



PHARMACISTS AND PHARMACY TECHNICIANS: FACTS AND FIGURES

Current Numbers & Trends

- In 2007, there were approximately 247,000 pharmacists and, in 2006, 285,035 pharmacy technicians.¹
- Between 1997 and 2007, the number of pharmacists in the workforce increased by 47,000.²
- By 2016, the number of pharmacists is expected to increase by 52,882, or 21.7%. This projection is less than previous projections made for 2004–2014 and demonstrates a decreasing trend in job growth for pharmacists.³
- The number of pharmacy technicians is expected to increase by 91,329, or 32% between 2006 and 2016. This projection is also less than projections for 2004–2014.⁴
- Overall, trends indicate that job openings created by employment growth and the need to replace workers who leave or retire will exceed the number of degrees granted in pharmacy and will continue to rise for pharmacy technicians.⁵
- Almost all states have legislated the maximum number of technicians who can work under a pharmacist at one time. In some states, technicians have assumed more medication-dispensing duties, resulting in more technicians per pharmacist. Changes in these laws could directly affect employment.⁶

Wages on the Rise

- In 2007, median annual earnings for pharmacists were \$100,480. The lowest 10% earned less than \$73,010 while the highest 10% earned more than \$126,410. These wages demonstrate a rise from 2005, in which the median annual earnings were \$89,820, the lowest 10% earned \$62,350 and the highest 10% earned over \$113,310.⁷
- Median annual earnings for pharmacy technicians in 2006 were \$26,720. The lowest 10% earned less than \$18,520, and the highest 10% earned more than \$38,210. Median hourly earnings for pharmacy technicians in 2007 were \$12.85, up from \$11.73 in 2005.⁸
- Earnings vary minimally for pharmacists when the specific type of employment is considered. In 2007, median earnings for pharmacists at health and professional care stores, grocery stores, general medical and surgical hospitals, department stores, and other general merchandise stores ranged from \$97,820 to \$103,600.⁹
- Median earnings for pharmacy technicians vary slightly between grocery stores, health and professional care stores, and other general merchandise stores (from \$25,230 to \$26,582) and rise to \$30,950 for those employed by general medical and surgical hospitals.¹⁰ Earnings can also vary for certified technicians and for the different shifts.

Employment

- As of 2006, about 62% of pharmacists worked in community pharmacies that are either independently owned or part of a larger chain, store, or merchandiser. Most of these pharmacists are salaried, though some are self-employed owners. Of the salaried

pharmacists, about 23% work in hospitals. A small proportion work in mail-order and Internet pharmacies, wholesalers, offices of physicians, and the Federal Government.¹¹

- In 2006, about 71% of pharmacy technician jobs were in retail pharmacies, either independently owned or part of a drugstore chain, grocery store, department store, or mass retailer. About 18% were in hospitals and a small proportion was in mail-order and Internet pharmacies, clinics, pharmaceutical wholesalers, and the Federal Government.¹²
- About 16% of pharmacists worked part-time in 2006. Most full-time salaried pharmacists worked approximately 40 hours a week and about 10%, including many self-employed pharmacists, worked more than 50 hours a week.¹³
- Technicians work the same hours as pharmacists. These may include evenings, nights, weekends, and holidays, especially in facilities that are open 24 hours a day. As their seniority increases, technicians often acquire more control over the hours they work. In both retail and hospital settings many technicians work part-time.¹⁴

Women and (Low) Minority Presence

In 2007, 53.3% of pharmacists were women.¹⁵

Fifty-three percent of full-time chain pharmacists are male while 64% of part-time chain pharmacists are female.¹⁶

The pharmacist workforce is 6.3% black or African American, 10.4% Asian, and 5.5% Hispanic or Latino.¹⁷

In Schools:

Pharmacists must earn a Pharm.D. from an accredited college or school of pharmacy. Underrepresented minority enrollment remains low at U.S. colleges and schools of pharmacy.

In fall 2007, 50,691 students were enrolled in the Doctor of Pharmacy (Pharm.D).

