



*“Research should be directed at understanding  
the unknowns in the practice arena.”*

===== **FRED M. ECKEL** =====

*(1985)*

*At the time he received this award, Fred M. Eckel was Professor of Hospital Pharmacy and Chairman of the Division of Pharmacy Practice at the School of Pharmacy, University of North Carolina; Associate Director of Pharmacy Services, North Carolina Memorial Hospital, Chapel Hill; Research Associate, Health Services Research Center, University of North Carolina; and a Director of the American Foundation for Pharmaceutical Education.*

## **Research: Cornerstone of Pharmacy Practice**

**L**adies and gentlemen of the dais, officers and members of ASHP, and friends.  
To be recognized by one’s peers is always a professional high point in a career.

To be cited with such kind words by people you respect makes the recognition more satisfying.

To be honored for professional accomplishments that were done out of enjoyment and benefited me more than anyone else makes such an award undeserved but truly appreciated.

My deepest thanks to the Harvey A. K. Whitney Selection Committee for bestowing this honor on me.

I would like to divide my address into three parts tonight: reflection, response, and shared recognition. Everyone expects the Whitney awardee to make a scholarly address, and I will try to comply. However, having successfully traversed my midlife crisis with most of my hair entitles me to some introspection and reflection. Finally, this honor is not singularly deserved; I must share this recognition with others.

Although I never knew Mr. Whitney, I entered hospital pharmacy when his memory was very much alive. My initial professional interactions were with individuals who lived through those early years of organizing hospital pharmacy. These hospital pharmacy leaders were committed to what they were doing and willingly shared their goals, beliefs, and experience with us neophytes. This early professionalization experience helped make hospital pharmacy into a lifelong commitment for me. Starting in hospital pharmacy in the early 1960s allowed me to mature with it, contribute a small part to its growth, and benefit immensely from the association. Pharmacy is a great profession. It has provided me with opportunities to serve others, one characteristic of a true profession.

Early hospital pharmacy leaders were willing to put the needs of others before their own. This resulted in the establishment of hospital pharmacy as an accepted component of pharmacy education, practice, and research. Our hospital pharmacy forefathers had a commitment to the cause of establishing hospital pharmacy. I am concerned that some of us have lost this commitment. For some, "What can the profession do for me?" has replaced our forefathers' concern of "How can I advance our profession through service?" It is common to see pharmacists moving from job to job, apparently in pursuit of some elusive goals. Not realizing their dreams, they become disenchanting. Although a move is sometimes necessary to advance a career, I am convinced that real contribution to the advancement of hospital pharmacy requires the establishment of a strong foundation. This requires a commitment of effort over a substantial period of time to see results.

In an age where materialism is a way of life, when individuals believe commitments can be broken when the going is rough and everyone wants immediate rewards for their efforts, hospital pharmacy needs to rekindle and maintain those attributes of Harvey A. K. Whitney and others who brought hospital pharmacy into a leadership role in pharmacy education, research, and service. If hospital pharmacy practitioners can learn once more how to put the needs of others before their own needs, then we shall continue our position of pharmacy leadership.

One of the most memorable Whitney addresses, for me, was that of Albert Lauve in 1964. He spoke from his heart and conveyed a sense of professional commitment which I wanted to emulate in my career. He expressed my thoughts when he said:<sup>1</sup>

*Young pharmacists, take heed. My years offer me the protection of experience, but they also offer me the fruits of observation and retrospect. Society recognizes the contributions our profession has made and continues to make. It wants more of the same. Do not be overly concerned or*

*tempted to cast aside the enduring rewards of professional satisfaction for the temporary and fleeting pleasure of material rewards.*

I too challenge our young pharmacists to the development of their careers through a lifetime of service to others.

Some younger pharmacists continue to be concerned about our profession. They see so much that needs to be done and may become discouraged. “How can you feel so positive about our profession?” they ask. Age and experience have some advantages. They allow one to look retrospectively and see how far pharmacy has come. All of pharmacy, but particularly hospital pharmacy, has made substantial progress. In 1960, my initial interest in hospital pharmacy occurred because most hospital pharmacists did not have to work nights and weekends. How our responsibilities and activities have grown! My professional pride is strengthened by our progress. My professional commitment is challenged by the opportunities still waiting to be met.

