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.
TABLE OF CONTENTS

STRATEGIC INITIATIVE 1: Educational Renaissance ................................................................. 4
  STRATEGIC OBJECTIVE 1.1: Transform Learning And The Curriculum Of The Professional Program........ 4
  STRATEGIC OBJECTIVE 1.2: Transform learning and the curriculum of the graduate program .................. 4
  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 .................................................. 5
  STRATEGIC OBJECTIVE 1.4: Create an environment that fosters educational research and the scholarship of education ........................................................................................................................................................................... 5
  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 .................................................. 6

STRATEGIC OBJECTIVE 2: The Practice Of Pharmacy .................................................................. 6
  STRATEGIC OBJECTIVE 2.1: Position the School to capitalize on opportunities to advance the practice of pharmacy and improve patient care ................................................................................................................................................................................................. 6
  STRATEGIC OBJECTIVE 2.2: Engage the broader community in working with the School to advance the practice of pharmacy and improve patient care ................................................................................................................................................................................................. 7
  STRATEGIC OBJECTIVE 2.3: Create opportunities that promote leadership and professional development of faculty practitioners, preceptors, and residents ................................................................................................................................................................................................. 7
  STRATEGIC OBJECTIVE 2.4: Create a culture that fosters increased productivity and excellence around research and the scholarship of application ................................................................................................................................................................................................. 8

STRATEGIC INITIATIVE 3: Research And Training Enterprise ....................................................... 8
  STRATEGIC OBJECTIVE 3.1: Strategically position the School to be nationally and internationally regarded in core research areas ........................................................................................................................................................................................................................................... 8
  STRATEGIC OBJECTIVE 3.2: Develop and identify funding mechanisms to prime and support high impact research programs ........................................................................................................................................................................................................................................... 9
  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 ........................................................................................................................................................................................................................................... 9
  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 ........................................................................................................................................................................................................................................... 10
  STRATEGIC OBJECTIVE 3.5: Strengthen or establish research partnerships with universities, federal agencies, and the industry ........................................................................................................................................................................................................................................... 11
  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 ........................................................................................................................................................................................................................................... 11
  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 ........................................................................................................................................................................................................................................... 12
  STRATEGIC OBJECTIVE 3.8: Increase the visibility of the School via organization and sponsorship of research and educational events ........................................................................................................................................................................................................................................... 13

STRATEGIC INITIATIVE 4: Global Engagement .............................................................................. 14
  STRATEGIC OBJECTIVE 4.1: Expand the School’s education, research, and practice mission globally .... 14
  STRATEGIC OBJECTIVE 4.2: Initiate and participate in global health-care initiatives in partnership with UNC health science schools and other health-care institutions ........................................................................................................................................................................................................................................... 15

STRATEGIC INITIATIVE 5: Institutional Environment And Business Operations ......................... 16
  STRATEGIC OBJECTIVE 5.1: Deliver improved team-based operational practices and financial performance 16
  STRATEGIC OBJECTIVE 5.2: Provide a clean, world-class environment for the School to achieve its goals 16
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

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

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

STRATEGIC OBJECTIVE 6.4: Create a compensation assessment program for faculty and staff that uses marketplace benchmarks as a comparison

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

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

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

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

STRATEGIC OBJECTIVE 7.2: Foster a culture of assessment and continuous quality improvement

STRATEGIC OBJECTIVE 7.3: Serve as a model institution for achieving excellence and best practice in assessment
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 doctor of pharmacy (PharmD) curriculum. In 2016, the Class of 2020 was welcomed to campus as the second cohort in the curriculum and the Class of 2019 returned to campus to engage in the first iteration of the curriculum’s second year.

Among the new courses and experiences for the pioneering Class of 2019 were: Foundations of Clinical Pharmacology, led by Roy Hawke, PharmD, PhD to help students integrate their knowledge of drug action, pathophysiology, and pharmacokinetics; Foundations of Patient Care, led by Nicole Reitter, PharmD and Stefanie Ferreri, PharmD to allow students to develop knowledge and skills in the principles and practice of pharmacy while beginning the path on which students learn a consistent approach to the patient care process; Immersion Experience 1, led by Dr. Reitter and Macary Marciniak, PharmD to provide students an 8-week experience in either a Health System or Community Pharmacy during the summer of 2016; Foundations of Pharmacotherapy, led by Jo Ellen Rodgers, PharmD and Suzie Harris, PharmD to bridge the first-year foundational courses to the subsequent integrative pharmacotherapy course series; Patient Care Experience, led by Phil Rogers, PharmD and Charlene Williams, PharmD to lead students through a structured process of reflection using “significant event analysis” of critical incident reports filed by students during Immersion Experience 1; Pharmacy Innovation and Problem Solving, led by Stephen Eckel, PharmD to allow students to gain insight into the problems that pharmacists and pharmaceutical scientists face and to propose and analyze innovative solutions in small teams facilitated by faculty members; and the Research and Scholarship in Pharmacy selective pathway, led by Craig Lee, PharmD, PhD to help student develop mentored, in-depth, scholarly projects in which students frame an answerable question with a faculty mentor, generate and interpret relevant data, and communicate their findings.

In addition, Denise Rhoney, PharmD led a working group to study problem-based learning (PBL) as a pedagogical approach to advancing our pharmacotherapy coursework goals. The working group studied the literature, interviewed faculty from programs using PBL, and visited the University of Mississippi. As a result, Dr. Rhoney and Amanda Corbett, PharmD were charged to lead the development of a proposal for an integrative pharmacotherapy course sequence using modified PBL. The team held faculty workshops for small-group facilitation (led by Tom Angelo. EdD and Adam Persky, PhD) and case writing (led by Dr. Rhoney) to prepare for course launch in January 2017.

In October, the School held the Fifth Annual Educational Renaissance Symposium, which was designed to engage faculty in ensuring a transformative curriculum. Faculty were asked to (1) share their experiences in the curriculum to date, (2) review data collected and lessons learned, (3) discuss the integrative pharmacotherapy course sequence as well as electives and the Research and Scholarship Pathway, and (4) discuss the work that remained to be done. The School also held the Fourth Annual Preceptor and Partner Symposium, which focused on the immersion experiences and synergy between experiential and didactic approaches to pharmacotherapy. 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.

