

THE ANNALS: 40-YEAR EVOLUTION

2006 marks the 40th year of publication for *The Annals*. Over that time, *The Annals* has been an important contributor to the development of clinical pharmacy. Throughout 2006, we are publishing articles reflecting on the history of clinical pharmacy through the eyes of practitioners, including those pioneering clinical pharmacy, as well as those who have more recently entered the profession and a well-established specialty. In addition, we are also presenting articles and editorials from the early history of *The Annals* that have given direction and shape to the practice of clinical pharmacy (see page 2023).

Role of Pharmacy Technicians in the Development of Clinical Pharmacy

Jan M Keresztes

It is very interesting to look back 40 years—one generation—to see how pharmacy has progressed as a profession. Just 4 decades ago, while sitting in pharmacy school, students may have heard the professor state something like this: “If the patient asks you what the medication is that the doctor prescribed for them, ask the patient why he went to the doctor. If he states it was because of the pain in his joints, tell him that the medication prescribed is good for that. No need to even put the name of the medication on the label, unless requested to do so by the physician. Otherwise, the patient may lose faith in the medical professionals.” This evasiveness regarding the drug, its adverse effects, and the diagnosis led patients to believe that members of the medical profession were only doing what was best for them.

In addition to the above such occurrence, other scenarios were taking place in the pharmacy profession in the 1960s:

1. A transcribed copy of the medication order sheet (ie, not the physician’s original order sheet) was sent to the pharmacy.
2. Patient medication profiles were just being developed.

3. Pharmacists did not work together with the nurse or physician on a nursing unit.
4. New methods of drug distribution were being developed.
5. Computers were being developed, and their increased use in hospitals made sophisticated drug utilization studies possible.
6. Studies began to show a high incidence of adverse reactions and medication errors.
7. Literature began to emerge showing complex drug interactions.
8. A patient’s medication history often did not involve the pharmacy. In addition, “pharmacists were not preparing intravenous admixtures or operating drug information centers.”¹

According to the late Don E Francke,² if pharmacy could play a part in some of these changes, then “these developments enable the pharmacist to visualize a good future for himself in roles that utilize more fully his ability to make judgments and decisions based on his educational background, leaving the routine, mechanical part of the work to be carried out by others. . . . Well-trained technicians would not only help relieve the health manpower shortage; they would also elevate the professional standing of pharmacists by permitting them to concentrate their time and effort on the intellectual decision-making process.”

Ann Pharmacother 2006;40:2015-9.
Published Online, 24 Oct 2006, www.theannals.com
DOI 10.1345/aph.1G578
Author information provided at the end of the text.

With the development of the all-PharmD degree and the awarding of provider status to pharmacists in the Medicare Part D provision, pharmacists now have the stage set to maximize their education in a counseling role. However, according to an editorial written by Harvey Whitney Jr³ in 1974, “The advancement and development of clinical pharmacy will only result if the profession continues to provide enough people to carry out the distributive functions and technical tasks.”

This could not be any more true today. Pharmacy technicians are the backbone of the pharmacy profession. Some of the comments pharmacists have made regarding technicians include, “My pharmacy is only as good as its worst technician” or, “I can tell what type of day I am going to have by the technician who is working my shift.” Too many times, there is not enough value placed on technicians’ work.

However, since the 1970s, the following steps have occurred to recognize pharmacy technicians.

1. In 1975, the American Society of Health-System Pharmacists (ASHP) created a set of training guidelines for hospital pharmacy supportive personnel.

2. In 1977, the ASHP created competency standards for pharmacy supportive personnel in organized healthcare settings and defined the qualifications of entry-level hospital pharmacy supportive personnel.

3. In 1979, the Massachusetts College of Pharmacy initiated a hospital pharmacy technician training program.

4. In 1981, the Michigan Pharmacists Association initiated an examination-based certification program for pharmacy technicians.

5. In 1982, the ASHP created standards for accreditation of pharmacy technician training programs.

6. In 1987, the Illinois Council of Hospital Pharmacists initiated an examination-based certification program for pharmacy technicians.

7. In 1988, the ASHP Research and Education Foundation sponsored the 1988 Invitational Conference on Technical Personnel in Pharmacy, which met to discuss how to utilize pharmacy technicians in the future (Appendix I).⁴

8. In 1989, the American Pharmacists Association (APhA)/ASHP Task Force on Technical Personnel in Pharmacy formulated 16 recommendations that could be used as goals to further enhance the pharmacy profession (Appendix II).⁵

9. In 1991, the Pharmacy Technician Educators Council (PTEC) was formed.

10. In 1994, the Scope of Pharmacy Practice Project was completed, including a task analysis of technicians’ responsibilities. (An updated task analysis was completed by the Pharmacy Technician Certification Board [PTCB] in 2000 and again in 2005.)

