

The Kellogg Pharmaceutical Clinical Scientist Program: Lessons Learned; Reflections a Decade Later

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INTRODUCTION

This retrospective attempts to make a few generalizations about a very complex set of people involved in a common effort over an extended period of time. In these program observations, I wish to identify features that are special because they help define some of the most important features of the experience. By doing so, I hope to provide encouragement for others who would seek to engage in a similar process.

These observations and generalizations are not given in order of importance but in time sequence, as the program and our work unfolded. While they may stand independent of each other, let me suggest that the reader focus on them as a composite for whatever insight they may have to offer in the conceptualization and operation of programs like this one.

EXAMINATION OF OTHER PROGRAMS

We were aware that the John and Mary J. Markle Fellow Program and the Robert Wood Johnson Clinical Scholar Program, among many others, had successfully gone before us. After review-

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ing the available literature about these programs, we interviewed staff as well as fellows to learn about the processes and methods used (1). We were fortunate, as well, to enlist Dr. Leighton H. Cluff, who helped found the RWJ Clinical Scholar Program, to serve as a member of our panel of national advisors.

The Graduate School of the University of Minnesota and the School of Pharmacy also provided important frameworks for the policies and procedures to be used in the construction of the program processes, such as recruitment, selection, and degree construction. In determining our procedures for interviewing and selecting candidates, we benefited from the lessons learned by the Park Nicollet Medical Center—a large multispecialty medical group practice—as they made careful selections of highly qualified care-giving personnel. We paid careful attention to their efforts to assess personal maturity and self-knowledge through standardized interviews with each candidate.

While the studies of the Markle and RWJ programs yielded expected valuable information, “benchmarking” our own processes, such as the selection of qualified candidates, with those of settings that already had good selection processes in place added specific helpful knowledge. This effort to search for the best practices across many settings to design new or improved processes has now been formalized and described by Robert Camp in the book *Benchmarking* (2). We learned by examining the processes of others and then building them into our thinking and program efforts. This same lesson is now being learned in leading innovative settings in commerce, as documented by Camp. Our efforts might have been even more systematic with the guidance now available for conducting such benchmarking studies.

A NATIONAL PANEL OF KNOWLEDGEABLE ADVISORS

Early on, we sought to formalize an advisory structure for ourselves (the program directors), for the program, and for the fellows. We sought representatives from the original Millis Commission and their consultants (Dr. Millis, Dr. Cluff, and Dean Weaver), from industry (Larry Hoff of Upjohn), from academe (Dean Gerald

Schumacher), and from government (Jerry Halpern, then of the FDA). The guidance and wisdom of Dr. Millis were special privileges. He offered countless sage observations about the intent of the clinical scientist concept and the thought-process of the commission when it originally recommended the creation of such resources, and he gave reflective, philosophic counsel that provided a framework for our thought and work. The advisory board gave us an opportunity to present the program and its progress on a regular basis. These progress reviews served to keep us in line with our purposes. They helped us keep an open book on the process and the progress being made. Perhaps the most important contribution of the advisors was that they consistently forced us to overcome temptations toward parochialism that might have come from native disciplines, from geographic regionalism, or from smaller views of the problems and issues under consideration.

The fellows enjoyed the opportunity to learn directly from and to form personal connections with important leaders that they otherwise would have had little occasion to meet. Some of these connections continue today and have served as excellent introductions to the larger world of work in which the fellows now live.

SELECTION OF FELLOWS

Inevitably, a graduate program must select its students. There are many ways of doing that with accepted conventions, such as academic performance in undergraduate settings, scores on standardized examinations, and recommendations from appropriate and knowledgeable others. We did all that. In addition, we searched for the clues to the individuals that might come from the work that they had been doing since graduation or that they had done outside of formal schooling. We looked at potential fellows' activities to see if the candidates gave evidence of an interest in making a larger social contribution through their efforts. Most of all, we looked for evidence that the candidates had what appeared to be reasonably accurate estimates of self: how they understood their strengths and areas in need of improvement, how they understood the misperceptions that others had of them and why, and how they pursued their own

intellectual curiosity. We sought to compare our views of who these people seemed to be with who *they* thought they were.

In this process, the program directors received a good bit of advice from those whose purview of the candidates was based on different collections of data. When that advice urged us to reach a different selection decision, we reexamined our plans, but if we found that we had incorporated that observation into our thinking—although we may have weighted it differently—we stuck by our convictions. Sometimes we were wrong—as much as 15% of the time. Sometimes others were wrong.

Through it all, we kept an eye toward the continuous evaluation of the fellows. We consciously began the process with the expectation that retesting of the candidates midway and after the formal learning was over was all part of the process. This kept us focused on the selection process, as well as the program content, as learning events for us.

FOCUS ON A CLEAR PURPOSE

Much is made today of the importance of a clear and constant purpose as the key to organizational success. W. Edwards Deming notes that of all he taught the Japanese in the post-World War II period about organizational and industrial management of quality, the most important lesson was that of developing a clear and constant purpose (3). Clear, constant purposes that are simple and easy to remember are difficult to develop. Once developed, however, they can be enormously valuable.