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

In 2016, graduate faculty and students engaged in a year-long self-study review of the graduate program which commenced with the formation of a Self-study Oversight Committee (SOC) in November 2015. The SOC comprised student and staff representatives, faculty representatives from each of the divisions, and the program’s Director of Graduate Studies. The School’s annual graduate program retreat in April served as a time for reflection on the environmental scans performed by each division and on the major needs of the program. Three areas emerged as most critical: 1) program diversity; 2) professional development planning for students; and 3) well-defined teaching-exploration requirements for the program. The final graduate program self-study report was delivered to the Graduate School on November 2, and was followed by a 3 day visit by an external review team from November 28-30. Results from the self-study will serve to inform the transformation of the graduate program, expected to begin in 2017. For more information about the results of the self-study, see Strategic Objective 3.7.
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

The year 2016 has been one of major transition for the Office of Student Affairs (OSA)*, which continued to support and advocate for professional and graduate students and to integrate professional and career development of students into the School’s culture. During this year, professional development and career planning included:

- Continued 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; and Professional Etiquette.
- Career Day event in November was attended by 110 PY4 students and 20 companies/programs; over 200 one-on-one interviews were conducted.
- Continued professional development support by the UNC Eshelman School of Pharmacy Foundation by way of a $200 travel stipend for each eligible student.
- Assessments from student organizations indicated that they value professional and career development offered through their own programming. Data for each event was collected from each organization and aligned with expectations articulated in the Accreditation Council for Pharmacy Education (ACPE) Standards 2016.
- The office provided support to a speed networking event hosted by the Pharmacy Alumni Association in conjunction with annual alumni golf outing at the Governor’s Club.
- The Graduate Program in Pharmaceutical Sciences continued to use 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.
- Since the fall of 2013, an emphasis on career and professional development has been integrated into the Pharmaceutical Sciences 801 course. Students are expected to complete an Individual Development Plan (IDP) by the end of their first year. The assistant director of student affairs for the graduate program meets with each 1st year graduate student to discuss the IDP concept and provide a LinkedIn overview and check-up.
- The PharmD program provides the professional students the opportunity to develop leadership and professional development skills within the following stream of courses: PHCY 501, On Becoming a Pharmacist; PHCY 617, The Patient Care Experience I; PHCY 636, Leadership and Professional Development I; PHCY 637, Leadership & Professional Development II.

*The Office of Student Affairs was renamed Office of Curriculum and Student Affairs after the completion of this report.

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 2016. This is important as we strive to identify best practices in student outcomes, disseminate lessons learned, and advance education. In 2016, 19 articles related to the scholarship of education were authored by School faculty. Collectively, this work highlighted broad interests in education, including but not limited to the flipped classroom, pharmaceutical compounding, organizational readiness for change, early immersion, pharmacogenomics, satellite campuses, admissions, diversity, and cognitive apprenticeship. These articles were published in a diverse body of journals, including Advances in Health Sciences Education, American Journal of Pharmaceutical Education, Computers in the Schools, Currents in Pharmacy Teaching and Learning, Frontiers in Pharmacology, and Journal of Pharmacy Practice.

Progress continues in growing the funding and recognition for educational research initiatives. New awards in 2016 included a Pharmaceutical Research and Manufacturers of America Foundation (PhRMA) Grant awarded to Betsy Sleath, PhD and Scott Davis (fellow) and an American Association of Colleges of Pharmacy (AACP) New Investigator Award to Antonio Bush, PhD. The School’s faculty and educational research fellows participated in the 2016 AACP Annual Meeting in record numbers. Kathryn Fuller, PharmD and Michael Wolcott, PharmD were both named Walmart Scholars for their educational research with Scott Singleton, PhD and Kelly Scolaro, PharmD, respectively.
Several key faculty hires were made in 2016. Amber Frick, PharmD, PhD, joined the School as a clinical assistant professor in the Division of Pharmacotherapy and Experimental Therapeutics. Kimberly Sanders, PharmD, joined the Division of Practice Advancement and Clinical Education as a clinical assistant professor with a joint appointment at the UNC School of Dentistry. Dr. Bush joined the School as an assistant professor in the Division of Practice Advancement and Clinical Education and assistant director of the Office of Strategic Planning and Assessment (OSPA). Wendy Cox, PharmD was promoted to associate dean for curricular and student affairs.

The School supported Dr. Fuller, a post-doctoral fellow whose efforts focus on development and teaching in pharmacotherapy. The School also continued to support the education and training of Dr. Wolcott and Kayley Lyons, PharmD, MS, both of whom are pursuing PhD's in the UNC School of Education and serve as graduate research assistants in the school with a focus on educational research and scholarship.

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

In late 2015, a $2-million investment from the Eshelman Institute for Innovation facilitated the creation of the Center for Innovation in Pharmacy Simulation (CIPS), which advances professional excellence and patient safety through the research, development, validation, and integration of emerging technologies. CIPS specializes in providing consultations and development capabilities for faculty, staff, and collaborators interested in applying new technologies to improve teaching and learning, such as simulations, e-books, medical animations, illustrations, mobile applications, interactive web content, multimedia, video capture, and virtual, augmented, and mixed realities. CIPS produced its first iBook in December 2016, *Foundations in Pharmacokinetics* with authors Dr. Persky and Gary Pollack, PhD ([https://itun.es/us/-Ze-gbJ](https://itun.es/us/-Ze-gbJ)) and supported the School’s office of Continuing Education to produce the live, monthly, interactive broadcast of Pharmacy Grand Rounds for hundreds of worldwide participants.

In February 2016, the Educational Design and Innovations team merged with CIPS, bringing a talented team of designers, writers, artists, and videographers: Jason Whitley, Lead Web Application Developer; Catherine MacAllister, Instructional Designer; Kevin Robinson, Multimedia Producer; and Joel Floyd, Multimedia Producer. In addition, CIPS made several new hires, including: Steve Sickles, Senior Lead 3D Generalist/Technical Artist, an award-winning game and multimedia expert experienced in producing application, simulations, and games; James Tiller, Applications Analyst, an enthusiastic applications and simulations programmer; Heidi Collins, Director of Operations, is an experienced manager for projects, proposals, personnel, and operations; Justin Martin, Simulation Educator, an experienced teacher who facilitates simulation learning environments using standardized patients; and Michael Messer, Simulation Programmer, holds 2 bachelor’s degrees in game design and computer science.

The CIPS team won several awards for a series of short promotional videos featuring research enterprises backed by the School ([https://vimeo.com/148508434](https://vimeo.com/148508434)), including: 37th Annual Telly Awards Bronze Winner for Online Video – Fundraising and Bronze Winner for Online Video - Public Relations; 14th Annual Horizon Interactive Awards Bronze Winner for Promotional Video; and 2016 Hermes Creative Awards Gold Winner for Public Relations Video.

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 Center for Medication Optimization through Practice and Policy (CMOPP) experienced significant growth in 2016. Jon Easter was hired as director, along with 2 research faculty and 6 non-faculty associates. A Communications
Dissemination Plan was developed to manage research projects in the areas of peer-reviewed publications, white papers, case studies, meetings, and presentations. In 2016, key audiences for this plan included policymakers, payers, and providers. Communications included abstracts, publications (10 national), presentations (a Capitol Hill briefing), and blogs. The Center began evaluation of commercialization opportunities to scale a Comprehensive Medication Management (CMM) of Best Practices tool to enable broad implementation on consistent CMM Best Practices. The development of a technology platform is underway for 2017 which will include: a CMM process self-assessment; measurement of impact through drug therapy problems documentation/resolution; CMM plan-do-study-act (PDSA) cycle documentation; and building of external community via best practices reporting/dashboard.

