Preamble

The Strategic Plan of the UNC Eshelman School of Pharmacy articulates our highest aspirational goals in realizing our vision to be the preeminent school of pharmacy transforming human health through innovations in education, practice, and research, and is our compass in defining our future. We continually invest in our people; in transforming our educational programs; in advancing the practice of pharmacy and healthcare; in growing, differentiating, and translating our research enterprise; in cultivating partnerships worldwide; in improving our operational efficiencies; and in institutionalizing assessment to guide decision making and continuous quality improvement. The School publishes the Strategic Plan Annual Report each year to highlight major accomplishments toward achieving our aspirational goals. This annual report exemplifies the collective efforts and engagement of our faculty, staff, and student body; alumni; key stakeholders and partners; and the broader University community.
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STRATEGIC INITIATIVE 1
EDUCATIONAL RENAISSANCE

STRATEGIC OBJECTIVE 1.1
Transform learning and the curriculum of the professional program

The School continues to make significant progress toward the design and implementation of a transformative curriculum. On August 3, 2015, the UNC Eshelman School of Pharmacy’s Class of 2019 was welcomed to campus as the first cohort of Curriculum 2015. By design, this curriculum represents a bold and visionary departure from convention and will serve the changing health care needs of society and the evolving demands of the pharmacy profession into the future.

The curricular experience began with the innovative Pharmacy Bridging Course (PBC) comprised of five modules in the enabling science and math areas of organic chemistry, biochemistry, physiology, biostatistics, and applied mathematics. PBC was designed with five goals: (1) to give all students a chance to redevelop behavior patterns conducive to academic success; (2) to re-emphasize and pharmacetize key facts, principles, and concepts from the enabling science and math disciplines; (3) to level the playing field for a diverse group of students so that each student can excel in the foundational courses; (4) to introduce students to the instructional methods that they'll see across the foundational courses; and (5) to accelerate student learning. In September 2015, the Class of 2019 transitioned from the PBC to the Foundational Course phase, which was designed with five guiding principles: (1) There’s a patient at the end of every lesson, so rather than focusing only on discipline-specific content, course directors focused on ensuring that learning outcomes were foundational to the patient care experience; (2) It’s impossible for us to teach students everything that they need to know, so instructors reverse engineered from the Job to be Done to arrive at the right (and right amount) of content; (3) It’s not what the instructor does that counts; it’s what the students do that really matters, so course directors endeavored to design in- and out-of-class activities that were learning-centered by setting appropriately high expectations and constructively aligning assessments with learning objectives; (4) Less is more, so curricular and pedagogical design has sought easier and sustainable processes; and (5) Students don’t live in any individual course; students live in our curriculum, so course directors worked to protect time for student reflection, metacognition and exploration so that they can make the connections that are most important for them.

One broad challenge introduced to the faculty in 2015 was the need to implement Year 1 of Curriculum 2015 while continuing to refine the design of the curriculum for subsequent years and supporting the current curriculum. This challenge has been addressed by several critical changes to the structures and processes that support our Curriculum Transformation efforts:

- Pam Joyner, Executive Associate Dean for Professional Education, accepted broader oversight responsibilities of the committees and processes related to Curriculum Transformation. Dean Joyner’s experience and insight were invaluable to balancing the simultaneous needs of implementation and design and she established clear lines of communications between the individuals engaged in Curriculum Transformation and the Dean, the Executive Committee, and the School’s faculty.
- The existing dual-committee structure of an action-oriented Curriculum Transformation Steering Committee (CTSC) working alongside a representative Curriculum Transformation Oversight Committee (CTOC) was improved in the following ways: (1) the CTSC membership was adjusted and expanded, and new roles and expectations were given clear definition; (2) a new CTSC Advisory Group was charged to assist the CTSC Chair with planning and executing CTSC’s charges; and (3) the CTOC was retired and many of its responsibilities were transferred to the new Curriculum Committee.
- Wendy Cox, Associate Dean for Curricular and Student Affairs, was named as the Chair of the new CTSC. Dean Cox’s knowledge of the existing and new curricula and broad engagement with instructors across the School’s five divisions was essential in balancing the simultaneous needs of implementation and design.
- The Dean’s Office and CTSC developed an improved process to review and establish support for new budgetary needs for courses and experiences within Curriculum 2015. The Dean’s Office also provided direct support for a high-level project manager to assist the CTSC Chair and facilitate the faculty’s efforts in Curriculum Transformation.
- The School’s Curriculum and Assessment Committee was reorganized into two new committees, the Curriculum Committee and the Assessment Committee. This new committee structure has been
instrumental in allowing continuous oversight of the newly designed courses for Curriculum 2015 by the Curriculum Committee while the Assessment Committee focuses on developing and implementing an assessment plan that serves to measure the core competencies of Curriculum 2015.

In December 2015, the School held the Fourth Annual Educational Renaissance Symposium, which was designed to deeply engage faculty in the active design of years 2 and 3 of the new curriculum. Early successes and lessons learned were shared and continue to inform and guide the School in the design and execution of a bold, new curriculum. The School also held the Third Annual Preceptor and Partner Symposium. These symposia are a hallmark of the School’s commitment to an educational renaissance and a testament to the dedication of its faculty and partners to this process. The symposia were well attended by faculty, partners, and students and resulted in clear next steps for the team leaders who are charged with developing the courses, immersion experiences, and related curricular experiences.

STRATEGIC OBJECTIVE 1.2
Transform learning and the curriculum of the graduate program

Foundational changes in preparation for the transformation of the graduate program curriculum were initiated in February 2015 when an ad hoc committee was charged with revising the School’s 2007 Graduate Program Governance Document consistent with the School’s Mission, Vision, Core Values, and Strategic Plan. To carry out its charge, the committee gathered foundational information from an environmental scan and surveys of students and alumni to inform the development of best practices. In May, the Graduate Education Committee (GEC) embarked on a review of the graduate program’s processes and policies to develop a student handbook containing polices and processes by which all divisions would adhere. Final drafts of the Graduate Program Guidance Document and Pharmaceutical Sciences Student Handbook were reviewed and approved by the Executive Committee in September for vote on final adoption by graduate faculty. Together, these documents describe the guiding philosophy, the governance responsibilities, and the graduate student policies and processes of our graduate program.

In October, the School was charged by the UNC Graduate School to engage in a yearlong self-study and reflection on its graduate program, which will culminate in a visit by an external review team in October 2016. A Self-study Oversight Committee (SOC), comprising representatives from the five divisions, student body, staff, and administration, was convened in November. In December, the SOC finalized the process for School-wide review, reflection, and transformation of the graduate program, and a timeline, and template for the Self-Study Report.

STRATEGIC OBJECTIVE 1.3
Integrate professional development and career planning into the School’s culture to assist both professional and graduate students in reaching their full potential

Under the leadership of the Office of Student Affairs (OSA), a variety of new programs and initiatives were launched and existing programs re-assessed to benefit professional and graduate students and to integrate professional and career development of students into the School’s culture. Updates include:

- Expanded partnership with UNC University Career Services to offer the following skill building workshops: CV vs. Resume; LinkedIn Lab; Interviewing Essentials; Job Search Strategies; Professional Branding and Online Etiquette; Professional Etiquette.
- Development of a “Networked” model in conjunction with University Career Services to offer dedicated, on-site career counseling and services for pharmacy students. A memorandum of understanding was developed.
- 2015 Career Day event in November attended by 116 PY4 students and 22 companies/programs; 345 one-on-one interviews were conducted.
- Development of PY4 career development webinars focusing on areas such as: Salary Negotiation and Branding; NC Board of Pharmacy; Alumni Association Networking; Financial Planning and Loan Re-Payment.
• OSA/Mountain-Area Health Education Center (MAHEC) partnership to develop an expanded residency/fellowship primer workshop for first and second year students to expose them to the global perspectives of residency/fellowship engagement, pertinent considerations, and overview of process.
• Led the planning for the NCAP Student Leadership conference and earned the highest marks/evaluations in recent history. Thirty students attended the one-day conference focused on “Leadership Beyond Campus – Advocating for Impact,” “Transformational Leadership,” “Functional Leadership,” and team-building.
• As an extension of the PharmD Student Senate, the Asheville Executive Committee (AEC) was formally developed and recognized through the Student Senate Constitution. The AEC provides student administrative leadership for Asheville-based student organizations and works with the PharmD Student Senate.
• Developed PACE 700 course to supplement the professional development occurring through the Student Health Action Coalition (SHAC). Emphasis was placed on personal reflection and professional growth through the volunteer, interprofessional education (IPE) experience.
• Major overhaul and revisions made to the professional travel stipend policy provided by the UNC Eshelman School of Pharmacy Foundation. Expanded opportunities for personal reflection were provided to qualify for the stipend and 263 PharmD students travelled in 2014-15, up from 202 in 2013-2014.
• The school’s Student National Pharmacy Association (SNPhA) chapter developed a new partnership with the CAARE Clinic (pharmacy clinic) in Durham to provide pharmacy-related services and advocacy for underrepresented populations in the area. SNPhA developed a corresponding strategic plan and business model.
• Planned and held second annual Student Senate Executive Board retreat to better prepare incoming student leaders for the challenges and opportunities of the new academic year.

