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BUSINESS, CONSUMER SERVICES AND HOUSING AGENCY
DEPARTMENT OF CONSUMER AFFAIRS
GOVERNOR EDMUND G. BROWN JR.

LICENSING COMMITTEE REPORT

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1. Public Comment for Items Not on the Agenda, Matters for Future Meetings

Note: the committee may not discuss or take action on any matter raised during the public comment section that is not included on this agenda, except to decide to place the matter on the agenda of a future meeting. Government Code Sections 11125 and 11125.7(a)

2. Discussion of 2014 National Pharmacist Workforce Study Conducted by the Midwest Pharmacy Workforce Research Consortium

The Midwest Pharmacy Workforce Research Consortium (MPWRC) completed the 2014 National Pharmacist Workforce Study. Commissioned by the Pharmacy Workforce Center, Inc. (PWC) the purpose of the study is to determine contemporary demographic practice characteristics and quality of work-life of pharmacists in the United States. The survey has been completed in 2004, 2009, and again in 2014.

Attachment 1 includes a copy of the 2014 National Pharmacist Workforce Survey.

Board staff participated in two webinars presented by the PWC providing an overview of the 2014 National Pharmacist Survey: 1) Overview, Demographics, Work Activities and Contributions to the Workforce; and 2) Work Environment and Quality of Work Life.

The Overview, Demographics, Work Activities and Contributions to the Workforce webinar addressed the Aggregate Demand Index (ADI) as a mechanism developed from a panel of pharmacist employers to assess how difficult it is to fill pharmacy positions. The ADI is rated on a scale of 1.0 (high surplus) to 5.0 (high demand). A rating of 3.0 means the demand for pharmacists equals the supply of pharmacists. The national ADI from August 2015 was 3.49 while the California ADI from July 2015 was 3.57 meaning there was about the same supply and demand for pharmacists in California and the United States. The most recent ADI reported by PWC indicated the national ADI as 3.43 and the California ADI as 3.6 meaning the demand for pharmacists in California is slightly increasing and higher than the national average.

The webinar also provided characteristics of the pharmacists' practice settings and activities. For example, there has been in increase in hospital setting practices, other patient care settings, and non-patient care settings. While the MPWRC was unclear as to what was causing this trend, it was attributed to possibly less positions in the community setting or pharmacists selecting different practice settings. From the 2009 to 2014 survey, the time a pharmacist spends on patient care services/non-medication provision increased while the time spent on patient care services/medication dispensing decreased. Time spent on management, research and education remained approximate the same.

The Work Environment and Quality of Work Life webinar focused more on qualitative issues impacting the work life a pharmacist. From 2009 to 2014, pharmacists realized an increase in the restructuring of pharmacists' work schedules; early retirement incentives; mandatory reduction of pharmacists' hours; and pharmacists' layoffs. Additionally, from 2009 to 2014, the ratings of workload being rated as "high" or "excessively high" decreased for the independent, supermarket, hospital and other patient care settings while ratings increased in chain, mass merchandiser, and other non-patient care settings.

Further, there was an increase in the percentages of pharmacists reporting current workload as having a "negative" or "very negative" effect on items such as: job performance; work motivation; job satisfaction; mental health; physical health; taking adequate breaks; and time spent in contact with patients. These increased in percentages from the 2004 to the 2009 survey and again in 2014. The survey noted no change in this rating for the quality of care provided to patients in 2004, 2009, or 2014. Overall, job satisfaction decreased from 2009 to 2014 in independent, chain, mass merchandiser, hospital and other patient care settings. However, job satisfaction increased in supermarket and other non-patient care settings.

The 2014 survey highlights a changing and dynamic health care profession. Noted is the capacity for contributing in new and exciting areas of health care never before ventured. However, the importance of implementation and impact on the pharmacists will be invaluable in future transitions.

3. Discussion of Pharmacy Technician Licensure Requirements and Practice

a. <u>Pharmacy Technician Duties and Functions. The Board may discuss the functions, roles and responsibilities of the pharmacy technician as well as possible changes.</u>

Business and Professions Code section 4115 specify that a pharmacy technician may perform packaging, manipulative, repetitive or other nondiscretionary tasks, only while assisting, and while under the direct supervision and control of a pharmacist. Further, Title 16 California Code of Regulations section 1793.2, specifies specific duties that may be performed by a pharmacy technician, as listed below.

- Removing the drug or drugs from stock
- Counting, pouring, or mixing pharmaceuticals
- Placing the product into a container
- Affixing the label or labels to the container
- Packaging and repackaging

b. Discussion of the Evaluation for the PTCB and ExCPT Examinations by the DCA Office of Professional Examination Services

The Department of Consumer Affairs' Office of Professional Examination Services conducted a comprehensive review for the Pharmacy Technician Certification Board's (PTCB) Pharmacy Technician Certification Exam (PTCE) and the National Healthcareer Association's (NHA) Exam for the Certification of Pharmacy Technicians (ExCPT).

Attachment 2 includes a copy of report completed by Office of Professional Examination Services.

c. Presentation by the National Healthcareer Association (NHA) on the ExCPT Examination and Its Pharmacy Technician Workforce Study

The National Healthcareer Association (NHA) administers the Exam for the Certification of Pharmacy Technicians (ExCPT). NHA will provide an overview of the ExCPT examination, to include information regarding prerequisites for taking the examination, statistics on pass rates, comparison to the PTCB examination, and other information. Additionally, NHA will provide information on its Pharmacy Technician Workforce Study.

Attachment 3 includes a copy of the NHA's presentation that will be provided to the Licensing Committee.

d. Employer Based Pharmacy Technician Training Programs and Impact of the New American Society of Health-System Pharmacists (ASHP) Accreditation Curriculum

At this meeting representatives from two chain drugs stores will present information on their pharmacy technician training programs and the impact of the new American Society of Health-System Pharmacists Accreditation Curriculum.

e. Pharmacy Technician Qualifications and Requirements for Licensure. The board may discuss current qualifications and requirements for licensure as well as possible changes.

Relevant Law

Business and Professions Code section 4038 defines a pharmacy technician as an individual who assists a pharmacist in a pharmacy in the performance of his or her pharmacy related duties, as specified.

Business and Professions Code Section 4202 establishes the general requirements for an applicant seeking licensure as a pharmacy technician.

Title 16 CCR Section 1793 provides additional context to the definition of a pharmacy technician including the duties that are performed (packaging, manipulative, repetitive or other nondiscretionary tasks related to the processing of a prescription in a pharmacy) under the direct supervision and control of a pharmacist.

Title 16 CCR 1793.2 further details the nondiscretionary tasks including:

- Removing the drug or drugs from stock
- Counting, pouring, or mixing pharmaceuticals
- Placing the product into a container
- Affixing the label or labels to the container
- Packaging and repackaging

Title 16 CCR 1793.5 provides the application requirements for a pharmacy technician license including:

- Identifying information
- Description of qualifications and supporting documentation
- Criminal background check
- Self-Query from the National Practitioner Data Back

Title 16 CCR 1793.6 provides the requirements for acceptable training courses as one of the pathways to licensure as a pharmacy technician licensure.

- Training program accredited by the American Society of Health-System Pharmacists (ASHP)
- Training program provided by a branch of the federal armed services
- Course that provides training period of at least 240 hours of instruction covering specified areas of pharmacy practice.

Title 16 CCR 1793.7 establishes the requirements for pharmacies employing pharmacy technicians. The section includes provisions that the supervising pharmacist is fully aware of all activities of a pharmacy technician under his or her direct supervision. Further this section provides that a pharmacist shall be responsible for all activities of pharmacy technicians to ensure that all such activities are performed completely, safely and without risk to patients. This section also establishes the pharmacist to pharmacy technician ratio.

Title 16 CCR 1793.8 establishes the "technician check technician" program in acute care inpatient hospital pharmacy settings.

Background

For several meetings the board has discussed different facets of the pharmacy technician program in an effort to raise the bar for pharmacy technician applicants.

In September 2015, the committee made a recommendation to the board to change the minimum educational requirements for licensure. After reaching consensus that the board wishes to increase pharmacy technician knowledge, the board in October 2015 referred the review back to the committee for further vetting and discussion. The committee was asked to consider various topics, to include (but not limited to) discussion on whether education level correlates to the likelihood of discipline, to receive feedback on pharmacy technician training programs, to consider whether increasing requirements may have unintended consequences, and if the board should consider different levels of pharmacy technician licensure (i.e., hospital, compounding, community, etc.).

In the past, the committee received public feedback in support of increasing the knowledge base of pharmacy technicians, but not necessarily by increasing the minimum statutory educational requirements.

During this Meeting

Chairperson Weisser will guide the discussion as the committee continues to assess the pharmacy technician licensure requirements and practice.

Attachment 4 includes copies of the law for the above referenced sections.

f. Frequently Asked Questions (FAQs) on Criminal Convictions That Could Result in Denial of a Pharmacy Technician Application

The board's Criminal Conviction Unit (CCU) reviews criminal offender record information (CORI) received on applicants and licensees. This unit also responds to calls from applicants and licensees on what impact, if any, a particular conviction or act may have on the person's ability to receive or maintain a license. Anecdotally, the CCU indicates that the majority of callers are pharmacy technician applicants and licensees. Attachment 5 contains a copy of a draft document "FAQs for Applicants with Criminal History" which addresses the majority of the questions this unit receives. The board currently has various FAQ documents on its website for applicant references, such as FAQs for site applicants, FAQs for Pharmacy Technician Applicants, etc. Staff recommends that the committee consider making this FAQ document available on the board's web site as well.

g. Development of Video for Pharmacy Technician Applicants

In an effort to address deficiency rates of pharmacy technician applicants, the board has tried various approaches to educate applicants, and to keep the pharmacy technician application up to date. To further these efforts, board staff has been working with the Department of Consumer Affairs to make a video designed to assist pharmacy technician applicants with the application process.

After drafting a script, the department filmed on two occasions in December; several board staff played roles in the video. The DCA is now in the process of completing a rough cut of the video for the board's review – the department anticipates the rough cut could be available as early as the end of January. After the board has an opportunity to see the video and provide input on the content, the video will be finalized and it will be available to post on the board's website and on the departments YouTube channel.

h. Overview of Board Discipline of Pharmacy Technicians

As previously reported to the committee, staff had reviewed pharmacy technician licenses over a four year period (FY 2011/2012 through FY 2014/2015) and found that of those pharmacy technicians that had been disciplined, over 80 percent had qualified for licensure by completing a training program.

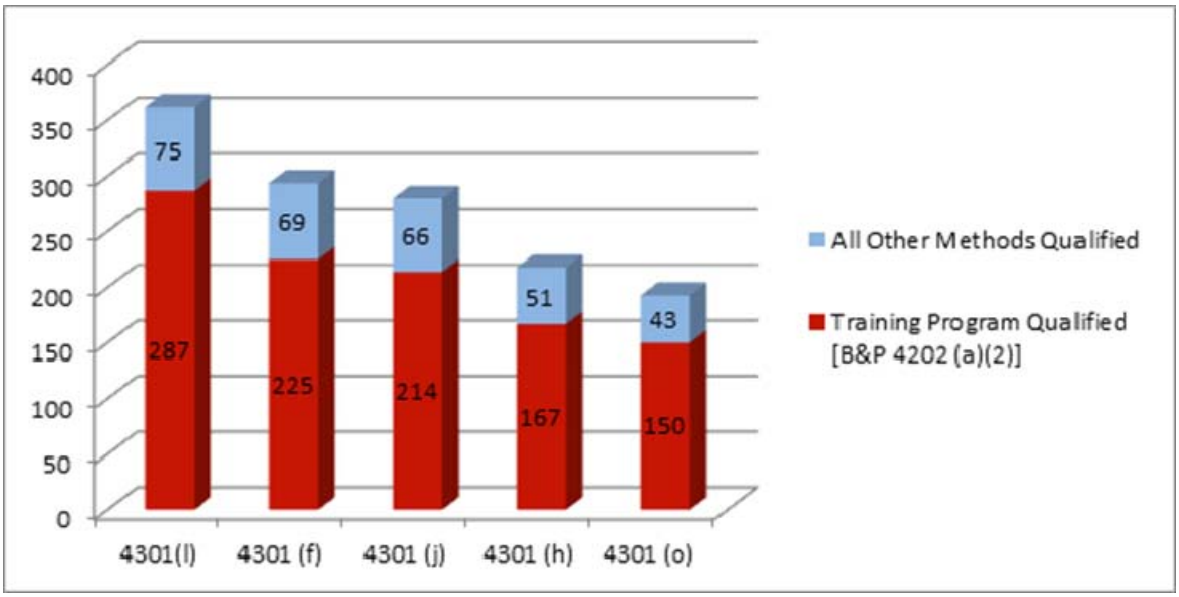
Due to system limitations, the board's electronic records cannot parse out (of the "training program qualification") the various methods of qualification outlined in board regulation (16 CCR 1793.5). Staff is manually pulling pharmacy technician files to determine the type of training program the disciplined pharmacy technicians had to initially qualify for the license and will bring the results of this review to the committee.