UNC Hospitals received the Best Practices Award at the 2016 Midyear Clinical Meeting in Las Vegas, Nevada for the sixth year in a row. The UNC team was one of 6 award recipients for their project titled, “Optimizing the Management of Patients presenting to the Emergency Department with Atrial Fibrillation: Pharmacists at the Center of a New Treatment Paradigm.” The award recognizes outstanding practitioners who have implemented innovative systems and demonstrated best practices in health-system pharmacy.

The School continues to support the training of pharmacy residents (PGY1 and PGY2) across the state of North Carolina. The PGY1 Independent Pharmacy Ownership Residency Program successfully launched in 2016 with 2 independent pharmacies. This program is looking to expand to additional sites within and outside of the state. The PGY1 Community Pharmacy Residency Program expanded to 11 residents and 9 sites, including 3 new sites: Blue Ridge Pharmacy, Inc./Sona Pharmacy & Clinic (Asheville); Realo Discount Drugs (Jacksonville); and Rx Clinic Pharmacy (Charlotte). The School continues to support health-system residency programs and continued to co-fund PGY2 programs at UNC Hospitals, WakeMed Hospital, Mission Hospital, and the MAHEC.

STRATEGIC OBJECTIVE 2.2
Engage the broader community in working with the School to advance the practice of pharmacy and improve patient care

In 2016, 1,366 preceptors (1,265 located in North Carolina) provided practice experiences for our students at 598 sites. 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 Area Health Education Centers (AHEC) seminar sessions. Preceptors served on committees throughout the School, engaged with student organizations, and participated in the design and implementation of the School’s transformed curriculum.

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 6th 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 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. Other partnerships include: Duke University Hospital, WakeMed Health and Hospitals, Cone Health System, Greensboro AHEC, Mountain AHEC, Vidant Medical Center, and Eastern AHEC.

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. Preceptor training specific to early immersion needs was initiated at the January 2016 Preceptor Symposium event and extended with webinars conducted by Community Experience Director, Dr. Marciniak and Health System Experience Director, Dr. Reitter. Further training for the next immersion phase continued at the December 2016 Preceptor Symposium and related webinars led by Dr. Reitter.

The Office of Postgraduate Continuing Education (CPE) co-sponsored 132 continuing pharmacy education programs with the AHECs across the state and additional programs with UNC Hospitals, the North Carolina Association of
Pharmacists (NCAP), and regional pharmacy associations. These programs generated over 30,000 hours of ACPE continuing education credits to thousands of pharmacists and pharmacy technicians. Additionally, the CPE Office conducted Certificate Training Programs in Immunization, Diabetes, and Medication Therapy Management and assisted other School units to conduct the Preceptor Development Program, the Pharmaceutical Science Conference, and the Research and Education Practice Symposium.

The Resident Teaching Certificate Program (RTC) is being redesigned to better suit the new PharmD curriculum. During 2016, several improvements were made to the program in order to better meet the needs of participants and the School. First, through broader outreach and engagement, the number of participants grew to 48 from 25 in 2015-2016. For the first time, a significant number of graduate students and fellows elected to participate alongside residents. We also provided basic training in small-group facilitation for PharmD student teaching assistants and residents together, achieving better results more efficiently.

Pharmacy Grand Rounds (PGR) was launched in January 2013 in partnership with the American Society of Health System Pharmacists (ASHP) and discontinued in January 2017 after 49 monthly webinars streamed from the UNC Eshelman School of Pharmacy. Four years of programs generated over 10,000 hours of ACPE continuing education credits to hundreds of pharmacists nationally and internationally. Subscription sales to this educational series began declining after the first 2 years and the UNC Eshelman School of Pharmacy and ASHP mutually agreed to discontinue the series before incurring losses. Over the history of this series, the volume of competing high quality and free CE offerings expanded, including many programs from ASHP that did not exist when the PGR subscription series started, therefore making subscription sales difficult.

**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. Co-funded and adjunct faculty also contribute to practice-based research in the areas of ambulatory care pharmacy, community pharmacy, and hospital pharmacy but are not captured in this report.

There are currently 19 faculty within the School pursuing the scholarship of application as their primary scholarly focus. Since January 2016, these faculty have published a total of 36 peer-reviewed journal articles in the scholarship of application. Eleven were included in 30 funded grants totaling $12.7 million, which represents a 10-fold increase in total awards since 2014. Scholarship of application faculty were the principal investigator on 17 of these grants.

**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 School launched the UNC Catalyst Initiative in 2016 building on momentum from the UNC Structural Genomics Consortium, and supported by a $2M grant from the UNC Eshelman Institute for Innovation. UNC Catalyst, in partnership with the Genetic Alliance, will recruit and train research scientists to create tools needed to study the physical effects that genetic mutations have on the body, and create a framework for designing new treatments. Researchers across the globe will have unrestricted access to the research tools generated by UNC Catalyst in an effort to magnify and accelerate the impact of this initiative.

The School continued to engage in strategic partnerships accelerating progress in the development of new treatments and improving human health outcomes worldwide. In 2016, the School signed a memorandum of understanding with Jagadguru Sri Shivarathreeswara (JSS) University in Mysore, India, formalizing the partnership between the universities and to explore areas for collaboration in pharmacy. An MOU was signed with Shanghai Jiao Tong University in
Shanghai, China, formalizing collaborations between the 2 universities (further details in Strategic Objective 4). In partnership with the University of Eastern Finland (UEF), the School was awarded a two-year Erasmus+ grant to facilitate scientific exchange of students and staff between our universities.

In 2016, Faculty received sizeable new awards from American College of Clinical Pharmacy (ACCP), Centers for Disease Control and Prevention (CDC), Patient Centered Outcomes Research Institute (PCORI), and National Cancer Institute (NCI), which will continue to advance our research mission in core areas. Our overall levels of funding increased significantly in 2016 to more than $36M.

The School recruited additional world-class and high-profile researchers in 2016 to expand our research portfolio:

- Jon Easter joined the School in January 2016 as the director of CMOPP and a professor of the practice. Professor Easter spent more than 19 years at GlaxoSmithKline where he championed involvement in North Carolina First in Health. He co-authored a prescriptive analytics pilot through collaboration with Community Care of North Carolina and was involved in replication of the Asheville Project.
- Jennifer Elston Lafata, PhD, joined the School as professor in the Division of Pharmaceutical Outcomes and Policy. She serves as associate director of the UNC Institute for Healthcare Quality Improvement and co-leader of the UNC Health Care System’s Cancer Care Quality Initiative. She has published more than 110 peer-reviewed articles during her career and received funding from agencies including the National Institutes of Health (NIH) and the Agency for Healthcare Research and Quality (AHRQ).
- Sachiko Ozawa joined the School as an associate professor in the Division of Practice Advancement and Clinical Education. Prior to coming to UNC, her research on improving the health systems of low and middle-income countries received approximately $4M from organizations including the Bill and Melinda Gates Foundation, Gavi (the Vaccine Alliance), Merck, the Toyota Foundation and the Johns Hopkins Center for Global Health. Her work contributed to a 2016 declaration signed by 20 health ministers at the Ministerial Conference on Immunization in Africa to increase vaccine use in preventing infectious diseases.

