

Long-Range Plan 2018
School of Pharmacy
Adopted June 2012

“Providing the Innovators and the Discoveries to Solve the Complex Medication-Based Problems of Today and Tomorrow”

We will **provide students with a personalized education** that will efficiently prepare them to innovate, lead, and identify opportunities to improve health using the clinical and research principles of the pharmaceutical sciences.

We will **build educational opportunities for non-pharmacy students and health care providers** to learn about drugs, drug mechanisms, the use and abuse of medications, therapeutic applications, and the pharmaceutical sciences.

We will **bridge the drug development gap for new therapies** by integrating and expanding our strengths in drug development, drug delivery and biomarker research.

We will **develop a translational pharmacogenomics research program** to utilize patient-specific information as a component of personalized patient care.

We will **impact the lives of the people in the communities in which we live and work** through pharmacists who are health care providers promoting health and wellness, optimizing use of medications, and stemming the misuse, abuse, and diversion of medications.

We will **create a Pharmacy Innovations Lab** that will be the incubator and concept testing environment where multidisciplinary teams come together to address complex problems of medication use.

We will **leverage existing and evolving technologies** to enhance learning, to improve patient care, to enhance research, to engage stakeholders, and to become more efficient.

We will **partner with our stakeholders and communities to develop the resources to advance our mission.**

We will **provide students with a personalized education** that will efficiently prepare them to innovate, lead, and identify opportunities to improve health using the clinical and research principles of the pharmaceutical sciences.

We believe that personalized education will enrich individual student experiences and will better prepare them for success as they navigate the rapidly changing health care landscape and post-graduate environment.

By 2018, we will have:

- Evolved the curriculum of each degree program so that students achieve the “generalist” mastery and have had the opportunity to personalize their learning.
Actions:
 - Review and revise the curricular **outcomes** for the PharmD program to reflect contemporary and evolving practice and research. (FY13)
 - Personalize and contextualize learning by revising PharmD curriculum to create efficiency and flexibility for vertical integration of in-depth experiences, exposures, and knowledge in practice, in cultures, and in communities.
 - Develop teaching and advising strategies that allow students to build progressively on their strengths and interests and identify career aspirations.
 - Embedded learning strategies to enhance educational effectiveness and efficiency and rapidly propel students to defined levels of mastery.
Actions:
 - Inventory current teaching strategies, approaches and resources (e.g., peer-learning, high-fidelity simulations, portfolios, educational support, and technology tools). (FY12)
 - Conduct educational programs, including online programs, for faculty and staff to prepare us to deploy educationally sound teaching, learning, and assessment strategies that are based on learning science. (FY13 and beyond)
 - Define a cross-school or cross-university multidisciplinary education support team to develop, deploy, and study strategies to rapidly propel students to defined levels of mastery. (FY13)
 - Build educational processes by which all students develop and demonstrate expertise in problem identification and problem solving.
 - Address the affordability of education through efficiencies in learning.
 - Built learning experiences for students to become engaged in medication discovery, development, manufacture, distribution-including procurement and supply chain management, dispensing, clinical application, and clinical outcomes. (FY14)
Actions:
 - Develop partnerships that will facilitate opportunities for a student to pursue experiences in the areas that impact drug development, distribution, and use.
 - Develop an outcomes research track to the PhD program that will be available by fall 2014.
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We will **build educational opportunities for non-pharmacy students and health care providers** to learn about drugs, drug mechanisms, the use and abuse of medications, therapeutic applications, and the pharmaceutical sciences.

We believe that greater depth of knowledge and understanding positively affects non-pharmacist attitudes about pharmacies, pharmacy-centered care, and the use and abuse of medications.

By 2018, we will have:

- Evaluated and potentially developed at least two interdisciplinary certificate programs and short courses.
Actions:
 - Charge a taskforce to develop guidelines that will facilitate and guide options for new program (certificate, degree, short course) development. (FY13)
 - Draft and submit proposals for review:
 - a. At least one short course, including use of simulation in education or medication management in transplant patients (FY13)
 - b. At least one undergraduate and/or graduate certificate program (FY14) including pharmaceutical sciences (undergraduate) and research (graduate).
 - Evaluated and potentially developed dual-degree, joint degree, or combined degree programs.
Actions:
 - Obtain approval for a PharmD/MBA program as a model for the development of other two-degree programs. (FY13)
 - Draft guidelines for the process for partnering with other schools to create two-degree programs and other cross-disciplinary programs (FY13).
 - Developed new or opened existing courses to non-pharmacists/non-pharmaceutical scientists who are engaged in discovery, development, manufacture, distribution — including procurement and supply chain management, — dispensing, and clinical application.
 - Draft and submit proposals for review:
 - a. At least one course in an area of opportunity and need (FY13). Areas to consider include graduate and undergraduate courses in: medications of abuse, physiology, and drug discovery/development, pharmacogenomics.
 - b. Offer one or more courses during the summer, fall, or spring terms on an ongoing basis (FY13, 14).
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We will **bridge the drug development gap for new therapies** by integrating and expanding our strengths in drug development, drug delivery and biomarker research.