The Graduate Program in Pharmaceutical Sciences (PHRS) understands the importance of promoting opportunities for career and professional development and recognizes that soft skill development has never been more necessary as the landscape of pharmaceutical sciences rapidly changes. In 2015, PHRS tapped into existing campus resources such as the UNC Graduate School Professional Development and program offerings by the Training Initiatives in Biomedical and Biological Sciences (TIBBS) for workshops, seminars, and classes in professional development. Opportunities were also made available internally through a partnership with University Career Services for graduate and professional (PharmD) students. Programming was also coordinated with the Alumni Outreach Committee in the areas of networking and career exploration.

Since the fall of 2013, an emphasis on career and professional development has been integrated into the Pharmaceutical Sciences 801 course. In 2015, 15 students enrolled in the course and developed an Individual Development Plan (IDP) and e-portfolios to catalog and reflect upon their own professional development. This year’s course was redesigned to include more active engagement, collaboration, and self-regulated learning.

STRATEGIC OBJECTIVE 1.4
Create an environment that fosters educational research and the scholarship of education

Faculty from the School published several high profile educational research studies in 2015. This is important as we strive to identify best practices in student outcomes, disseminate lessons learned, and advance pharmacy education. In 2015, twenty-two articles and book chapters related to the scholarship of education were authored by School faculty. Collectively, this work highlighted a variety of teaching strategies as well as areas of emerging interests in education, including:


Progress continues in growing the funding for educational research initiatives. New awards in 2015 included a CFE Pro40+ Course Redesign Grant to Mike Jarstfer and an AHEC Innovation Fund grant and an American Association of Colleges of Pharmacy (AACP) New Investigator Award to Jacqui McLaughlin. In addition, the School’s proposals to the Pharmacy Network Foundation for the Carolina Cancer Nanotechnology Training Program (T32; C-CNTP; PI, Sasha Kabanov, PhD) were funded.

Several key faculty hires were made in 2015. Tom Angelo, EdD joined the School as a clinical professor in the Division of Practice Advancement and Clinical Education (PACE) and Director of Educator Development for The Academy. Jessica Greene, PharmD joined the Division of Molecular Pharmaceutics (MOPH) as a clinical assistant professor focused on bringing a clinical perspective to the foundational PharmD courses and Jerry Heneghan, MBA joined PACE as a Professor of the Practice and Director of the Center for Innovation in Pharmacy Simulation. In summary, the School made progress toward its goal of creating an environment that fosters educational research and the scholarship of education. A priority for 2016 is work between The Academy and the School’s leadership team to identify strategic priorities and high-reward approaches to sustainable funding for curricular innovation.

**STRATEGIC OBJECTIVE 1.5**

**Position the School as a leader in curricular innovation through the creation and evaluation of new teaching and learning approaches, the translation of best pedagogical practices throughout the curriculum, and the dissemination of new knowledge to others**

The Academy, under the leadership of Executive Director Scott Singleton, PhD, continues to evolve in its strategy and goals toward fostering a community of faculty dedicated to improving student learning and the scholarship of education. The Academy spearheads our School’s efforts to innovate in learning and teaching by purposefully combining state-of-the-art technology with current best practices in teaching to improve student learning, to pursue School-wide assessment, evaluation, and research on our teaching activities, to advance best practices in education, and to develop the expert researchers and clinicians comprising our faculty as highly effective educators: http://go.unc.edu/z5P8R. This work has helped faculty engage in evidence-based improvements and innovations in using educational technology to enhance and accelerate student learning. Within the Academy, the Educational Design and Innovations (EDI) team collaborated with faculty educators to create enriched content and enhanced, learning-centered classroom activities. The team’s skillset encompasses instructional design, 2D/3D illustrations and animations, video-based lectures and simulations with interactive questions, database-driven websites that track student activities, online research repositories, and tens of thousands of lines of programming code to stitch together the components. A gallery of the team’s best work from 2015 can be accessed at https://vimeo.com/eshelmansop/2015edidemo.

Three new staff members joined the EDI in 2015. Joel Floyd has expertise in medical illustration and animation and has created learning modules to accelerate student understanding of important areas in pathophysiology. Kevin Robinson is a storyteller with expertise in live-action video production. Kathryn Fuller, PharmD, joined The Academy as a 2015-2016 post-doctoral fellow. Her efforts focus on bringing a clinical perspective to the Molecular Foundations of Drug Action course by ensuring that fundamental molecular mechanisms were taught with “a patient at the end of every lesson.” The School also continued to support the education and training of Michael Wolcott, PharmD, and Kayley Lyons, PharmD, MS, both of whom are pursuing PhD’s in Educational Research in the UNC School of Education and serve as graduate research assistants in The Academy with a focus on educational research and scholarship.
The EDI team also enhanced its video and audio equipment and purchased high-quality software. This year the recording studio was updated to provide a dedicated workstation that allows faculty instructors to record interactive lessons and high-resolution digital videography equipment for recording and streaming live action. The following link provides an example that combines storytelling with sophisticated, high-fidelity live-action video for one of the School's recent spinout companies: https://www.youtube.com/watch?v=N9PUMKwIhvA.

The School’s office of Continuing Education, with support from The Academy and the EDI team, continued to produce the live, monthly, interactive broadcast of Pharmacy Grand Rounds to hundreds of worldwide participants. This program featured a rotating panel of topics and speakers as well as an interactive question/answer session on the air and continued to be an unprecedented application of in-house resources and expertise specifically targeting educational improvements to practicing pharmacists: http://uncgrandrounds.org/.

Over the past year, the School once again elevated its educator development efforts. Drs. Angelo and Singleton organized an ongoing series of faculty development workshops focused on teaching and learning that were well attended by the School’s faculty and became an integral part of our efforts to build a community of faculty educators and scholars: http://go.unc.edu/k8M6Z.

**STRATEGIC OBJECTIVE 2**

**THE PRACTICE OF PHARMACY**

**STRATEGIC OBJECTIVE 2.1**

Position the School to capitalize on opportunities to advance the practice of pharmacy and improve patient care

The School and PACE have been engaged in identifying “best models of practice” in pharmacy. The PACE Division articulated a new strategic mission and vision during 2015 that addressed the creation, evaluation, and dissemination of best practices in the optimal use of medications and the practice of pharmacy. UNC Hospitals received the Best Practices Award at the 2015 Midyear Clinical Meeting in New Orleans, Louisiana for the fifth year in a row for their model of transitions of care. The UNC team was one of six award recipients for their project titled, “Impact of an Integrated, Closed-Loop, Pharmacy-Led Oral Chemotherapy Program on Clinical and Financial Outcomes.” The award recognizes outstanding practitioners who have implemented innovative systems and demonstrated best practices in health-system pharmacy.

In 2015, we completed a successful search for the Director of the Center for Medication Optimization through Practice and Policy (CMOPP), who will begin in January 2016. Over the past year, the center engaged in a strategic planning process, completed construction for a center space, hired a number of key personnel to support center activities, and initiated work on a 3 year $1.4 million contract with Community Care of North Carolina to support its efforts implementing a community pharmacy enhanced services network as part of a CMS Innovations Award. The Center was established by a $3,000,000 endowment from the UNC Eshelman School of Pharmacy Foundation and will engage in a number of key activities to facilitate better medication use, including the adoption of advanced models of care delivery and evaluation of the effectiveness of innovative models of care. We aspire for this Center to be a nationally recognized center of innovation in the creation, evaluation, and dissemination of best practices in optimizing drug therapy to improve human health and health care and to serve as a national leader in the dissemination of information, training of clinicians, and informing of policy makers.