Types of Violations

Below are charts that depict the top five (5) violations for which a pharmacy technician license was revoked during the four year period. The first table differentiates which of the licensees qualified for the license by meeting the training course provisions specified in Business and Professions Code section 4202(a)(2) versus all other methods of qualification for a license (B&PC 4202(a)(1), 4202(a)(3) and 4202(a)(4)).

Top 5 Violations for Which a Pharmacy Technician License was Revoked

FY 2011/12 through FY 2014/15



Legend: All references are to the California Business and Professions Code and all are deemed Unprofessional Conduct.

Section 4301(l) –Crime substantially related to the qualifications, functions and duties of a licensee.

Section 4301(f) – Commission of any act involving moral turpitude, dishonesty, fraud, deceit or corruption, whether the act is committed in the course of relations as a licensee or otherwise, and whether the act is a felony or misdemeanor or not.

Section 4301(j) – Violation of any of the statutes of California or of any other state, or of the United States regulating controlled substances and dangerous drugs.

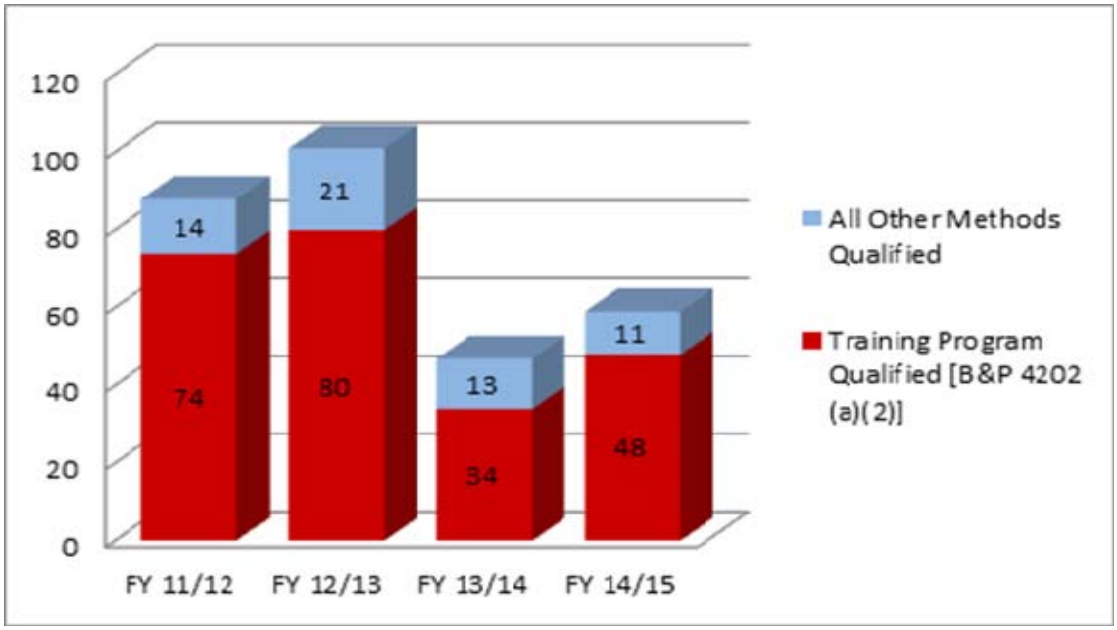
Section 4301(h) – Self-administration of any controlled substance, or the use of any dangerous drug or of alcoholic beverages to the extent or in a manner as to be dangerous or injurious to oneself, to a person holding a license under this chapter, or to any other person or to the public, or to the extent that the use impairs the ability of the person to conduct with safety to the public the practice authorized by the license.

Section 4301(o) – Violating or attempting to violate, directly or indirectly, or assisting in or abetting the violation of or conspiring to violate any provision or term of this chapter or of the applicable federal and state laws and regulations governing pharmacy, including regulations established by the board or by any other state or federal regulatory agency.

Denied Applicants

During the same four year period, the board denied 295 pharmacy technician applicants. The chart below shows – of those denied – the method by which they were seeking to qualify for the license.

Denied Pharmacy Technician Applicants – Qualifying Methods
FY 2011/12 through FY 2014/15



i. Update on the California Pharmacists Association (CPHA) and California Society of Health-System Pharmacists' (CSHP) Workgroup on Pharmacy Technician Job Duties

At this meeting the California Pharmacists Association (CPhA) will provide an update on the formation of a workgroup related to pharmacy technician job duties.

4. Competency Committee Report

a. Update on the Transition to the New Content Outline

Relevant Laws
Business and Professions Code Section 139 requires the board to complete examination validation and occupation analyses.

Business and Professions Code Section 4200.2 provides the general areas of assessment that must be included in the CPJE.

Background
Pursuant to Business and Professions Code section 139, the board is required to complete an occupational analysis periodically which serves as the basis for the CPJE examination. To complete this analysis, the committee recently developed a job analysis survey with the board's contracted psychometric firm. The survey was offered to specific, randomly selected California pharmacists (via postcard and a link to the board's Web site) in June 2014. There were 524 pharmacists who provided responses.

The survey resulted in the need to slightly change the content outline of the CPJE to ensure it remains valid for California. Under the leadership of the board's psychometric consultant, the Competency Committee revised the content outline.

The new content outline will be used to develop examinations administered after April 1, 2016. In order to provide for a seamless transition to the new content outline, the board has developed a communication plan to ensure all impacted CPJE candidates are made aware of the upcoming change.

In order to facilitate implementation, the board will complete the following steps during the week of January 4, 2016:

- Update the board's website to reflect the new CPJE Content Outline.
- Update the CPJE bulletin with the new CPJE Content Outline. This CPJE bulletin mailed to candidates upon approved eligibility to take the CPJE and posted on the board's website.
- Advise new eligible candidates of the new CPJE Content Outline.
- Contact all CPJE Candidates with open eligibilities to inform them of the new CPJE Content Outline.
- Contact the deans of all California Schools of Pharmacy to inform them of the new CPJE content outline.

Attachment 6 includes a copy of the new CPJE Content Outline.

b. Committee Activities

The competency committee held two meetings in the fall of 2015 to continue examination development activities as well as implement the new CPJE Content Outline. Meetings are schedule for 2016 as well.

The competency committee continues to recruit for pharmacists specializing in institutional or community practice to serve as subject matter experts and assist the board with examination development activities. Subject matter experts primarily provide development and oversight of the CPJE. The CPJE consists of 90 multiple-choice items that tests competency in patient communication skills, pharmacy law and clinical knowledge.

Practicing California pharmacists licensed within the last five years are particularly encouraged to apply to serve in this capacity. Experts generally meet five times annually for two days session. Attendance at each meeting is crucial. Experts are approved by the board and generally serve in this capacity for four years; however, individuals can serve in this capacity for a longer duration with approval of the board.

Interested individuals are encouraged to submit an application including their curriculum vitae, a cover letter describing the applicant's pharmaceutical experience or practice, and three letters of reference from pharmacists familiar with the applicant's work. Please submit your applications to the board's address at the attention of CPJE Subject Matter Expert Recruitment.

5. Status of Pending Regulations Related to the Implementation of SB 493, Including Advanced Practice Pharmacist Licensure Requirements, Travel Medications, Immunizations, Nicotine Cessation, Hormonal Contraception and Naloxone

Senate Bill 493 requires that the board adopt a number of regulations, and in several cases, the board determined that promulgation of additional regulations should occur. The board's efforts are aimed at completing the adoption process for the regulations as close to January 2016 as possible.

Below is the status of various regulations related to implementation of SB 493:

Comment Periods Closed; Waiting for Full Board Review

- Travel Medications
- APP Licensure Requirements

Undergoing Initial 45-Day Comment Period

- APP Certification Requirements (Comment period closes February 8, 2016)

Undergoing 15-Day Comment Period

- Self-Administered Hormonal Contraception Protocol
  (Comment period closes January 14, 2016)

Board Adopted and Undergoing Administration Review

- Nicotine Replacement Products
- Naloxone Hydrochloride Protocol (non-emergency rulemaking)

Board adopted, Comment Period Closed, Staff preparing Final Package for Administration Review

- Immunizations

Currently in Effect

- Emergency Regulation: Naloxone Hydrochloride Protocol

6. Implementation of Legislation that Impacts the Board's Licensing Operations

a. Assembly Bill 2605 Regarding Third-Party Logistics Providers

With the passage of Assembly Bill 2605, the board began implementation of the license process for Third-Party Logistics Providers and Designated Representatives-3PL. Board staff continues to educate 3PLs and DRLs of license requirements. As referenced in the licensing statistics (Agenda item 7) as of November 30, 2015, the board had issued the following:

Third-Party Logistics Providers (TPL)	10
Third-Party Logistics Providers Nonresident (NPL)	29
Designated Representatives-3PL (DRL)	123

b. Assembly Bill 1352 Regarding Deferred Entry of Judgement and Withdrawal of Plea

In 2015, Assemblymember Eggman authored legislation that – as of January 1, 2016 – will allow a defendant who was granted a deferred entry of judgment on or after January 1, 1997, after pleading guilty or nolo contendere to the charged offense, to withdraw his or her prior guilty plea and to enter a plea of not guilty if the charges were dismissed after the defendant performed satisfactorily during the deferred entry of judgment period and the defendant shows that the plea may result in the denial or loss to the defendant of any employment, benefit, license, or certificate, including, but not limited to, causing a noncitizen defendant to potentially be found inadmissible, deportable, or subject to any other kind of adverse immigration consequence.

The amendments to the Penal Code will significantly impact the Board's ability to prove in disciplinary proceedings that a licensee or applicant is engaged, or has been engaged,

in illicit drug activities. The board believes this new authority will likely increase the board's costs of prosecution or could lead to the dismissal of certain disciplinary charges, to the detriment of public safety.

c. Senate Bill 590 Regarding Intern Pharmacist Practice Experience Hours

Last year the board authored legislation that specifies that pharmacy practice experience for an intern pharmacist shall include 900 hours as a pharmacist in both community and institutional pharmacy practice settings. The bill also specifies that any student who graduated from a school accredited by the Accreditation Council for Pharmacy Education or a board recognized school of pharmacy after January 1, 2016 shall be deemed to have met the practice experience requirement. Since the time the bill was approved by the Governor (August 2015) board staff has received numerous inquiries from seeking clarification of the new provisions. The provisions of the bill go into effect on January 1, 2016.

7. Licensing Statistics

Licensing Statistics for July 1, 2015 – November 30, 2015

As of November 31, 2015, the board has 140,327 licensees, including 43,744 pharmacists and 74,863 pharmacy technicians.

The board has received 7,806 applications and issued 6,718 licenses during the first five months of the fiscal year. During this same period, the board denied 43 applications. In addition, the board received 11,970 status inquiries via e-mail and responded to 9,933. The response numbers can be lower to account for one response to multiple emails received (i.e., the person emails once a day until they get a response). The Licensing Statistics for Fiscal Year 2015/16 ending November 30, 2015, is provided in **Attachment 7**.

Since July 2015, the board has been closely tracking the licensing unit's processing times for various application types. The board continues to work with the department to develop more robust reporting reports. The department is implementing Licensing Performance Measures (LMP) processing times for the boards and bureaus – and the board anticipates testing of the draft reports in early 2016. The LPM reports will provide more detail on the board's processing times, deficiency rates, etc.

General processing information by license type is provided below. These numbers reflect the processing of new applications as of mid-December. These numbers reflect the time an application is received by the board through the time either a deficiency letter is issued or a license is issued. If an incomplete application is received, there will be additional processing time involved.

Site Application Type	Number of Days
Pharmacy	42
Nonresident Pharmacy	45
Sterile Compounding	15
Nonresident Sterile Compounding	15
Hospital	15
Clinic	17
Wholesaler	17
Nonresident Wholesaler	16
Third-Party Logistics Provider	1
Nonresident Third-Party Logistics Provider	7

Individual Application Type	Number of Days
Pharmacist Exam	15
Pharmacist Initial License	3
Pharmacy Technician	10
Intern Pharmacist	1
Designated Representative	1
Designated Representative – 3PL	1

In addition, the processing time for evaluating deficiency mail is averaging between 25 days to 50 days depending on the license type.

8. Future Committee Meeting Dates for 2016

The following dates have been established for future meetings:

March 30, 2016
May 26, 2016
September 21, 2016

Attachment 1

2014 NATIONAL PHARMACIST WORKFORCE SURVEY

FINAL REPORT OF THE 2014 NATIONAL SAMPLE SURVEY OF THE PHARMACIST WORKFORCE TO DETERMINE CONTEMPORARY DEMOGRAPHIC PRACTICE CHARACTERISTICS AND QUALITY OF WORK-LIFE

April 8, 2015

Midwest Pharmacy Workforce Research Consortium

University of Minnesota
University of Iowa
University of Wisconsin - Madison

Prepared by Midwest Pharmacy Workforce Research Consortium

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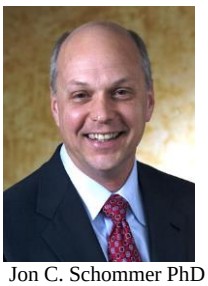
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Project Commission

This current investigation was commissioned by the Pharmacy Workforce Center, Inc. (PWC). The PWC is comprised of American Association of Colleges of Pharmacy (AACP), American College of Clinical Pharmacy (ACCP), American Pharmacists Association (APhA), American Society of Health-System Pharmacists (ASHP), Board of Pharmacy Specialties (BPS), Bureau of Health Workforce (BHW), National Alliance of State Pharmacy Associations (NASPA), National Association of Boards of Pharmacy (NABP), National Association of Chain Drug Stores (NACDS) Foundation, National Community Pharmacy Association (NCPA) and Pharmacy Technician Certification Board (PTCB). The American Association of Colleges of Pharmacy serves as secretariat to the PWC.