Those of us who recognize how far our profession still has to go to strengthen our service to society wonder how we can get there faster and go farther than seem possible now. Rather than concerning ourselves with the whole problem, we need to focus on the part that we control. The old “divide and conquer” adage works as well in this arena as in any other. If all of us only concerned ourselves with enhancing pharmacy’s role in our own sphere of influence, much professional progress would be made. We shall reach our professional destination faster if we focus our energies on improving our own situation. However, progress in our individual practice must be made within an overall philosophy of practice that is common to us all. Our individual efforts will not lead to overall professional enhancement unless we are guided by the same professional service philosophy.

How to advance our profession further is of equal concern to pharmacy practice. My personal belief is that it will require a renewed appreciation for the role of research—the quest for new knowledge and the development and evaluation of new services. Because our professional goals can be extended further only as new knowledge is generated to support new advancements, research must become the cornerstone of pharmacy practice.

I wish to offer a sequence of thoughts that focus attention on the value of research as an essential component of pharmacy practice:

1. Research accomplishments assure prestige and influence and result in more resources to a profession whose education is university based.
2. Pharmacy as a profession is clearly differentiated, and this differentiation fosters a needed division of labor.
3. Pharmacy as a profession lacks adequate resources to accomplish all of its goals unless each segment cooperates and integrates its efforts.

4. The purpose of a university is to engage in scholarly efforts to advance knowledge.
5. Pharmacy practice faculty must develop the appropriate research skills and be engaged actively in this advancement of knowledge to support advances in pharmacy practice.
6. Pharmacy practitioners must respect and support this research effort and assist the educational process by assuming a growing role in classroom and experiential teaching.
7. The acceptance and implementation of this relationship will bring an enhanced professional image for pharmacy, professional growth for the individual practitioner, and health advances for society.

Now let me develop these seven ideas further.

In 1980, William S. Apple observed that many of pharmacy's brightest minds were entering the clinical pharmacy area rather than the pharmaceutical sciences. He lamented this trend because in his sphere of influence, Washington, DC, and the halls of Congress, pharmacy's credibility derives from the pharmaceutical sciences that underpin the profession.<sup>2</sup>

I believe, also, that a scientific foundation is essential for the pharmacy profession. Rather than lament the growth in clinical pharmacy, we need to expand the scientific foundation of clinical practice to assure continued acceptance of our professional role.

Each of us can recall breakthrough advances in science that captured the minds of the public and helped establish or maintain the eminence of some professions. These dramatic technological developments really lend credibility to a profession. These scientific contributions win professional acceptance and, more importantly, societal respect and support. This results in governmental, philanthropic, or individual willingness to finance such activities. Pharmacy needs such support now, and it will become more important in the future. The profession of medicine is an example of practitioners benefiting from the contributions of medical research. My first thought, then, is that research accomplishments assure prestige and influence for a profession.

The concept of pharmacy as a differentiated profession was clearly developed in *Pharmacists for the Future: The Report of the Study Commission on Pharmacy*.<sup>3</sup> Although recognizing a common purpose for pharmacy, the report stated that:

*A pharmacist must be defined as an individual who is engaged in one of the steps of a system called pharmacy.*

*. . . A pharmacist is characterized by the common denominator of drug knowledge and the differentiated additional knowledge and skill required by his particular role.*

Our own professional organization, the American Society of Hospital Pharmacists, recognized the differentiation occurring in hospital pharmacy with the creation of Special Interest Groups (SIGs). Today, there are 11 different SIGs: Administrative

Pharmacy Practice, Adult Clinical Pharmacy Practice, Ambulatory Care Pharmacy Practice, Clinical Pharmacokinetics Practice, Drug and Poison Information Practice, Geriatric Pharmacy Practice, Intravenous Therapy Practice, Nuclear Pharmacy Practice, Oncology Pharmacy Practice, Pediatric Pharmacy Practice, and Psychopharmacy Practice.

Since all pharmacists do not emphasize the same professional activities, the need for a common, unifying purpose that all pharmacists understand and follow is critical. Pharmacists must follow a similar philosophy of practice as they pursue their specific interest area if our profession is to be strong.