The School continues to support many health-system residency programs throughout the state. PGY2 programs continued to be co-funded at UNC Hospitals, WakeMed Hospital, Mission Hospital, and the MAHEC in 2015. New residency programs supported by the School included a PGY2 in ambulatory care with an emphasis on population health and transitions of care at Mission Hospital, which was initiated with the first resident in July 2015. Two new PGY2 ambulatory care residency positions with a focus on rural health were established with the MAHEC and the Masters in Pharmaceutical Sciences with a specialization in Health Systems Pharmacy Administration added an additional graduate student/resident to the program. The School continued its partnership with Carolinas Poison Center for a two-year fellowship in clinical toxicology and the PGY1 Community Pharmacy Resident program.
expanded to include a new partner site. In partnership with the National Community Pharmacists Association and Mutual Drug Company, the School created a pharmacy residency program for new graduates interested in becoming independent community pharmacy owners to start in the 2016-2017 academic year: https://pharmacy.unc.edu/unc-pharmacy-launches-new-pharmacy-ownership-residency/

**STRATEGIC OBJECTIVE 2.2**

Engage the broader community in working with the School to advance the practice of pharmacy and improve patient care

The hub concept, illustrated in the diagram below, has been evolving for several years. The concept was designed to assign students to a hub during their experiential year(s), utilize key partner institutions as home base, and manage preceptor needs and requests from within each region. The hub system was utilized in the implementation of the Curriculum 2015 immersion experiences. All Chapel Hill based PY1 students were assigned to major health system partner sites in the central hub, including UNC Health System, Duke Health System, WakeMed Health System, and Cone Health System. Asheville-based PY1 students were assigned to Mission Health System. This approach strengthened our partnerships with these institutions and reduced the variability of learning experiences.

In 2015, 702 preceptors (96% located in North Carolina) provided practice experiences for our students at 373 sites. Preceptors continued to be critical to the success of our experiential education program. Beyond teaching our students in practice settings across the state, country, and internationally, many preceptors participated in teaching in courses on campus and in the AHEC seminar sessions. Preceptors served on committees throughout the School, engaged with student organizations, and participated in the design and implementation of Curriculum 2015.

Partnerships continue to be a strong and important piece of our educational process. The Partnership in Patient Care with UNC Health System is approaching its 5th year anniversary and continues to serve as a model for other institutions and schools, demonstrated by innovative practice development and teaching models as well as institution-valued student service. The partnership agreement with Duke was renewed with revisions that strengthened our relationship. The WakeMed partnership continues to be productive, with expanded teaching and precepting by residents and new preceptors. The School successfully engaged Cone Health as a major partner and has involved key preceptors there with the design and implementation of the immersion program for the new curriculum. The partnership with Mission Health System is critical to the success of the Asheville campus, and we have developed strong relationships through collaborations in clinical practice, education, and scholarship.
STRATEGIC OBJECTIVE 2.3
Create opportunities that promote leadership and professional development of faculty practitioners, preceptors, and residents

Preceptor development continues to expand and remains an important component to improving the educational experience for our students. Our preceptors acquired training opportunities locally from their AHECs and regions, from professional meetings and web-based programs. The School offered its preceptor development workshop again in September 2015. The workshop was offered in Chapel Hill and Asheville with two tracks, one for new preceptors and one for advanced preceptors. The workshops were taught using a flipped education model, where attendees completed preparatory reading for continuing education hours prior to the workshop so that the workshop could be focused on discussions, case examples, and role-playing. Thirty-three preceptors attended the Asheville workshop (26 new and 7 advanced) and 78 preceptors attended (49 new and 29 advanced) in Chapel Hill.

Pharmacy Grand Rounds was launched in January 2013 and continues to attract a broad audience. This program offers topics with timely information provided monthly using live and archived Accreditation Council for Pharmacy Education (ACPE)-accredited continuing education formats via the web to subscribers of the program. The programs are developed and presented by faculty from the School and the UNC Hospitals and technological enhancements have improved the quality of the webcasts. This program is delivered in partnership with the American Society of Health System Pharmacists (ASHP) and is intended mainly for health system and hospital pharmacists. Since the launch in January 2013 through October 2015, a total of 9745 ACPE credit hours have been earned.

The Office of Postgraduate Continuing Education co-sponsored 129 continuing pharmacy education (CPE) programs with the AHECs across the state plus additional programs with UNC Hospitals, the North Carolina Association of Pharmacists (NCAP), and regional pharmacy associations. In 2014, the UNC CPE Office was awarded the contract as the sole CPE provider for NCAP through March 2015 and renewed in 2015 for another year. The Office also conducted four webinars distributed statewide and four certificate programs on Pharmacy-based Immunization Services and Medication Therapy Management (MTM). The CPE Office launched a new online CPE registration portal in 2015. This system is more user friendly and efficient for the CPE Office reporting.

The Residency Teaching Certificate (RTC) received 33 applications for 2015-16 and 27 were accepted into the program. Growing interest in the RTC program exceeds the capacity of the current program. In light of the increased interest, curricular changes within the School, and the proposed guidelines from AACP on these programs, a broader perspective on the future design of this program is warranted. Under the direction of The Academy, plans are underway to re-evaluate the teaching certificate program and to assess opportunities for expansion.

STRATEGIC OBJECTIVE 2.4
Create a culture that fosters increased productivity and excellence around research and the scholarship of application

The scholarship of application is pursued by various faculty members across the divisions in the School. There are currently 17 faculty members within the School pursuing the scholarship of application as their primary scholarly focus. Since January 2015, these faculty have published a total of 32 peer-reviewed journal articles in the scholarship of application and 19 grants have been funded. Co-funded and adjunct faculty also contributed to practice-based research, in the areas of ambulatory care pharmacy, community pharmacy, and hospital pharmacy. The School and UNC TraCS continued to partner to deliver research workshops and longitudinal development programs for faculty.

The most significant funding awarded in this area for 2015 was a $2.4 million grant from the American College of Clinical Pharmacy (ACCP) and ACCP Research Institute to study the impact of implementing comprehensive medication management (CMM) in contemporary primary care medical practices. The award supports collaborations between the School and the American Academy of Family Physicians National Research Network, the University of Minnesota College of Pharmacy and the Alliance for Integrated Medication Management. The award will facilitate the creation of a multistate practice and research laboratory to study best practices in comprehensive medication management.
management across 45 primary-care practices located mostly in North Carolina and Minnesota but also in four other states: https://pharmacy.unc.edu/unc-pharmacy-receives-2-4-million-from-accp-to-study-comprehensive-medication-management/

STRATEGIC INITIATIVE 3  
RESEARCH AND TRAINING ENTERPRISE

STRATEGIC OBJECTIVE 3.1  
Strategically position the School to be nationally and internationally regarded in core research areas

The cultivation of several internationally recognized core research areas have successfully positioned the School to engage in strategic partnerships accelerating progress in the development of new treatments and improving human health outcomes worldwide. Notably, 2015 was a benchmark year for the School and UNC in nanotechnology. Co-led by Leaf Huang, PhD, the Carolina Center of Cancer Nanotechnology Excellence received its third in a series of awards from the National Cancer Institute for cancer nanotechnology research. The $11.3 million, five-year grant will support multiple studies exploring the use of nanoparticles to create cancer vaccines and improve cancer drug delivery and efficacy. The Cancer Nanotechnology “Triple Crown” also included two awards to PI Alexander (Sasha) Kabanov, PhD: a two-year, $783,363 NIH R21 grant, and a 5-year T32 training grant in Cancer Nanotechnology. In addition, Dr. Susan Blalock received a $2.0 million PCORI award in collaboration with investigators from leading universities across the US to study communication interventions for rheumatoid arthritis medication usage.

A major initiative in Pharmacoengineering was developed in 2015 to seed high-impact and transformative research ideas generated by a critical mass of scientists and engineers with the technological expertise and entrepreneurship experience to successfully translate novel and cutting edge academic research to therapies for the people of North Carolina. Two projects that interface the pharmaceutical sciences with engineering have been funded, one focused on immunoengineering led by PI Sam Lai, Ph.D., and one focused on stem cell-mediated therapies led by PI Shawn Hingtgen, Ph.D. These projects were selected based on their near-term, game-changing impact and their potential for attracting federal funding and/or translation either through licensing to existing companies or via formation of a start-up.

Following the announcement of Dr. Eshelman’s unprecedented gift in December 2014, the School decisively moved to recruit additional world-class and high-profile researchers in 2015:

- Thomas Angelo, EdD, joined the School as a clinical professor of educational innovation and research in PACE and director of educator development in The Academy. Over the past 30 years, Dr. Angelo has served as a faculty member, faculty developer and academic administrator in the United States, New Zealand, and Australia. He has taught courses at Harvard University, the University of California at Berkeley, Boston College, University of Miami, Victoria University of Wellington in New Zealand and La Trobe University in Australia. He has directed six university educational development centers, four of which he founded, and twice served as an Associate Provost. He also has consulted on teaching, learning, assessment and curriculum design for more than 250 educational institutions and 65 associations and organizations and has delivered more than 90 higher education conference keynote addresses.

- Jeffrey Aubé, PhD, an accomplished scientist with an international reputation for conducting ground-breaking research in organic chemistry, joined the School as a Fred Eshelman Distinguished Professor in the Division of Chemical Biology and Medicinal Chemistry. He has received awards from the American Chemical Society, including the Cope Scholar Award and the Midwest Award. Dr. Aubé was elected as a fellow of the American Association for the Advancement of Science and the American Chemical Society and has held fellowships from Eli Lilly, American Cyanamid, and the Alfred P. Sloan Foundation.