Repository for Project Materials and Data

Project materials and data are stored at University of Minnesota, College of Pharmacy, Department of Pharmaceutical Care & Health Systems, 308 Harvard Street, S.E., Minneapolis, MN 55455.

Acknowledgements

First, we would like to thank the nation's pharmacists who received and responded to the survey. We appreciate their time and effort in providing the requested information. Without their assistance, the report would not be possible.

Second, we would like to acknowledge the contributions of several people associated with this project. We would like to thank Lucinda Maine, Lynette Bradley-Baker, and Douglas Scheckelhoff at the Pharmacy Workforce Center, Inc., and Marilyn Speedie, Dean, and Ronald Hadsall, Assistant Dean, University of Minnesota, College of Pharmacy, for their tremendous support of this project, their leadership, and their understanding of the research process and allowing for the completion of this report. Their guidance and assistance is sincerely appreciated. Katherine Knapp and Stephen Schondelmeyer also provided encouragement and advice. We also acknowledge members of the Pharmacy Workforce Center, Inc., who provided support, advice and leadership throughout the project.

Finally, a number of persons were responsible for preparing, sending and receiving the survey instruments and for coding and entering data: members of the Professional Education Division and the Department of Pharmaceutical Care and Health Systems, College of Pharmacy, University of Minnesota, and graduate students Basma T. Gomaa, Trung T. Nguyen, Sirikan Rojanasarot, Rebecca J. St. Germaine, and Ruizhi Zhao. Project management assistance was provided by Duane Orlovski and Administrative Assistants Valorie Cremin, Dawn Turgeon and Sandy Herzan. Graphic Design by Renoir W. Gaither. Photos provided by Amy Leslie.

Dedication

To my sister Glenda James-Morin

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

Section 1: Background, Study Objectives, Methods, and Response Rate

1.1 Background

1.2 Response Rate

1.3 Assessment of Response

Section 2: Demographic and Work Characteristics of the Pharmacist Workforce: Comparisons between the Years 2014, 2009, 2004 and 2000

2.1 Characteristics of Licensed Pharmacists

2.2 Characteristics of Actively Practicing Pharmacists

2.3 Hours Worked by Actively Practicing Pharmacists

2.4 Changes in Base Pay and Additional Earnings

2.5 Work History of Actively Practicing Pharmacists

2.6 Ratings of Workload for Pharmacists Working Full-Time

2.7 Debt Load for Pharmacists Working Full-Time

Section 3: Pharmacists' Work Activities and Work Environment

3.1 Work Activities for Pharmacists Working Full-Time

3.2 Pharmacy Staffing

3.3 Workplace Labor Reductions Reported by Pharmacists Working Full-Time

3.4 Current and Potential Service Provision at Practice Settings

3.5 Work Contributions (Hours per Week) Expected in Three Years

Section 4: Pharmacists' Quality of Work-Life

4.1 Work Attitudes

4.2 Job Stress

4.3 Current Job

4.4: Future Career Plans

EXECUTIVE SUMMARY

Section 1: Background, Study Objectives, Methods and Response Rate

BACKGROUND

This study was undertaken to provide an update on the pharmacist workforce in 2014 and to examine changes since 2009 when the last national assessment of the pharmacist workforce was conducted. Comparisons are made to the 2009, 2004 and 2000 National Pharmacist Workforce Surveys when applicable.

Many factors and changes since 2009 shaped the context for this national pharmacist survey. Significant changes to health care delivery and financing have begun in response to the Patient Protection and Affordable Care Act (PPACA). Emphasis on improving health care quality and safety while reducing cost has continued to be a health care mantra. The aging population and ever-advancing health care technologic capability have continued to increase demand for health care services, including pharmacy. The increased number of graduates from U.S. pharmacy schools has added capacity to the pharmacist workforce. And last, but perhaps not least, between 2009 and 2014 the U.S. economy improved considerably, with national unemployment recovering from 10% in December 2009 to a modest 5.5% in December 2014.

STUDY OBJECTIVES

The primary purpose of this project was to collect reliable information on demographic characteristics, work contributions and the quality of work-life of the pharmacist workforce in the United States during 2014. The results allow for a continuation of the analyses and trends from previous surveys that have been done on an approximately four-to-five-year cycle. The project obtained information from a nationally representative sample of pharmacists. Specific objectives included

1. Describe demographic and work characteristics of the pharmacist workforce in the United States during 2014.
2. Describe work contributions of the pharmacist workforce in the United States during 2014.
3. Describe the work environment and quality of work-life of the pharmacist workforce in the United States during 2014.

METHODS

To meet the objectives of the project, a cross-sectional, descriptive survey design was used for collecting and analyzing data. Data were collected using an 11-page self-administered questionnaire that was mailed to subjects.

Survey Questionnaire: Questions comprising each section of the survey were taken primarily from previous workforce surveys conducted by members of the project team. The survey questionnaire included six sections: 1) General Employment Status and Work Environment, 2) Your Work, 3) Your Practice Site, 4) Quality of Work-Life, 5) Your Career and 6) Information about Yourself.

Survey Administration: Survey procedures included four subject contacts: a pre-notification letter and postcard, the main initial survey mailing, a second mailing of the survey packet, and a final two-page survey to pharmacists who did not respond to the second mailing of the survey form. As part of the fourth contact, sampled pharmacists were given the option of also completing the 11-page questionnaire electronically. A pilot test was conducted to determine the feasibility of these proposed methods.

Sampling Strategy: Two lists were obtained from KM Lists (a national medical marketing data warehouse): a random sample of 6,000 pharmacists and another random sample of 1,000 pharmacists licensed between 2011 and 2013, so the final sample would contain between 7% and 10% of graduates from the most recent years. From these two lists, we randomly selected a sample of 5,200 (5,000 for the main survey and 200 for a pilot test).

Data Analysis: Surveys were returned to the University of Minnesota, College of Pharmacy and processed for data entry. Data were extracted from the database and analyzed for this report using descriptive statistics. Data are presented in this report in a manner that allows comparison to 2009, 2004 and 2000 findings whenever possible since not all the same questions were included in each administration of the survey.

RESPONSE RATE

Our rigorous survey method, with up to four contacts for each individual in the sample, resulted in a total 2,446 responses. After removal of undeliverable surveys, an overall response rate of 48.2% was achieved (2,446/5,073). Responses were received from each state except the District of Columbia.

Assessment of Response: We used two methods to access non-response bias: The first compared available characteristics of pharmacists who responded to the workforce survey with characteristics of non-responders. The second method compared specific pharmacist characteristics between respondents to the first and last mailings of the survey forms.

Overall our assessment of the response indicated a geographically diverse sample in that respondents represented all regions of the United States in proportion to the nationwide distribution of licensed pharmacists and to our sampling frame. However, some regions of the country may be over-represented (Midwest), while others may be under-represented (South). In addition, our sample, in contrast to previous reports, may be slightly over-represented by more recently licensed pharmacists.

Section 2: Demographic and Work Characteristics of the Pharmacist Workforce: Comparisons between the Years 2014, 2009, 2004 and 2000

Characteristics of Licensed Pharmacists: Overall, 75.0% of licensed pharmacists responding to the survey in 2014 were working and practicing as a pharmacist or working in a pharmacy-related career. This compares to 88.3% in 2009, 86.0% in 2004 and 88.2% in 2000. By gender, 65.2% of male and 83.9% of female pharmacists were working as a pharmacist or in pharmacy-related work. The proportion of pharmacists who are licensed but not working in any profession doubled from 2009. In 2014, 22% of the respondents were either retired or not working, with 31.6% of male pharmacists and 13.5% of female pharmacists not working. The racial diversity of licensed pharmacists in the United States continues to not represent the racial diversity of the U.S. population. In 2014, 85.1% of pharmacists were white, which is down slightly from 2009 (86.5%), 2004 (87.7%) and 2000 (87.8%). The proportion of licensed pharmacists who held a PharmD as their highest degree increased to 37.8% in 2014 from 21.6% in 2009, 18.6% in 2004 and 13.9% in 2000. In 2014, 37.4% of pharmacists were 55 years or older. This is approximately the same percentage as in 2009 (37.1%).

Characteristics of Actively Practicing Pharmacists: Actively practicing pharmacists represent a subset of licensed pharmacists who work as a pharmacist in a licensed pharmacy or in a pharmacy-related field. Of this group, in 2014, 83.6% of males and 81.3% of females were actively practicing pharmacy. In 2014, actively practicing pharmacists age 40 or younger comprised 31.6%; pharmacists who were 55 years or older comprised 30.6%. The proportion of actively practicing pharmacists working in traditional

community pharmacy practice settings (independent, chain, mass merchandiser, and supermarket pharmacies) decreased in 2014 to 44.1%; however, an increase was seen in hospital pharmacy (29.4%), other patient care practice (16.7%) and other (non-patient care) practice (7.5%) from 2009. Five percent of respondents were owner/partners in 2014. This compares to 8.1% in 2009, 6.5% in 2004 and 7.0% in 2000. Only 2.4% of owners were female in 2014. This compares to 8.1% in 2009 and is similar to findings in 2004 (2.1%) and 2000 (2.3%). Approximately 30% of respondents were in management positions and 65% were in staff positions. Most notably, the proportion of females who were in management positions was greater than the proportion of males for the first time since our first survey in 2000. In 2014, 55.2% of managers were female while 44.8% were male. Patterns of part-time work in the 2014 responses revealed that although the proportion of women working part-time continues to be greater than for men, the gap between males and females working part-time is narrowing for women under 40 years of age and between 46 and 55 years of age. Gender representation of pharmacists across settings showed the highest male pharmacist ratio in independent community pharmacy (55.9%), while the highest representations of females were in industry (65.8%) and other (non-patient care) settings (61.1%).

Hours Worked by Actively Practicing Pharmacists: Among pharmacists working full-time, the gap in hours worked between males and females continues to narrow. In 2014, males contributed 0.95 FTE (full-time equivalent) and females contributed 0.93 FTE. Overall, pharmacists working full-time worked an average of 44.2 hours per week in 2014, 43.8 hours per week in 2009, 43.4 hours per week in 2004 and 44.2 hours per week in 2000. For part-time pharmacists, the average hours worked per week did not change significantly (20.1 hours in 2014, 19.4 hours per week in 2009, 19.1 hours per week in 2004 and 19.0 hours per week in 2000). In 2014, 2009 and 2000, pharmacists worked the most part-time hours in mass merchandiser and supermarket settings. In 2014, overall, nearly 8% of pharmacists had secondary jobs that translated into nearly 6 additional hours per week worked by pharmacists who had secondary employment. The most common primary employment settings for pharmacists with a secondary position were industry (10.5%), hospital (9.2%) and other (non-patient care) (9.2%).

Changes in Base Pay and Additional Earnings: Overall, an increase in pay over the past year was experienced by nearly two-thirds of pharmacists, and few pharmacists (less than 6%) had decreases in pay. The most common reason for a base pay change was merit. The average percentage increase in base pay was 2.3%, with owners having the highest percentage increase (4%) and the chain pharmacy setting having the lowest (1.8%). The most common type of additional earnings was bonuses (47.3%), followed by overtime pay (37.9%).

Work History of Actively Practicing Pharmacists: For 2014, pharmacists reported working with their current employer the longest in independent and chain (both 12.9 years), hospital and mass merchandiser (11.8 and 11.3 years, respectively), and the least (9.0 years) in other patient care practice settings. The work settings with the highest proportion of full-time pharmacists working for less than three years were other (non-patient) care (25.8%), and industry (24.0%). The mean number of employers went down in 2014 (3.3 employers) compared with 2009 (3.8 employers), 2004 (3.9 employers), and 2000 (3.7 employers), as well as the mean years per employer. Pharmacists spent 7.9 years per employer in 2014, 8.2 years in 2009, 6.8 years in 2004 and 6.5 years per employer in 2000. In terms of practice setting, pharmacists who worked in chain settings or supermarket pharmacies worked the longest per employer in 2014. This finding was inconsistent with 2009, 2004, and 2000, when the longest time per employer was in the independent setting.

Ratings of Workload by Pharmacists Working Full-Time: Overall, 66% of pharmacists in 2014 rated their workload level at their place of practice as high or excessively high. Furthermore, 64% of pharmacists who reported working full-time in 2014 reported that their workload increased or greatly increased compared to a year ago. Forty-five percent of pharmacists in 2014 reported that current workload had negative or very negative effects on mental/emotional health. Pharmacists working in chain (68%) and

mass merchandiser (63%) settings indicated that their current workload had negative or very negative effects on the time spent with patients. From 2004 to 2014, generally a larger proportion of staff pharmacists rated the effects of workload as negative or very negative for each job-related, pharmacist-related, and patient-care-related item relative to pharmacists in management positions.