The thought that I want to develop about our professional differentiation is that each pharmacist cannot be expected to do all professional functions well. We need to accept our colleagues and to respect their professional contributions. We need to support them in their efforts to advance the profession because the differentiation in pharmacy fosters a needed division of labor.

The need to recognize this division of labor is made more critical because our profession lacks adequate resources to do everything we would like to do. In an ideal situation, each segment of pharmacy could be all things to all people. Unfortunately, this ideal situation does not exist. Prospective reimbursement systems have brought new pressures to reduce costs in hospitals. Many pharmacy departments are trying to hold on to existing programs instead of proposing new ones. The loss of federal capitation programs for pharmacy education and the possibility of further diminished federal dollars to support health education have severely constrained many pharmacy school budgets. The future does not appear bright for an influx of new resources. My third thought then is that pharmacy as a profession lacks adequate resources to accomplish all of its goals unless each segment cooperates and integrates its efforts.

Some people will find my next thought controversial. I suggest that the purpose of a university is to engage in scholarly efforts to advance knowledge. Dr. Jules Lapidus, a former professor of pharmaceutical chemistry and graduate school dean, stated that research in its broadest sense is the only reason for a university.<sup>4</sup> Our own University recently completed a special study in connection with its reaccreditation by the Southern Association of Colleges and Schools. The forward to the Report states that:<sup>5</sup>

*The University is a center for learning. Most colleges and universities would make the same claim. But a research university differs in this respect: beyond the learning transmitted to students, there is the learning that transcends the current wisdom marking the various disciplines. This University is dedicated not only to the transmission of knowledge, but also to its extension.*

*The word "knowledge," however, is not self-defining. Nor are the words "scholarship" and "research." Sometimes they are used interchangeably. Sometimes they seem to imply different processes and outcomes. This Steering Committee, therefore uses the general term "scholarly work" to designate the means by which a university becomes a great center of learning. That work ranges from the disciplined collection of data, through research that adjudicates contending theories, to the critical and creative activities that expand understanding so often provided by the humanities and the performing arts. Scholarly work will vary between disciplines and even*

*among scholars within a given discipline. That variation is a source of strength insofar as differing perspectives engender new lines of inquiry, new prospects of understanding.*

*We have defined a research university as a center of knowledge-creation as well as knowledge-transmission, and this dualism of function may mislead. We do not mean that the transmission and creation of knowledge need be carried out by different persons, in different places, and with different resources. A great center of learning is distinguished by a pervasive spirit of inquiry that permeates classrooms as well as libraries and laboratories, and that animates students as well as faculty. In such a center of learning, teachers do not perform scholarly work despite their obligations to students: they do that work, in part, because of its contribution to their teaching. Conversely, teaching advances scholarship by raising questions that necessitate further research.*

Two recommendations of the University of North Carolina at Chapel Hill's Self-Study Committee further support my thought of the research role of a university:<sup>6</sup>

*The research mission must be recognized and articulated as a central and valuable pursuit of the University, and the means to succeed in that mission should be provided.*

*The first and most important criterion for tenure, promotion, and salary advancement in the faculty ranks must be demonstrated scholarship of high quality.*

Society has recognized and identified that there is something special about a university. It expects something different from a university than it expects from other institutions within society. What society expects from a university is this concept of scholarship. Webster defines a university as an "institution of higher learning, providing for teaching and research."<sup>7</sup> So from a historical perspective, society looks at a university as something unique and expects it to engage in research.

John Weaver made this point as he addressed the faculty of Ohio State University in 1964:<sup>8</sup>

*We cannot fail to keep our faith with a credo that in a university, truth and understanding is, in the first instance, pursued for its own sake and its own sake alone. Here in academic halls must be the shielded place where the world protects the smokeless fires of creativity so that they may burn and cast their steady light. If we are to protect these fires, we must of necessity protect our scholars of the faculty, of whatever scholarship persuasion, from the frantic array of intramural and extramural activities that increasingly divert them from basic academic pursuits. We must create and hold inviolate, opportunities for contemplation, reflection, growing depth of understanding. These to-be-treasured opportunities for the mind are too easily, too often sacrificed on the altar of momentary expediency.*

The Argus Commission of the American Association of Colleges of Pharmacy concurred that scholarship and research are necessary for pharmacy education:<sup>9</sup>

*It is the primary position of the Argus Commission that Faculties at Colleges of Pharmacy share the responsibility for conducting scholarly activities along with their colleagues in other disciplines for the advancement of knowledge, and for the benefit of mankind.*

Universities do have a special responsibility in the area of scholarship. Schools of pharmacy, as university-based institutions, have that same responsibility.

