Career Pathways for Pharmacists

In 2002 APhA's Career Pathways Evaluation Program surveyed pharmacists across the United States in all areas of the profession. The findings, described here, reveal a vibrant profession whose members are enjoying a diversity of opportunities.

Lawrence M. Brown, Marsha K. Millonig, Mitchel C. Rothholz, Jon C. Schommer, and Elliott M. Sogol

Never before in the history of the pharmacy profession have pharmacists enjoyed as broad an array of career opportunities as they do in the opening decade of the 21st century. The reasons for this optimistic situation have to do with supply and demand, but also with the profession's own battle, still vigorously under way more than a decade after Hepler and Strand[1] defined pharmaceutical care, to redefine pharmacists' roles in the health care system.

The number of prescriptions dispensed in the United States increased from 1.9 billion in 1992 to 3.1 billion in 2002.[2,3] As the demand for prescription drugs has increased, so, too, has the demand for pharmacists who are focused on the safe and efficient distribution of these products.

Yet, even with prescription volume higher than ever, pharmacists are taking on roles in direct and indirect patient care, most often in combination with the dispensing process, in order to contribute to the appropriate and cost-effective use of medications.[4,5] Pharmaceutical care practice, drug use review (DUR), drug use management, disease management, and pharmacy benefit management are some examples of how pharmacists are using their skills in the service of this goal. Pharmacists' skills are also being called upon in areas as diverse as drug discovery, drug development, clinical trials, drug approval, drug manufacturing, drug marketing, drug metabolism, drug law, public policy, and outcomes evaluation, to mention just a few career thrusts.[6]

These changes have been occurring—and continue to occur—in the context of a changing society. As pharmacy historian Greg Higby[6] has noted, such historical and professional milestones as the passage of Medicare and Medicaid legislation, developments in health insurance coverage for prescription drugs, computerized handling and processing of insurance claims, DUR regulations in the Omnibus Budget Reconciliation Act of 1990, and academic reform movements, led to changes in the way pharmacists are trained, with a subsequent broadening of career opportunities. Change continues to this day, as technology, use of technician support, and transitions in health care continue to affect pharmacy practice.

The Need for Pharmacists

Although the demand for pharmacists in multiple career sectors continues to increase, the supply of pharmacists has not changed significantly over 2 decades. Since 1980 the supply of pharmacists in terms of the number of graduates from U.S. pharmacy schools has remained fairly stable. First professional degree graduates numbered 7,432 in 1980, rose to 8,003 in 1996, but then decreased to 7,141 in 1999.[7] In 2002 first professional degree graduates numbered 7,573,[8] which is similar to the number of graduates in 1980. According to an article by Cooksey et al.[9] in this issue of *JAPhA* (see page 463), 73,541 individuals graduated from U.S. pharmacy schools during the 1990s, which is only about 9,500 more than graduated in the 1980s.

In addition to looking at the number of licensed pharmacists as an indicator of labor supply, researchers have examined licensed pharmacists' participation in the workforce.[10] A national survey of pharmacists in 2000[10] showed that 76.8% of licensed pharmacists in the United States were working as pharmacists, 11.8% were retired or semiretired, 5.8% were working in a pharmacy-related field but not practicing pharmacy, 2.9% were working in a non-pharmacy-related career, and 2.7% were not employed at the time of the survey. Of the 76.8% who classified themselves as working as pharmacists, 60.1% worked as staff pharmacists, 34.9% were managers/directors/owners, 0.2% were in postgraduate education positions, and 4.7% were in some other type of position. The 4.7% who classified themselves as working in "other" positions held jobs as diverse as attorney, business analyst, compliance officer, consultant, drug information specialist, drug safety monitor, government official, health promotion officer, inspector, legislative representative, medical liaison, operations coordinator, pharmacy technician educator, pharmacy services specialist, pharmaceutical sales representative, pharmacokineticist, professor, project manager, quality control officer, regulatory safety coordinator, research scientist, and software consultant.

If one adds the 5.8% of pharmacists who were working in a pharmacy-related field but not practicing pharmacy, the 2.9% who were working in a non-pharmacy-related career, and the 3.6% (4.7% of 76.8% equals 3.6%) who considered themselves as working as a pharmacist but not in a traditional type of practice, the total adds to 12.3% of all pharmacists in the United States. Thus, as we track number of graduates and number of licensees as indicators of pharmacist supply, we must also consider that, according to estimates in 2000, 11.8% of licensed pharmacists were retired or semiretired, 2.7% were not employed, and 12.3% were not working in typical pharmacist roles, meaning over one-quarter of licensed pharmacists are not working in traditional pharmacist roles.