**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 2016, 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, federal agencies (e.g., NIH, NSF), and other non-federal sources. As described in Strategic Objective 3.6, faculty entrepreneurs continue to apply for Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) grants at a high rate.

In 2016, the Eshelman Institute for Innovation supported faculty, staff and student research projects totaling $6.6M. PharmAlliance, our international partnership with Monash University in Australia and University College of London, supported research at UNC totaling $75,306. These funds will seed high impact research initiatives.

Ken Pearce, PhD in the Center for Integrative Chemical Biology and Drug Discovery (CICBDD) received an Institutional Development Grant from the NC Biotechnology Center for a High Content Cell Imager that will enable cellular and phenotypic assay drug discovery screens.

**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

School leadership has established measures to ensure the development, growth, and sustainability of our centers, consistent with the University’s policies and procedures for Centers and Institutes on campus. Existing Center Updates:

- CICBDD continues to lead UNC’s team in the NCI’s NExT program. CICBDD expanded its research into the chemical biology of chromatin regulation through recruitment of Dr. Rob McGinty whose lab will focus
on structural biology of chromatin, and grants from NIH, PharmAlliance, Qura Therapeutics, and CARE: The Collaboratory of AIDS Researchers for Eradication in the GSK-HIV Cure Center at UNC.

- Center for Pharmacogenomics and Individualized Therapy (CPIT) continued to build on an initiative to personalize training of students in individualized therapy. PharmD students learn about pharmacogenetics from their own genetic variants and how that informs appropriate drug selection and dosing. This is accomplished using a UNC-developed comprehensive pharmacogenetics test that is in the process of receiving CLIA validation for direct use in clinics at UNC. Several pilot studies in different areas are being developed to evaluate the utility of preemptive genetic testing, including in kidney transplant patients where a clinical trial has been initiated (https://clinicaltrials.gov/show/NCT03020589).

- Center for Nanotechnology in Drug Delivery (CNDD) was reviewed in 2016 by a team of faculty per UNC policy. The report was favorably received at all levels of the University, including the Board of Trustees. CNDD continues to host the Carolina Nanoformulation Workshop, Nanomedicine and Drug Delivery Symposium (NanoDDS), the CNDD Seminar series, and is actively engaged in NIH-funded research.

New and Proposed Center Updates:

- CMOPP is focused on improving the safety and effectiveness of medication use through innovative models of practice and health policy. CMOPP seeks to solidify the role of pharmacy practice within new, value based healthcare payment and care delivery models by building a hub to support internal and external collaboration, research, and education. In 2016, Jon Easter was hired to serve as the director and initiated CMOPP’s request for authorization to plan a center. This request was approved by the UNC Board of Trustees (BOT) and the authorization to establish a center is currently under review. Ongoing research in CMOPP includes major grants from ACCP and Center for Medicare & Medicaid Innovation (CMMI) focused on transforming primary care practice through comprehensive medication management and enhanced community pharmacy services.

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

The School received a high volume of positive press for our #1 ranking for Doctor of Pharmacy programs in the U.S. News & World Report, and our #2 ACCP ranking based on research awarded by NIH. On a global level, UNC was ranked #2 in Pharmacology/Toxicology by the U.S. News & World Report Global Rankings and #10 in Pharmacy/Pharmacology in the QS World Rankings.

A number of faculty were recognized in 2016 by mainstream media outlets for the potential impact of their School-based research.

- Stacie Dusetzina, PhD, was featured in several articles about the cost of orally administered cancer drugs skyrocketing, the benefits of sorafenib being less than advertised for liver cancer patients, and a study finding financial relationships between physicians setting cancer-care guidelines and the drug industry. Dr. Dusetzina also was featured in articles describing the increased spending for specialty drugs and how significant out-of-pocket costs may delay patients’ cancer treatment.

- Shawn Hingtgen, PhD, and collaborators are developing a new personalized treatment for glioblastoma that starts with a patient’s own skin cells. Dr. Hingtgen is also collaborating with textile engineers at North Carolina State University to create a smart bandage infused with his cancer-seeking stem cells that can be left in the surgical cavity when the tumor is removed.

- David Lawrence, PhD, and his research team have developed a breakthrough technique that uses light to activate a drug stored in circulating red blood cells so that it is released exactly when and where it is needed.

- A research team including Craig Lee, PharmD, PhD, and Tim Wiltshire, PhD, has found that a quick, precise genetic test can significantly reduce the risk of cardiovascular events by helping to identify a more effective medication for some heart patients who receive a stent.

Faculty Honors:

- Sue Blalock, PhD, MPH, has been appointed chairperson of the Food and Drug Administration’s Risk Communication Advisory Committee, effective until Sept. 30, 2018.
• Robert A. Blouin, PharmD, was selected as the 2016 recipient of the American College of Clinical Pharmacy’s (ACCP) Paul F. Parker Medal for Distinguished Service to the Profession of Pharmacy.
• Stacie Dusetzina, PhD, has been confirmed as a committee member for the National Academies of Sciences, Engineering and Medicine report titled “Ensuring Patient Access to Affordable Drug Therapies.”
• Mike Jay, PhD, was the 2016 recipient of the Distinguished Teaching Award for Post baccalaureate Instruction from the University of North Carolina at Chapel Hill.
• Hal Kohn, PhD, professor emeritus, was named a fellow of the National Academy of Inventors.
• Kuo-Hsiung Lee, PhD, received the Third Cheung On Tak International Award for outstanding contributions to Chinese medicine from Hong Kong Baptist University’s School of Chinese Medicine.
• Herb Patterson, PharmD, was a member of the inaugural group of fellows of the Heart Failure Society of America (HFSA).
• Mollie Scott, PharmD, was named a fellow of the American Society of Health-System Pharmacists (ASHP) in recognition of the excellence she has achieved in pharmacy practice.

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

In 2016, PharmAlliance partners worked 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. The first round of PharmAlliance grants were awarded in 2016 and applications for the second round of funding were submitted in October. Across the 2 rounds, a total of $568,054 USD has been funded by the PharmAlliance for 9 projects. In the fragment screening area, PharmAlliance funding stimulated collaborations that have led to successful external funding applications totalling $262,000.

The NCI renewed the Experimental Therapeutics program NExT. Dr. Frye leads the team at the UNC specialized center in the NCI’s Chemical Biology Consortium, the NExT program’s discovery engine. Agreements have been signed with Gilead, Organovo and Janssen to continue the work of the UNC Institute for Drug Safety Sciences.