Debt Load for Pharmacists Working Full-Time: In 2014, pharmacists reported an average current student loan debt of $18,131 compared to $38,136 when they graduated. Pharmacists with five or fewer years of experience reported an average student loan debt of $108,407 when they graduated and a current student loan debt of $76,791. In 2009, these figures were $79,895 and $61,667, respectively, and in 2004 these figures were $42,600 and $28,854. Females tended to have more student loan debt regardless of years of experience than males.

Section 3: Pharmacists' Work Activities and Work Environment

Work Activities for Pharmacists Working Full-Time: Full-time pharmacists in 2014 devoted 49% of their time to patient care services associated with medication dispensing, 21% of their time to patient care services not associated with medication dispensing, 13% to business/organization management, 7% to education, 4% to research, and 6% to other activities. This compares to 55% of their time in medication dispensing, 16% in patient care services, 14% in business/organization management, 5% in education, 4% in research, and 5% in other activities in 2009. The majority of pharmacists indicated that they spent nearly the same amount of time in each activity, compared to a year ago, but it is interesting to note that even though the percentage of time spent in each activity did not change much between 2014 and 2009, an average of 35.3% of the respondents in community pharmacy settings indicated that the amount of time spent over the last year in patient care services not associated with medication dispensing was much more.

Pharmacy Staffing: In 2014, 76% of pharmacists overall reported they worked with one or more pharmacists during their workday; a higher proportion of pharmacists in hospital settings (89%) worked with one or more pharmacists. In 2004, more than half of independent (52%), chain (52%) and supermarket (61%) pharmacists did not work with another pharmacist. In 2014, approximately two-thirds of pharmacists in hospital pharmacy settings reported working with three or more technicians, and less than 25% of pharmacists in community settings, except in mass merchandiser settings, reported working with three or more technicians. Extending comparisons back to 2000, a general trend has been for pharmacists to work with more colleagues around them, predominantly support staff, but also sometimes peers.

Workplace Labor Reductions Reported by Pharmacists Working Full-Time: Of the four workforce adjustments we describe in this study, the most common workforce adjustment reported by pharmacists was "restructuring of pharmacist work schedules to save labor costs" (35%), followed by "mandatory reductions in pharmacist hours" (17%), "pharmacist layoffs" (9%), and "early retirement incentives for pharmacists" (6%). These proportions were all higher than in 2009 (26%, 13%, 6% and 4%, respectively). "Pharmacist layoffs" were most common in industry, other patient care and other (non-patient care) employment settings. "Restructuring of pharmacist work schedules" was more commonly reported by pharmacists practicing in chain and hospital settings. Also, "mandatory reductions in pharmacist hours" was more commonly reported by pharmacists practicing in chain pharmacies.

Current and Potential Service Provision at Practice Settings: The most common services reported by pharmacists as offered at their practice sites were medication therapy management (60%), followed by immunizations (53%) and adjusting medication therapy (52%). In 2004, only 13% of respondents reported that their pharmacies offered medication therapy management and 15% offered immunizations. Forty-eight percent of pharmacists in chain sites and 57% of pharmacists in supermarket sites reported

their pharmacies offer health screenings. This compares to 7% and 27%, respectively in 2004. Seventy-seven percent of hospitals offered medication reconciliation in 2014. Over 25% of other patient care settings and hospital pharmacies have collaborative practices agreements in place. These are all significant changes in the amount of services offered across practice settings. In 2014, pharmacists reported that overall their practice sites had "good to very good" resources regarding their skills to provide services, resources to obtain payment for services, and had skills to market services. The resource that did not change to a great extent in 10 years was staffing. Pharmacists reported in 2014 that staffing was "fair to good" for both pharmacist and technician staffing, which is slightly higher than in 2004. Over one-third of pharmacists reported that in 2014, the emphasis on patient (non-dispensing services), the system for documenting services, and access to electronic patient data had changed "a lot" over the last two years, but 70% of pharmacists felt that financial incentives for pharmacists had "not changed at all" in the last two years.

Work Contributions (Hours per Week) Expected in Three Years: The majority of pharmacists (70%) expected to be working about the same amount or more hours per week three years from now. This proportion is virtually the same as it was in 2009.

Section 4: Pharmacists' Quality of Work-life

Work Attitudes: In 2014, more than one-half of the respondents in all practice settings except other patient care and other (non-patient care) settings reported high levels of work-home conflict. Community pharmacy (independent, chain, mass merchandiser, and supermarket) practice settings were experiencing much lower levels of job satisfaction than in 2004, but the levels were similar to 2000. Job satisfaction was particularly high (83%) in other (non-patient care) settings in 2014. Interestingly, high levels of career commitment were found in 2014 (66%) and 2004 (65%) compared to 2000 (50%). Only one-third of respondents felt they had a high level of control in their work environment with higher levels in independent community pharmacy (61%) and other (non-patient care) (57%) areas. Males had higher levels of job satisfaction and experienced a higher level of control in their work environment than females. Females had a higher level of career commitment, comparable work-home conflict, organizational commitment, and home-work conflict and lower levels of control in the work environment than males. Pharmacists in practice for less than five years gave the highest ratings for all work-attitude items except home-work conflict when compared to those with more than 30 years' experience. In contrast to 2004, the work-attitude ratings of the least experienced group often were very similar to those in the most experienced group.

Job Stress: The most stressful event for all practice settings, (except independent community pharmacy) in 2014 was "having so much work to do that everything cannot be done well" (45%). Independent community pharmacists reported that "doing excessive paperwork" (38%) was the most stressful in both 2014 and 2004 (42%). More than one-half of chain and mass merchandiser pharmacists found "having to meet quotas" as highly stressful and "not being staffed with an adequate number of technicians" was highly stressful for pharmacists in chain (67%), mass merchandiser (53%), supermarket (45%) and hospital (32%) pharmacy settings in 2014.

Current Job: There was considerable variability in the percentages of pharmacists reporting how difficult it would be to find another job with different specific characteristics. In 2014, higher proportions of pharmacists for each of the characteristics reported it would be difficult to find another job with the different characteristics compared to 2004 and 2000. This suggests that their current job is more consistent with what pharmacists want and/or it would be harder to improve the level of that characteristic by switching jobs. But, differences were found by years of experience. The proportions of pharmacists with zero to five years of experience that rated it difficult to find another job were lower for the specific characteristics of more intellectual challenge (39%) and better professional role opportunity (36%), and

fewer pharmacists who have been in practice between 21 and 30 years reported more patient contact (29%) would be difficult to find in another job. Comparisons to 2004 suggest that more years of experience lead to more pharmacists feeling they would have less difficulty in finding a job with better professional treatment by management and better relationships with patients. These results suggest a negative correlation between dissatisfaction with these characteristics by years of experience.

Future Career Plans: The majority of pharmacists expected to be working with their current employer three years from now (78%). Pharmacists currently working at chain pharmacies had the highest proportion reporting that they planned to be retired or out of the workplace three years from now (12%), followed by supermarket pharmacies (11%), and mass merchandiser pharmacies had the lowest proportion (7%). Approximately 15% of male and 6% of female pharmacists expect to be retired by 2017.

Limitations

The results and our interpretation of them should be tempered by the limitations of the study. The results are based on respondents' self-reports, raising questions regarding the extent to which respondents gave socially desirable responses or the extent to which they correctly interpreted the questions. By conducting a pilot test of our questionnaire and study procedures, we found that the questions appeared to be interpreted correctly and that our study design was feasible.

Our findings showed that we achieved a geographically diverse sample of pharmacists for this study in that all regions of the United States were represented in proportion to the U.S. population and in proportion to our sampling frame. Thus, while we achieved good geographic coverage, some areas of the country were disproportionately represented in this study. To overcome this limitation, we report aggregate data and not state- or region-specific findings.

Non-response bias is another limitation. It is possible that responders were more interested in the topic we studied or had stronger opinions about the questions we asked than those who chose not to respond. Our findings suggest that pharmacists who were licensed up to 1980 were more likely to respond. This may have been due to our study methods in which we encouraged all of those with a pharmacy license to respond even if they were not currently practicing pharmacy. We also over-sampled pharmacists who were more recently licensed, so their views are a greater part of our study sample than in past studies.

CONCLUSIONS

Overall, the results of this study suggest that we are living in dynamic times as a health profession. We have shifted from a male-dominated to a female-dominated profession. Male pharmacists will continue to retire in large numbers, given that almost 50% of actively practicing pharmacists who are over 55 years old are male. Almost 38% of pharmacists have a PharmD degree. More pharmacists are reporting their pharmacies are providing direct patient care services. As coordination of care for patients with chronic conditions grows, the number of opportunities for pharmacists in new roles is likely to increase. Pharmacists have the highest level of commitment to the profession seen in the past 15 years.

The increase in services and new roles has led to more job stress and dissatisfaction for pharmacy practitioners. The most satisfied pharmacists are those outside of patient care areas. In addition, pharmacists are feeling less able to change jobs and move around as they have in the past.

The pharmacy profession currently has, and will continue to build, capacity for contributing to the U.S. health care system. However, as shifts in professional roles occur, deployment of capacity must meet the requirements of changing service models. Strategic decisions regarding pharmacy workforce, educational

training, professional training and redeployment, updates to practice acts and regulations, new documentation and billing systems, enhanced information exchange, collaborative practice models, infrastructure, technology, policy, and new business models are crucial. An understanding of the most appropriate timing for making such changes can lead to cost-effective use of scare and limited resources for improving patient care. Since personnel costs are a major component of pharmacy operating costs, changes in the pharmacy workforce are important to monitor.

SECTION 1

BACKGROUND, STUDY OBJECTIVES, METHODS AND RESPONSE RATE

1.1 Background

Dynamic challenges and opportunities presented to the health care marketplace by health care reform have implications for the current and future pharmacy workforce. Signed into law in March 2010 and under current legislative scrutiny, the Patient Protection and Affordable Care Act (PPACA) ushered in significant changes to health care delivery and financing. Legislators enacted the PPACA as an attempt to expand health care coverage and to improve the cost-effectiveness of health care in the United States. Reform also placed a premium on improving health care quality and safety, including medication safety practices. Importantly, health care reform is reshaping payer models from customary fee-for-service (FFS) to non-traditional value-based purchasing (VBP). New care delivery models such as Accountable Care Organizations (ACOs) arose, in part, in response to the shift to VBP.

The changes have had a significant impact on pharmacy management and practice. Practitioners and pharmacy leaders are actively engaged in exploring new service partnerships, expanding pharmacist and pharmacy technician responsibilities, and optimizing the use of technology to improve the quality and safety of medications and ensure optimal health and economic outcomes related to medication use. In the current reform landscape, pharmacists are called upon to support effective, innovative development of patient-centered pharmacy services often facing a "do more with less" expectation.

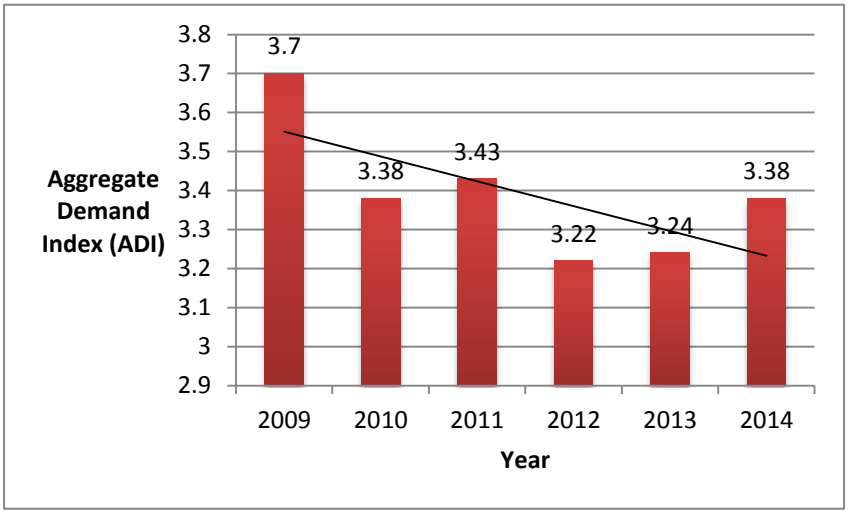
Emergent in the realm of such services are medication therapy management (MTM) programs and providing services through patient-centered medical homes. MTM services include comprehensive drug reviews via interactive consultations, identification of drug interactions and gaps in medication use, prevention and management of adverse drug events, promotion of health and wellness, and immunization promotion and delivery. As part of team-based health care delivery in medical home settings, pharmacists are expected to play an integral role in appropriate drug therapy delivery and education. Pharmacists will also help in coordinating care with other primary care providers.

Optimizing effective deployment of pharmacists in the health delivery system will require sufficient numbers of pharmacists in the workforce to meet employer demand. On a national basis over the past five years, the balance of supply and demand has varied somewhat, but has hovered at a level closer to balance than in 2009 (Figure 1.1.1).