- Alan Forrest, PharmD, a researcher and educator with more than 30 years of experience in pharmacokinetic and pharmacodynamic modeling, joined the School as a clinical professor in the Division of Pharmacotherapy and Experimental Therapeutics. Forrest is an international leader in pharmacometrics, optimizing individual patient therapy and advancing the application of pharmacokinetic, pharmacodynamic,
and toxicodynamic systems analysis to infectious diseases. He serves as an expert advisor to the FDA and will lead the expansion of research and teaching activities in pharmacometrics and personalized medicine.

STRATEGIC OBJECTIVE 3.2
Develop and identify funding mechanisms to prime and support high impact research programs

Our faculty continue to seek support for high impact research from a variety of funding sources. In 2015, the office of the Associate Dean for Research and Graduate Education communicated weekly with division chairs and faculty about funding opportunities from various sources, including foundations and non-NIH sources. As described in strategic objective 3.6 below, faculty entrepreneurs applied for Small Business Innovation Research (SBIR) and Small Business Technology Transfers (STTR) at a much higher rate than in the past. Dr. Kabanov was awarded an NIH T32 postdoctoral training grant in cancer nanotechnology. The UNC-Duke Collaborative Clinical Pharmacology T32 Postdoctoral Training Program received a perfect score on the competing renewal application, with Kim Brouwer, PharmD, PhD as the lead PI.

STRATEGIC OBJECTIVE 3.3
Establish new research centers and institutes in the School that have high impact and ensure existing centers are continually positioned to lead the defined research area

Following revisions made by the Board of Governors in early 2015, the University drafted updated policy regarding Centers and Institutes on campus. School leadership has initiated the implementation of its own measures to ensure the development, growth, and sustainability of our centers.

Existing Center Updates:
- Center for Integrative Chemical Biology and Drug Discovery (CICBDD) received a $3 million gift from Fred Eshelman to advance medications for cancer patients. This funding was critical in the recruitment of faculty this year.
- Center for Pharmacogenomics and Individualized Therapy (CPIT) developed and launched an initiative to personalize training of students in individualized therapy. Using their own DNA sample, analyzed by 23andMe, students learned how the information about their own genetic variants can inform appropriate drug selection and dosing.
- Center for Nanotechnology in Drug Delivery (CNDD) received a number of center-sustaining grants, including a T-32 training grant, and received media attention for its discoveries with the potential to develop treatments for neurodegenerative diseases.

New and Proposed Center Updates:
- Center for Medication Optimization through Practice and Policy (CMOPP) will focus on improving the safety and effectiveness of medication use through innovative models of practice and health policy.
- Center for Innovation in Pharmacy Simulations (CIPS) will develop state-of-the-art, data driven technology platforms to develop simulation tools to enhance education and pharmaceutical research.
- Proposed Pharmacometric Center for Precision Medicine will focus research and teaching on improving the efficacy and safety of drug therapy and streamlining the drug development process through the use of innovative mathematical and statistical modeling and simulation.
STRATEGIC OBJECTIVE 3.4
Increase the impact and recognition of School-based research at both the national and international levels, based on accepted metrics of faculty productivity

As the School received worldwide press for the launch of the Eshelman Institute for Innovation and several strategic partnerships, a number of faculty were recognized by mainstream media outlets for the potential impact of their School-based research. In 2015, widely covered stories included:

- Elena Batrakova, PhD, led a team that extracted exosomes from immune cells and successfully loaded them with the enzyme catalase, a technique that is the first to deliver a large therapeutic protein to the brain. Her team at the CNDD believes a nasal spray capable of delivering this potent antioxidant beyond the blood-brain barrier represents a significant step forward in treating chronic conditions caused by neuron-killing inflammation. Drs. Batrakova and Kabanov also received a Technology Enhancement Grant from the North Carolina Biotechnology center for commercializing a distinct technology whereby genetically modified white blood cells deliver GDNF and “teach” neurons to make the protein for themselves.
- Researchers led by Stacie Dusetzina, PhD, reviewed Medicare data on what physicians not affiliated with hospitals charged for chemotherapy drugs. The study, the results of which were released prior to an editorial from a large group of oncologists in the Mayo Clinic Proceedings on the same topic, found that uninsured cancer patients were asked to pay two to forty-three times what Medicare would pay for the treatments.
- A research team led by Sam Lai, PhD, showed that the amount of protection offered by microbes that appear to strengthen a woman's natural physical barriers against sexually transmitted infections, such as HIV, may depend on the type of helpful bacteria present in the mucus.
- William Zamboni, PharmD, PhD, was the senior author on a study that indicated that clinicians may need to learn more about a patient’s tumor before prescribing treatment with one of the newer nanoparticle drugs. The research team compared the amount of doxorubicin and its nanoparticle counterpart, Doxil, delivered to two tumor models of triple-negative breast cancer and found that one type of tumor received twice as much Doxil as the other, one of the first reports demonstrating a relatively new theory that a tumor’s environment may impact the effectiveness of drug delivery systems.

Faculty Honors:
- Stephen Eckel, PharmD, MHA, Tony Hickey, PhD, and Dr. Zamboni received 2015 BDO Life Sciences Awards from the Triangle Business Journal.
- Kuo-Hsiung Lee, PhD, was named the winner of the 2015 Earnest R. Volwiler Award, the highest research award from the AACP.
- Jo Ellen Rodgers, PharmD, was selected as the 2015 recipient of the Cardiology PRN Service Award. The award recognizes contributions and service to health-care institutions by an active member of the ACCP Cardiology PRN.

STRATEGIC OBJECTIVE 3.5
Strengthen or establish research partnerships with universities, federal agencies, and the industry

HIV Cure Center: GSK and UNC-Chapel Hill established a unique partnership to seek breakthroughs in finding a cure for HIV/AIDS. This dedicated HIV Cure Center, and its jointly owned new company, will focus on the latest scientific approaches to curing HIV, including a new FDA-approved study to reveal hidden viruses and augment the immune system of HIV-positive volunteers to clear the last traces of the virus from infected cells. Angela Kashuba, PharmD’s research team will lead preclinical and clinical pharmacology efforts for the partnership.

PharmAlliance: PharmAlliance is a unique, international partnership between three global leaders in pharmacy education, the UNC-Chapel Hill, Monash University, and University College London. PharmAlliance partners work collaboratively to inspire and train tomorrow’s professional leaders and practitioners, transform education delivery, and address major research challenges in pharmacy and the pharmaceutical sciences.

Pharmacoengineering: A $1.8 million grant through the Research Opportunities Initiative Awards from the UNC General Administration facilitated the establishment of a partnership between the School and the Department of
Biomedical Engineering at UNC-Chapel Hill and North Carolina State University. The Pharmacoengineering program is the first of its kind in an emerging discipline, applying cutting edge experimental approaches from life sciences, chemistry, and physics in conjunction with theoretical and quantitative methods of engineering, mathematics, and computer science.

**Structural Genomics Consortium:** The UNC-Chapel Hill joined Goethe University Frankfurt, the Karolinska Institute, Unicamp Campinas, the University of Oxford, the University of Toronto, and a number of foundations and pharmaceutical companies in the Structural Genomic Consortium. This public-private partnership was created to accelerate research by making its research output available to the scientific community with no strings attached. This open, worldwide, collaborative network aims to expand drug discovery unimpeded by personal, institutional, or commercial interests.

**NIH T32 Training Programs:** The Carolina Cancer Nanotechnology T32 Training Program and the UNC-Duke Collaborative Clinical Pharmacology T32 Postdoctoral Training Program represent strategic partnerships with other units on campus, academic institutions, and the FDA (for the Clinical Pharmacology T32).

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**STRATEGIC OBJECTIVE 3.6**

Continue to translate discoveries and best practices developed within the School to practical solutions improving human health and health-care outcomes

In 2015, the faculty and students continued to make major strides in their efforts to ensure that their discoveries and innovations will benefit patients and improve healthcare outcomes. The School faculty filed 21 ROIs (reports of invention) and filed/prosecuted 55 patent applications (provisional, PCT, US and foreign patents) in 2015; 2 patents were issued. Four new companies were launched this year by the School faculty members: Falcon Therapeutics (Dr. Hingtgen); Mucommune (Dr. Lai); Panacise Bio (Dr. Rihe Liu); and Iris Biomed (Dr. Lawrence). To date, 20 startup companies have been launched by the School faculty as founders/cofounders, and the following companies have active UNC licenses: Arcato Labs (Dr. Jay); Capture Pharmaceuticals (Dr. Jay); ChemoGLO (Drs. Zamboni and Eckel); Glycan Therapeutics (Dr. Liu); Initos Pharmaceuticals (Dr. Juliano); KinoDyn (Drs. Johnson, Jin, Graves); Meryx Pharmaceuticals (Drs. Frye and Earp); NeuroNano Pharma (Dr. Kabanov); NeuroGate Therapeutics (Dr. Kohn); NovoLipid (Dr. Cho); Qualiber (Dr. Huang); Qualyst Transporter Solutions (Drs. Brouwer, Pollack, Thakker); Synereca Pharmaceuticals (Dr. Singleton); Wildcat Nanoglo (Dr. Zamboni); only a few of these companies have ceased their operation, while most of them remain viable to date. Cirrus Pharmaceuticals (Dr. Hickey) and Oriel Pharmaceuticals (Dr. Hickey) have successful exits.