We were fortunate that we had a guide to help us create that purpose for this program. The work of the Millis Commission and the publication of the book *Pharmacists for the Future* was of enormous help to us (4). Using that as a starting point, we sought further insight into the thinking of the commission by interviewing the three members of our national advisory board who had worked with the commission. Throughout the life of the program, we would often measure the intentions of the program against the recommendations found in the report. That focus helped us remain tolerant of becoming something less than the vision contained in the report and

the minds of those who formulated that vision. Dr. Millis himself was of great help to us in this regard.

ENCULTURATION PROCESS

From the first month of the program, we sought to create a socialization process that would help convey the sense that this program and these people were something special. We established a Kellogg Pharmaceutical Clinical Scientist Seminar, which met monthly. Guests and fellows presented sessions. Early in the series, for example, we invited Markle fellow Dr. Paul Quie to share his fellowship experience with the group. As program directors, we sought to encourage critical thinking through the way we processed the information contained in those seminars.

An annual celebration accompanied by a visit from the national advisory board served as the highlight of each year. This meeting allowed each of the fellows to visit with individual members of the advisory board, allowed for some group presentations, and, perhaps more importantly, served to reinforce the *raison d'être* of our work. It also served as a check on the progress that we had made toward program goals. Those sessions afforded the program directors the opportunity to obtain feedback from the national advisors on the development of the fellows.

FELLOWS AND MANAGEMENT OF THE PROGRAM

From the beginning of the program, we assumed that the fellows were adults. As program directors we sought their reactions and feedback to what was happening early in the program. This dialog gave way to shared planning for events such as the seminars and the national advisors' annual visit.

Shared planning eventually became fellow-directed planning—with our (the directors') feedback—as provisions for alumni sessions became the focus of our work together. Our intention was to create a sense of ownership in the fellows. After all, shared management was a proven technique. It had been demonstrated in many settings, and, in retrospect, it worked well for us.

GOVERNANCE REFLECTING PROGRAM PURPOSE

The views of the Millis Commission were clear: pharmacy was a knowledge profession, and the clinical scientist in pharmacy was a person who built that knowledge by moving easily from theory to practice and back. This meant that the clinical scientist would move from academe to practice, from theory to laboratory, from discovery to distribution, and back to academe. We sought to govern this program to train pharmaceutical clinical scientists by observing the same boundaries. The program directors worked as partners to span the academic and practice worlds and to span the two different disciplines of pharmacy and medicine to keep the program focus on knowledge rather than on the chauvinisms of discipline or setting. The national advisory panel crossed disciplines and came together for one purpose. It served to reinforce the intentions of the directors.

HETEROGENEITY, CURIOSITY, AND MUTUAL SUPPORT

Because the discipline of pharmacy was conceptualized as a knowledge system and because the specialized information bases were so vast, we sought to encourage inclusive learning—from anthropology to epidemiology, from marketing to clinical pharmacy, from new drug development to patient drug knowledge, from provider prescribing practices to studies of unintended drug effects to regulation. These topics encompassed many disciplines. Fortunately, our program was housed in a broad university base in a fair-sized metropolitan community in a state that seemed willing to learn by studying its regulatory practices.

Through the seminars, broad networking was encouraged to expand informal learning opportunities. These same seminars and the critical interaction among the fellows seemed to strike a balance between criticism and the value of learning and research.

EMPHASIS ON THE LONG RUN

From the inception of the program, the focus was on the impact that these graduates would have on the discipline and on society as called for in the Millis report. The program was designed to facilitate that outcome. The recruitment and selection process, the orientation and enculturation process, the formal academic process, the informal learning process, the alumni reconnection process—all were focused on the second or third job assignment of the graduated Kellogg Pharmaceutical Clinical Scientist. Early in the program, it was clear that the postgraduate follow-up would be an essential ingredient of the process. Postgraduate sessions focused on continuing the learning of the group in the context of the Millis report at the same time that the socialization process moved forward.

The social impact of this program would never be measured by total numbers of pharmaceutical clinical scientists produced, for we sought to be true to the Millis report, which called for this new clinical scientist not as a new subdiscipline of pharmacy, but as an integral part of pharmacy in the days ahead. Nor could the measure of the program's impact come from the lists of publications in a pharmaceutical clinical scientist journal because we hoped that these people would enter the knowledge system of pharmacy in several places and make their contributions there. We believed that the impact of this program would be found in the lives of those influenced by the graduates of the program and by the work of those who graduated from the program—as related to the purposes outlined in the Millis report. Today we are beginning to see the early evidence of the program's impact in the positions these fellows have filled and in the lives they are leading.

CONCLUSION

This retrospective seeks to place in front of the reader a short list of highlights intended to make visible those dimensions of the program that seem worthy of study and further testing by those who would create similar programs. The generalizations above reflect the thoughts, the methods, and the intentions of several who sought

to guide and shape this program. Without their help our efforts would have been much less effective. The description of what occurred has, however, been recounted from the perspective of the leadership of the program and therefore suffers all the attendant and expected bias of that viewpoint.

In closing, let me suggest that those who would wish to create programs of learning based on this or any other guidance would do well to remember that if by their efforts they handicap the energies and inquiry of the learning students—who, in the final analysis of this program are the real highlights of the effort—they have done a foolish and irresponsible thing.

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