Figure 1.1.1: National Aggregate Demand Index (ADI)
2014 ADI based on average nine-month score from Jan.–Sept. 2014

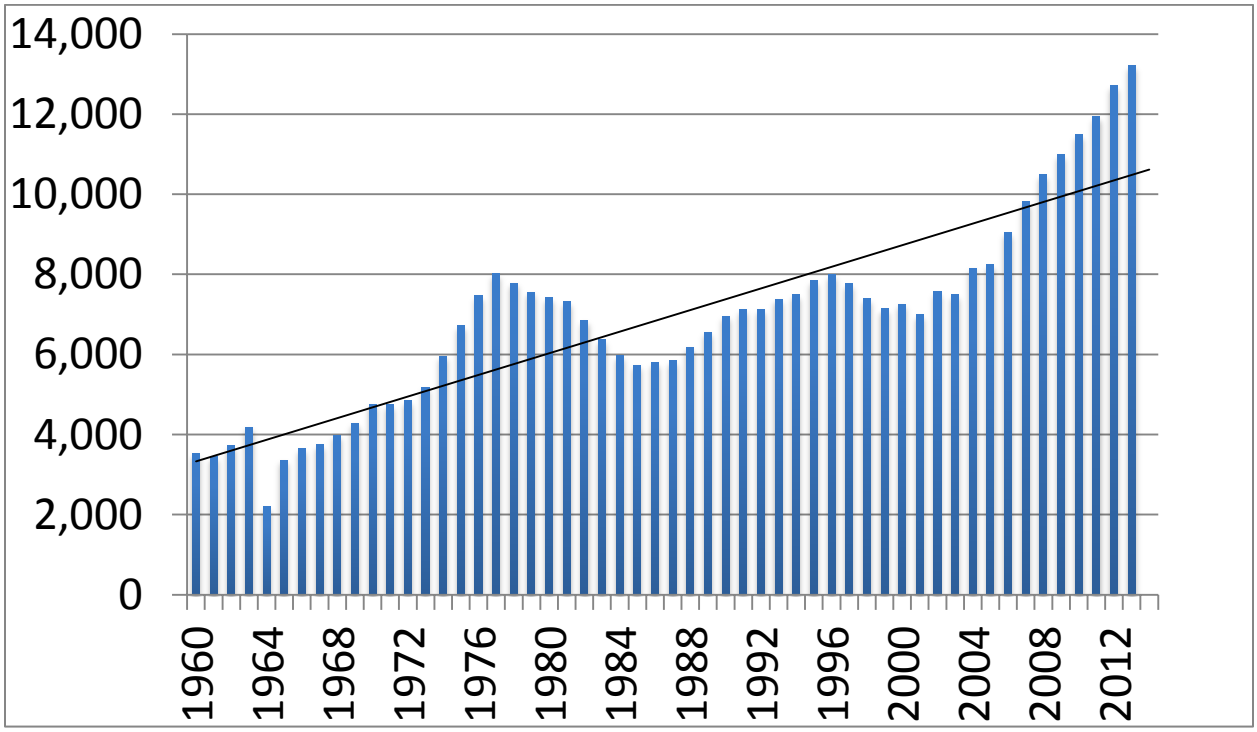
Demand categories
5 = High demand: difficult to fill open positions
4 = Moderate demand: some difficulty filling open positions
3 = Demand in balance with supply
2 = Demand is less than the pharmacist supply available
1 = Demand is much less than the pharmacist supply available

Source: Pharmacy Workforce Center. "Time-based Trends in Aggregate Demand Index." http://pharmacymanpower.com/trends.jsp. Accessed 12.31.2014



The number of pharmacy school graduates is a key factor that can contribute to changes in the balance of supply and demand for pharmacists. In the past 10 years, the annual number of U.S. pharmacy school graduates has consistently increased to record amounts each year (Figure 1.1.2).

Figure 1.1.2: Number of U.S. Pharmacy School Graduates: 1960-2013



Source: Data from AACP website, www.aacp.org

The context for this national pharmacist survey was shaped by many factors and changes since the most recent (2009) National Pharmacist Workforce Survey.[1] Significant changes to health care delivery and financing have begun in response to the PPACA. Emphasis on improving health care quality and safety while reducing cost has continued to be a health care mantra. The aging population and ever-advancing health care technologic capability have continued to increase demand for health care services, including pharmacy. The increased number of graduates from U.S. pharmacy schools has added capacity to the pharmacist workforce. And last, but perhaps not least, between 2009 and 2014 the U.S. economy improved considerably, with national unemployment recovering from 10% in December 2009 to a modest 5.5% in December 2014.[2]

Study Objectives

The primary purpose of this project is to collect reliable information on demographic characteristics, work contributions and the quality of work-life of the pharmacist workforce in the United States during 2014. This will allow for a continuation of the analyses and trends on our previously established four-to-five-year cycle. The project will obtain information from a nationally representative sample of pharmacists. Specific objectives include

1. Describe demographic and work characteristics of the pharmacist workforce in the United States during 2014.
2. Describe work contributions of the pharmacist workforce in the United States during 2014.
3. Describe the work environment and quality of work-life of the pharmacist workforce in the United States during 2014.

Methods

Research Design

A cross-sectional, descriptive survey design was used for collecting and analyzing data. Variables were operationalized and measured (not manipulated as in experimental design). Data were collected using a self-administered questionnaire that was mailed to subjects.

Survey Questionnaire

Questions comprising each section of the survey were taken primarily from previous workforce surveys conducted by members of the project team.[1,3,4] An 11-page questionnaire was developed. (See Appendix A for data collection forms). Each of the items was found to be reliable and valid in previous studies and thus included in the instrument. Although certain sections of the questionnaire were new or updated, most of the items used for the 2014 survey were also used in 2009, 2004 and 2000. This was done so that we could examine trends in key variables collected in 2009, 2004 and 2000. The survey questionnaire included six sections: 1) General Employment Status and Work Environment; 2) Your Work; 3) Your Practice Site; 4) Quality of Work-Life; 5) Your Career; and 6) Information About Yourself.

New/updated items added to the questionnaire for this administration included questions on page 10 under C: Future Work Plans. These items were taken from a previous state survey conducted by several members of the project team.

A two-page questionnaire was also developed for the final contact to query basic demographic questions and reasons for not completing the main survey. An electronic version of the survey was also developed and offered to the non-respondents who might want to complete the main survey.

Survey Administration

A mailed questionnaire with multiple follow-ups was designed using principles from Dillman in which a five-contact approach, detailed below, was utilized.[5] The timing of the contacts varied from Dillman's procedures as we decided to not send another follow-up until the number of responses from the prior contact decreased significantly.

> Contact 1: Pre-notification letter and form were mailed. This correspondence described the importance of understanding the work characteristics of pharmacists. The pharmacists were advised that they would be entered into a drawing for a chance to win $100.00 gift card once their response was received. Also, they would receive a small token of our appreciation with the main survey packet. A response form and postage-paid envelope were included so that sample members could let us know if they were included in the sample of pharmacists by mistake or were unable to participate.
>
> Contact 2: Approximately two weeks after Contact 1, a survey packet was mailed. This included the questionnaire, a postage-paid return envelope, a letter describing the study and an "Rx" bumper sticker to thank pharmacists for their participation.

Contact 3: A postcard reminder/thank you was mailed two weeks after Contact 2 to non-responders. This correspondence thanked any of the recipients who had responded while the postcard was in transit and reminded non-respondents to complete the survey.

Contact 4: The survey packet was re-mailed to non-responders one month after Contact 3. This correspondence asked non-respondents to complete the questionnaire, highlighted the importance of the study, and provided another copy of the survey instrument along with a postage-paid return envelope.

Contact 5: Two months after Contact 4 a two-page questionnaire was sent to non-respondents who had not yet completed the 11-page questionnaire. Non-respondents were advised that this would be the last contact. Pharmacists were also given the option to complete an electronic version of the 11-page questionnaire.

Before the main study mailing, a pilot test was conducted to determine the feasibility of these proposed methods.

Appendix B contains the cover letters and forms for these steps.

Sampling and Sample Size

As done in previous studies, we obtained a list of licensed pharmacists from a reliable source. KM Lists, Inc., maintains a database of 250,652 licensed pharmacists. Two lists were obtained from KM Lists: a random sample of 6,000 pharmacists taken from their overall list of unduplicated, cleaned and updated names, and another random sample of 1,000 pharmacists licensed between 2011 and 2013 to over-sample recent graduates so that the final sample would contain between 7% and 10% of graduates from the most recent years. We also requested an electronic data file of names and addresses. From these two lists, we randomly selected a sample of 5,200 (5,000 for the main survey and 200 for a pilot test).

Data Analysis

Surveys were returned to the University of Minnesota, College of Pharmacy, and processed for data entry. A database structure was created and responses coded according to the survey code book (see Appendix A). Data were extracted from the database and analyzed for this report using descriptive statistics. Data are presented in this report in a manner that allows comparison to 2009, 2004 and 2000 findings whenever possible.

Pilot Test Results

A pilot test was conducted to determine the feasibility of the proposed methods. From our sample of 5,200, a random sample of 200 pharmacists was chosen to receive the questionnaire using the steps described above. The pilot test occurred between March 2014 and June 2014. We received responses from 91 of the 194 subjects assumed to be contacted (47.0% response rate). No wording changes were made to the final survey based on the pilot test. One procedure was modified: the postcard follow-up to all non-respondents was deleted because not an appreciable number of questionnaires were returned after the postcard mailing in the pilot test.

Main Survey Administration

Based on the pilot test results the following procedures were used for the main mailing of the questionnaire:

1. May 2014: Pre-notification letter and form were mailed.

2. June 2014: Complete survey packet was mailed.

3. July 2014: The survey packet was re-mailed to non-responders.
4. September 2014: A two-page questionnaire was sent to non-responders

Results

1.2 Response Rate

This rigorous survey method with up to four contacts for each individual in the sample resulted in a total 2,446 responses. Table 1.2.1 shows the disposition of the 5,200 in the initial sample. An overall response rate of 48.2% was achieved (2,446/5,073).

Table 1.2.1: Disposition of 5,200 Sample Members

Undeliverable	Opt-out*	Presumed to Be Delivered (5,200 - 127)
127	246	5,073

*Refusals, disabilities, company restrictions, not currently licensed, not interested, etc.

Table 1.2.2 summarizes the number and percentage of individuals in the (1) sampling frame population, (2) sample, (3) respondents and (4) response rate by state for this study for each state and the District of Columbia. Table 1.2.3 summarizes the distribution of responses by year of first licensure. Responses were received from each state except the District of Columbia. The largest number of respondents was from California, Pennsylvania, Florida, and Texas. We met our goal of having 7% to 10% of the sample drawn from the most recent year: about 7% of respondents fit into this category.

Table 1.2.2: Summary of Sampling Frame Population, Sample and Respondents (n, percent of total)

State/District	Sampling Frame Population (n = 250,652)	Sample (n = 5,200)	Respondents (n = 2,446)	Response Rate by State (%)
Alabama	3,698	26 (.5%)	15 (.6%)	57.7
Alaska	410	6 (.1%)	3 (.1%)	50.0
Arizona	5,024	131 (2.5%)	69 (2.8%)	52.7
Arkansas	2,517	11 (.2%)	8 (.3%)	72.7
California	23,353	584 (11.2%)	243 (9.9%)	41.6
Colorado	4,249	118 (2.3%)	63 (2.6%)	53.4
Connecticut	2,560	21 (.4%)	10 (.4%)	47.6
Delaware	634	10 (.2%)	4 (.2%)	40.0
District of Columbia	149	3 (.1%)	0 (0.0%)	0.0
Florida	17,311	420 (8.1%)	172 (7.0%)	41.0
Georgia	8,100	204 (3.9%)	94 (3.8%)	46.1
Hawaii	448	8 (.2%)	4 (.2%)	50.0
Idaho	1,109	8 (.2%)	6 (.2%)	75.0
Illinois	11,231	302 (5.8%)	136 (5.6%)	45.0
Indiana	6,156	168 (3.2%)	88 (3.6%)	52.4
Iowa	3,027	78 (1.5%)	42 (1.7%)	53.8
Kansas	2,236	33 (.6%)	20 (.8%)	60.6
Kentucky	4,302	23 (.4%)	12 (.5%)	52.2
Louisiana	4,424	20 (.4%)	8 (.3%)	40.0
Maine	1,031	26 (.5%)	11 (.5%)	42.3
Maryland	5,726	40 (.8%)	16 (.7%)	40.0
Massachusetts	6,340	164 (3.2%)	78 (3.2%)	47.6
Michigan	8,372	211 (4.1%)	107 (4.4%)	50.7
Minnesota	4,664	110 (2.1%)	78 (3.2%)	70.9
Mississippi	2,643	67 (1.3%)	29 (1.2%)	43.3
Missouri	5,174	135 (2.6%)	74 (3.0%)	54.8
Montana	974	24 (.5%)	14 (.6%)	58.3
Nebraska	2,021	55 (1.1%)	28 (1.1%)	50.9
Nevada	1,854	24 (.5%)	7 (.3%)	29.2
New Hampshire	1,130	29 (.6%)	16 (.7%)	55.2
New Jersey	10,334	268 (5.2%)	100 (4.1%)	37.3
New Mexico	1,514	39 (.7%)	26 (1.1%)	66.7
New York	13,159	84 (1.6%)	33 (1.4%)	39.3
North Carolina	6,573	53 (1.0%)	23 (.9%)	43.4
North Dakota	757	21 (.4%)	12 (.5%)	57.1
Ohio	11,465	48 (.9%)	17 (.7%)	35.4
Oklahoma	3,544	95 (1.8%)	43 (1.8%)	45.3
Oregon	3,093	79 (1.5%)	42 (1.7%)	53.2
Pennsylvania	14,572	383 (7.4%)	189 (7.7%)	49.3
Rhode Island	558	14 (.3%)	10 (.4%)	71.4
South Carolina	3,460	86 (1.7%)	49 (2.0%)	57.0
South Dakota	362	7 (.1%)	6 (.2%)	85.7