11. In 1995, the ASHP, APhA, Illinois Council of Health-System Pharmacists, and Michigan Pharmacists Association created the PTCB.

12. In 1996, the ASHP and APhA created the White Paper on Pharmacy Technicians, which urged planning for uniform national standards for pharmacy technician training. (The White Paper was updated in 2002 and subtitled: Needed Changes Can No Longer Wait.)

13. In 1997, the ASHP, APhA, American Association of Colleges of Pharmacy (AACP), American Association of Pharmacy Technicians (AAPT), and PTEC collaborated to create the Model Curriculum for Pharmacy Technician Training. (A second edition was published in 2001.)

14. In 2002, the Sesquicentennial Stepping Stone Summit on Pharmacy Technicians convened in Baltimore, MD, for the purpose of reviewing the present status and use of pharmacy technicians in the practice of pharmacy and to develop recommendations that would lead to significant outcomes achievable within 3–5 years.

15. In December 2001, the National Association of Boards of Pharmacy (NABP) joined the PTCB as the fifth supporting organization to promote the certification of pharmacy technicians.

16. In 2003 and 2004, the American Council on Pharmacy Education (ACPE) moderated open hearings on the future of pharmacy technicians at most national pharmacy organization conventions. Written statements were also collected and posted on the ACPE Web site; ACPE cited the Council on Credentialing in Pharmacy, which stated that the “submitted comments generally reflected that...there was a lack of consensus on the best ways to train and utilize such supportive personnel in pharmacy currently and in the future.”

17. In 2005, the PTCB marked its tenth anniversary, having certified more than 250 000 pharmacy technicians as of July 2006. It was previously thought that there were 200 000 pharmacy technicians practicing throughout the US; the number is now known to be much greater.

Even with these positive steps occurring for pharmacy technicians, pharmacy as a profession must learn to be more proactive than reactive. When Richard Penna⁶ received pharmacy’s most prestigious award, the Remington Honor Medal, at the American Pharmaceutical Association Annual Meeting in 2002, he stated,⁷ “Throughout its history, US pharmacy conducted 4 national studies of pharmacists’ functions: the WW Charters study in 1927, the Elliott Survey in 1948, the Standards of Practice Project in 1977, and the Scope of Practice Project in 1992.... More than 20 years separated the Charters study from the Elliott survey, almost 30 years separated Elliott from the Standards of Practice Project, and almost 15 years elapsed between the Standards and the Scope of Practice Project. We can ill afford to wait this length of time before we study ourselves again.” In addition, Penna stated, “Nothing made much difference in pharmacists’ interest in patient counseling until national pharmacy groups caused Congress to mandate it for Medicaid recipients. For some reason, pharmacy has had more success with having the government

keep the playing field level than it has with stimulating its members to raise their own professional sights.”

Pharmacy technicians do have more job responsibilities today than ever before. The profession expects more of its technicians. Having more prescriptions to dispense, with less pharmacist manpower to meet this increasing need, leaves the pharmacy technicians to fill in the gaps. After all, the primary function of pharmacy is stated in its rights: the right drug, to the right patient, via the right route, for the right reason, at the right time. There is no point in getting the right drug to the right patient 5 days too late.

In all but 6 states today, individuals who assist pharmacists in the day-to-day prescription processing are legally referred to as pharmacy technicians. Since the US Army began training its “pharmacy specialists” in the mid-1940s, there has not been a uniform title to attach to this group of pharmacy supportive personnel. However, a uniform title is not the only change for pharmacy technicians that has occurred over the past 4 decades. How are pharmacy technicians being utilized now? Technicians can now work in a variety of different interest areas (Table 1). With this wide scope of environments, it is no wonder then that mandatory education and training should come to the forefront and be addressed by the profession as a whole.

In a 1968 editorial, Francke² stated, “The United States is one of the few developed countries in the world which does not have an established program for the education and training of pharmacy technicians.” Between 1969 and 1971, the then Health, Education, and Welfare (HEW) Department established a Task Force on Prescription Drugs. Its report⁷ stated: “The Task Force therefore recommends that the Bureau of Health Manpower should support—(a) the development of a pharmacist aide curriculum in junior colleges and

other educational institutions, (b) the development of appropriate curricula in medical and pharmacy schools for training pharmacists to serve as drug information specialists on the health team, and (c) a broad study of present and future requirements in pharmacy, adequacy of current pharmacy education, and the educational changes which must be made.”