Twelve SBIR/STTR applications were submitted in 2015. Initos Pharmaceuticals was awarded a Phase I STTR grant, and Capture Pharmaceuticals received a Phase II SBIR grant. Qualiber received “One NC” matching funds in 2015 for the SBIR Phase II grant it was awarded in 2014. Meryx raised two rounds of funding totaling $4 million during 2015. Dr. David Lawrence (Iris Biomed) and Dr. Rihe Liu (Panacise Bio) were awarded CTSA 4D grants to advance their respective technologies towards commercial endpoints. Dr. Denise Rhoney and her collaborators at the University of Kentucky College of Pharmacy were awarded a CTSA-Multi-Institutional grant to improve the outcomes of critically ill patients through optimized drug dosing. The North Carolina Biotechnology Center awarded a $50,000 Technology Enhancement Grant to the UNC Office of Commercialization and Economic Development to support research by Drs. Kabanov and Batrakova to develop cell-mediated delivery of protein therapeutics for Parkinson’s disease.

Drs. Eckel and Zamboni as well as the School were recognized by the Triangle Business Journal (TBJ) for innovation at the TBJ annual award ceremony. Dr. Thakker was recognized by the UNC Office of Technology Development as the 2015 Inventor of the Year for his contributions as an inventor and for fostering technology development/commercialization at the UNC Eshelman School of Pharmacy and at UNC-Chapel Hill. Through a continuing partnership between NC Small Business Technology Development Center and the School, three PharmD students (Amy Li, Brandon Boyle, and John Jones) had an opportunity to serve as paid interns during the summer of 2015 with four Pharmacy startups, a School faculty member, and an RTP company.
A 1,500 square foot MicroIncubator facility was formally established in Kerr Hall to support School startup companies. The space includes wet lab, cubicle space, and access to a shared private office space. Qualiber (Dr. Huang), Meryx, Pharmaceuticals (Drs. Frye and Earp), Capture Pharmaceuticals (Dr. Jay), and Initos Pharmaceuticals (Dr. Juliano and Mr. Janzen) have licensed the use of space in the facility.

The Eshelman Institute for Innovation announced the awardees of its inaugural round of funding in October 2015. School faculty and staff submitted 53 proposals across the four tiers of funding, which ranged from $50,000 to $2 million. In total, the Eshelman Institute for Innovation awarded nearly $9.4 million to support 24 approved projects.

STRATEGIC OBJECTIVE 3.7
Improve the quality and appeal of the graduate education and postdoctoral training programs that position our students and trainees to become the next generation of scientific leaders

The School continues to engage key stakeholders and incorporate the feedback of students and alumni into its programmatic initiatives in graduate education. Notably, in 2015, an ad hoc committee comprised of faculty, a graduate student, and an alumnus finalized a draft of the revised Graduate Program Guidance Document. The Graduate Education Committee also made major updates to the Pharmaceutical Sciences Student Handbook. These documents reflect and define the overarching programmatic philosophy and culture of the School’s graduate program and identify its broad core competency expectations. Both will be reviewed annually to ensure they reflect our programs and help position our graduate students to become the next generation of scientific leaders.

The School continues to examine and implement best practices for training programs to increase exposure and remove barriers to recruiting, supporting, and retaining a diverse population of students. The School has partnered with the School of Medicine’s Biological and Biomedical Sciences Program (BBSP) Office of Diversity Affairs and the Initiative for Maximizing Student Diversity to expand the School’s intentional efforts in recruiting underrepresented minorities at national conferences. Following Vanderbilt’s Annual National Name Exchange Graduate Diversity Recruitment Fair, the annual meeting of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science, and the Annual Biomedical Research Conference for Minority Students, nearly 400 students interested in biomedical sciences were contacted through broadcast follow-ups; thirty-five prospective students who indicated strong interest in professional pharmacy and pharmaceutical science training programs received personalized and tailored attention from the School. Additional efforts to expose underrepresented minority prospective students to the School’s programs included:

- an undergraduate Meyerhoff Scholar interested in pharmaceutical sciences was sponsored over the summer as part of BBSP’s Summer of Learning and Research (SOLAR) program;
- a previous School-sponsored SOLAR participant was accepted into UNC’s Post-baccalaureate Research Education Program and has formally submitted his application for admission for fall 2016; and
- the School’s application fee supplement program, designed to remove financial barriers associated with applying for admission was utilized by two prospective students.

Identification of University and external scholarships, fellowships, and awards continues to be a focus of the Assistant Dean for Graduate Education and the Assistant Director of Student Affairs. Available and upcoming opportunities are strategically promoted to prospective and current students via broadcast communications, personalized outreach, and social media. Twitter and Facebook have been particularly successful in demonstrating the wide network of resources available at the School and the University. Prospective students for both the pharmaceutical sciences and professional program have utilized these channels to reach out and seek additional information. Intentional steps also have been taken to enhance programming at the School’s graduate student recruitment weekend. For the 2015 session, the Alumni Outreach Committee invited a former graduate student to share how her experiences at the School prepared her for a successful industry career. Organizers plan to expand this component in future recruitment as the value of this perspective became immediately apparent.

Graduate students and their work were honored with numerous newly awarded fellowships and awards the 2015-2106 academic year, including AFPE Pre-Doctoral Fellowship in the Clinical Pharmaceutical Sciences (1), 1-Year Renewal of 2014 AFPE Pre-Doctoral Fellowships (3), AFPE-Phi Lambda Sigma First Year Graduate Scholarship (1), ASHP Foundation Master’s Residency Grant (1), National Science Foundation (NSF) Graduate Research
Fellowship Program (GRFP) Fellowship (3), Eshelman Fellowships (5), Ferguson Fellowship (1), Royster Fellowship (6), NIH F31 Fellowship (1), National Institute of Arthritis and Musculoskeletal and Skin Diseases (1), Dissertation Completion Fellowships (2), SHEPS Fellowships (2), Graduate School Transportation Grants (3), AAPS APQ Best Poster Award (1) ASCPT Presidential Trainee Award (1), Khalid Ishaq Travel Award (1), Kathryne A. Brewington Award (1), and USP Global Fellowship (1).

Of the eighteen MS and PhD students who defended their dissertations as of December 1 this year, 6 accepted health system or hospital positions, 4 accepted industry offers, 2 accepted academic faculty appointments, two accepted academic postdoctoral positions, and two accepted government appointments, one accepted a nonprofit postdoctoral position, and one became a fellow at the Eshelman Institute for Innovation. The School has launched an alumni mentoring program (AMP) where current graduate students are paired with alumni in academic, industry, or government. In order to assess the program’s preliminary impact and guide expansion, the School recently developed and distributed a survey to participants of AMP. The Assistant Director of Student Affairs has been invited to give a presentation about the development of graduate student and alumni mentoring programs at the National Association of Graduate Admissions Professionals in April 2016.

The competing renewal application of the School’s first NIH-funded T32 training grant, the first awarded to the school of pharmacy in collaboration with Duke University, received a perfect score from peer reviewers. In its first 4 years, this program supported thirteen trainees (eight MDs, five PharmDs). Of its eight graduates, five are in faculty positions at research-intensive universities, one is a pediatrician conducting patient-oriented clinical pharmacology research, one is an FDA Clinical Pharmacology reviewer, and one is a postdoctoral fellow at the Children’s Hospital of Philadelphia. In 2015, the School received its second NIH-funded T32 training grant to establish the Carolina Cancer Nanotechnology Training Program (CCNTP). The CCNTP is designed to make a major contribution to the growth of the cancer nanotechnology workforce by providing both deep and broad training experiences to a highly select cohort of postdoctoral fellows.

The Graduate Student and Postdoc Challenge component of the Pharmacoeengineering program enables teams of trainees to rotate through clinical environments and gain first-hand understanding of drug-delivery problems and needs facing patients and healthcare workers. Teams brainstorm novel solutions to address specific drug-delivery needs and perform market analyses to establish the impact, and design and test a proof of concept solution.