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 2016, 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 24 ROIs (reports of invention), 19 as Lead Discloser, and filed/prosecuted 50 patent applications (provisional, PCT, US and foreign patents) in 2016; 12 patents were issued. Three new companies were incorporated this year by School faculty members: Anello Inc (Dr. Benhabbour), Epiodyne (Dr. Roth), and OncoTrap Inc. (Dr. Huang and Dr. R. Liu). To date, 23 startup companies have been launched by School faculty as founders/cofounders, and the following companies have active UNC licenses: Arcato Labs (Dr. Jay); Asklepios (Dr. Xiao); Capture Pharmaceuticals (Dr. Jay); ChemoGLO (Drs. Zamboni and Eckel); Falcon Therapeutics (Dr. Hingtgen); Glycan Therapeutics (Dr. Liu); Initios Pharmaceuticals (Dr. Juliano); Iris Biomed (Dr. Lawrence); KinoDyn (Drs. Johnson, Jin, Graves); Meryx Pharmaceuticals (Drs. Frye and Earp); Mucommune (Dr. Lai); NanoGLO (Dr. Zamboni); NeuroNano Pharma (Dr. Kahanov); NeuroGate Therapeutics (Dr. Kohn); NovoLipid (Dr. Cho); Panacise Bio (Dr. Rihe Liu); Qualiber (Dr. Huang); Qualyst Transporter Solutions (Dr. Brouwer); and Synereca Pharmaceuticals (Dr. Singleton). Only a few of these companies have ceased their operation, while most of them remain viable to date.

Eighteen SBIR/STTR applications were submitted in 2016. SBIR grants were awarded to Glycan (2), Capture, and Luceome Biotechnologies totaling $659,999. STTR grants were awarded to Mucommune, Dignify, Initios, NeuroNano, and Capture totaling $553,000.

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. Meryx, Pharmaceuticals (Drs. Frye and Earp), Capture Pharmaceuticals (Dr. Jay), Initios Pharmaceuticals (Dr. Juliano and Mr.
Janzen), and Mucommune (Dr. Lai) have licensed the use of space in the facility. Qualiber (Dr. Huang) has successfully transitioned out of the MicroIncubator facility.

The Eshelman Institute for Innovation announced the awardees of its second round of funding 2016. School faculty and staff submitted 55 proposals across the 4 tiers of funding, which ranged from $50,000 to $2 million. In total, the Eshelman Institute for Innovation awarded nearly $4 million to support 31 approved projects.

In addition: Stacy Bailey, PhD completed her work developing and testing an electronic health record-based strategy for the routine assessment of medication self-management skills among primary care patients with complex drug regimens using a grant funded by Merck, Sharp & Dohm; Delesha Carpenter, PhD identified a gap in available apps and developed a new asthma self-management app specifically for adolescents using funds from an American Lung Association grant; Angela Kashuba, PharmD is using novel mass spectrometry imaging methods to analyze hair strands and quantify antiretroviral adherence; Dr. Sleath continued her work to involve adolescents more in managing their asthma and to increase their engagement and involvement during doctor visits with funding from a PCORI grant; and Drs. Sleath, Bailey, and Carpenter received a PharmAlliance grant to develop skills in confidence of pharmacy students to communicate with adolescents about health and medicines.

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 and incorporate feedback from key stakeholders into its programmatic initiatives in graduate education. Notably, the Pharmaceutical Sciences graduate program completed a self-study in 2016. A team of external reviewers met with faculty, students, and staff during a 3-day campus visit. The review team praised the School's faculty, the facilities and environment at UNC, the high quality of the students and their records of accomplishment, international opportunities, and the resources for the umbrella graduate program. The committee encouraged the School to develop a new, shared vision, secure additional training grants, increase diversity, and raise stipends and support more tuition remissions in order to remain competitive with peer institutions.

The School continues to examine and implement best practices for training programs that 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 efforts to recruit underrepresented minorities at national conferences. The School has participated in 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 (SACNAS), and the Annual Biomedical Research Conference for Minority Students (ABRCMS). Additional efforts to expose underrepresented minority (URM) prospective students to the School's programs:

- An undergraduate MARC Scholar from the University of Puerto Rico interested in pharmaceutical sciences was sponsored over the summer as part of BBSP's Summer of Learning and Research (SOLAR) program. This resulted in the student applying for fall 2017 admission to our graduate program.
- The School's application fee supplement program, designed to remove financial barriers associated with applying for admission, was utilized by 2 prospective graduate students.
- The Graduate Student Organization (GSO) is hosting an Open House for prospective graduate students. The aim is to introduce students to the pharmaceutical sciences and our graduate program at UNC.
- In January of 2017, the School will begin a 5-year agreement with the School of Medicine to sponsor the participation of URM’s in a year-long UNC Postbaccalaureate Research Education Program (PREP) that is specifically designed to prepare students interested in pursuing a PhD in the Biological and Biomedical sciences. Students with a Bachelor’s degree spend one year at UNC Chapel Hill gaining and strengthening skills needed for entry and success in top-tiered PhD programs. UNC PREP alumni have been very successful in transitioning directly into top biomedical PhD programs nationwide, including UNC.

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 Curricular & Student Affairs. Available and upcoming opportunities are strategically promoted to prospective and current students via broadcast communications,
personalized outreach, and social media. Prospective students for the pharmaceutical sciences and professional program have utilized these channels to reach out and seek additional information.

Graduate students were honored with numerous fellowships and awards during the 2016-2017 academic year, including American Foundation for Pharmaceutical Education (AFPE) Pre-Doctoral Fellowship in the Clinical Pharmaceutical Sciences (6), 1-Year Renewal of 2016 AFPE Pre-Doctoral Fellowships (1), National Science Foundation (NSF) Graduate Research Fellowship Program (GRFP) Fellowship (3), Eshelman Fellowships (3), Ferguson Fellowship (1), Royster Fellowship (6), University Merit Award (1), NIH F31 Fellowship (1), PhRMA Foundation Pre Doctoral Fellowship (4), Saudi Arabian Cultural Mission and King SAUD University Governmental Scholarship (1), Bristol-Myers Squibb-UNC Worldwide Health Economics and Outcomes Research Fellowship (1), NCDA’s Recognized Young DIetitian of the Year Award (1), Dissertation Completion Fellowships (1), Off-Campus Dissertation Research Fellowship (1), Big Data to Knowledge (BD2K) Pre-doctoral traineeship (1), Graduate School Transportation Grants (3), American Society for Clinical Pharmacology and Therapeutics (ASCPT) Presidential Trainee Award (1), Khalid Ishaq Travel Award (3), Kathryn A. Brewwinton Award (1), CROI Young Investigator Scholarship (1), and USP Global Fellowship (1).

Of the 28 graduate students that either defended their dissertation for a PhD or completed the requirements for a Master’s degree in the calendar year 2016: 8 accepted post-doctoral positions; 8 entered hospital/health system administration (typically our PACE students); 7 entered industry and 1 of each accepted pharmacy practice, academia-faculty, or government; and 1 continued on in academia as a student. The School continues to maintain an alumni mentoring program where current graduate students are paired with alumni in academic, industry, or government.