State/District	Sampling Frame Population (n = 250,652)	Sample (n = 5,200)	Respondents (n = 2,446)	Response Rate by State (%)
Tennessee	6,557	167 (3.2%)	90 (3.7%)	53.9
Texas	16,573	451 (8.7%)	171 (7.0%)	37.9
Utah	1,405	20 (.4%)	14 (.6%)	70.0
Vermont	458	9 (.2%)	5 (.2%)	55.6
Virginia	6,178	137 (2.6%)	62 (2.5%)	45.3
Washington	4,530	107 (2.1%)	53 (2.2%)	49.5
West Virginia	1,731	8 (.2%)	3 (.1%)	37.5
Wisconsin	2,494	62 (1.2%)	41 (1.7%)	66.1
Wyoming	468	3 (.1%)	2 (.1%)	66.7

Table 1.2.3: Summary of Year of Licensure, Sample and Respondents (n, percent of total)

Year of Licensure	Sample (n = 5,200)	Respondents (n = 2,445)
up to 1960	14 (0.3%)	13 (0.5%)
1961 to 1970	202 (3.9%)	154 (6.3%)
1971 to 1980	718 (13.8%)	437 (17.9%)
1981 to 1990	946 (18.2%)	529 (21.7%)
1991 to 2000	1209 (23.2%)	544 (22.2%)
2001 to 2010	1626 (31.3%)	605 (24.7%)
2011 to 2013	485 (9.3%)	163 (6.7%)

1.3 Assessment of Response

The first method used to access non-response bias was comparing available characteristics of pharmacists who responded to the workforce survey with characteristics of pharmacists who did not. The characteristics available for both respondents and non-respondents were gender, region of country (residence) and year first licensed. As shown in Table 1.3.1, there was not a significant association between respondents and non-respondents in terms of gender, but there were significant associations with region of country (residence) and year of first licensure. There were more responses from the Midwest and fewer from the South. Pharmacists licensed up to 1980 were more likely to respond than those licensed after 1981. The mean average year of first licensure of respondents was 1992 (SD = $\pm$13.4) compared to 1997 (SD = $\pm$11.8) for non-respondents. Approximately 7% of respondents were licensed between 2011 and 2013.

The second method used to access non-response bias was examining specific pharmacist characteristics between respondents to the first and last mailings of the survey forms due to the assumption that late respondents are more like non-respondents. The characteristics examined were age, gender, having a PharmD degree, employment status, employment setting and year of first licensure as a pharmacist.

As shown in Table 1.3.2 there were no associations between first and final mailings for age, gender and employment setting, but there was a significant association between having a PharmD degree, employment status and year of first licensure. Respondents were more likely to return the first mailing if they were working outside of pharmacy, retired, semi-retired or unemployed or had a PharmD degree. This may be due to our encouragement to those who were not currently practicing pharmacy to let us know right away. Respondents first licensed up to 1980 and those licensed between 2001 and 2010 were more likely to respond to the first mailing.

Table 1.3.1: Comparison of Respondents to Workforce Survey and Non-Respondents by Gender, Region of Country (Residence) and Year of First Licensure

	Respondents (%)*	Non-respondents (%)*	Chi-square Test†
Gender			
Male	47.9	46.6	p = 0.182
Female	52.1	53.4	
	n = 2,444	n = 2,629	
Region of Country (Residence)			
Northeast	18.6	20.4	
South	32.5	36.5	**p = 0.000**
Midwest	26.6	21.0	
West	22.3	22.0	
	n = 2,443	n = 2,630	
Year of First Licensure			
up to 1960	0.5	0.0	
1961 to 1970	6.3	1.9	
1971 to 1980	17.9	10.3	
1981 to 1990	21.6	15.3	**p = 0.000**
1991 to 2000	22.3	24.8	
2001 to 2010	24.8	36.4	
2011 to 2013	6.6	11.3	
	n = 2,442	n = 2,630	

* Percent figures reported are column percentages
† p value in **bold** represents significant difference at $\alpha = 0.01$

Table 1.3.2: Comparison of Respondents to First Mailing of Survey and Respondents to Final Mailing of Survey

	First Mailing (%)*	Final Mailing (%)*	Chi-square Test†
Age			
≤30	7.5	6.5	
31 to 40	19.8	21.2	
41 to 50	21.4	24.9	p = 0.285
51 to 60	25.4	26.7	
61 to 70	20.4	16.0	
>70	5.6	4.7	
	n = 1,278	n = 401	
Gender			
Male	47.2	43.9	p = 0.135
Female	52.8	56.1	
	n = 1,412	n = 412	
PharmD Degree			
Yes	45.8	39.8	p = 0.04
No	54.2	60.2	
	n = 1,148	n = 394	
Employment Status			
Work as a pharmacist	68.0	75.8	
Work in a pharmacy-related field	6.3	9.5	
Work in a non-pharmacy field	2.3	1.7	**p = 0.000**
Semi-retired	5.8	3.9	
Retired	14.9	6.6	
Not employed	2.8	1.7	
	n = 1,407	n = 409	
Employment Setting			
Independent	9.9	12.8	
Chain	18.0	18.6	
Mass merchandiser	7.5	6.0	
Supermarket	8.4	7.1	p = 0.449
Hospital	29.5	25.9	
Other patient care	15.8	17.4	
Other non-patient care	8.3	2.9	
	n = 1,133	n = 367	
Year of Licensure			
up to 1960	1.3	0.0	
1961 to 1970	8.2	4.5	
1971 to 1980	22.9	20.6	
1981 to 1990	22.6	24.8	**p = 0.006**
1991 to 2000	19.3	24.8	
2001 to 2010	21.6	20.1	
2011 to 2013	4.2	5.2	
	n = 1,275	n = 403	

* Percent figures reported are column percentages

† p value in **bold** represents significant difference at α=0.01

Our findings showed that we achieved a geographically diverse sample of pharmacists for this study in that all regions of the United States were represented in proportion to the nationwide distribution of licensed pharmacists and in proportion to our sampling frame. However, some regions of the country may be over-represented (Midwest), while others may be under-represented (South). While there was a statistically significant association between region of the country and response, the differences were not large (36.5 versus 32.5, non-respondents to respondents in the South and 26.6 versus 21.0 non-respondents to respondents in the Midwest). To overcome this limitation, we report aggregate data and not state- or region-specific findings.

We also achieved a fairly good representation of pharmacists by year of first licensure. Our sample may be slightly over-represented by pharmacists more recently licensed than our previous reports because of our over-sampling of pharmacists first licensed between 2011 and 2013, but we hoped to achieve such over-representation knowing that more recent graduates are less likely to respond to surveys.

Given that we received responses from approximately 50% of those sampled, it is possible that respondents were more interested in the topic we studied or had stronger opinions about the questions we asked than those who chose not to respond. As shown when comparing early and late respondents, late responders were more likely to be working as a pharmacist, not have a PharmD degree, and licensed more recently than early responders.

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SECTION 2

DEMOGRAPHIC AND WORK CHARACTERISTICS OF THE PHARMACIST WORKFORCE: COMPARISONS BETWEEN THE YEARS 2014, 2009, 2004 AND 2000

2.1 Characteristics of Licensed Pharmacists

Tables 2.1.1 through 2.1.3 contain summaries of licensed pharmacists by gender and work status, and highest degree, race and age. Overall, 75.0% of licensed pharmacists responding to the survey in 2014 were working and practicing as a pharmacist or working in a pharmacy-related career (Table 2.1.1). This compares to 88.3% in 2009, 86.0% in 2004 and 88.2% in 2000. By gender, 65.2% of male and 83.9% of female pharmacists were working as a pharmacist or in pharmacy-related work in 2014. This compares to 85.9% males and 91.3% females in 2009, 83.1% males and 89.6% females in 2004 and 85.8% males and 91.2% females in 2000.

The proportion of pharmacists working full-time has decreased, according to our data from 2014, 2009, 2004 and 2000 (61.7%, 67.4%, 68.3%, and 73.3%, respectively), and the proportion of pharmacists working part-time has increased, except from 2009 to 2014 (13.3%, 20.9%, 17.7%, 14.9%, respectively).

The proportion of both male and female pharmacists working part-time (8.9% and 17.2%, respectively) decreased in 2014 after increases for both in the preceding years. For males, the proportion went from 15.8% in 2009 to 12.8% in 2004 and 9.9% in 2000. For women, the proportion went from 27.2% in 2009, to 24.0% in 2004 to 21.3% in 2000.

The proportion of pharmacists who are licensed but not working in any profession doubled from 2009. In 2014, 22% of the respondents were either retired or not working, with 31.6% of male pharmacists and 13.5% of female pharmacists not working. This compares to 9.7% either retired or not working in 2009 (11.7% males and 7.2% females), 10.3% either retired or not working in 2004 (12.4% males and 7.7% females) and 8.8% either retired or not working in 2000 (10.5% males and 6.7% females). These numbers may not be directly comparable to previous reports because in 2014 we documented those who are not working in a more systematic manner with our opt-out response form.

Table 2.1.2 shows that the racial diversity of licensed pharmacists in the United States continues to not represent the racial diversity of the U.S. population. In 2014, 85.1% of pharmacists were white, which is down slightly from 2009 (86.5%), 2004 (87.7%) and 2000 (87.8%). This is in contrast to a slight increase in the number of Asian respondents: 8.5% in 2014, 8.1% in 2009, 7.0% in 2004 and 7.1% in 2000. Other respondents (American Indian, Hispanic/Latino/Latina and Other) represented 4.1% in 2014, 3.3% in 2009, 3.2% in 2004 and 3.0% in 2000. The proportion of black pharmacists has remained between 2.0% to 2.3% over the 14-year period.

Table 2.1.2 also shows that the proportion of licensed pharmacists who held a PharmD as their highest degree increased to 37.8% in 2014 from 21.6% in 2009, 18.6% in 2004 and 13.9% in 2000. The proportion of pharmacists who held a masters or PhD as their highest degree decreased to 8.9% in 2014 compared to 10.9% in 2009, 9.0% in 2004 and 7.3% in 2000. About 52% of pharmacists held a BS degree as their highest degree in 2014, which compares to 66.3% in 2009, 71.2% in 2004 and 74.1% in 2000.

The age distribution of licensed pharmacists has fluctuated over time. In 2014, 37.4% of pharmacists were 55 years or older. This is the same percentage as in 2009 (37.1%). This compares to 30.7% in 2004 and 21.6% in 2000. Approximately, 28% of pharmacists in 2014 were 40 years old or younger. This compares to 22.8% in 2009, 30.1% in 2004 and 41.1% in 2000.

Table 2.1.1: Licensed Pharmacists' Work Status by Gender

		Working			Not Working	
		Pharmacy				
Gender	**Licensed Pharmacists**	**Full-time**	**Part-time**	**Not in Pharmacy**	**Retired**	**Not Retired**
2014		Number of Cases				
Male	1,086	611	97	35	313	30
Female	1,212	808	208	33	103	60
Total	2,298	1,419	305	68	416	90
		Percent of Row				
Male		56.3	8.9	3.2	28.8	2.8
Female		66.7	17.2	2.7	8.5	5.0
Total		61.7	13.3	3.0	18.1	3.9
		Percent of Column				
Male		43.1	31.8	51.5	75.2	33.3
Female		56.9	68.2	48.5	24.8	66.7
2009		Number of Cases				
Male	741	519	117	18	75	12
Female	602	386	164	9	19	24
Total	1,343	905	281	27	94	36
		Percent of Row				
Male		70.1	15.8	2.4	10.1	1.6
Female		64.1	27.2	1.5	3.2	4.0
Total		67.4	20.9	2.0	7.0	2.7
		Percent of Column				
Male	55.2	57.3	41.6	66.7	79.8	33.3
Female	44.8	42.7	58.4	33.3	20.2	66.7
2004		Number of Cases				
Male	823	579	105	37	90	12
Female	647	425	155	17	22	28
Total	1,470	1,004	260	54	112	40
		Percent of Row				
Male		70.3	12.8	4.5	10.9	1.5
Female		65.6	24.0	2.6	3.4	4.3
Total		68.3	17.7	3.7	7.6	2.7
		Percent of Column				
Male	56.0	57.7	40.4	68.5	80.4	30.0

		Working			Not Working	
		Pharmacy				
Gender	**Licensed Pharmacists**	**Full-time**	**Part-time**	**Not in Pharmacy**	**Retired**	**Not Retired**
Female	44.0	42.3	59.6	31.5	19.6	70.0
2000		Number of Cases				
Male	1,187	901	118	44	111	13
Female	905	633	193	18	19	42
Total	2,092	1,534	311	62	130	55
		Percent of Row				
Male		75.9	9.9	3.7	9.4	1.1
Female		69.9	21.3	2.0	2.1	4.6
Total		73.3	14.9	3.0	6.2	2.6
		Percent of Column				
Male	56.7	58.7	37.9	71.0	85.4	23.6
Female	43.3	41.3	62.1	29.0	14.6	76.4

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. Pharmacists not working in pharmacy listed a variety of non-pharmacy careers including other industries, other health professions, other retail businesses, health care administration and education.

