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Research Opportunities and Challenges In Schools of Pharmacy

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It is imperative that Schools of Pharmacy push the frontiers of their science. Those professions that do not do their own research are technical fields and not professions. With that imperative it is important to develop a perspective on the historic evolution of research in Schools of Pharmacy, that was in concert with the subject matter of the professional curriculum, and has changed somewhat in modern times to reflect not only our professional program but also our mandate to graduate student education and training and to elevate the status of schools of pharmacy in research intensive universities. Modern medicine and pharmacy had its formative period in the early part of the last century. It is probably best to track modern pharmacy from the 1920's when the practice of pharmacy went from an apprentice system to requiring a University degree to the present time. In those early years, as judged by scientific publications, academic institutions restricted their inquiries to the search for new drugs by classic methods, i.e., pharmacognosy to the alternative of synthetic methodologies. The companion discipline, which was unique to schools of pharmacy, was research devoted to aspects of drugs delivery systems. The more modern educational system entails a heavy dose of clinical pharmacy, drug delivery, drug discovery and drug mechanisms of action. Specific examples and the strategic mission of each of these areas within a school of pharmacy, and given the resources to staff a group of faculty in each area, will be discussed. We will conclude with a projection of future work in each area and the viability of these inquiries in a School of Pharmacy, i.e., can drug delivery compete with engineering and medical schools in this field, can drug discovery compete with chemistry and molecular biology and can drug mechanism compete with cell biology, and pharmacology in medical and veterinary schools.