

WWAMI CENTER FOR HEALTH WORKFORCE STUDIES

University of Washington • School of Medicine • Department of Family Medicine
Box 354982 • Seattle WA 98195-4982 • phone: (206) 685-6679 • fax: (206) 616-4768 • <http://www.fammed.washington.edu/CHWS>

Project Summary

February 2004

Washington State's Pharmacist Workforce through 2020: Influential Factors and Available Data

Background: Washington State is experiencing a shortage of pharmacists. We attempted to identify important factors affecting this workforce and data on supply and demand. Using the best available data, we developed two scenarios projecting the pharmacist workforce through the end of the next decade.

Methods and Data Limitations:

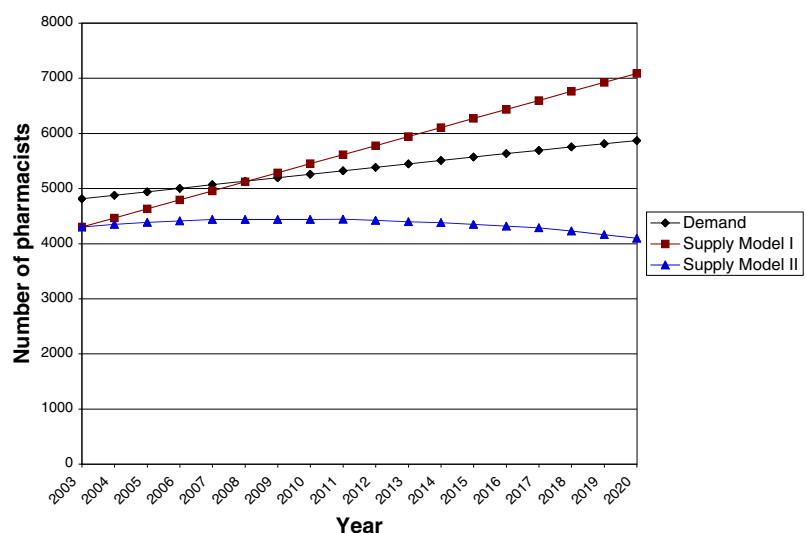
There are few data sources available for pharmacist workforce projections in Washington, which limits the precision of our models. We used four principal data sources: (1) 1998-1999 state licensing data and a supplementary licensing survey (no longer available) from the Washington State Department of Health, Office of Health Professions Quality Assurance, (2) a 2002 study of staffing in nonfederal acute care hospitals by the University of Washington Center for Health Workforce Studies and the Washington State Hospital Association, (3) data on pharmacy educational program completions in the state from 1996 to 2003, and (4) U.S. Census Bureau state population data. Supply Model I uses recent trends in state licensing to estimate future supply, while Supply Model II projects educational output and retirement trends. Our Demand Model projects total pharmacist employment and vacancies by extrapolating from hospital sector data and state population growth data.

Results: By comparing each supply model with the demand model, we derived two projection scenarios (Figure 1). Both scenarios assume that demand for services (adjusted for population growth) and rates of increase in supply of providers will continue at

current levels. Beginning with a 10.7 percent total vacancy rate extrapolated from the 2003 hospital survey, both scenarios suggest that the current Washington State pharmacist workforce shortage is likely to continue until at least 2008. But the two scenarios show divergent trends. One scenario, based on Supply Model I, projects a steady increase in supply, producing a 20.8 percent surplus by 2020. The other scenario, based on Supply Model II, projects a shortage worsening to 30.2 percent.

Challenges in Projecting Pharmacist Supply and Demand: The questions on the next page address important factors that affect pharmacist supply and demand. The more we are able to quantify influences on this workforce, the more accurate and useful future supply and demand analyses will be.

**Figure 1. Pharmacists in Washington State 2003-2020:
A Demand Model and Two Alternative Supply Models**



✘ Recent increases in educational capacity will increase supply. How will the relatively recent extension of training, requiring doctoral degree completion instead of the baccalaureate, affect supply?

✘ Do more pharmacists migrate into or out of the state?

✘ How might declining job satisfaction affect the supply of pharmacist services?

✘ How will the increasing proportion of women pharmacists, whose total professional lives tend to be shorter than men's, affect supply?

✘ Will potential productivity gains through improved technology be offset by increased demand for new types of drug therapies?

✘ Pharmacists' professional roles are expanding, increasing demand. What new policies will change the practice of pharmacy?

✘ A growing population will increase demand. How will other changing population demographics, such as aging, affect demand in Washington?

✘ How equitably are pharmacists distributed to meet demand throughout the state?

✘ Demand depends partly on the number of people insured. Will the number of people with prescription drug coverage continue to rise?

Policy Implications: Our projections of the pharmacist workforce are hampered by numerous critical information gaps, such as lack of data on job turnover, provider migration, and exits from the profession. We are also unable to predict or quantify future changes in the state's health services delivery system and health policy. More resources are needed to collect high-quality data on a regular basis for continued monitoring and for workforce projections in the future.

This study is more fully described in WWAMI Center for Health Workforce Studies Working Paper #90: Patterson DG, Skillman SM, Hart LG, Washington State's Pharmacist Workforce through 2020: Influential Factors and Available Data, February 2004. This working paper, and others projecting the state's radiographer and dental hygienist workforces, are available on the Web at <http://www.fammed.washington.edu/CHWS/>.