We believe that the faculty of the School of Pharmacy has expertise to bridge the drug discovery, development, and delivery gap, sometimes known as the “Valley of Death” for the chemical to drug transition.

By 2018, we will have:

- Become the “knowledge experts” for campus researchers and external entities to pursue the development of chemicals into drugs or to repurpose currently approved drugs.
Actions:
 - Develop a Center for Drug Development and Delivery that integrates the continuum of research spanning from delivery to the clinic.
 - Charge a task force to develop a proposal for the center, including identification of specific goals, administrative structure, and performance metrics.
 - Establish an outside advisory group that provides direction and guidance regarding development plans and selection of projects to be undertaken within the center.
 - Achieve focused growth particularly in pharmacogenomics, metabolomics, and PK/PD modeling.
 - Moved one or more compounds across the “Valley of Death” to the point of licensing the formulation or drug.
Actions:
 - Develop a new or apply an existing algorithm for moving potential candidate molecules through the development and/or delivery process.
 - Expand the biomarker core to include biomarker discovery (metabolomics) and validation (modeling) as it relates to drug effect and disease progression.
 - Developed partnerships with external sources including industry partners.
Actions:
 - Develop a mechanism to engage expertise outside the School of Pharmacy.
 - Work with the Office of Technology Management to identify and engage with industry partners.
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We will **develop a translational pharmacogenomics research program** to utilize patient-specific information as a component of personalized patient care.

We believe that pharmacogenomics is central to the role of pharmacists in the healthcare team to make personalized medicine a reality for each individual patient.

We believe that pharmacy is uniquely positioned to determine drug response and genetic profile systematically in individual patients and to assess variability in drug response among patients.

We believe pharmacy should be the primary driver of research aimed at understanding drug response/ pharmacogenetic relationships and diffusing this knowledge into clinical practice.

By 2018, we will have:

- Established a translational pharmacogenomics research program.
Actions:
 - Recruit at least one faculty member who has translational pharmacogenomics/ epigenetics expertise and at least one faculty member who has a pharmacogenomics clinical research focus.
 - Define resources needed to collect outcomes and to design/test interventions.
 - Integrate School of Pharmacy researchers into genetics-focused initiatives such as the Personalized Medicine Institute and the NIH-funded Pharmacogenomics Research Network.
 - Generate and access genetic information for the purpose of personalizing drug therapy.
- Established processes for incorporating pharmacogenomics into new and existing drug use protocols and measuring the clinical outcomes from these implementations.
Actions:
 - Charge a task force with external expert representatives to recommend mechanisms for establishing pharmacogenomic testing services at UPMC.
 - Build pharmacist-based systems to define and measure drug and patient outcomes.
- Become the identifiable source for information about the application of pharmacogenomics to patient care.
Actions:
 - Build a web-based pharmacogenomics information resource housed in the School of Pharmacy.
 - Lead the diffusion of understanding regarding the drivers of drug response, including the application of pharmacogenetics, throughout inpatient and community patient-care sites; this includes pharmacists and other health care providers.

We will **impact the lives of the people in the communities in which we live and work** through pharmacists who are health care providers promoting health and wellness, optimizing use of medications, and stemming the misuse, abuse, and diversion of medications.

We believe that pharmacies can become the home of health and wellness within communities through interprofessional models of care.

We believe that pharmacists, who are among the most trusted professionals, can play an essential role in the prevention and treatment of illness and in the promotion of health and wellness.

By 2018, we will have:

- Partnered with UPMC and UPMC Health Plan and other entities to continually pilot, implement, evaluate, and disseminate pharmacist-based patient care programs.
Action:
 - Design, implement, and evaluate a telepharmacy or remote pharmacy program.
- Created pharmacy-centric community health zones that are scalable.
Actions:
 - Evaluate the Pharmacy Practice Act for legality of pharmacists providing pharmacy care when not associated with a dispensing pharmacy; pursue a pharmacy license if needed.
 - Establish a partnership with the Oak Hill Neighborhood Association in Pittsburgh with the goal of improving overall health and wellness.
- Addressed America's prescription drug abuse crisis and improve the safety of the public through policy, research, and patient care demonstration programs.
Actions:
 - Develop scalable prescription drug programs that partner physicians, dentists, pharmacists, and patients to address the use, misuse, abuse, and diversion of medications.
 - Engage in collaborative practices in chronic pain and palliative care.
- Created global partnerships that will advance pharmacy care to promote health, wellness, and the appropriate use of medications.
Actions:
 - Create Memoranda of Understanding with international partners—including schools of pharmacy and non-governmental organizations.
- Gained recognition from the public for pharmacists as health care providers who promote health, wellness, and the appropriate use of medications.
Actions:
 - Maximize collaborative practice opportunities in clinical, ambulatory care, and community settings, including dental practices.
 - Create programs and tools that can promote health and wellness.
 - Engage student pharmacists in an organized approach to address medication-based needs of patients.
 - Host an Invitational Conference on implementation of effective pharmacy care models.

We will **create a Pharmacy Innovations Lab** that will be the incubator and concept-testing environment where multidisciplinary teams come together to address complex problems of medication use.

We believe that bringing together expertise and perspectives from many disciplines, including those external to health, sparks innovation and leads to novel solutions to complex problems.

By 2018, we will have:

- Created innovative patient care models that have become clinical “game changers” and the foundation for policy.
 - Actions:
 - Systematically incorporate pharmacy and non-pharmacy stakeholders into planning, conducting, and communicating our work.
 - Take on the risk to design, implement, and evaluate system interventions with partners, including self-insured companies, to improve health outcomes.
 - Define effective mechanism for diffusion of innovative findings into inpatient, outpatient and community-based settings.
 - Establish and host recurring partner colloquia where research questions and research in-progress are shared to identify and extend opportunities to improve health outcomes.
 - Use technologies to improve pharmacy-based care of patients.
 - Become the “knowledge experts” for creative solutions to systems-related medication problems.
 - Actions:
 - Create a white paper for the Pharmacy Innovations Lab that includes recent accomplishments and the case for development of the Lab. (FY13)
 - Create a portfolio of projects and programs that demonstrate improved care and make it available on-line in print. (FY13)
 - Organize symposia at Pitt and at national health care meetings.
 - Create a Web-site that showcases the available expertise.
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We will **leverage existing and evolving technologies** to enhance learning, to improve patient care, to enhance research, to engage stakeholders, and to become more efficient.

We believe that technology can magnify the impact of a single person.

We believe that pharmacists must successfully utilize vast and growing amounts of health information to inform prescribing decisions regarding individual patients and populations of patients.

By 2018, we will have:

- Enriched the student experience by applying technology and web-based content that augments innovative teaching and assessment strategies and supports our goals.
Actions:
 - Establish “Educational Technology Committee” to guide and recommend the efficient application of technology, web-based content, and assessment strategies. (FY13) For example:
 - a. Implementation of systematic capture of course content, i.e., lecture.
 - b. Develop additional VPSim cases with variable difficulty and development of new simulations and applications for the hi-fidelity human simulator.
 - c. Develop additional multi-university courses so that students can interact through media with students and faculty at other universities.
 - Created a technology “help team” that supports education and the other elements of our mission.
Actions:
 - Charge a faculty-staff-student technology advisory committee with external participants to continually evaluate technologies that will support and advance our mission and goals.
 - Created systems for capturing and readily retrieving patient-specific information about medication outcomes to support practice-based research.
Action:
 - Use national claims data and link to health outcomes.
 - Develop systems or work with partners to develop “add-ons” to existing systems, e.g. EpiCare EMR, Cerner.
 - Obtain a data-capture system to support School of Pharmacy patient-care programs.
 - Become the “knowledge experts” or referral group for technology implementation.
Action:
 - Evaluate and publish results of technology implementation, offer short courses, and license or share technology developed internally.
 - Efficiently applied technology to optimize utilization of staff and faculty time and financial resources.
Actions:
 - Implement a mechanism for making internal and external video calls and conferences.
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We will **partner with our stakeholders and communities to develop the resources to advance our mission.**

We believe that the members of the extended School of Pharmacy family are united in our pride in our past and in our ability to shape our future.

By 2018, we will have:

- Partnered with individuals, companies, and organizations who will open their network of colleagues to provide opportunities for students to personalize their education.
 - Recruited and retained faculty and staff who are critical to achieving the goals stated in Long-Range Plan 2018.
 - Designed and built new effective “neighborhoods” within Salk Hall and Salk Pavilion for:
 - teaching and learning, including simulation, practice laboratories, and large and small classrooms.
 - laboratory research.
 - practice- and computer-based research in Salk Hall.
 - Met our internal Capital Campaign goal so that the funds raised support this Long-Range Plan.
 - Create a Technology Development Fund.
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