

The Kellogg Pharmaceutical Clinical Scientist Program: A Student's Perspective

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Individuals follow very diverse paths to graduate school. There can be similarities in the ways and means to a graduate degree; however, each individual's story is just that—an individual story, woven with many personal threads. This description of my journey to and through graduate school should be viewed as just one tale.

I had many things to consider when thinking about graduate school. I vividly remember my pharmacy school professors from the University of Nebraska enlightening us about their graduate school days. These were professors I admired and respected for their knowledge, their commitment to my fellow classmates and me, and their commitment to pharmacy. I had wondered often if I could ever be one of them, and I thought seriously about going to graduate school immediately after graduation. But student loans and the desire to practice pharmacy intervened. I told myself I would give pharmacy practice a try for a year and then reconsider graduate school.

The commitment to my immediate family was also a consideration to weigh when pondering graduate school. My wife had given up much to follow me to my first postgraduation encounter with patients, 660 miles away from family and friends who had meant much to her. As one year of postgraduation work turned into two, three, and then five years, my thoughts of further study seemed to

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be just pipe dreams. I knew I could use further education in my pharmacy practice. I was *lucky* as a newly graduated pharmacist. My titles included pharmacy manager, part-owner, and long-term care consultant pharmacist. I had achieved a lot in a short period of time with an able senior partner—my brother—and a solid undergraduate education. But I needed to know more. I learned accounting and financial management concepts on the job, but life would have been easier with an enhanced knowledge of the business aspects of running a professional practice. We employed 10 to 12 employees, and my knowledge of methods for dealing with personnel concerns was limited. Most importantly, though, I understood little of the drug-taking practices of the most important people in my practice: the patients. I understood the clinical processes of their diseases and how drugs could have an impact on these diseases, but I did not understand why people did not comply with medication regimens.

No other health professionals I came in contact with understood patient behavior any better—not physicians, nurses, or other pharmacists. I had a feel for how drugs worked in people, but I knew nothing of how patients worked with drugs. I had patients who were blatantly noncompliant with antihypertensives and yet hypercompliant with garlic oil and other self-medicated lay remedies. The formal system of health care about which I had learned was matched by an equally structured informal network of contacts among patients. Patients, friends, relatives, associates, and often perfect strangers eagerly offered and dispensed not only knowledge but also medications to my patients. I thought I could deliver better patient care if I understood more about the processes involved in their decision making relative to health care.

My first experience with managed care in the late 1970s was with Medicaid patients from a neighboring county who would occasionally move to our area and need medications. The first health maintenance organization (HMO) in the state served as the fiscal intermediary and provider of care for Medicaid patients in this county. The HMO was a new concept to me. It also appeared to be one that would grow in the future in this area because of early cost savings to the Medicaid program. (It is somewhat ironic that my dissertation topic would be initial noncompliance by HMO patients with newly

prescribed therapies. I would come full circle in pharmacy as a practitioner and with my dissertation research on a concept of patient behavior in a delivery environment that perplexed me in practice.) I needed to know much more about this interface between the provision of care and the actual patients using health care services.

So, why leave this initial success as a practitioner and entrepreneur? The frustrations with pharmacy practice were very real and important to me, but I thoroughly enjoyed practicing my profession. Why leave it all and embark on a new, untested course? I had pretty much given up on graduate school yet thought about it often. Through the encouragement of my wife and former professors, I realized that a Ph.D. was something I would seek. I knew that if graduate education did not go well, I would always have the ability to practice pharmacy. My first career as a practitioner had been rich and fulfilling. There was no reason to assume that it could not be as rewarding in the future if my plans to be a scholar changed.

I applied to several graduate programs in the pharmacy administration discipline. I relied upon a former professor from the University of Nebraska, Dr. Robert Piepho (by now an Associate Dean of the University of Colorado College of Pharmacy), to serve as a reference for me. Dr. Piepho brought to my attention a special new program he had recently seen advertised in the *Academy Reporter*. The Kellogg Pharmaceutical Clinical Scientist Program initially appealed to me because of the reputation of the University of Minnesota, the College of Pharmacy, and the Department of Social and Administrative Pharmacy; the link with the St. Louis Park Medical Center; and the prestige of a Kellogg fellowship.