Table 2.1.2: Licensed Pharmacists' Work Status by Race and Highest Degree

Licensed Pharmacists			Working			Not Working	
			Pharmacy				
			Full-time	Part-time	Not in Pharmacy	Retired	Not Retired
2014	n	Percent of Column	Percent of Row			Percent of Row	
Race							
White	1,421	85.1	66.6	10.6	2.7	16.7	3.5
Black	39	2.3	76.9	10.3	2.6	2.6	7.7
Asian	142	8.5	78.9	7.7	2.1	9.9	1.4
Other*	68	4.1	77.6	9.0	1.5	6.0	6.0
Total	1,670	100.0					
Highest Degree							
BS	1,088	52.3	59.1	13.4	2.3	21.0	4.2
PharmD	788	37.8	82.8	9.3	1.2	4.1	2.6
MS/MBA	157	7.5	72.4	5.9	3.9	16.4	1.3
Ph.D.	30	1.4	75.9	3.4	10.3	10.3	0.0
Other	19	0.9	22.2	11.1	27.8	33.3	5.6
Total	2,082	100.0	69.0	11.1	2.3	14.2	3.3
2009	n	Percent of Column	Percent of Row			Percent of Row	
Race							
White	1,158	86.5	66.1	21.5	2.3	7.5	2.6
Black	27	2.0	77.8	14.8	--	3.7	3.7
Asian	109	8.1	74.3	21.1	--	1.8	2.8
Other**	44	3.3	77.3	11.4	--	6.9	4.5
Total	1,338	99.9	67.3	21.0	2.0	7.0	2.7
Highest Degree							
BS	888	66.3	64.8	22.9	1.0	8.7	2.6
PharmD	290	21.6	76.2	17.6	1.4	2.1	2.8
MS/MBA	123	9.2	74.0	15.4	4.1	4.1	2.4
PhD	23	1.7	65.2	8.7	8.7	13.0	4.3
Other	16	1.2	18.8	18.8	43.8	12.5	6.2
Total	1,340	100.0	49.2	15.2	2.0	6.9	2.7
2004	n	Percent of Column	Percent of Row			Percent of Row	
Race							
White	1,279	87.7	66.8	18.6	3.9	7.8	2.9
Black	32	2.2	78.1	6.3	--	15.6	--
Asian	102	7.0	87.0	9.0	2.0	2.9	1.0
Other	46	3.2	65.2	21.7	2.2	6.5	4.3
Total	1,459	100.1	68.3	17.7	3.6	7.6	2.7
Highest Degree							
BS	1,033	71.2	66.0	20.5	2.2	9.3	2.0
PharmD	270	18.6	79.3	10.4	3.7	1.5	2.0
MS/MBA	106	7.3	70.8	12.3	9.4	6.6	0.9
PhD	24	1.7	54.2	4.2	25.0	12.5	4.2
Other	18	1.2	50.0	11.1	22.2	5.6	11.1
Total	1,451	100.0	68.4	17.6	3.7	7.7	2.7

Licensed Pharmacists			Working			Not Working	
			Pharmacy				
			Full-time	Part-time	Not in Pharmacy	Retired	Not Retired
2000	n		Percent of Row			Percent of Row	
Race							
White	1,837	87.8	72.5	15.2	3.0	6.6	2.7
Black	45	2.2	77.8	6.7	6.7	8.9	--
Asian	148	7.1	77.7	15.5	1.4	2.7	2.7
Other	62	3.0	83.9	9.7	3.2	--	3.2
Total	2,092	100.0	73.3	14.9	3.0	6.2	2.6
Highest Degree							
BS	1,550	74.1	71.2	16.6	2.0	7.4	2.8
PharmD	290	13.9	83.8	10.3	2.1	2.1	1.7
MS/MBA	136	6.5	75.0	7.4	11.8	2.9	2.9
PhD	17	0.8	64.7	17.6	5.9	11.8	--
Other	99	4.7	74.7	11.1	8.1	4.0	2.0
Total	2,092	100.0	73.3	14.9	3.0	6.2	2.6

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. Pharmacists not working in pharmacy listed a variety of non-pharmacy careers including other industries, other health professions, other retail businesses, health care administration and education.

* For 2014, "Other" for Race (n = 68) was further categorized as American Indian (n = 4), Latino/Latina (n = 32) and Other (n = 32).

** For 2009, "Other" for Race (n = 44) was further categorized as American Indian (n = 5), Hispanic/Latino (n = 23) and Other (n = 16).

Table 2.1.3: Licensed Pharmacists' Work Status by Age Category

			Working			Not Working	
			Pharmacy				
Age Category	**Licensed Pharmacists**		**Full-time**	**Part-time**	**Not in Pharmacy**	**Retired**	**Not Retired**
2014	n	Percent of Column	Percent of Row				
24–30	154	7.5	94.0	2.0	1.3	0.6	2.0
31–35	192	9.3	88.4	10.1	--	--	1.6
36–40	225	10.9	82.9	11.6	2.8	--	2.8
41–45	223	10.8	74.9	18.7	1.4	0.9	4.1
46–50	245	11.9	74.9	15.5	3.8	1.3	4.6
51–55	253	12.3	79.7	11.8	3.0	2.1	3.4
56–60	274	13.3	70.0	11.6	3.4	10.1	4.9
61–65	224	10.9	56.3	7.9	3.3	27.9	4.7
66–70	167	8.1	21.0	6.8	1.2	70.4	0.6
>70	106	5.1	15.8	8.7	1.0	72.1	2.9
Total	2,063	100.0	68.9	11.1	2.3	14.4	3.4
2009	n	Percent of Column	Percent of Row				
24–30	32	2.4	87.5	12.5	--	--	--
31–35	126	9.4	78.5	14.3	2.4	0.8	4.0
36–40	148	11.0	66.9	27.7	2.0	0.7	2.7
41–45	158	11.8	69.0	22.8	1.9	--	6.3
46–50	159	11.8	78.6	17.6	3.1	--	0.6
51–55	223	16.6	78.0	17.9	2.2	1.3	0.4
56–60	181	13.5	84.0	7.7	1.1	3.9	3.3
61–65	135	10.1	60.7	18.5	3.7	14.8	2.2
66–70	87	6.5	31.0	44.8	1.1	19.5	3.4
>70	94	7.0	10.6	38.3	--	47.9	3.2
Total	1,343	100.0	67.4	20.9	2.0	7.0	2.7
2004	n	Percent of Column	Percent of Row				
24–30	116	7.9	89.7	7.8	0.9	--	1.7
31–35	167	11.4	72.5	20.4	1.2	0.6	5.4
36–40	159	10.8	75.9	17.7	3.2	--	3.2
41–45	171	11.6	78.2	14.7	3.5	--	3.5
46–50	206	14.0	77.2	16.5	2.9	--	3.4
51–55	201	13.7	81.1	10.9	6.5	0.5	1.0
56–60	154	10.5	68.8	13.0	9.7	7.1	1.3
61–65	98	6.7	59.2	17.3	2.0	17.3	4.1
66–70	90	6.1	31.1	34.4	2.2	30.0	2.2
>70	108	7.4	9.3	37.0	1.9	50.9	0.9
Total	1,470	100.0	68.3	17.7	3.7	7.6	2.7

			Working			Not Working	
			Pharmacy				
Age Category	**Licensed Pharmacists**		**Full-time**	**Part-time**	**Not in Pharmacy**	**Retired**	**Not Retired**
2000	N	Percent of Column	Percent of Row				
23–30	286	13.7	92.0	5.6	1.4	--	1.0
31–35	263	12.6	77.9	17.9	1.5	--	2.7
36–40	310	14.8	72.3	19.0	3.9	--	4.8
41–45	309	14.8	80.3	14.6	2.6	0.3	2.3
46–50	273	13.0	82.8	9.2	3.7	0.7	3.7
51–55	198	9.5	80.3	9.6	6.6	2.5	1.0
56–60	166	7.9	72.9	10.8	4.2	9.6	2.4
61–65	92	4.4	57.6	25.0	1.1	15.2	1.1
66–70	97	4.6	27.8	29.9	1.0	39.2	2.1
>70	98	4.7	8.2	30.6	2.0	55.1	4.1
Total	2,092	100.0	73.3	14.9	3.0	6.2	2.6

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. Pharmacists not working in pharmacy listed a variety of non-pharmacy careers including other industries, other health professions, other retail businesses, health care administration and education.

2.2: Characteristics of Actively Practicing Pharmacists

Tables 2.2.1 through 2.2.7 summarize the characteristics of pharmacists actively practicing pharmacy (working as pharmacists in a licensed pharmacy or in a pharmacy-related field or profession).

In 2014, 83.6% of males and 81.3% of females were actively practicing pharmacy. Table 2.2.1 shows that the proportion of actively practicing pharmacists who are female increased to 57.1% in 2014 from 46.4% in 2009, 45.9% in 2004 and 44.8% in 2000. Among respondents who were actively practicing as pharmacists, the proportion of both male and female pharmacists working part-time decreased in 2014 as compared to 2009, 2004 and 2000. For females, the rate decreased to 18.7% in 2014 from 29.8% in 2009, 26.8% in 2004 and 23.4% in 2000. For males, the proportions were 16.4%, 18.4%, 15.4% and 11.6%, for the years 2014, 2009, 2004 and 2000, respectively. It is unknown if these findings are due to fewer pharmacists choosing to work part-time or less availability of part-time work.

The age distribution of actively practicing pharmacists also changed between 2014 and 2000. In 2014, 31.6% of practicing pharmacists were age 40 or younger, an increase from 24.4% in 2009. However, there are still fewer younger pharmacists than in 2004 (33.0%) and 2000 (44.1%). Conversely, in 2014, 30.6% of practicing pharmacists were over age 55, a decrease from 32.5% in 2009, but an increase from 24.6% in 2004 and 16.7% in 2000.

Table 2.2.2 shows all categories of practice settings reported by actively practicing pharmacists that responded to the survey. The most striking finding on this report is the reduction in part-time work in small chain pharmacy. Only 5% of respondents worked part-time in this setting, compared to 44.8% in 2009, 37.9% in 2004 and 23.3% in 2000. In addition, 4% of respondents worked in a clinic setting in 2014, which is double the proportion in previous years (approximately 2%). In 2014 we included several new categories, such as specialty pharmacy (2.8%) and ambulatory care practice (1.2%). HMO-operated pharmacy, nuclear, and government were included in either other patient care or other (non-patient care) practice.

Table 2.2.3 shows the results when respondents' practice settings were condensed into eight categories. The condensed categories are used throughout the remainder of this report. The proportion of actively practicing pharmacists working in traditional community pharmacy practice settings (independent, chain, mass merchandiser, and supermarket pharmacies) decreased in 2014 to 44.1%, after being relatively stable in 2009 (53.8%), 2004 (56.4%) and 2000 (55.4%). Increases were seen in 2014 in the following practice settings when compared to all previous survey administrations: hospital pharmacy (29.4%), other patient care practice (16.7%) and other (non-patient care) practice (7.5%).

A comparison of practicing pharmacists categorized by employment position (Table 2.2.4) shows that of pharmacists in owner/partner positions, 2014 represents the lowest proportion since 2000: 5%. In 2014 the proportion of owners/partners that were female (27.5%) was a slight increase from 2009 (24%), both an increase from 14.6% in 2004 and 2000. Overall, only 2.4% of owners were female in 2014. This compares to 8.1% in 2009 and is similar to findings in 2004 (2.1%) and 2000 (2.3%). Most notable is the proportion of females who are in management is greater than males for the first time since our surveys began. In 2014, 55.2% of managers are female while 44.8% are male. This compares to 40.5% female in 2009, 41.2 % in 2004 and 37.0% in 2000. The greatest proportion of pharmacists continues to be in staff positions at 64.6% in 2014. This percentage is slightly higher than in 2009 (62.1%), nearly the same in 2004 (64.7%) and slightly higher than in 2000 (63.1%).