These findings demonstrate the diversity of career paths available to today's pharmacists. Clearly, pharmacists currently have unprecedented flexibility in the ways they choose to pursue their professional and personal goals.

Among pharmacists currently in practice, the remarkable variety of practice settings includes independent, small chain, large chain, mass merchandiser, supermarket, health maintenance organization-operated, clinic, mail service, hospital/health system, nuclear, nursing home/long-term care, home health care, managed care/pharmacy benefit management, armed services/government, university-based practice, and others.

In summary, pharmacists have chosen a profession whose practitioners are in high demand and that is expanding in terms of potential jobs, career paths, and work activities.[10–16] With all of the career options now available to pharmacists, an individual's decision regarding which career path best suits one has become much more difficult. Thus, a program is needed that helps pharmacists and pharmacy students make career decisions based on the most up-to-date information available.

American Pharmacists Association Career Pathways Evaluation Program

To help pharmacists learn about career options that fit their interests and skills, Glaxo Pharmaceuticals developed the Pathway Evaluation Program for Pharmacy Professionals in the late 1980s. On the basis of the results of a pharmacy specialty survey conducted in fall 1988 and again in spring 1993,[17] this program created "sample" profiles of pharmacists working in various practice areas. The intent was to help pharmacy students and pharmacists entering the workforce match their interests and skills against the profiles as they mulled their career options.

When GlaxoSmithKline announced it would no longer continue the program, the American Pharmacists Association (APhA) (then the American Pharmaceutical Association) agreed in 2001 to continue the program, renaming it the Career Pathways Evaluation Program. To update information on pharmacist career pathways, in spring 2002 APhA mailed the Pharmacist Profile Survey to a judgment sample of 3,064 U.S. pharmacists. The sampling frame, constructed by APhA from the membership lists of various pharmacy organizations, was designed to make sure the survey reached pharmacists in each of 17 categories. Table 1 lists these categories as well as the number of usable responses received from pharmacists in each category. These categories were defined and developed based on the guidance of an expert advisory panel and input from the leaders of the APhA Academies. Table 1 lists these categories as well as the number of usable responses received from each category.

The 2002 survey, which had a response rate of 41.4% (1,224 usable questionnaires returned), categorized respondents into one of 16 practice types or an "other" category. Each respondent was asked to provide information about his or her primary practice so that a composite profile of each practice area could be created for the Career Pathways Evaluation Program.

The Career Pathways Evaluation Program helps pharmacists learn more about different career pathways by providing data on job satisfaction, work characteristic profiles, workload, work activities, and demographic profiles for each career path. In this article, we provide an overview of some our findings related to

Table 1. Respondent Categories and Number of Responses for Career Pathways Pharmacists Profile Survey

Category	No.
Academia	108
Ambulatory care/clinic	105
Association management	66
Chain community	104
Compounding	29
Government/federal	81
Home health care	62
Hospital[a]	144
Independent community	110
Long-term care/geriatric	89
Managed care community	49
Managed care pharmacy benefit management	31
Medical communications/drug information	25
Pharmaceutical industry	134
Pharmacist clinical specialties (e.g., nuclear pharmacy)	26
Public policy/law	18
Other	43
Missing (respondent did not report primary practice)	44
Total	1,268 (of whom 1,224 respondents provided usable data)

[a]Hospital pharmacy was further categorized into staff or management for some of the analyses reported in this article.

Table 2. Most Common[a] Work Activities for Pharmacist Respondents

Career	Dispensing Prescriptions	Counseling Patients	Compounding	Management[b]	Consulting[c]	Instruction and Writing[d]	Travel
Academia	—	—	—	—	—	✔	—
Ambulatory care/clinic	✔	✔	—	—	—	—	—
Association management	—	—	—	✔	—	✔	—
Chain community	✔	✔	—	—	—	—	—
Compounding	✔	—	✔	—	—	—	—
Government/federal	✔	—	—	✔	—	—	—
Home health care	✔	—	—	✔	—	—	—
Hospital (management)	✔	✔	—	—	✔	✔	—
Hospital (staff)	✔	—	—	—	✔	—	—
Independent community	✔	✔	—	—	—	—	—
Long-term care/geriatric	✔	—	—	—	✔	—	—
Managed care community	✔	✔	—	—	—	—	—
Managed care pharmacy benefit management	✔	—	—	✔	—	✔	—
Medical communications/ drug information	—	—	—	✔	—	✔	—
Pharmaceutical industry	—	—	—	—	—	✔	✔
Pharmacist clinical specialties	✔	✔	✔	✔	✔	✔	—
Public policy/law	—	—	—	✔	—	—	✔