In introducing this thought, I suggested that some people will not agree. My own initial academic career started with a different perspective. I was going to show the university faculty how pharmacy education should be conducted. As a practitioner-educator, I was going to change the system by emphasizing the delivery of service as a basis for my teaching role. This was more important than a research base, I thought. How I have changed! I still believe in the importance of the practitioner-educator in the education of a professional, but I now realize the critical importance of the clinical scientist who is engaged in a scholarly effort to broaden the knowledge base underpinning our practice base.

This leads to my next thought. Pharmacy practice faculty must develop the appropriate research skills and be engaged actively in this advancement of knowledge through research endeavors. These research endeavors must be directed at addressing practice-related issues.

There are at least three reasons for engaging in research according to *Pharmacists for the Future*.<sup>10</sup> First, it is the means by which faculty members continue their own self-directed learning, assure their long-term competence, and demonstrate to students that life is a continual learning process and that a degree is not the termination of the educational process.

Second, it is a means by which new knowledge is generated. There is some feeling in our society that we may have too much technological advancement. Other people think that new technology must be proven to be cost-effective before it is introduced. I think we are entering an era when we are going to focus more on research and the strengthening of our technological developments.

Finally, the purpose of research is to solve problems. Those of us in practice recognize that an increasing number of practice problems demand resolution.

P. O. Williams, speaking on medical education, agreed with these purposes for research:<sup>11</sup>

*Research assures that students realize that knowledge is not static. That knowledge is a growing process. Two, it's a means to improve teachers by making them less dogmatic. Three, it insures that the knowledge progresses on a sound basis proven by scientific experiment. And four, it leads to discoveries that will improve the health of man.*

When pharmacy practice or clinical programs were initiated in the school of pharmacy in the mid-sixties, their purpose was to bring the practitioner-educator into academia, to meet an unmet need in the education of pharmacy students. We said that all other health professions trained their students at the bedside. Physicians took their students to the bedside. Veterinarians took students to the cageside. Nurses trained at the bedside. Pharmacy, on the other hand, terminated its professional activity in a simulated laboratory in a college of pharmacy. The experiential learning required to prepare pharmacy students for practice was the responsibility of boards of pharmacy, not schools of pharmacy.

We needed a change and that need resulted in the introduction of a practice component into the curriculum. We appointed faculty members who saw themselves as practitioners, who understood the practice environment, and who could communicate that practice environment to the students. Clinical pharmacy was described as the area within the pharmacy curriculum that dealt with patient care with emphasis on drug therapy. The acquisition of new knowledge was felt to be secondary to the delivery of patient care. It is interesting that as we created departments of pharmacy practice or clinical pharmacy, we were not especially concerned about new knowledge. We wanted the clinical faculty to be concerned about teaching students what we already knew so that they could become more effective practitioners. We only wanted these faculty members to help students develop appropriate attitudes and specific skills utilized by the pharmacist.

Since the 1960s, there has been a dramatic change in the practice of pharmacy and its educational system. What we did then is no longer an appropriate goal and direction for pharmacy practice departments.

We need to be assured that our pharmacy faculty members are teaching what is current now, not what was current when they were trained. In 1963, as I moved into a faculty position, I was very critical of my colleagues who were using outdated examples. I do not want pharmacy practice faculty using examples of outdated drug interactions or adverse reactions. What is the best way to assure that our faculties stay at the forefront of new knowledge? Is it through providing service, or is it through providing and being engaged in research, or through at least a balance of both activities? Although we could probably receive a lot of argument on this point, my position is that the arena of research will assure the professional competence of faculty and a scientific foundation for our practice.

Although my thesis is that research is the critical activity, I feel that this research should be directed at understanding the unknowns in the practice arena. This means that pharmacy practice faculties must maintain practice components in their educational efforts. In this way, their research plans can be directed towards practical applications.

