, the School encourages the advancement of pharmaceutical care so as to enhance health. The school maintains a leadership role in developing major advanced technologies, and drug therapy related research inclusive of pharmaceutical, clinical, and administrative sciences for the state, the nation, and the world.

Major objectives for the next three years under the current strategic plan include:

- Increase in enrollment in the Professional Pharmacy program through a new Lawrence building (Fall, 2010) and the development of a campus in Wichita (Fall, 2011).
- Development of a plan for fund-raising for a new building with modern research space on the West campus. (Meanwhile, continue to find creative ways to accommodate current and newly recruited faculty in limited and deficient space in Malott Hall.)
- Development of a plan for new Department of Pharmacy Practice facilities on the KUMC campus.
- Given the funding climate nationally, continue to promote the development of multi- and interdisciplinary research programs among faculty within the School, across the Lawrence campus, and KUMC (e.g., KU Cancer Center; Clinical and Translational Science Award).
- Increase in interdisciplinary curricular and degree opportunities for both professional and graduate programs to include development of formal research activities and opportunities for Pharmacy students in the professional curriculum and planning for a translational clinical research track (Pharm.D./M.S. or Pharm.D./Ph.D.) and public health (Pharm.D./M.P.H.).

The KU School of Pharmacy trains Ph.D. scientists to discover, design, and develop new drugs and trains Pharm.D. practitioners to distribute, monitor, and deliver appropriate and effective medication therapy. The School’s mission is truly “bench to bedside” in its overall mission. Ph.D. graduates for the KU School of Pharmacy are placed all over the world largely due to the lack of pharmaceutical industry in Kansas. Conversely, approximately 65% of our Pharm.D. graduates remain and practice in the state of Kansas in community retail, hospital, and long term care facilities. The mission of the School in sustaining excellence in our education, practice, research and drug/technology development programs is consistent and complementary to the mission of the University and a vital component one of it’s higher priorities, achieving the National Cancer Institute’s Comprehensive Cancer Center Designation.

The instructional programs in the KU School of Pharmacy reside in each of the four academic departments: Medicinal Chemistry, Pharmaceutical Chemistry, Pharmacology & Toxicology, and Pharmacy Practice. In addition to the Doctor of Pharmacy (Pharm.D.) degree, Ph.D. and M.S. graduate degrees are offered by each of the Departments and are summarized in separate documents developed for each discipline.
The KU School of Pharmacy’s faculty include individuals with expertise in a variety of clinical and basic science specialties as well as internationally recognized researchers in the pharmaceutical sciences. Collaborative opportunities with scientists and health care professionals on both the Lawrence and Kansas City campuses provide a rich environment for education and research. Faculty on the Lawrence campus are actively involved in the discovery of new drugs and new drug delivery techniques. Pharmacy Practice faculty are conducting applied research which focuses on patient outcomes, risk stratification and cost-benefit analyses. Much of this research has resulted from collaborative efforts between pharmacy practice and other departments at the KU Medical Center including preventive medicine, cardiology, cardiothoracic surgery infectious disease and other clinical specialties. Recently, KU has formed an Office of Therapeutics, Discovery and Development. This office works with both campuses to facilitate the movement of new drug/technology discoveries from the laboratory to the patient care community. The unit’s director has a courtesy faculty appointment in the School of Pharmacy and is working with several faculty to develop models for collaborative research and drug development.

By all external metrics available, the KU School of Pharmacy impacts the discipline. The following rankings and facts are examples:

- Ranked #18 among public Schools of Pharmacy for Doctor of Pharmacy Program (#19 overall) according to US News & World Report, 2010 Edition of America’s Best Graduate Schools (based on last survey in 2008).
- The KU School of Pharmacy and KU Hospital jointly sponsored Pharmacy Residency Program was named best in the nation by the American Society of Health-System Pharmacists in 2009.
- Ranked #2 among all Schools of Pharmacy in National Institutes of Health research funding according to the American Association of Colleges of Pharmacy in 2009.
- Ranked #8 among all Schools of Pharmacy in pharmaceutical sciences and medicinal chemistry faculty productivity according to the Chronicle of Higher Education, January, 2007.
- Pharmacy students have a pass rate on the North American Pharmacy License Examination (NAPLEX, science content) and Multi-State Jurisprudence Examination (MJPE, law content) license exams consistently above the national average.
- Professional Student Organizations in the School (National Community Pharmacists Association Chapter; Kappa Epsilon Chapter) have received national recognition as Chapters of the Year multiple times.
- Faculty in the School direct one of the five national NIH Chemical Methodologies & Library Development (CMLD) Center of Excellence awards.
- Faculty in the School direct one of the two national Specialized Chemistry Centers (SCC).
- Faculty of the School direct three NIH-sponsored training grants that support predoctoral students in the areas of biotechnology, vaccine development, and chemical biology.
- Faculty in the School direct NIH Center of Biomedical Research Excellence (COBRE) awards in cancer chemotherapeutics and structural biology.
- Faculty in the School have directed a National Cancer Institute contract to formulate anticancer drugs for more than three and a half decades.

The overall assessment of the Pharm.D. program is: Exceptional.