Underrepresented minorities accounted for 10.9% these students:

- 6.4% black or African American,
- 4.0% Hispanic or Latino,
- 0.5% American Indian or Alaska Native.

In fall 2007, more women than men were enrolled full-time in Pharmacy M.S. programs, while more men than women were enrolled full-time in Pharm.D. programs. Women accounted for more than 56% of the students in M.S. programs and 49.4% of the students in Pharm.D. programs.

The percentage of full-time M.S. students who were underrepresented minorities (black or African American; Hispanic or Latino, American Indian or Alaska Native) decreased from 18.6% in fall 2006 to 14.5% in fall 2007.¹⁸

Outlook

Numerous employment opportunities for pharmacists are expected for the 2006–2016 period. Because of this, enrollments in pharmacy programs are rising. Despite increases, job openings should still outnumber job seekers. Several factors contribute to the rise in employment:

- The population of middle aged and elderly people, the biggest users of prescription drugs, is increasing.¹⁹
- Scientific research and development yields more prescription drug products. Specifically, new developments in genome research, medication distribution systems, and product marketing increase consumer demand for products and services.²⁰
- Under Medicare Part D, prescription drug coverage by a greater number of health insurance plans has increased.
- Pharmacy technicians will perform more of the pharmacists' tasks.

Worker Shortages Cloud Outlook

While there are opportunities for pharmacists and pharmacy technicians, the heavy demand appears to be creating worker shortages. Evidence includes increased vacancy rates, difficulties in hiring, and increases in the volume and range of activities demanded of pharmacists.²¹

Several factors contribute to the shortages, such as the increased use of prescription medications, market growth and competition among retail pharmacies, the increased number of health care providers who prescribe medication, and the increase in insurance coverage for prescription drugs.²²

Shortages have several negative impacts for the industry and the public.

- Job stress, dissatisfaction, and poor working conditions due to longer hours lead to a greater potential for medication errors.
- Pharmacists have less time for patient counseling, which is especially important as prescription drug plans and complex medications rise.
- Service restrictions could affect underserved or vulnerable people, such as the elderly, residents in rural areas, the mentally ill, or those who rely on publicly-supported services such as Native Americans and veterans.
- More pharmacy practice faculty is recruited from academia which limits schools' ability to increase class size.²³

Shortages Significantly Affect Pharmacy School Faculty and Graduates

With the need to replace retiring pharmacists and others leaving the workforce, it is unlikely that the current pace of professional degrees awarded—nearly 9,812 in 2007—is sufficient to replace the projected demand.²⁴

In addition, schools foresee upcoming challenges of worker shortages in that:

- Forty-five percent of deans are 60 years or older and 21% of other full-time faculty are 60 years or older.
- Seventeen percent of vacant positions are due to retirements.
- In the industry overall, there were 4,044 open pharmacy positions as of July 2006.²⁵
- Twenty-three percent of the vacant positions were due to faculty moving to another college or school of pharmacy and 51% of vacant positions remained vacant due to an insufficient number of applicants in the pool.²⁶

Outsourcing and Technology May Change Pharmacists' Role

As in other sectors, pharmacy operations are affected by the outsourcing and offshoring trend. Hospitals and retail pharmacies outsource tasks to combat industry shortages and to drive costs down. Recently, CVS outsourced its human resource departments in Rhode Island to IBM in Bangalore, India. The move caused 140 workers to lose their jobs.²⁷ But the outsourcing threat is not limited to back office operations.

Online Drugstores:

Prescriptions are outsourced to on-line pharmacies and mail-order services. A report by Columbia University estimated that there are at least 400 existing online pharmacies.²⁸ Retail chains such as CVS and Walmart have websites that function as virtual pharmacists. The rise in online pharmacies could hinder job growth for pharmacists and pharmacy technicians.

Robotics and Digitalization:

Two relatively new technologies are having significant impacts on the number of jobs for pharmacists and on their actual work process. Robotics are entering the pharmacy sector in two ways.