**STRATEGIC OBJECTIVE 3.8**

**Increase the visibility of the School via organization and sponsorship of research and educational events**

**PHARMSCI:** The 2015 conference “Frontiers in Chemical Biology: Transforming Drug Discovery” was held on October 15, 2015. This event took place at the Carolina Club with an attendance of 260, including 118 non-UNC attendees. Eight world leaders in the field of chemical biology spoke at this noteworthy event. The Tenth Annual Chapel Hill Pharmaceutical Sciences Conference, entitled “Addressing Methodological and Ethical Issues in Pediatric Medication Safety Research,” will take place on May 12-13, 2016.

**Nanoformulation Workshop:** The Carolina Nanoformulation Workshop was developed this year and will be hosted by CNDD in March 2016. The workshop will present nanotechnology-based strategies that have been successful in clinical trials, provide training on a comprehensive body of physicochemical characterization techniques to develop pharmaceutical-grade nanoparticle therapies, provide training on analytical characterization of in vivo nanoparticle disposition, and provide training on factors affecting nano delivery to tumors.

**Asheville Summit for Provider Status:** The School hosted the Asheville Summit in March, 2015. The summit provided an opportunity for students to learn about provider status and hear about successful models of integrating pharmacists into health care. More than 120 students, state officials and representatives from nine pharmacy schools across the country attended.
STRATEGIC OBJECTIVE 4.1
Expand the School's education, research, and practice mission globally

In 2015, the School made major progress toward the goals set forth in Strategic Initiative 4. The Office of Global Engagement helped facilitate the global education, research, and practice initiatives of the School and David Steeb, PharmD, joined the faculty and assumed responsibility as the Director of Global Engagement in July 2015.

To expand the School’s mission globally, PharmAlliance, was formally launched on March 10, 2015 among the UNC Eshelman School of Pharmacy, the Faculty of Pharmacy and Pharmaceutical Sciences at Monash University, Melbourne Australia, and UCL School of Pharmacy at the University College (UCL), London, United Kingdom. The primary purpose of PharmAlliance is to enable the faculty, staff, and students among the three participating institutions to work together synergistically to advance their education, research, and practice mission globally, and have a positive impact on healthcare. The partnership seeks to tackle problems that face the profession of pharmacy and the field of pharmaceutical sciences on an international level, working in collaboration to advance initiatives that any one institution could not accomplish alone. The mission, values, and governance for PharmAlliance have been developed to guide the course of the PharmAlliance partnership. Monash hosted a three-way meeting in January of 2015, where the planning for the launch began. The School hosted delegations from UCL and Monash from March 8 – 10 to officially sign and launch the PharmAlliance partnership and to begin discussions on potential research collaborations. The School also hosted a one day Post-AAPS PharmAlliance Symposium on October 30, 2015. Multiple mutual visits among the faculty and leadership of the three institutions took place over the past year and international faculty partnerships and joint research ventures were initiated. The three institutions put forward significant resources to promote and foster collaborations among faculty, students, and staff and working groups were formed to facilitate the development of collaborative efforts across the mission of the three institutions.

Drs. Singleton and McLaughlin have participated in joint PharmAlliance educational initiatives on behalf of the School. Both visited Monash University during late February 2015, where discussions focused on educational innovations between the two schools of pharmacy. They were also involved in the 2015 Pharmacy Education Symposium hosted by Monash University, located in Prato, Italy, during July 2015. Both attended a two-day PharmAlliance pre-education symposium meeting with Dr. Steeb to discuss and collaborate on mutual interests in pharmacy education initiatives between the three institutions. Additionally, during the educational symposium, they were invited to speak at various seminars, workshops and panel sessions. The School is currently working with Monash University in the planning stages of the 2017 Pharmacy Educational Symposium.

During October 2015, Drs. Corbett and Steeb, and Adam Bernstein, PharmD Candidate 2016, attended the ACCP Global Conference on Clinical Pharmacy in San Francisco, CA, and participated in discussions on global pharmacy. Prior to this conference, Dr. Corbett and Mr. Bernstein participated in Apoteko, a one-day meeting organized by the University of California, San Francisco concerning global initiatives in various US schools of pharmacy.

As an academic institutional member of the International Pharmaceutical Foundation (FIP), Drs. Blouin, Thakker, Steeb, Law, Corbett and Eckel attended the 2015 FIP World Congress in Dusseldorf. Dr. Thakker was selected as an Expert Member on FIP’s Board of Pharmaceutical Sciences. Dean Blouin was invited to speak on UNC’s educational renaissance and curricular transformations and gave a joint presentation with Dr. Bill Charman, Dean of the Faculty of Pharmacy and Pharmaceutical Sciences, Monash University. PharmAlliance held a strategy meeting at FIP in Dusseldorf. Drs. Eckel and Corbett made invited presentations at the FIP congress. Dr. Corbett has been invited to participate in the Natural Products Interest Group, FIP.

The School continued discussions with the Nicolae Testemitanu State University of Medicine and Pharmacy (SUMP) in Chisinau, Moldova to establish a relationship that would benefit from the long-standing partnership between the State of North Carolina (National Guard) and Moldova. Two students completed a rotation and Dr. Corbett visited SUMP during July, 2015.
The School began discussions with Dr. B. Suresh, the Vice Chancellor of JSS University and Dr. Parthasarathi, Dean of the JSS Faculty of Pharmacy in Mysore India. JSS has an ACPE certified six-year PharmD program, one of four such programs in the world. In April 2015, a delegation from JSS visited UNC to learn more about the School’s education and practice based efforts. In August, Dr. G Parthasarathi, Dean of JSS University visited UNC to continue conversations that began in April.

In a partnership with the Gillings School of Public Health, Drs. Steeb, Corbett, and Miranda Law, PharmD, are developing a course focusing on global health concepts exemplified through pharmacy practice. The Global Engagement Advisory Committee was created at the School to provide advice and feedback on global initiatives.

STRATEGIC OBJECTIVE 4.2
Initiate and participate in global health-care initiatives in partnership with UNC health science schools and other health-care institution.

The School aspires to provide at least one international experiential education experience to PharmD students who wish to have such an experience during their fourth year. The Global Pharmacy Scholars Program (GPS) was launched and 18 PharmD students were selected to pilot international APPEs during the 2014-2015 academic year. The GPS pilot program is expanding in 2016 to offer an international experience to 36 students. The students for 2016 were selected in 2015 and two additional sites were established. The eight sites available for international APPE rotations include Malawi, Zambia, Australia (Monash), United Kingdom (UCL), Moldova, Japan, India, and Canada.

The School partnered with the Institute for Global Health and Infectious Disease (IGHID) to develop global health experiential education sites for fourth year PharmD students in Malawi, integrated with the UNC Project-Malawi, and in Zambia, integrated with UNC Project-Zambia. A pilot in Lilongwe, Malawi was launched in June 2014 and expanded in 2015 to six students who went on rotation during June-August. The program will expand to 12 students during June-November of 2016. Two students will pilot a rotation in Lusaka, Zambia in October of 2016.

The School continued to pursue a relationship with academic institutions in Japan and two students participated in an international rotation at Keio University during June, 2015. Two more are anticipated to participate in June, 2016.

STRATEGIC INITIATIVE 5
INSTITUTIONAL ENVIRONMENT AND BUSINESS OPERATIONS

STRATEGIC OBJECTIVE 5.1
Deliver improved team-based operational practices and financial performance

Full utilization of the contracts functionality in Infoporte was delayed due to the ConnectCarolina conversion project. All contracts and service agreements signed by the Dean’s Office have been entered into Infoporte. The business office will develop a policy and workflow for the new system prior to implementation School-wide. This process will be expanded to include all academic divisions, research centers, and administrative units’ contracts in an effort to evaluate the School’s current service contracts and reduce overall costs by 20%.

The 2014 Business Cluster Survey was administered in January 2015 with results compiled in March 2015. Sixty-one percent of respondents agreed or strongly agreed that Infoporte met their needs and 63% of respondents agreed or strongly agreed that Infoporte offered a simplified way to access information. With the conversion to ConnectCarolina, there were several glitches in Infoporte that continued to be a work in progress by the University’s IT Department. Faculty InfoPorte training is progressing in three phases of one-on-one hourly sessions: Phase 1-Division Chairs and Faculty with EII Awards (50% complete); Phase 2-Faculty with Startup Commitment Funds (beginning in January); Phase 3-All Remaining Faculty (beginning in February). Sessions focus primarily on the current functionality of InfoPorte to include the Ledger Rollups, Transactions, and Grant Profile tabs within the Finance application. The secondary focus is where and how to use chartfield string values on those Finance tabs to return the appropriate data.
The Finance, Administration and Operations team exceeded the key performance indicator in which at least 80% of faculty and staff perceive the operational efficiencies of the School to be effective. Business Cluster Survey results indicated that 99% of respondents Agreed or Strongly Agreed that the Business Cluster staff exhibited a “we are here to help” attitude. On average, 92% of respondents answered Agree or Strongly Agree to each of the questions included in the Business Cluster overall portion of the survey, including questions related to timeliness and accuracy of responses, service-oriented approach, backup support amid staff turnover, increased transparency, and efficient communications.

