

# **The Kellogg Pharmaceutical Clinical Scientist Program: The Postgraduate Experience**

Lucinda L. Maine

## ***INTRODUCTION***

The fall of 1990 marks 10 years since the first Kellogg Pharmaceutical Clinical Science fellow entered the graduate program at the University of Minnesota. More than six years have passed since the first fellow completed his studies. This article describes, from the perspective of a fellow, the postgraduate Kellogg experience, reflects on program contributions to the early career progression of those fellows who completed their studies, and speculates on the eventual contributions of these 13 individuals. Several aspects of the program that may ultimately contribute to fellow, and hence program, success will also be examined, including the advisor network, the postgraduate seminar series, and the continuing development of a collegial network among the fellows following graduation.

## ***WHERE HAVE THEY GONE?***

It is not an easy task to make generalizations or speculations concerning 13 individuals as different from each other as this baker's dozen. Whether by initial design or by chance, the program attracted quite a diverse lot of pharmacists. Perhaps the only common

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Journal of Pharmacy Teaching, Vol. 1(2) 1990  
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thread, beyond our professional education as pharmacists, was what Dr. John Millis coined "divine discontent." Each fellow knew from previous practice experience that the drug use process operated in a far from optimum manner for the benefit of society. Additional education was designed to equip the fellows to contribute to the improvement of that process.

Examining the career tracks of the fellows over the 5 or more years since each finished is like taking 13 separate journeys, but there is some commonality. The same concern that seemed to bring the fellows together seems to have motivated many of their post-graduate career activities. As one fellow noted in remarks for this publication, "[I]f the goal [of the program] was to produce scientists that could bridge the gap between the basic sciences and clinical science and would contribute well-conceived science to the pharmacy profession and drug therapy, then in nearly fourteen different ways we have met the goals." Systematic inquiry aimed at improved drug development, regulation, monitoring, and use is the theme that runs through the fellows' careers to date.

It is interesting to note the variety of environments that have absorbed fellows' diverse talents. These environments include pharmacy and medical education, the pharmaceutical industry, drug development and market research firms, the Food and Drug Administration, managed care entities, clinical practice, and pharmacy associations. These represent a vast array of points along the continuum of the drug use process. Improving patient care directly through inpatient and outpatient monitoring of drug therapy attracted several fellows, particularly in the troublesome arenas of psychiatric and geriatric care.

Applying scientific methods to assess therapeutic outcomes, both prospectively and retrospectively, is another common area for the direction of fellows' energies. Having studied principles of epidemiology in graduate school, more than one fellow has worked to develop methods to apply those statistical techniques to the field of pharmacoepidemiology. One individual has accepted the challenge of editing a new journal devoted to the science. Still others are engaged in pioneer work on assessing the outcomes of medical care and creating and testing quality of life indicators.

It is not surprising that the Kellogg Pharmaceutical Clinical Sci-

entist fellows have followed quite divergent paths in their early postgraduate careers. When individuals with different interests and talents are allowed to craft their graduate education in a manner that sharpens their individual skills rather than creates a homogenous product, one would expect the results that have occurred. Most fellows have found that the style and substance of education offered in the Minnesota program contributed substantially to their early career progression. Course work taken in fields outside of pharmacy—in some cases outside of the health care arena—enhanced fellows' abilities to conceptualize drug use problems in a broader context than might have been the case if the educational process had been defined more rigidly within pharmacy disciplines.

### **CONTRIBUTION OF ADVISORS/MENTORS**

The Kellogg Program offered the fellows unique exposure to a cadre of leaders from pharmacy, medicine, and education through interaction with the program administrators and national advisors. At least annually during the graduate fellowship, the fellows had an opportunity to share information on their progress and to seek the advice of this esteemed group of highly intellectual and motivating individuals.

While formal contact with the national advisors has diminished over the past few years, several fellows report that they still are afforded the ears and the advice of the national advisors. Contacts at the highest levels in the corporations, foundations, and other organizations that are directed by our national advisors provide fellows with a unique advantage. Perhaps just learning that they were able to interact with individuals of that caliber who listened to them, challenged them, and respected their thinking was the greatest contribution the advisors could make to the maturation of the fellows.