- First, robots are being used to count and package medicines. In Washington State, Evergreen Hospital Medical Center pharmacists estimate up to 93% of the hospital's drugs are now dispensed by Ernie, a three million dollar robot that has packaged nearly 400,000 doses in the past nine months.²⁹ Manufacturers such as AutoMed in Illinois and MacKeeson in San Francisco produce pharmacy robots capable of processing up to 40,000 prescriptions a day. The units are in use in hundreds of hospitals and drugstores.³⁰ Within the next few years, hospitals will also have the option to use machines that prepare IV syringes and bags, and other sterile compounds. Robotic IV Automation, or RIVA, performs these tasks and was expected to be released for commercial purposes in 2007.³¹ While these robots were initially seen in hospitals and other large institutions, robots are increasingly appearing in retail pharmacies.
- The second application of robotics in the pharmacy sector is the pharmacy ATM. Chain pharmacies such as Safeway, Inc., recently received state approval for robotic kiosks that automatically dispense refilled prescriptions. State approval is pending for Walgreen's and White Cross Pharmacy in San Diego.³² These machines hold the previously-filled prescriptions and enable the customer to retrieve their order and pay via credit card. While companies claim that this new form of technology enables pharmacists to have more time to advise customers, some pharmacists fear they may lose their jobs to machines.

Digitalization is also having a significant impact on pharmacists and pharmacy technicians. Pharmacists can now view actual orders that are scanned directly from prescriptions or order sheets from a remote location (without, for example, leaving home). Telepharmacy applications allow one pharmacist to oversee operations at several different hospitals. The pharmacist can review patients' drug regimens, laboratory data, nursing notes, radiology reports, and other critical outpatient data from a secure, networked computer anywhere. Prescriptions can be transferred from retail outlet to retail outlet to match the fluctuating demand. Four-way, split-screen monitors show images of the actual medication in the vial, what the medication should look like if the prescription is filled correctly, the original prescription, and the label as printed,

allowing a pharmacist to “fill a prescription” without being in the same city, county, state, or even country as the actual medicine or customer.³³

Medicare Part D Causes Minor Troubles for Independent Pharmacies

Independent pharmacies make approximately \$84 billion a year. Ninety-two percent of their sales are prescriptions, and they sell 42% of all nationwide prescriptions.³⁴ While independents often join consortiums with one another to buy cheaper supplies, they are challenged by larger retail pharmacies. Since the implementation of Medicare Part D, intensified price competition from chain pharmacies and delayed reimbursements cause problems for the independent pharmacies.³⁵ Furthermore, “dual-eligibles”—those who qualify for Medicare and Part D plans—also create more work for the already-stressed local pharmacists.

Unionization

In 1995, 7.4% of the 151,982 pharmacists were union members. Since then, union membership has varied as the number of pharmacists has increased. In 1999, when there were 190,426 pharmacists, 11.3% of them were union members. Then, in 2002, the sudden increase to 209,512 pharmacists drove union participation down to 5.4%. More recently in 2007, with 247,000 workers, 8.7% are union members. While some of the fluctuations are related to the rising numbers of workers, the ratio from 2007 demonstrates that more pharmacists are union members now than in 1995.³⁶

In 2007, pharmacists in unions earned an average of \$41.28 per hour.³⁷ Income is not the only factor encouraging union membership among pharmacists. Growing insecurity, deskilling, speedups requiring prescriptions to be filled at record levels, outsourcing, and changes in technology, and decreasing job satisfaction are prompting pharmacists and pharmacy technicians to turn to the collective power of unions for support.

¹ U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey [CPS]*, Table 11, 2008. Arlene Dohm and Lynn Shniper, “Occupational Employment Projections to 2016”, U.S. Department of Labor, Bureau of Labor Statistics, *Monthly Labor Review*, November 2007.

² *Ibid.* U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey [CPS]*, Table 11, 1998.