STRATEGIC OBJECTIVE 5.2
Provide a clean, world-class environment for the School to achieve its goals

As part of the University-wide Capital Campaign, the School identified its goals and priorities in order to establish a total campaign goal. Approximately 10% ($15M of the total $154M) of the campaign is earmarked to reengineer and renovate Beard and Kerr Halls to create a highly interactive environment for enhanced faculty-student engagement and student learning consistent with the vision of the Educational Renaissance initiative. The School is currently in the silent phase of the UNC-Chapel Hill Capital Campaign, with the official launch of the campaign scheduled for spring 2017.

The Beard Hall Renovation Planning Committee completed its work in early 2015. Three immediate projects were initiated to provide critical spaces to support the new curriculum: 1) two 24-seat classroom spaces that can each be divided by a movable partition into 2, 12-seat spaces; 2) one 72-seat classroom space primarily intended as an active learning classroom, but flexible enough to be rearranged into a traditional classroom layout or u-shape layout; and 3) six patient simulation spaces to support student interactions with teaching assistants and actors who simulate actual patients that can otherwise serve as study spaces for 1-3 students, small videoconference rooms, interview spaces, short-term offices, and short-term research areas. A fourth project is being planned to create a research suite that will focus on simulation development and will house three enclosed offices, a glass-enclosed small conference room and space for 8-12 staff focused technology development.

A longer-term capital facilities project is being developed to complete renovation of the remainder of the 2nd floor, a portion of the 3rd floor and infrastructure located in the attic serving the 2nd and 3rd floors. The UNC Board of Governors authorized the estimated $9.7M project in October 2015. A design architect for the project will be selected in early 2016 with the objective of completing the project in early 2018. Funding permitting, renovation of the full 3rd floor may follow in a later project and a third phase may enclose the courtyard located between Beard and Kerr to form an atrium providing much needed space for informal as well as formal gathering supporting the entire mission of the School.

On the Asheville campus, the boardroom-refurnishing project is progressing toward completion. The AV infrastructure is installed and in use and furniture will begin arriving in December 2015. Planning for forming three patient simulation spaces is complete to be followed by construction in December 2015 and January 2016.

STRATEGIC INITIATIVE 6
OUR PEOPLE

STRATEGIC OBJECTIVE 6.1
Develop leading practices and build on existing excellence in the recruitment and development of outstanding faculty

Over the past year, the School’s Office of Human Resources established a mechanism for collecting data to ensure that the School meets its goals to develop leading practices and build on existing excellence in the recruitment and development of outstanding faculty. During 2015, there were no tenure track faculty up for tenure, fixed-term faculty were reappointed with an appointment length for at least as long as their prior appointment at a rate of 100%, and the School retained 95.5% of high performing faculty.
The OSPA administered the 2014 Faculty Activity Report and 2015 Career Planning Document via Infoporte for the third consecutive year. The career-planning document was incorporated into the annual faculty activity reporting process to facilitate an in-person meeting and provide the chair with the opportunity to address faculty development needs and set goals for the following year. Infoporte will again serve as the storage center for the completed career planning documents, therefore documenting both current and historical plans. The 2014 summary report of faculty activity reporting is available on the School’s website.

STRATEGIC OBJECTIVE 6.2
Identify faculty with the interest and talent to advance to leadership positions in the School

The School continually evaluates its organizational structure to identify opportunities for succession planning and career development. Several faculty have assumed new leadership roles within the School over the past year.

Junior faculty in an intensive scholarship track are offered the opportunity to join the Bill and Karen Campbell Faculty Mentoring Program. Dhiren Thakker succeeded Hal Kohn as the Director of this program in 2015. The goals of this program are to assist in the recruitment and retention of junior faculty and help new junior faculty reach their full potential through mentorship from the School’s talented senior faculty and mentors from outside the School and academia. In addition, the Campbell Mentoring Program faculty have the opportunity to participate in the CTSA KL2 Award offered through NC TraCS Institute. As of December 2015, 17 junior faculty members are participating in the program.

The School is committed to financial and mentoring support of accepted applicants into the AACP Academic Leadership Fellows Program (ALFP) to develop faculty in administrative positions as promising leaders who will be prepared to make significant contributions to the School. ALFP is a yearlong experience with four intensive sessions in residence spread throughout the year supported by an ongoing informal program of mentoring and introduction to leadership roles. Drs. Pam Joyner, Wendy Cox, Adam Persky, Phil Rodgers, and Stefanie Ferreri, are alumni of this program. Dr. Joel Farley, associate professor in the Division of Pharmaceutical Outcomes and Policy graduated from this program in July 2015.

STRATEGIC OBJECTIVE 6.3
Develop leading practices and build on existing excellence in the recruitment and development of outstanding staff

In September 2014, the School’s Office of Human Resources (OHR) implemented a formal 270/360-degree tool for staff utilizing the learning management system Avatar. The purpose of the 270/360-degree evaluation is to seek feedback from a variety of constituents including direct reports, peers, supervisors, and customers in order to identify opportunities for training and professional development for the staff member. Once data were collected, analyzed by OHR, the School’s development specialist met with supervisors to discuss the results and establish a development plan for employees. They then developed an individualized learning module based on employee job responsibilities. Each track within the module requires the completion of approximately four classes. Progress is reviewed during the staff’s annual review process each May. This process is conducted once every two years.

In addition, the School has organized a variety of structured learning experiences open to all faculty and staff through monthly “Lunch and Learns”. The School held monthly internal new employee orientations for all new faculty and staff to complement any onboarding/orientation provided by central University offices. The School plans to develop a robust online orientation to rollout to new employees in 2016. As part of this revamped onboarding program, the School is developing a mentor program for new employees. New employees will be paired with veteran employees in their Division to serve as a resource on the Division, School, and University. This will ease the transition for new employees and give them a go-to person for questions about their new position and will also serve as a leadership opportunity for current School employees.
STRATEGIC OBJECTIVE 6.4
Create a compensation assessment program for faculty and staff that uses marketplace benchmarks as a comparison

The UNC Eshelman School of Pharmacy Pay Philosophy Hiring of Staff/Salary Adjustments for SPA Staff/Position Reclassifications, effective March 1, 2013, highlights the School’s commitment to compensating employees in career-banded positions at levels sufficient to encourage excellent performance and to maintain the labor market competitiveness necessary to recruit, retain and develop a strong workforce.

STRATEGIC OBJECTIVE 6.5
Foster and maintain a work and learning environment that is inclusive, welcoming and supportive, and free from discrimination

The School continues to foster an environment of inclusivity among faculty and staff through frequent communication, regular faculty and staff meetings, and other forums to promote the exchange of information, sharing of ideas, and solicitation of feedback and input into important School matters.

STRATEGIC OBJECTIVE 6.6
Remain engaged with alumni in both the professional and graduate programs

The Office of Advancement continually assesses its alumni and donor database, hosted by the UNC General Alumni Association and University Development. In 2015, 8,496 alumni were listed in the database. Of that total, 86% included contact information. The Office continues to solicit correct contact information in all appeals sent via mail, email, and social media. In addition, the North Carolina Board of Pharmacy's list of registered pharmacists was used to update the alumni database. The alumni database allows the Office to label constituents with identifiable information, including scholarships received, funds stewarded, and board members, and will eventually allow the Office to input fellows and residents of the School.

The Office of Advancement exceeded its donor contacts goal of 15,600 per fiscal year by reaching 18,805. We also increased attendance at events to 500 individuals (up from 200), and engaged 25% of alumni as donors to the School per fiscal year. The Office continued to sponsor the Alumni Outreach Committee (AOC) Networking Dinner for alumni and current students of the School’s graduate divisions, hosted one continuing education class to attract PharmD alumni back to the School, and sponsored an event in Pinehurst for alumni.

The OSPA coordinates the administration of the School’s AACP Alumni Survey. The AACP Alumni Survey was administered in 2015 and nearly all responses for the School fell above the national average and average of our peer institutions: https://pharmacy.unc.edu/files/2015/05/2015_AACP_Alumni-Survey_Comparison-Report.pdf

STRATEGIC OBJECTIVE 6.7
Advance the School’s efforts in fostering a culture of diversity and inclusiveness through the development, evaluation, and dissemination of best practices

In 2015, the School formalized its commitment to fostering a culture of diversity and inclusiveness and established the Office of Innovative Leadership and Diversity. The Office uses a multifaceted approach, encompassing the diversification of the School’s workforce, creating an inclusive climate, developing and disseminating best practices, curricular infusion, and extending our reach to include research, scholarship, and professional practice. Strategically involved in outreach to all prospective students, the Office ensures that these efforts are centered on the School’s core value of promoting diversity and inclusiveness.