How can this be accomplished in an era of diminished resources? Pharmacy practitioners must respect and support this research effort by faculty and develop their own scholarly approach to their practice. Pharmacy practitioners can assist the educational process by assuming a role in classroom and experiential teaching.

Pharmacy practitioners need to respect pharmacy practice scientists, and pharmacy practice scientists must respect practitioners. One of my great concerns as I talk with practitioners is the attitude, "Oh, those academicians are in their own world, doing their own things, unconcerned with the profession, lost to society." Educators have a similar attitude. "Those practitioners are out there, only interested in today, not looking into the future."

Well, the truth is that both groups are concerned with the profession and are committed to resolving our problems. We need somebody who can interface between practitioners with their interests and demands and the basic scientists with their interests and demands. It is my suggestion that pharmacy practice faculties who maintain a practice base and are involved in a research effort can fill this role.



But more importantly, in hospital pharmacy we are moving into a new era. The talk about cost containment makes us aware of our limited resources, leading to the need to define better the pharmacy practice-research interface.

I suggest that departments of pharmacy practice place greater importance on the generation of new knowledge by emphasizing their faculty members' research responsibility. In an era of limited resources, this change in emphasis does not compromise the education of pharmacy students if our pharmacy practitioners serve as practitioner-educators in their practice site and the classroom.

Why should pharmacy practitioners accept an increasing responsibility to assist schools of pharmacy in the education of pharmacy students? The students' presence in the practice arena provides stimulation to the practitioner. Their inquiring minds challenge the status quo and encourage practice improvements. The self-image of practitioners can be enhanced by their teaching role. They may even receive formal recognition through a faculty appointment.

But these are not my real reasons for making this suggestion. My real reason is that as college faculty members move towards research responsibilities, we will need the practitioner to complete our students' education. The practitioner brings skills, insights, and abilities to the student, whether through an occasional lecture or in the continuation of the academic externship programs in which many are already involved. Coincident with that is the need for pharmacy practice educators to make a commitment to scholarship in a way that generates the new knowledge and provides the new insights that can solve practice problems.

I have given you reasons why I think a university-based educational program ought to be engaged in research, since society expects it. The profession needs knowledge to solve its problems. Who will do that? The people who ought to be doing that are the people who make a commitment to be academicians. They do that by choice. As they make that choice, they ought to be nurtured to pursue this responsibility.

My last thought is that this new relationship will lead to an enhanced professional image for pharmacy, professional growth for the individual practitioner, and health advances for society.

We need to accept the differentiation that exists between people who assume faculty positions and those who accept practice positions. We need to learn to support and encourage each other in the face of our differences in order to achieve the common good. If we can do so, the profession itself, of which we are proud and to which we are committed, will find a way to move into the 1990s in a manner that will truly meet society's needs and expectations. More importantly, this research commitment will give recognition and societal acceptance to the profession.

Now let me share this recognition being accorded me with the others who share it with me. In honoring me this evening, you honor so many who invested themselves in my development. Any recognition I earned occurred because I surrounded myself with bright, hardworking people. You honor all these colleagues in recognizing me.

From my parents, I received the ability to believe in the worth of human endeavor,

a faith that is unshakeable, and the realization that a commitment to a cause is worthwhile. I share this recognition with them posthumously.

My pharmacy heritage is rich. My first Whitney Award banquet was in Chicago in 1961. Herb Flack, the award recipient, even bought my ticket. Herb's hospital pharmacy enthusiasm provided the spark to start my career. Clif Latiolais took me as an enthusiastic but inexperienced young man and kindled that spark into a flame. From them, I gained an appreciation for hospital pharmacy's past and a dream about its future. How fortunate for me that I met these leaders during my impressionable years. To them, I express my thanks; with them, I share this honor.

Finally, let me publicly recognize my family and its support. At times, my wife Peggy thought I was married to pharmacy instead of to her. I share this award with her and thank her for keeping the home in order during my frequent absences. My two teenagers, Sarah and Stephen, have added a continuing joy to my life. Sometimes they did not understand my absences, but their love was always felt. I share this award with them also.

To each of you, my thanks for sharing this evening with me.

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(For the complete list of references cited, please see page 1723 of the *American Journal of Hospital Pharmacy*, Aug. 1985.)

*Harvey A. K. Whitney Award Lectures (1950–2005)*

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