“Based on HEW’s recommendation, the US Office of Education funded a four-year project (1968–71) for \$1.5 million at the University of California at Los Angeles to develop curricula and curriculum materials for 18 allied health occupations, including pharmacy. The Project’s final product was to include programs which could be used for in-service training purposes, as well as programs which could be used for an Associate of Arts (AA) degree at a junior college.”⁸ Whalen⁹ stated that, with the grant money, the pharmacy project group surveyed the manpower needs and the educational requirements of nonprofessional personnel in pharmacy. During the process, the group determined those functions that the pharmacist could and could not professionally delegate. “The project concluded, however, that no further work beyond the survey of practices in hospital pharmacies should be conducted and that a development of a community college curriculum for supportive personnel was not warranted.”¹⁰

This last statement on the education and training of pharmacy technicians is an issue that pharmacy has been grappling with for years.

In 1975, Louis P Jeffrey¹¹ gazed into his crystal ball to predict the future of pharmacy. He defined a pharmacy technician as:

1. a high school graduate with some additional education, training, and/or work experience;
2. an individual who completes assignments designated as supportive activities that have been delegated to him or her by the pharmacist; and
3. a graduate of a formalized education and on-the-job training program.

In that same article, Jeffrey expressed the uncertainty of the future of the pharmacy technician based on:

1. the universal antagonism received from pharmaceutical education where pharmacy students viewed the technician as a competitor for employment,
2. the controversial position that regulatory agencies have espoused concerning the technician, and
3. the lack of support by the national professional organizations responsible for pharmacy practitioners in recognizing the need for technicians.¹¹

Pharmacy must learn to establish its own standards...and quickly.

Table 1. Pharmacy Technician Work Environments

Medication–inventory control specialist	Long-term care technician
Intravenous admixture specialist	Home care technician
Third-party billing specialist	Durable medical equipment supplier
Pharmacy benefits manager	Narcotic control technician
Clinical pharmacy technician	Medicare Part D specialist
Nuclear pharmacy technician	Managed care technician
Education and training coordinator	Quality assurance/staff development
Pharmacy software specialist	Automation technician
Investigational drug technician	Mail-order technician
Supervisor with tech-check-tech responsibilities	Compounding technician
Operating room pharmacy technician	Medication assistance programs (for patients not fluent in English)
Pharmacy department manager (scheduling, limited policy/procedure responsibilities, problem resolutions, patient care triage)	Specialty areas (wellness, antihyperlipidemia, antithrombosis clinics, immunizations)

^aIn some states, because of the severe shortage of nurses, pharmacy technicians are involved with oral administration of medication to nursing home patients. Fulfilling this responsibility only requires that pharmacy technicians take additional weeks, not months or years, of training.

According to William A Zellmer,¹² “There are two fundamental changes that must be made for pharmacists to become a more meaningful force in the rational use of medicines:

1. pharmacists must adopt professionalism as the dominant guide to their behavior, and
2. pharmacy must rationalize the development and deployment of its work force.... Uniform national standards for the education and training of pharmacy technicians should be developed and enforced because anything less poses a tremendous risk to public confidence in pharmacy. The current lack of standards for technician education and training inhibits the extent to which pharmacists are willing to delegate tasks to technicians. Identification of appropriate standards for education and training of technicians can be done more effectively and efficiently nationwide by a body such as the Accreditation Council for Pharmacy Education, which performs a similar function for pharmacist education, than by the thousands of individual employers of technicians.”

It might be helpful if pharmacy could perform an in-depth study of the cost of the current education and training of pharmacy technicians, the length of time it takes for pharmacists to feel comfortable delegating tasks to techni-

cians, and technicians’ retention at their jobs. Perhaps if the study shows how much is lost from pharmacy’s “bottom line” with the continued training and retraining of pharmacy technicians, the profession could answer the unresolved issues and move forward. Is now the time?

Jan M Keresztes PharmD, Coordinator, Pharmacy Technician Program, South Suburban College, 8608 W. 145th Pl., Orland Park, IL 60462-2863, fax 708/210-5792, jkeresztes@southsuburbancollege.edu.
Reprints: Dr. Keresztes

References

1. Whitney HAK Jr. The education and utilization of pharmacy supportive personnel. *Drug Intell Clin Pharm* 1975;9:452-3.
2. Francke DE. Hospital pharmacy technicians (editorial). *Drug Intell Clin Pharm* 1968;2:259.