³ *Ibid.* Hecker, Daniel, “Occupational Employment Projections to 2010”, U.S. Department of Labor, *Monthly Labor Review*, November 2001; “Occupational Employment Projections to 2012”, U.S. Department of Labor, *Monthly Labor Review*, February 2004; “Occupational Employment Projections to 2014”, U.S. Department of Labor, *Monthly Labor Review*, November 2005.

⁴ *Ibid.*

⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2008–2009 edition.

⁶ *Ibid.*

⁷ U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Employment and Wages*, 2008.

⁸ *Ibid.*

⁹ *Ibid.*

¹⁰ *Ibid.*

¹¹ U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2008–2009 edition.

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey [CPS]*, Table 11, 2008.

¹⁶ National Association of Chain Drug Stores, *Industry Facts-At-A Glance*,

<http://www.nacds.org/wmspage.cfm?parm1=507>

- ¹⁷ U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey* [CPS], Table 11, 2008.
- ¹⁸ American Association of Colleges of Pharmacy's (AACP) *Fall 2007 Profile of Pharmacy Students*.
- ¹⁹ U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook*, 2008–2009 edition.
- ²⁰ *Ibid.*
- ²¹ HRSA, *The Pharmacist Workforce: A Study of the Supply and Demand for Pharmacists*.
- ²² *Ibid.*
- ²³ *Ibid.*
- ²⁴ American Association of Colleges of Pharmacy, *Academic Pharmacy's Vital Statistics*, www.aacp.org
- ²⁵ National Association of Chain Drug Stores, *Industry Facts-At-A Glance*, <http://www.nacds.org/wmspage.cfm?parm1=507>
- ²⁶ American Association of Colleges of Pharmacy, www.aacp.org.
- ²⁷ Arditi, Lynn. "CVS to cut 140 human-resources jobs in R.I." *Knight Ridder/Tribune Business News*, July 22, 2006.
- ²⁸ National Center on Addiction and Drug Abuse. Columbia University, *You've Got Drugs*, June 2006.
- ²⁹ Associated Press. "Ernie the robot pharmacist: Hospital calls on machine to sort prescription drugs." *The Daily News*, Longview, Washington, January 2005.
- ³⁰ Levenson, Mark. "Robots replacing human pharmacists." *Tech Live*, December 30, 2002.
- ³¹ <http://www.rivasystem.com/index/html>
- ³² Colliver, Victoria. "Pharmacy Robot Automated Kiosk Dispenses Refills." *San Francisco Chronicle*, July 16, 2005.
- ³³ Bruce Carnaday, Pharm.D., *Inaugural Address*, 2006–07 American Pharmacists Association President. March 21, 2006. San Francisco, CA.
- ³⁴ National Community Pharmacists' Association.
- ³⁵ Friedman, Saul. "GRAY MATTERS; Independent drugstores falling ill under Part D." *Newsday*, July 1, 2006.
- ³⁶ Barry T. Hirsch and David A. Macpherson, "Union Membership and Coverage Database from the Current Population Survey: Note," *Industrial and Labor Relations Review*, Volume 56, No. 2, January 2003, pp. 349–54 (in pdf).
- ³⁷ BNA Plus, *Union Membership and Earnings: Compilations from the Current Population Survey*, 2008 edition.

For further information on professional workers, check out DPE's Web site: www.dpeaflcio.org

The Department for Professional Employees, AFL-CIO (DPE) comprises 24 AFL-CIO unions representing over four million people working in professional, technical and administrative support occupations. DPE-affiliated unions represent: teachers, college professors and school administrators; library workers; nurses, doctors and other health care professionals; engineers, scientists and IT workers; journalists and writers, broadcast technicians and communications specialists; performing and visual artists; professional athletes; professional firefighters; psychologists, social workers and many others. DPE was chartered by the AFL-CIO in 1977 in recognition of the rapidly-growing professional and technical occupations.

Source: DPE Research Department
815 16th Street, N.W., 7th Floor
Washington, DC 20006

Contact: Pamela Wilson
(202) 638-6684
pwilson@dpeaflcio.org

September 2008