### **POSTGRADUATE SEMINARS**

The most visible collective postgraduate activity for the fellows and program advisors is the annual seminar, held in the spring of each year since 1985. The seminars were designed to further the educational development of the fellows through interaction with

distinguished seminar leaders and to provide a regular opportunity for continued socialization among the Kellogg fellows.

Competition for scarce travel time and resources limits participation by some fellows and most of the Kellogg national advisors. It has also been extremely difficult, given the diversity of fellows' career interests, to identify speakers and topics with universal appeal and applicability. Consequently, the educational objective of the seminars succeeds only on a sometime basis for most fellows.

From the perspective of nurturing the collegial relationships developed during graduate school, the seminars have been successful for those who have attended them. Fellows consider each other close friends, colleagues, mentors, and advisors, often serving as each other's most honest and most demanding critics. The gatherings provide a rare opportunity for each fellow to share information about his or her current directions in research or practice, to ask for advice, or to offer opportunities for professional collaboration.

Acknowledging the competition for precious time and travel dollars and recognizing that the tradition of meeting annually is of tremendous value to the individuals, it has been suggested that one national pharmacy or health care meeting be identified as the one attracting the majority of fellows so that the postgraduate seminar or gathering could be coupled with scheduled travel. The seminars provide those who are fortunate enough to attend a recharging of the battery that so easily wears down under the weight of career demands.

### **NETWORK OF COLLEAGUES**

When the fellows were asked to contribute thoughts and observations for this manuscript, they gave responses that were, again, as diverse as the fellows and their careers. Yet one theme pervaded all the correspondence. The greatest strength of the Kellogg Pharmaceutical Clinical Scientist Program, both during the program and after graduation, was and continues to be the relationships developed among the fellows. No amount of summarization could express this better than the fellows did themselves. The three comments that follow have been extracted from letters of different fellows:

What stands out foremost in my mind is the unique blend of individuals brought together by [the program directors] to complete the program. Friends, colleagues, and mentors evolved from the initial group of graduate students. These individuals have played a significant role in my life, from initially providing insight on a pharmacy career path, to presently assisting me in certain areas within [my chosen career].

The fellows, through their ideas, enthusiasm and affection, were the most important part of the environment. At times we were (and I hope are) for each other friends, critics, sources of ideas, support, insanity, happiness, challengers, competitors, and "around when you need them." Concretely, fellows today provide me with contacts, political insight, feedback on ideas, papers, and research.

The fellows and their wealth of prior experiences did serve an important role in the fellowship program for me. [We] have stayed apprised of each others' areas of work, which have at various times been of common interest. Likewise, I was involved in a pilot project and was able to involve [another fellow] as a consultant. . . .

The fellows made a lasting impression on one another, both personally and professionally. Each fellow is committed to keeping in touch with the others to the extent of his ability, to helping and encouraging one another to reach diverse yet common goals.

### **WHAT WILL THE ULTIMATE CONTRIBUTION BE?**

Throughout the educational portion of the Kellogg Pharmaceutical Clinical Scientist Program and for the past five years, the question has been raised, "Did the program meet its objectives?" The answer to that question has typically been, "It is much too soon to tell. The results from such an educational experiment will not be obvious for some time." The expectations of the world of pharmacy, if any, for the fellows have never been quite clear. Clinical scientists in other forms and foci are developing and maturing alongside the 13 individuals who completed the Kellogg Program.

Pharmacy and the drug use process are enhanced by all of their contributions.

As a biased observer, I would say that there is no collective expectation of the group of fellows; there could be none, given the diverse directions they have taken. And there is no high profile associated with being a Kellogg Pharmaceutical Clinical Science fellow. Nonetheless, the people who progressed through the program are motivated—more strongly even than when they began—by a common mission: to improve therapeutic outcomes in the medical care process by contributing to the body of knowledge related to drug therapy and applying that knowledge through education and practice. As such, the project met the goals of the grant and can be labelled a success even in the short term. This certainly is the case for this fellow.

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