In July 2016, after receiving a perfect score on our competing renewal application, our NIH-funded UNC-Duke Clinical Pharmacology Postdoctoral Training Program began a new 5-year funding period with 4 positions supported by the National Institute of General Medical Sciences and 2 positions supported by the Eunice Kennedy Shriver National Institute for Child Health and Human Development. This training program received accreditation from the American Board of Clinical Pharmacology in 2016. To date, we have had 28 trainees affiliated with the program. Program alumni include Assistant Professors with a research focus in clinical pharmacology, a Clinical Pharmacology Reviewer at the FDA, and a clinical pharmacistologist in the pharmaceutical industry.

STRATEGIC OBJECTIVE 3.8
Increase the visibility of the School via organization and sponsorship of research and educational events

PHARMSCI Conference: The 2016 conference “Addressing Methodological and Ethical Issues in Pediatric Medication Safety Research,” was held May 12-13, 2016 and funded by a conference grant from AHRQ. Keynote speakers from the US FDA, University of Pennsylvania, and University of Washington were well received by attendees, which included faculty, trainees, practitioners, and industry representatives. The 11th Annual Chapel Hill Pharmaceutical Sciences Conference, “Pharmacy in the Era of Precision Medicine: From Discovery to Implementation,” will take place at the Carolina Inn on May 18-19, 2017.

Nanoformulation Workshop: 2016 was the beginning of the Carolina Nanoformulation Workshop. This workshop brought together experts in nanotechnology and nanoparticle therapies, and included the latest techniques employed in clinical trials. The workshop was well received with over 20 presenters from highly-regarded institutions and agencies such as University of Lisbon, US FDA, and Seattle Genetics. Faculty, graduate students, and research professionals were engaged in this training event. The 2017 workshop is scheduled for March 13-17 with speakers from the FDA, industry, as well as US and international universities.

Asheville Summit for Provider Status: The School hosted the second Asheville Summit in April, 2016. The 2016 theme was innovative practice models. The 170 pharmacist and student pharmacist attendees represented 6 schools of pharmacy: UNC; Wingate; Campbell; University of Kentucky; Wilkes University; and East Tennessee State University. Keynote speakers were Kristy Butler, Chair of American Society of Health-System Pharmacists’ (ASHP) Section of Ambulatory Care Practitioners and Sandra Leal, Vice President for Innovation at Sinfonia RX.
Rural Health Research: Two research retreats were held in Asheville with representation from MAHEC, Division of Pharmacy Outcomes and Policy and Division of Practice Advancement and Clinical Education. Research synergies and key elements identified include the expansion of the Western UNC campus and its impact, along with the implementation plan for the Rural Education HUBS to increase inter-professional education opportunities.

Young Innovators Program: The inaugural pilot of the Young Innovators Program (YIP), a program aimed at immersing high school students from across the state into research laboratories and clinics at the school, hosted 17 interns for 8 weeks during the summer of 2016. The pilot was well-received by participants, fostered 10 novel partnerships between the School and various secondary school, government, and private industry entities, and provided a model for professional schools of pharmacy interested in enhancing high school student science, technology, mathematics, and engineering (STEM) interest and in recruiting these students into STEM careers. The Eshelman Institute for Innovation has provided financial support to YIP for year 2017 operations.

Research in Education and Practice Symposium (REPS): The 3rd Annual symposium was held in May 2016. The conference assisted postdoctoral trainees, clinicians, and faculty members in developing professional skills and gaining a better understanding of different types of postdoctoral research experiences. It was an opportunity for PGY1 and PGY2 residents and fellows to present their research while learning from and networking with experienced clinicians and faculty members from across the region. Enrollment increased this year by 67%.

PharmAlliance Education Summit and Research Symposium: In November, the UNC Eshelman School of Pharmacy hosted faculty members from Monash University and University College London for a 2-day meeting. The research symposium was designed to stimulate collaborations and help connect researchers across the Universities to encourage applications for external funding in 3 areas: rare and neglected diseases, neuroscience, and drug discovery. The education summit focused on developing a research and evaluation agenda for professional pharmacy education that could serve as a global blueprint for coordinated and networked research and development.

STRATEGIC INITIATIVE 4
GLOBAL ENGAGEMENT

STRATEGIC OBJECTIVE 4.1
Expand the School's education, research, and practice mission globally

In 2016, the School continued progressing 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 Stephen Eckel assumed responsibility as the Associate Dean of Global Engagement on February 1, 2016.

The PharmAlliance partnership, formally launched in 2015, continued to evolve and grow in 2016. Monash University hosted a leadership meeting in January, which focused on the first round of funding proposals, governance, development of a joint masters or certificate programs, student-driven initiatives, website development, Prato Conference 2017, and pharmacy practice. There was also a practice domain meeting that occurred in London in July of 2016. UNC hosted the 2 institutions for a research planning session in November 2016, along with an education domain meeting. Multiple mutual visits among the faculty and leadership of the 3 institutions took place in 2016 and international faculty partnerships and joint research ventures were initiated. PharmAlliance also funded collaborative research projects and meetings as described above in Strategic Objectives 3.2 and 3.8.

A renewed focus in Asia was seen by the development of new partnerships with JSS University in Mysore, India, Shanghai Jiao Tong University (SJTU) and Fudan University in Shanghai, China, and the Fazheng Group in Beijing, China. During January 2016, Drs. Thakker, Steeb, Law, and Executive Vice Provost Dr. Ron Strauss visited JSS University to further develop our partnership and sign an MOU to initiate collaborative activities. Three areas that the School will work towards with JSS are student exchange, curricular sharing, and residency development.
Throughout the year, Dean Blouin and Drs. Thakker, Eckel, and Steeb traveled to China to explore opportunities. Mr. Wang of the Fazheng Group and Dr. Wang of Fudan University School of Pharmacy visited UNC in 2016. During May 2016, Drs. Thakker and Eckel visited Shanghai to sign a MOU with SJTU. In September 2016, the School signed an MOU with the Fazheng Group, and Dr. Steeb visited China to strengthen our partnerships and meet with students interested in enrolling in UNC’s PharmD program. In October 2016, the School signed an MOU with Fudan University School of Pharmacy. The School also developed a relationship with the China Scholarship Council, which is an organization that financially supports top students from China going to US pharmacy schools.

In 2016, the School hosted visiting international students from our partners: 2 students from Keio University, 2 students from JSS University and 2 students from Tokushima University, who were placed at UNC Medical Center for a rotation experience. Four students from University College London engaged in faculty led research projects at UNC from November 2016 through February 2017. The School also hosted a visiting scholar from Monash University from September 2016 through January 2017.

The School was active in extending our presence globally through conferences as well as solidifying other key international partnerships. As an academic institutional member of the International Pharmaceutical Foundation (FIP), Drs. Eckel, Corbett, Steeb, and Law attended the 2016 FIP meeting in Buenos Aires, Argentina. Drs. Blouin, Eckel, and Roy Zwahlen traveled to Brazil for the 2016 BIO Latin American conference to determine additional opportunities in Brazil. Locally, CNDD hosted the inaugural Carolina Nanoformulation Workshop in March 2016. In 2016, the School finalized MOUs with Moldova and Keio University for educational and research initiatives.