Selection criteria for admission included a clinically-oriented pharmacy education, a minimum of two years of clinical pharmacy practice (or relevant equivalent), professional licensure, superior prior academic performance, demonstrated leadership ability, and letters of recommendation. I sensed the people accepted into the program would be special, and if I was one of them I would be fortunate indeed. The description of facilities, selection criteria, and three-year framework for study was applicable to my needs for graduate education. For others, the three-year framework was a constraining facet of the program. The program seemed to offer

many pluses, including recognition that my former practice as a pharmacist would be a valuable asset in graduate school.

I applied for acceptance into the program in February and interviewed in early April 1980. The interview process went well, and I was certainly impressed with what I saw. I decided to enroll in the Department of Social and Administrative Pharmacy, even if my application into the Kellogg Program was denied. Much to my surprise and delight I was accepted into the program. We planned our move and our new life with a measure of joy for the potential of the future and sadness at leaving a successful first career.

Graduate school for me began in the fall of 1980. It was not easy, but it never is for anyone. However, the excitement of being a part of something very special remained with me throughout my three years as a Kellogg fellow. The first five fellows became friends as well as colleagues. In 1981, when ten additional fellows entered the program, the network of friends and colleagues continued to develop. These friendships have endured; some certainly are stronger than others. To be sure, there was pressure to do well, but most of that pressure originated within ourselves. We progressed through a rigorous graduate program in one of two tracks: Clinical Practice Administration or Research in Clinical Practice. We took graduate course work in the Department of Social and Administrative Pharmacy, the College of Pharmacy, the College of Business, the School of Public Health, the School of Education, and the College of Liberal Arts, all under the umbrella of the University of Minnesota Graduate School. I felt very positive about my graduate school experience at Minnesota. Other fellows' evaluations of the Minnesota educational experience have ranged from borderline to superior. Some have noted that they learned more from informal interactions with faculty and fellows than from formal course work.

In addition to the regular requirements for doctoral students, the Kellogg fellows had additional program requirements to fulfill. From the outset of the program through completion of our studies, we were required to participate in and complete three site projects. These were research projects of our design, with guidance, carried out in the Twin Cities area. There were 24 potential research sites that included ambulatory pharmacies, teaching and research hospitals, HMOs, HMO-related health services research centers, govern-

ment agencies, and public health clinics. We were required to complete research projects at these sites as an integral component of our progression through the program.

I chose for my sites the St. Louis Park Medical Center Health Services Research Center and the Methodist Hospital of St. Louis Park. My first project was working to include a drug component in an ambulatory risk management program at the St. Louis Park Medical Center Health Maintenance Organization. There was an extensive process involved in the planning and completion of the projects, all carried out with the supervision and cooperation of a site preceptor. In some cases, these projects were in response to a specific, identified need present at the site. But more often than not, these projects were of our choice, outline, plan, and completion. There was program director oversight on these projects, but they were *our* research projects. The time devoted to the completion of these projects varied. On average, I spent 10 to 12 hours per week for 6 to 12 months completing each of the site projects. My second site project was carried out at Methodist Hospital. I developed patient information sheets for end-stage renal disease clients at the dialysis clinic located in the hospital. With input from patients, physicians, pharmacists, and nurses, I developed patient medication information sheets for the most commonly prescribed drugs consumed by the dialysis patients. One component of this site project entailed the development of the drug information sheets, and the second component involved the assessment of the utility of the information sheets in helping patients more fully understand their drug therapies. My third project was developing an over-the-counter and prescription drug patient education program for senior citizens living in an independent-living high-rise in Minneapolis. This project revolved around presenting complex information to elderly people in terms they could understand. One component of the project entailed involving the seniors in the actual educational process itself.

For each of the fellows these site projects accomplished a number of goals. First, they served to involve us in research from the first day of our graduate education. Second, they allowed us to develop and "sell" our research ideas to site preceptors who opened the doors of their respective practice sites to our research. Third, we

were forced through these projects to think through our research ideas from inception to completion. Finally, we were impressed with the importance of carrying out our research with many other competing demands present. In retrospect, what better way is there to train Ph.D.s for the real world? After graduation, do any of us in any field of endeavor have the opportunity to work on just one activity at a time? We were acutely aware that this educational process was different from that experienced by others. This is not meant to imply that other graduate students are not involved in research in other graduate programs. What differentiated the site projects from other projects was the formalized nature of the projects, the expected outcome, and the structural requirements of the projects.