Appendix I. The 1988 Invitational Conference on Technical Personnel in Pharmacy^{4,a}
<p>Participants at this conference identified the following major challenges and proposed several ideas that have been incorporated into pharmacy practice.</p> <p>Identified challenges</p> <ol style="list-style-type: none"> 1. a lack of uniform standards for technician education and training programs 2. an unwillingness of some pharmacists to recognize technicians as a critical component of the pharmacy work force 3. the profession’s failure to define career ladders for pharmacy technicians 4. legal constraints on the use of pharmacy technicians 5. the lack of involvement of pharmacy technicians in pharmacy workforce planning <p>Major ideas</p> <ol style="list-style-type: none"> 1. informal on-the-job programs are insufficient for the education and training of pharmacy technicians 2. educational and training programs should include a formal, standard core offered by either employers or academic institutions 3. content and quality of that core should be determined by the profession 4. voluntary certification of individual technicians would be a mechanism to help pharmacists ensure the competency of pharmacy technicians 5. increased use of pharmacy technicians could increase the efficiency and quality of pharmaceutical care 6. roles and responsibilities of pharmacists and pharmacy technicians should be better defined
<p>^aAs reported in the Summary from the Sesquicentennial Stepping Stone Summit on Pharmacy Technicians, May 2002.</p>

Appendix II. Technical Personnel in Pharmacy⁶
<ol style="list-style-type: none"> 1. to affirm the need for an occupational class of skilled workers (pharmacy technicians) who, under the supervision of pharmacists, assist in the various activities of pharmacy departments that may not require the immediate professional judgment of pharmacists 2. to affirm that the primary responsibility of pharmacists is to ensure that medications are used safely, effectively, and cost consciously; further, to affirm that it is important for pharmacists to devote as much time as possible to patient-care functions, and that to do so, certain activities should be delegated to pharmacy technicians 3. to encourage pharmacists to (a) increase the amount of time they devote to patient-care functions and (b) reduce their direct participation in drug-product preparation and distribution functions that can be delegated to pharmacy technicians, so as to have more time available for patient-care functions 4. to recognize that, as the roles of pharmacists change, pharmacists require flexibility in determining what functions may be delegated to pharmacy technicians 5. to recognize that a pharmacy department’s frontline pharmacists and managers are accountable for the performance of pharmacy technicians to whom tasks have been delegated in that department 6. to establish core competency standards for pharmacy technicians based on a systematic task analysis of the functions of pharmacy technicians 7. to develop a model curriculum for pharmacy technician training 8. to evaluate various models for training pharmacy technicians 9. to promote the expansion of pharmacy technician training programs 10. to encourage close cooperation among pharmacy technician training programs, the profession of pharmacy, and colleges of pharmacy 11. to develop a national, pharmacy-wide mechanism for accreditation of pharmacy technician training programs 12. to develop a national, pharmacy-wide program for the certification of pharmacy technicians 13. to develop mechanisms for fostering the continuing competency of pharmacy technicians 14. to monitor closely technological developments in health care in the context of assessing the appropriate functions of, and impact on, pharmacists and pharmacy technicians 15. to foster the cooperation of all sectors of pharmacy in continuing to clarify and resolve issues related to pharmacy technicians 16. to take actions promptly, including the allocation of appropriate resources, that will move the profession expeditiously toward the development of a well-defined corps of technical personnel

3. Whitney HAK Jr. The pharmacy technologist: a new assistant for the clinical pharmacist. *Drug Intell Clin Pharm* 1974;8:421.
4. Technical personnel in pharmacy: directions for the profession in society. Proceedings of an invitational conference conducted by the University of Maryland Center on Drugs and Public Policy. *Am J Hosp Pharm* 1989; 46:491-557.
5. Ratliff RW, McGowan BC. Final report of the ASHP task force on technical personnel in pharmacy. *Am J Hosp Pharm* 1989;46:1420-9.
6. Posey LM, ed. *Pharmacy: an introduction to the profession*. 1st ed. Washington, DC: American Pharmacists Association, 2003:73.
7. Francke DE. The new role of pharmacy. *Drug Intell Clin Pharm* 1968;2: 291.
8. Report of the Task Force: Practitioners' and subprofessionals' roles in pharmacy. *J Am Pharmaceut Assoc* 1969;NS9:416.
9. Whalen FJ. Supportive personnel training and management. *J Pharm Technol* 1985;1:110.
10. Supportive personnel policy decision. *J Am Pharmaceut Assoc* 1976;NS16:343-4.
11. Jeffrey LP. Impact of the pharmacy technician upon pharmacy service in the year 2000. *Drug Intell Clin Pharm* 1975;9:430-2.
12. Zellmer WA. *Am J Health Syst Pharm* 2005;62:259-65.