[a]"Most common" was viewed as at least 10% of pharmacists' time spent on that activity on average. For pharmacist clinical specialties, ties resulted in the six categories checked in the table, even though times for some categories were less than 10%.
[b]Management included supervising/managing others and meetings.
[c]Consulting included answering phone inquiries, consulting services, and interpreting lab values.
[d]Instruction and writing included educating pharmacists, writing, academic/educational writing, professional reading, and editing.

workload and work activities. Further information can be found on the Career Pathways Evaluation Program Web site (www.aphanet.org/pathways/pathways.html).

New Data on Pharmacists' Workload and Work Activities

Researchers have reported findings related to pharmacists' workload and work activities.[18] However, that research was limited to individuals who worked in pharmacies on a full-time basis. The Career Pathways survey provided new data on a broad sample of pharmacists working in a variety of settings.

The Career Pathways survey yielded information on the hours pharmacists work per week and per day. Of the career pathways listed in Table 1, the three with the highest mean number of hours worked per week were academia (mean of 49.6 hours per week), pharmaceutical industry (49.2), and association management (48.8). In terms of hours per day, the top three were chain community pharmacy (9.6 hours per day), pharmaceutical industry (9.4), and academia (9.4).

Pharmacists' responses about their work activities allowed us to cluster some career paths based on the similarity of the amount of time spent in certain work activities (see Table 2). For example, Table 2 shows that in four pharmacy career pathways—ambulatory care/clinic, chain community, independent community, and managed care community—pharmacists typically reported engaging most often in dispensing prescriptions and counseling patients. Pharmacists in six additional career pathways (compounding, government/federal, home health care, hospital [both staff and management], long-term care/geriatric, and pharmacist clinical specialties) identified dispensing prescriptions as the most common or second most common activity in which they engaged during a typical day. However, pharmacists in compounding pharmacies spent considerable time performing compounding activities; pharmacists in government/federal pharmacies, and also those in home health care pharmacy, spent considerable time supervising and managing others (management). Hospital pharmacists who held staff positions spent considerable time in consulting (e.g., answering phone inquiries), whereas hospital pharmacists in management positions spent considerable time in management (e.g., attending meetings). In addition to dispensing, pharmacists working in long-term care/geriatric pharmacies devoted considerable numbers of hours to consulting, and pharmacists in clinical specialties divided their time amongst a wide variety of activities that included all of the work activities categories except travel.

Pharmacists cited a surprising number of nontraditional work activities as taking up large portions of their time. It is interesting to note that for none of the career pathways did respondents mention the following specific survey choices as the top two most common

work activities in their careers: bookkeeping, budgeting, clinical research, conducting physical assessments, educating nurses and/or physicians, laboratory research, ordering research, ordering supplies, paperwork, pharmacokinetic counseling to physicians, pharmacy staff development, preparing proposals, scheduling, or therapeutic counseling to physicians. This is not to suggest that pharmacists are not engaging in these activities. However, pharmacists typically devote more of their time to other activities than those just listed. Thus, most of pharmacists' time is devoted to preparing and dispensing medications, counseling patients, managing others, providing expert advice through consulting, instruction, and writing, and, for some careers, traveling (see Table 2). These activities seem consistent with the knowledge and expertise pharmacists currently hold concerning drugs. Future Career Pathways Evaluation Program surveys might be used to track changes in activities over time to learn how practice priorities evolve.

In addition to tracking trends and changes in work activities as pharmacy practice evolves, the findings from the Career Pathways survey can be useful now for pharmacists and pharmacy students who are making career choices. The findings delineated in this article show that careers in pharmacy offer a range of work activities related to the appropriate use of prescription drugs. The Career Pathways survey also asked respondents to provide information about job satisfaction and work characteristics (e.g., innovation, translating knowledge to pharmacy practice). When all of the information obtained from the survey is put together, a complicated and relatively specific description of various career paths can be constructed.

To help pharmacists and pharmacy students use this information, APhA is currently working with Survey Research Associates to develop a scoring algorithm for online assessments of career pathway decisions. The goal is to create a Web-based method for matching individuals' most critical factors in determining a career choice with the careers that best meet those factors.

Conclusion

Clearly, pharmacists are engaging in a diverse array of work activities. This is positive news for the profession, since people's needs, desires, and priorities change throughout their personal and professional lives. Having a variety of career pathways available bodes well for pharmacists seeking to achieve their professional goals. In addition to data on work activities, the Career Pathways Evaluation Program also provides profiles related to pharmacists' job satisfaction, work characteristics, workload, and demographics. Such information can help pharmacists match the work characteristics that they seek with possible career pathways that they could follow.