New student opportunities were developed throughout the year. The School created an internship with Advance Access & Delivery (AA&D), which will expose students to issues of drug quality, market shaping, and supply chain management within a global context, particularly on multi-drug resistant tuberculosis (MDR-TB) drugs. We developed an internship opportunity with the International Pharmaceutical Federation (FIP) where a student will work most of the year locally in NC before spending the summer at FIP headquarters in the Netherlands. Two new global student groups were created at the School. The Global Ambassadors Program (GAP) aims to enrich cultural awareness by hosting international visitors to the School while the Student Senate PharmAlliance committee seeks to foster student collaborations across 3 continents on global pharmacy issues such as substandard and falsified medications. Finally, the School received 32 international applications to the PharmD program for Fall 2017.

The Global Engagement Advisory Committee (GEAC) which has divisional, professional student, and graduate student representation continues to meet 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 institutions.

The School continues to offer and support international experiential education experiences to PharmD students during their fourth year. The Global Pharmacy Scholars Program (GPS) expanded rotation sites and interest among students in 2016. Two new sites, China and Ethiopia, were established for 2017-2018. The 9 sites for Advanced Pharmacy Practice Experiences (APPEs) now include Australia (Monash), China (SJTU), Ethiopia, India (JSS), Japan (Keio), Malawi (UNC Project-Malawi), Moldova (USMF), United Kingdom (UCL), and Zambia (UNZA). The GPS applications increased from 70 to 71, while the number of students accepted into the program grew from 36 to 40.

In 2016, the GPS program adopted a new funding model which will begin in 2017. The School will pay for 60% of the students’ airfare and housing, while the students pay the remaining balance.

The School maintained their partnership with the Institute for Global Health and Infectious Diseases (IGHID) to develop global health experiential education sites for fourth year PharmD students in Malawi and Zambia, integrated with the UNC Project-Malawi and UNC Project-Zambia. Twelve students participated in the Lilongwe, Malawi program during June-November of 2016, and 2 students participated in the rotation in Lusaka, Zambia in October of 2016. In 2017, the program in Malawi and Zambia will expand to 14 and 4 students, respectively.
STRATEGIC INITIATIVE 5
INSTITUTIONAL ENVIRONMENT AND BUSINESS OPERATIONS

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

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 98% of respondents Agreed or Strongly Agreed that the Business Cluster staff exhibited a “we are here to help” attitude. On average, 97% 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, 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 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 in the silent phase of the UNC-Chapel Hill Capital Campaign, with the official launch of the campaign scheduled for spring 2017.

Three projects were completed in 2016 to provide critical spaces to support the new curriculum: 1) 2x 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; and 3) 6 patient simulation spaces to support student interactions with teaching assistants and actors who simulate actual patients that can otherwise serve as study spaces, small videoconference rooms, interview spaces, short-term offices, and short-term research areas. A fourth project to create a research suite that will focus on simulation development housing 14 staff members and their project director was near complete in December 2016, with furniture arriving and move-in occurring shortly after.

A longer-term capital facilities project has been 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 and a design architect for the project began work in early 2016 with the objective of completing the project in 2018. Construction will commence in June 2017. 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 was refurnished and 3 patient simulation spaces matching those in Chapel Hill were completed in Spring 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 2016, there were no tenure track faculty up for tenure, 5 faculty were
promoted, 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. Five out of 111 faculty left due to attrition; however, 16 new faculty joined the school.

The OSPA administered the 2015 Faculty Activity Report and 2016 Career Planning Document via Infoporte for the fourth 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 again served as the storage center for the completed career planning documents, therefore documenting both current and historical plans. The Director of OSPA and Associate Dean for Pharmacoinformatics and Data Science met with university leadership to discuss opportunities for revisioning current practices of reporting faculty activity.

**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. Dr. Sleath was accepted into the UNC Institute for the Arts and Humanities Academic Leadership Program in 2016 and completed the Leadership Development Program at the Center for Creative Leadership. 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. Dr. Thakker continued to serve as the Director of this program in 2016. 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 2016, 17 junior faculty members were 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 4 intensive sessions in residence spread throughout the year supported by an ongoing informal program of mentoring and introduction to leadership roles. Pam Joyner, EdD, Wendy Cox, PharmD, Joel Farley, PhD, and Drs. Persky, P. Rodgers, and Ferreri are alumni of this program. Dr. Reitter is attending this program for fiscal year 2016-2017.

**STRATEGIC OBJECTIVE 6.3**

*Develop leading practices and build on existing excellence in the recruitment and development of outstanding staff*

In 2016, the school continued to offer our pre-defined learning modules to SHRA and EHRA-NF staff. In addition, the School offered 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. We hired an Executive Assistant Floater position to assist in the recruitment, onboarding and training of vacant Executive Assistant and Administrative Support Specialist positions. The HR website page on the Finance Operations and Administration (FAO) home page was updated to include links to career opportunities, HR resources, benefits and training and development opportunities. Additionally, we distributed and posted additional “perks” (gym membership, discount on vendors, tuition waiver, etc.) on our FAO website.

An employee engagement survey was sent out to all SHRA and EHRA-NF staff with a response rate of 66%. Based on these results, the school’s training and development initiatives are being revamped with input from staff. The School’s Office of Human Resources is hosting a professional development forum, meeting with the central Office of Training and Development house in the Office of Human Resources, and developing a staff committee to assist with the redesign. In Fall of 2017, the School’s Office of Human Resources (OHR) will launch our bi-annual 270/360-degree tool for staff. The purpose of the 270/360-degree evaluation is to seek feedback from a variety of constituents
including direct reports, peers, supervisors, and customers to identify opportunities for training.

**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 SHRA 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. In 2016, the HR Department designed the “Pharmacy Pals Program” for implementation in 2017. All interested faculty and staff will be secretly matched with another employee within the School and asked to send small tokens of appreciation and recognition to their “pharmacy pal.” During the summer social all “pharmacy pals” will be revealed.

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

The Office of Advancement continually reviews and updates our alumni and donor database, hosted by the UNC General Alumni Association and University Development Office. The database holds records for more than 8,000 living alumni with degrees in either pharmacy or pharmaceutical sciences, including the BS Pharm., PharmD and PhD degree. Of these living, degreed alumni, we hold contact information for 97%.

We partnered with the School’s Office of Marketing and Communications to develop a communication plan that establishes brand identity for the School, appropriately segments our alumni audiences and produces communication content appropriate to those audiences. We also worked with the School of Media and Journalism to develop social media plans. Based on information collected in our 2016 alumni survey, alumni prefer to hear from the school only once per year or quarterly, so our communication calendar was adjusted accordingly. In 2016, we sent more than 50,000 communications to alumni and donors, including our quarterly PharmacE-Newsletter, appeal mailings, stewardship impact reports, event invitations, and event-specific email.