Focusing points for us throughout the program were the monthly meetings of fellows and project directors. Often these were times to discuss plans, to present research, and to debate and discuss topics of importance to health care. Some of these meetings were structured to involve a guest speaker from the university community. In some cases, we had nationally prominent figures interact with us. Held in the evening and coordinated by the fellows, these monthly meetings were a bonding opportunity for us, a chance to get to know others in the group in a semiformal atmosphere. We had many opportunities for interaction of a social nature in other settings. But in these monthly meetings, we were able to clearly examine the thinking style of other members of our group.

Each year there was a national meeting held in Minneapolis involving the fellows, the national advisors, the program directors, and the site preceptors. These national meetings allowed us to focus our thoughts on what it was we were doing and to receive input from the eminent group of national advisors. These were heady meetings; one does not often have the opportunity to interact in a small group with the chief executive officers of major pharmaceutical firms, officers of foundations, deans of colleges of pharmacy, federal government drug policy leaders, or the architects of a definitive assessment of the future of pharmacy. The importance of these national meetings was not lost on any of us. I looked forward to these meetings with anticipation, pride, and—yes—anxiety. We were being scrutinized on our programmatic progress. There was a

“show and tell” component to these national meetings. We were being watched and evaluated at each meeting on our academic, research, and professional progress.

The clinical component of the Kellogg Pharmaceutical Clinical Scientist Program was a difficult construct. Fellows, advisors, program directors, and clinical advisors grappled with the issue from the inception of the program. But pharmacy has wrestled with the term *clinical* for years, so it should not be surprising that the adjective *clinical* in the program title caused such debate.

How does one define *clinical*? Some fellows had extensive clinical experiences in academe, in teaching hospitals, and in the National Institutes of Health. Some entered the program with Pharm.D. degrees, one possessed a M.S. in Hospital Pharmacy, and others had progressed through residencies in hospital pharmacy. Other fellows had experience in ambulatory and long-term care pharmacy. With these varied backgrounds and degrees, there was not one prototypical product entering or leaving the program. There was not one typical clinical scientist graduate of the program. We were unique in our academic degrees, our practice backgrounds, our graduate school programs of study, and our plans for the future. One of the strengths and weaknesses of the program was its flexibility. If one was focused, this was a benefit; if not, it probably was a weakness. For these reasons, our definition of *clinical* was novel.

Seminars, self-study, clinical rotations, site projects, attendance at clinical symposia, registration in courses, and auditing of courses were avenues for fellows to gain clinical skills not possessed before entry into the program. Obviously, the clinicians in the group did not need to use these avenues to gain clinical skills. For the Pharm.D.s in the group, the clinical component was superfluous, to say the least. But every fellow, regardless of background (practice or degree), was required to successfully complete a clinical preliminary examination before graduation from the program.

Were we clinical and are we clinical? It depends who is asked that question and what his or her perception of clinical is. After we examined the Millis Commission recommendation addressing the need to improve the transmission of knowledge from research to the bedside or wherever drugs were to be used, we knew we were clini-

cal. After all, graduating fellows include specialists researching timely issues, such as understanding patient behavior, postmarketing surveillance, pharmacoepidemiology, drug use in the elderly, the drug approval process, and the drug development and marketing milieu. We were experts schooled to be academicians and/or researchers. Our practice sites include research consortia, pharmacy and medical schools, state associations, federal drug regulatory agencies, marketing research firms, the pharmaceutical industry, and research centers affiliated with major hospitals. These chosen areas of expertise obviously deal with cutting-edge research requirements present in health care research and practice.

And what of my thoughts as I entered the real world? For the most part, individuals question their graduate school preparation to enter the job market after graduation. Typically, graduate school allows the individual to obtain that first job so he or she can learn more. We were well prepared for our chosen careers in academe, the pharmaceutical industry, government positions, and private enterprise. I felt comfortable considering any number of potential career paths.

I certainly do not want to imply that I learned all that I needed to know in life in the Kellogg Program. What I do realize is that I always need to know more, in some cases a lot more. But my education has prepared me to realize this fact, as well as to be open to ideas about potential places to go to learn what it is I need to learn. The program enabled me to gain skills I have continuously used in postgraduation life. I have been able to present myself to others with a confidence and presence that I derived through my fellowship and association with the Kellogg Pharmaceutical Clinical Scientist Program directors, advisors, and—perhaps most importantly—fellow fellows.