Lawrence M. Brown, PharmD, PhD, is assistant professor, College of Pharmacy, University of Tennessee–Memphis. Marsha K. Millonig, RPh, MBA, is president, Catalyst Enterprises, LLC, Eagan, Minn. Mitchel C. Rothholz, RPh, is vice president, professional practice, American Pharmacists Association, Washington, D.C. Jon C. Schommer, PhD, is associate professor, College of Pharmacy, University of Minnesota–Minneapolis. Elliott M. Sogol, PhD, is associate professor, and director, academic affairs for clinical research, School of Pharmacy, Campbell University, Durham, N.C. The authors collaborated on the Pharmacist Profile Survey. The findings from that survey are now being used by APhA to update the Career Pathways program.

Funding for this study was provided by the American Pharmacists Association Foundation.

Correspondence: Jon C. Schommer, PhD, College of Pharmacy, University of Minnesota, 308 Harvard Street, SE, Minneapolis, MN 55455. Fax: 612-625-9931. E-mail: schom010@tc.umn.edu.

See related article on page 463.

References

1. Hepler CD, Strand LM. Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm*. 1990;47:533–43.
2. Kreling DH, Mott DA, Wiederholt JB, et al. *Prescription Drug Trends: A Chartbook*. Menlo Park, Calif: Kaiser Family Foundation; 2000.
3. Gebhart F. 2002 Rx market: a look in the rearview mirror. *Drug Topics*. March 17, 2003:37.
4. Ernst FR, Grizzle AJ. Drug-related morbidity and mortality: updating the cost-of-illness model. *J Am Pharm Assoc*. 2001;41:192–9.
5. Johnson JA, Bootman JL. Drug-related morbidity and mortality: a cost-of-illness model. *Arch Intern Med*. 1995;155:1949–56.
6. Higby GJ. From compounding to caring: an abridged history of American pharmacy. In: Knowlton CH, Penna RP, eds. *Pharmaceutical Care*. Bethesda, Md: American Society of Health-System Pharmacists; 1996:18–45.
7. Meyer SM, Patton JM. The pharmacy student population: applications received 1998–99, degrees conferred 1998–99, fall 1999 enrollments. *Am J Pharm Educ*. 2000;64:74s–84s.
8. *Academic Pharmacy's Vital Statistics* [publication online]. American Association of Colleges of Pharmacy Web site. Available at: www.aacp.org/site/tertiary.asp?TRACKID=&VID=2&CID=31&DID=4860. Accessed June 16, 2003.
9. Cooksey JA, Walton SM, Stankewicz T, Knapp KK. Pharmacy school graduates by state and region: 1990–1999. *J Am Pharm Assoc*. 2003;43:463–9.
10. Pedersen CA, Doucette WR, Gaither C, et al. *National Pharmacist Workforce Survey: 2000* [publication online]. American Association of Colleges of Pharmacy Web site. Available at: www.aacp.org/site/page.asp?TRACKID=&VID=1&CID=503&DID=3897. Accessed June 16, 2003.
11. McPherson ML. Career awareness roundtable. *J Am Pharm Assoc*. 2000;40(suppl 1):S54–55.
12. Chisholm MA, Cobb H. Work experience and career goals as determinants of pharmacy degree pursued. *Am J Health Syst Pharm*. 1996;53:305–7.
13. Baran RW, Shaw J, Crumlish K. Pharmacy student expectations for professional practice. *Manag Care Interface*. 1998;11(8):50–5.
14. Walker SE, Schafermeyer KW, Rickert DR, Hurd PD. Opportunities for pharmacists as managers: perceptions of senior executives in the pharmaceutical industry. *J Am Pharm Assoc*. 1999;39:41–4.
15. Penna RP. Creating your future. *Am J Hosp Pharm*. 1994;51:2714–7.
16. Besier JL, Jang R. Factors affecting practice-area choices by pharmacy students in the Midwest. *Am J Hosp Pharm*. 1992;49:598–602.
17. Glaxo Wellcome. *Pathway Evaluation Program for Pharmacy Professionals*. 4th ed. Research Triangle Park, NC: Glaxo Wellcome, Inc; 1996.
18. Schommer JC, Pedersen CA, Doucette WR, et al. Community pharmacists' work activities in the United States During 2000. *J Am Pharm Assoc*. 2002;42:399–406.