Twenty-eight students who participated in LEAD have been admitted to the School, two from Leadership Academy, eighteen from each M-FLIP and USDP, thirty-five from Pre-Pharmacy Club, ten from PCAT review, and twenty-four from the Office- directed undergraduate course titled Contemporary Communications in Healthcare.
In fall 2015, the Office developed and launched an elective course for graduate and professional students at the School titled Contemporary and Applied Communications in Healthcare. The course was designed for students interested in developing and enhancing their health communication skills across a broader range of constituents. Students were exposed to a multifaceted framework of communication and instructed by facilitators who represented a wide breadth of expertise, including School leadership, faculty members from the UNC School of Medicine, School of Nursing, and School of Media and Journalism, the UNC Healthcare system, practicing clinicians and researchers, as well as representatives from mass media and pharmaceutical industry.

Assistant Dean Carla White, Office of Innovative Leadership and Diversity, was named chair of AACP’s Special Task Force for Diversifying Human Capital. Twenty-five current professional students were provided leadership opportunities through Office initiatives and three students received scholarships in recognition of excellence in cultivating diversity. Nine students and one staff member wrote abstracts and presented posters at the NC Health Professions Diversity Conference poster competition. In addition to sweeping first, second, and third place, these individuals demonstrated the School’s commitment to diversity through their outstanding representation for the duration of the conference. Three regional speaking engagements and professional service on two national, one regional, four campus organizations serve as further evidence of the impact of the Office and its leadership.

In recent years, our entering PharmD classes have represented twenty-five states and five countries. Twenty-seven percent, 30%, 20%, 8%, and 12% of admitted students were from chemistry, biology, other science, non-science, or pharmacy track-no major background respectively. In fall 2015, 20% of the incoming class was composed of underrepresented minority students. The graduate program is comprised of equal components of US and International students roughly equal in gender representation. In addition to the initiatives identified in Strategic Initiative 3, the Office of Innovative Leadership and Diversity has served as a consultant to a number of efforts to foster a diverse and inclusive culture in the School’s graduate program. Importantly, the Office remains a resource for professional mentorship to PhD candidates, including working closely with a student-run committee to develop and launch the Cross-Cultural Leadership Development seminar.

Executive leadership, dean-level positions, and division chairs are approximately equally distributed between men and women, including one underrepresented minority individual. Underrepresented faculty members are reflected across all five divisions and diversity among staff and postdoc trainees continues to increase. The Office of Innovative Leadership and Diversity consults with researchers to ensure the School’s diversity statement and initiatives align with those of major research funding agencies and continue to serve as a resource for scholarship. In addition, the Office emphasizes the value of our alumni perspectives through the cultivation of an advisory board that provides insight for programmatic improvement and enhancement.

**STRATEGIC INITIATIVE 7**
**STRATEGIC PLANNING, ASSESSMENT, AND QUALITY IMPROVEMENT**

**STRATEGIC OBJECTIVE 7.1**
Strategically position the School to achieve its bold vision and aspirational goals

The School continues to strategically position itself to achieve its bold vision and aspirational goals, in part by refining the process for monitoring and reporting the strategic plan described in the 2013 Strategic Plan Annual Report and published on the Office of Strategic Planning and Assessment (OSPA) website. Using a dynamic and ongoing process of continuous assessment and planning has empowered the School to refine the strategic plan over time and ensure that it remains contemporary, forward thinking, and aspirational.

In May 2015, the strategic plan was brought forward to faculty for review and affirmation. Proposed changes to Key Performance Indicators (KPIs) were presented for endorsement and, as a result of faculty-endorsed amendments to the strategic plan, the 2012-2017 Strategic Plan (May 2015 revised version) was adopted. The revised plan was published on the School’s website, widely disseminated throughout the School community, and shared with key stakeholders. In addition, the Strategic Plan Roadmap Reports were presented to the Dean’s Executive Committee.
for review and discussion in the spring and fall of 2015. These reports were compiled by strategic initiative Team Captains, who highlighted notable achievements and needs for each KPI along with a color-coded dashboard of progress-to-date. During the past year, the number of KPIs warranting review dropped from 8% to 2%, the number of KPIs with no progress dropped from 9% to 7%, and the number of KPIs with some progress, considerable progress, or achieved rose from 83% to 92%.

The 2014 Eshelman gift represents a marked increase in donations to the School and was used strategically in 2015 to create and initiate the Eshelman Institute for Innovation. The EII will help the School achieve its long-term goals through strategic investment in innovation. In addition, the University Campaign goals were driven by the Goals and Priorities document, which is linked to the School’s Strategic Plan. Scholarships, professorships, and renovations for Beard Hall were identified as priorities for the next three years.

**STRATEGIC OBJECTIVE 7.2**

*Foster a culture of assessment and continuous quality improvement*

The School continues to make important strides toward fostering a culture of assessment and continuous quality improvement. The assessment process employed throughout the School continues to be refined to ensure that data are collected, analyzed, and shared with key constituents and used to inform continuous quality improvement. In addition, the OSPA expanded its website to include additional data, summary reports, and updates about strategic planning, assessment, and continuous quality improvement efforts at the School. The e-factbook was updated to include additional historical and contemporary data about the School’s personnel, operations, funding, growth, and impact.

The OSPA continued to facilitate the course evaluation process for all required and elective course offerings in the School at the professional and graduate levels. The OSPA reviewed all course evaluation results, identified courses and instructors “warranting further review” or “worthy of recognition,” and shared semester and annual summary reports with the School. In the 2014-2015 academic year, 81 courses were evaluated, 3 of which warranted further review, and 17 of which were worthy of recognition. Of the 290 instructors evaluated, none warranted further review, and 106 were worthy of recognition. Leadership at the level of the professional and graduate programs worked with course directors and instructors to develop action plans for improvement.

OSPA received 13 Survey Requests in 2015. Of those, 12 were administered and one was postponed to meet the timeline of the School. Additional summary reports highlighting the School’s use of data for quality improvement were regularly shared with School administration, faculty, staff, students, and other stakeholders, including the Strategic Plan Annual Report, AACP Graduating Student Survey and Alumni Survey Peer Comparison Reports, AACP Preceptor Survey Peer Comparison Reports, Faculty Activity Report Annual Summary Report, and Student Course Evaluations Semester and Annual Summary Reports. In this year’s AACP Graduating Student Survey, mean responses from our graduating students were higher than average responses from our peer institutions for 94% of the questions and higher than national averages for 86% of the questions asked on the survey. Similarly, our means were higher on 90% and 94% of the questions asked on the AACP Alumni Survey, respectively, than our peer institutions and all participating institutions nationally.

In 2015, the School established and charged an Assessment Committee with developing, documenting, and implementing an assessment plan for the Doctor of Pharmacy Program to ensure a process of continuous quality improvement at the program level. The committee worked to determine what data exist to inform program improvement, what additional data are needed, and what we are currently engaged in that should be omitted or significantly revised. To facilitate assessment of student learning, the School purchased ExamSoft, an online assessment platform, to measure student outcomes and map core curriculum elements. The software was piloted in the fall semester of the PY1 year, with additional training for faculty under development.

To further advance our assessment efforts, Dr. McLaughlin (Director of OSPA) was awarded an Eshelman Institute of Innovation Award for “Transforming data into knowledge: Fostering institutional effectiveness through real-time analytics,” a proposal to build a state-of-the-art data analytics system that provides decision support across the School and Eshelman Institute for Innovation. This work, a collaborative effort with Drs. Alex Tropsha and Wendy
Cox and the School’s Office of Information Technology, will advance our efforts to institutionalize assessment and accelerate change in knowledge management.

**STRATEGIC OBJECTIVE 7.3**

**Serve as a model institution for achieving excellence and best practice in assessment**

The School aspires to be nationally recognized as a model institution for developing best practices in assessment. In 2015, Dr. McLaughlin co-authored a manuscript in the October 2015 issue of Assessment Update with Liz Billings and Mary Roth McClurg, PharmD, describing the School's course evaluation process. The OSPA also presented “Faculty activity reporting: Meeting the needs of multiple stakeholders” and “Institutional ratings and rankings: Extending the Berlin Principles” at the 2015 Association for Institutional Research (AIR) Forum and “Aligning program-level assessment with course redesign” at the 2015 Southern Association for Institutional Research Conference. The OSPA’s online e-factbook, which can be found on the School’s website, was awarded First Place for 2015 Best Institutional Research E-Fact Book by the Southern Association for Institutional Research.

The importance of continuous assessment, evaluation, and refinement of processes and practices as a means of continuous quality improvement is a common thread that runs throughout all that we do, as evidenced by the accomplishments highlighted throughout this annual report.