The Office of Advancement is also collaborating with School staff, faculty, and the OSA to increase the number of opportunities for alumni engagement. In 2016, 14% of alumni engaged as donors and 1,039 alumni attended events. Together with our partners, we hosted 2 alumni-student speed-networking events, developed a “pharmacy career advisory” network, included alumni as guest speakers for classes and student organizations and increased opportunities for students to participate in alumni weekend events. The Pharmacy Alumni Association (PAA) opened service on its ad hoc committees to all alumni, and meetings are now open for alumni to attend. The PAA, in partnership with student organization leadership, is planning student-alumni events for the near future.

We have also significantly increased the number and variety of events that alumni may choose to attend to further connect with the School. We hosted regional networking events in Asheville and Wilmington, and have plans for events in Raleigh, Charlotte and the Triad area. We increased offerings during our alumni weekend to include a speed-networking event and alumni awards dinner in addition to the golf tournament, continuing education course and football tailgate event. Other events included the #1 Celebration, scholarship luncheon, breakfast tours of the School and our annual 50+ Reunion.
STRATEGIC OBJECTIVE 6.7
Advance the School's efforts in fostering a culture of diversity and inclusion through the development, evaluation, and dissemination of best practices

The Office of Innovative Leadership and Diversity (OILD) continued to lead and serve as a multifaceted catalyst in cultivating a culture of inclusion to drive innovation. OILD intersects across multiple units and divisions within the School and beyond. Outcomes of these efforts span curriculum and climate initiatives, scholarship, recruitment and retention, and external stakeholder engagement.

Approximately 300 prospective, professional, and graduate students engaged in cross cultural professional development through curriculum initiatives: **PHCY 124** – Health and Culture; **PCE 617** – Cross Cultural Interactions and Health Disparities; **PACE 811** Elective – Cross Cultural Leadership and Communication; and Graduate Program Division Seminars – Cross Cultural Leadership Student-led Initiative. In addition, over 300 faculty, students, and staff attended the School’s annual SOP Staff International Hour and an average of 66 students, faculty, and staff attended the Inclusive Excellence 3-part Seminar Series.

Two peer-reviewed manuscripts specifically addressing diversity and inclusion were published or accepted for publication in 2016. Invited talks in 2016 included:


In the area of recruitment and retention, 90 of 100 applicants were accepted into the Leadership, Excellence, and Development (LEAD) Program; Leadership Academy: 49 high school and college students engaged in this 4-month leadership development series; Mentoring Future Leaders in Pharmacy (M-FLIP): 51 prospective students were paired with a current pharmacy student mentor; and over 100 students sought professional development, leadership, and mentoring opportunities through the office; URMs represent 30% of all cohorts. Thirty percent of the current student body participated in OILD program initiatives.

Highlights for external key stakeholder engagement include University Community and Diversity Committee, Chief Diversity Officer for Diversity Cabinet, UNC Council on Scientific Enrichment, University of Pittsburgh School of Pharmacy Board of Visitors, and Chair for American Association of Colleges of Pharmacy Task Force on Diversifying our Human Capital. Awards for diversity initiatives in 2016 include Higher Education Excellence in Diversity (HEED) Award and UNC-Chapel Hill University Graduate/Professional Student Diversity Award.

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. 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. Since the current strategic plan spans 2012-2017, discussions concerning the process for articulating a new bold and transformative strategic plan began in 2016.
The Strategic Plan Roadmap Reports were presented to the Dean’s Executive Committee for discussion in the spring and fall of 2016. Strategic Initiative Team Captains highlighted notable achievements and needs for each key performance indicator (KPI) along with a color-coded dashboard of progress-to-date. In 2016, the number of KPIs warranting review dropped from 2% to 1%, the number of KPIs with no progress dropped from 7% to 4%, and the number of KPIs with some progress, considerable progress, or achieved rose from 92% to 95%.

The Eshelman Institute for Innovation continued to help the School achieve its long-term goals through strategic investments in innovation in 2016. In addition, this year represented another marked increase in the number of donors making major gifts and major gift commitments to the School and Foundation. For the duration of the Capital Campaign, funds raised will be strategically targeted toward progress of various initiatives and objectives. Campaign goals are driven by the Goals and Priorities document, which is linked to the School’s Strategic Plan.

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 2016, the OSPA expanded its assessment efforts across the School and updated its award-winning website to include additional data, summary reports, and updates about strategic planning, assessment, and improvement efforts.

The OSPA continued to facilitate the course evaluation process for all required and elective course offerings at the School. OSPA reviewed all evaluation results, identified courses and instructors “warranting further review” or “worthy of recognition,” and shared summary reports with the School. From fall 2015-spring 2016, 84 courses were evaluated, 6 of which warranted further review, and 24 of which were worthy of recognition. Of the 317 instructors evaluated, 3 warranted further review, and 138 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 15 Survey Requests in 2016. 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, Faculty Activity Report Annual Summary Report, and Student Course Evaluations Annual Summary Reports. In this year’s AACP Graduating Student Survey, mean responses from our graduating students were higher on 74% and 87% of the items asked on the survey than our peer institutions and all participating institutions, respectively.

New assessment initiatives implemented at the School in 2016 include: Graduate Student Activity Report, an annual report of doctoral student productivity; Co-curriculum Mapping, a process for documenting the core competencies students have the opportunity to develop through the PharmD co-curriculum; Curriculum Mapping, a process for documenting the core skills and competencies emphasized in each PharmD course; and the End of Year 1 Capstone, a 3-part assessment for PY1 students. In addition, OSPA led or contributed to various program assessments, including Rural Health Scholars Program, Young Innovators Program, Early Immersion, and E(I) Lab.

In 2016, the School’s Assessment Committee developed, documented, and implemented an assessment plan for the PharmD Program to ensure a process of continuous quality improvement at the program level. The committee worked to determine what data exists, what additional data are needed, and what we are currently engaged in that should be omitted or significantly revised. The current assessment plan spans the 4 years the transformed PharmD curriculum, with data currently available to evaluate the first year of the curriculum. To facilitate assessment of student learning, the School extended ExamSoft, an online assessment platform, to the second year of the curriculum. This assessment work has informed reporting internally and for accreditation purposes.

To further advance our assessment efforts, the Director of OSPA continued to work with the Associate Dean for Pharmacoinformatics and Data Science to build a state-of-the-art data analytics system that provides decision support across the School and Eshelman Institute for Innovation. This work is advancing our efforts to institutionalize
assessment and accelerate change in knowledge management. In addition, OSPA took strides in 2016 to align the data infrastructure of the office to align with ISO 16363 for trustworthy digital repositories.

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 2016, assessment activities from the School resulted in numerous presentations and talks. This work included presentations at national and international conferences about doctoral time-to-degree, institutional rankings, curriculum and co-curriculum mapping, course evaluations, defining educational outcomes, and building composite education metrics. While this work was presented across the School and pharmacy community through organizations such as AACP, it has also extended to the university and higher education organizations such as Association for Institutional Research and American Educational Research Association.

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.