Table 2.2.5 shows findings for actively practicing pharmacists' work status when categorized by age and gender. The patterns of part-time work for males in the 2014, 2009, 2004 and 2000 surveys were similar in that relatively few men aged 60 and younger worked part-time. At age 61 and older, men are more

likely to work part-time. Patterns of part-time work for females in 2014 indicated that while females continue to work part-time in greater proportions than males, the gap between males and females working part-time is narrowing for women under 40 years of age and between 46 55 years of age. (see Figure 2.2.1 for a summary). More than 48% of actively practicing male pharmacists are over 55 years old. This "graying" of the male pharmacist workforce is influenced by changing retirement rates and the surge of this cohort of pharmacists who entered the profession from the late 1960s and early 1970s moving through their workforce lifecycle.

Table 2.2.6 shows that the proportion of actively practicing full-time pharmacists who were male decreased in 2014 to 43.6%. This compares to 57.3% in 2009, 57.7% in 2004 and 58.7% in 2000. The percentage of males working in any practice setting was smaller than each of the previous survey administrations. In 2014, the largest proportion of male pharmacists continued to work in independent community pharmacy (55.9%), while the greatest proportion of females worked in industry (65.8%) and other (non-patient care) settings (61.1%). This compares to 2009, 2004 and 2000 in which 68.9%, 73.2% and 74.0% of males worked in independent community pharmacy and 48.6%, 57.7% and 50.0% of females worked in industry and 45.8%, 53.3% and 48.5% of females worked in other (non-patient care) settings.

In 2014, the most common employment settings for part-time pharmacists (Table 2.2.7) were hospital pharmacy (24.7%) and independent community pharmacy (21.7%) followed by other patient care practices (20.7%). For 2009, chain pharmacy and hospital pharmacy settings were the most common employment settings (24.6% each), followed by independent (23.1%), and other patient care practice (11.0%). Interestingly, in 2014 the percentage of pharmacists in part-time work in chain pharmacy decreased to 12.0% and in mass merchandiser pharmacy increased to 8.0%. For males working part-time, the most common employment practice setting was independent pharmacy (32.8%) followed by other patient care practice (18.5%). For females working part-time, the most common practice setting was hospital (32.2%) followed by other patient care practice (22.2%).

Table 2.2.1: Actively Practicing Pharmacists' Work Status by Gender and Age

		Percent by Row		Percent by Column		
	All Cases	Full-time	Part-time	All Pharmacists	Full-time	Part-time
Gender	N					
2014						
Male	726	83.6	16.4	42.9	43.6	39.8
Female	965	81.3	18.7	57.1	56.4	60.2
Total	1,691	82.3	17.7	100.0	100.0	100.0
2009						
Male	636	81.6	18.4	53.6	57.3	41.6
Female	550	70.2	29.8	46.4	42.7	58.4
Total	1,186	76.3	23.7	100.0	100.0	100.0
2004						
Male	684	84.6	15.4	54.1	57.7	40.4
Female	580	73.2	26.8	45.9	42.3	59.6
Total	1,264	79.4	20.6	100.0	100.0	100.0
2000						
Male	1019	88.4	11.6	55.2	58.7	37.9
Female	826	76.6	23.4	44.8	41.3	62.1
Total	1,845	83.1	16.9	100.0	100.0	100.0
Age Category						
2014						
24–30	144	97.9	2.1	8.5	10.1	1.0
31–35	186	91.4	8.6	11.0	12.2	5.4
36–40	204	87.7	12.3	12.1	12.9	8.4
41–45	203	81.3	18.7	12.0	11.9	12.7
46–50	216	82.9	17.1	12.8	12.9	12.4
51–55	221	86.4	13.6	13.1	13.7	10.0
56–60	223	83.9	16.1	13.2	13.4	12.0
61–65	160	76.2	23.8	9.5	8.8	12.7
66–70	86	44.2	55.8	5.1	2.7	16.1
>70	48	41.7	58.3	2.8	1.4	9.4
Total	1691	82.3	17.7	100.0	100.0	100.0
2009						
24–30	32	87.5	12.5	2.7	3.1	1.4
31–35	117	84.6	15.4	9.9	10.9	6.4
36–40	140	70.7	29.3	11.8	10.9	14.6
41–45	145	75.2	24.8	12.2	12.0	12.8
46–50	153	81.7	18.3	12.9	13.8	10.0
51–55	214	81.3	18.7	18.0	19.2	14.2
56–60	166	91.6	8.4	14.0	16.8	5.0
61–65	107	76.6	23.4	9.0	9.1	8.9
66–70	66	40.9	59.1	5.6	3.0	13.9
>70	46	21.7	78.3	3.9	1.1	13.9
Total	1186	76.3	23.7	100.0	100.0	100.0
2004						
24–30	113	92.0	8.0	9.0	10.4	3.5
31–35	155	78.1	21.9	12.3	12.1	13.1
36–40	149	81.1	18.9	11.7	12.0	10.8
41–45	159	84.2	15.8	12.5	13.3	9.6
46–50	193	82.4	17.6	15.3	15.9	13.1
51–55	185	88.1	11.9	14.7	16.3	8.5

		Percent by Row		Percent by Column		
	All Cases	Full-time	Part-time	All Pharmacists	Full-time	Part-time
56–60	126	84.1	15.9	10.0	10.6	7.7
61–65	75	77.3	22.7	5.9	5.8	6.5
66–70	59	47.5	52.5	4.7	2.8	11.9
>70	50	20.0	80.0	4.0	1.0	15.4
Total	1,264	79.4	20.6	100.0	100.0	100.0
2000						
23–30	279	94.3	5.7	15.1	17.1	5.1
31–35	252	81.3	18.7	13.7	13.4	15.1
36–40	283	79.2	20.8	15.3	14.6	19.0
41–45	293	84.6	15.4	15.9	16.2	14.5
46–50	251	90.0	10.0	13.6	14.7	8.0
51–55	178	89.3	10.7	9.6	10.4	6.1
56–60	139	87.1	12.9	7.5	7.9	5.8
61–65	76	69.7	30.3	4.1	3.5	7.4
66–70	56	78.2	51.8	3.0	1.8	9.3
>70	38	21.1	78.9	2.1	0.5	9.6
Total	1,845	83.1	16.9	100.0	100.0	100.0

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment.

Table 2.2.2: Actively Practicing Pharmacists' Work Status by Non-Condensed Primary Employment Practice Setting

	Percent by Row			Percent by Column		
Practice Setting	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**
2014						
Independent (<4 units)	167	61.1	38.9	9.9	7.3	21.7
Small Chain (410 units)	20	95.0	5.0	1.2	1.4	0.3
Large Chain (>10 units)	304	88.5	11.5	18.0	19.3	11.7
Mass Merchandiser	120	80.0	20.0	7.1	6.9	8.0
Supermarket	134	82.8	17.2	7.9	8.0	7.7
Mail Service	40	85.0	15.0	2.4	2.4	2.0
Government Hospital/Health System	96	88.5	11.5	5.7	6.1	3.7
Non-government Hospital	401	84.3	15.7	23.7	24.3	21.1
Nursing Home/Long Term Care	62	85.5	14.5	3.7	3.8	3.0
Home Health/Infusion	20	75.0	25.0	1.2	1.1	1.7
Health-Maintenance Organization (HMO)-operated Pharmacy	--	--	--	--	--	--
Clinic Pharmacy	68	73.5	26.5	4.0	3.6	6.0
Nuclear	--	--	--	--	--	--
Industry	40	95.0	5.0	2.4	2.7	0.7
Managed Care Organization/Pharmacy Benefit Manager (MCO/PBM)	36	100.0	0.0	2.1	2.6	0.0
Education/Academia	29	89.7	10.3	1.7	1.9	1.0
Government (FDA, etc.)	--	--	--	--	--	--
Specialty Pharmacy	47	76.6	23.4	2.8	2.6	3.7
Ambulatory Care	21	81.0	19.0	1.2	1.2	1.3
Other	14	64.3	35.7	0.8	0.6	1.7
Other Patient Care	25	64.0	36.0	1.5	1.1	3.0
Other Non-patient Care	47	89.4	10.6	2.8	3.0	1.7
Total	1,691	82.3	17.7	100	100	100
2009						
Independent (<4 units)	171	62.0	38.0	14.4	11.7	14.4
Small Chain (410 units)	29	55.2	44.8	2.4	1.8	2.4
Large Chain (>10 units)	266	78.9	21.1	22.4	23.2	22.4
Mass Merchandiser	58	79.3	20.7	4.9	5.1	4.9
Supermarket	114	80.7	19.3	9.6	10.2	9.6
Mail Service	27	81.5	18.5	2.3	2.4	2.3
Government Hospital/Health System	82	86.6	13.4	6.9	7.8	6.9
Non-government Hospital	236	75.4	24.6	19.9	19.7	19.9
Nursing Home/Long Term Care	38	76.3	23.7	3.2	3.2	3.2
Home Health/Infusion	12	91.7	8.3	1.0	1.2	1.0
HMO-operated Pharmacy	7	57.1	42.9	0.6	0.4	0.6
Clinic Pharmacy	26	61.5	38.5	2.2	1.8	2.2
Nuclear	4	100.0	--	0.3	0.4	0.3
Industry	40	87.5	12.5	3.4	3.9	3.4
MCO/PBM	22	95.5	4.5	1.9	2.3	1.9
Education/Academia	18	94.4	5.6	1.5	1.9	1.5
Government (FDA, etc.)	11	90.9	9.1	0.9	0.4	0.9

	Percent by Row			Percent by Column		
Practice Setting	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**
Other	25	68.0	32.0	2.1	2.8	2.1
Total	1,186	76.3	23.7	100	100	100
2004						
Independent (<4 units)	190	64.7	35.3	15.1	12.3	25.8
Small Chain (410 units)	30	62.1	37.9	2.3	1.8	4.2
Large Chain (>10 units)	320	80.0	20.0	25.4	25.5	24.6
Mass Merchandiser	57	75.4	24.6	4.5	4.3	5.4
Supermarket	115	89.6	10.4	9.1	10.3	4.6
Mail Service	35	85.7	14.3	2.8	9.0	1.9
Government Hospital/Health System	73	83.6	16.4	5.8	6.1	4.6
Non-government Hospital	239	83.2	16.8	18.9	19.8	15.4
Nursing Home/Long Term Care	38	71.1	28.9	3.0	2.7	4.7
Home Health/Infusion	28	78.6	21.4	2.2	2.2	2.3
HMO-operated Pharmacy	10	90.0	10.0	0.8	0.9	0.4
Clinic Pharmacy	21	66.7	33.3	1.7	1.4	2.7
Nuclear	10	90.0	10.0	0.8	0.9	0.4
Industry	27	96.3	3.7	2.1	2.6	0.4
MCO/PBM	11	100.0	--	0.9	1.1	--
Education/Academia	12	100.0	--	0.3	0.4	--
Government (FDA, etc.)	4	100.0	--	0.3	0.4	--
Other	44	81.8	18.2	3.5	3.6	3.1
Total	1,264	79.5	20.5	100	100	100
2000						
Independent (<4 units)	300	68.0	32.0	16.3	13.3	30.9
Small Chain (410 units)	30	76.7	23.3	1.6	1.5	2.3
Large Chain (>10 units)	404	89.4	10.6	21.9	23.5	13.8
Mass Merchandiser	122	86.9	13.1	6.6	6.9	5.1
Supermarket	166	86.1	13.9	9.0	9.3	7.4
Mail Service	40	85.0	15.0	2.2	2.2	1.9
Government Hospital/Health System	106	90.6	9.4	5.7	6.3	3.2
Non-government Hospital	338	84.3	15.7	18.3	18.6	17.0
Nursing Home/Long Term Care	70	81.4	18.6	3.8	3.7	4.2
Home Health	44	81.8	18.2	2.4	2.3	2.6
HMO-operated Pharmacy	27	74.1	25.9	1.5	1.3	2.3
Clinic Pharmacy	41	80.5	18.5	2.2	2.2	2.6
Nuclear	10	90.0	10.0	0.5	0.6	0.3
Industry	44	95.5	4.5	2.4	2.7	0.6
MCO/PBM	24	91.7	8.3	1.3	1.4	0.6
Education/Academia	22	86.4	13.6	1.2	1.2	1.0
Government (FDA, etc.)	11	100	--	0.6	0.7	--
Armed Services	3	66.7	33.3	0.2	0.1	0.3
Other	43	72.1	27.9	2.3	2.0	3.9
Total	1,845	83.1	16.9	100	100	100

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. *Nuclear*, *Industry* and *Other* were written in for an "Other For-Profit Corporation/Organization" category or an "Other Non-Profit Corporation/Organization" category on the survey form.

Table 2.2.3: Actively Practicing Pharmacists' Work Status by Primary Employment Practice Setting

	Percent by Row			Percent by Column		
Practice Setting	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**
2014						
Independent	167	61.1	38.9	9.9	7.3	21.7
Chain	324	88.9	11.1	19.2	20.7	12.0
Mass Merchandiser	120	80.0	20.0	7.1	6.9	8.0
Supermarket	134	82.8	17.2	7.9	8.0	7.7
Hospital	497	85.1	14.9	29.4	30.4	24.9
Other Patient Care Practice	283	89.7	10.3	16.7	15.9	20.7
Industry	40	95.0	5.0	2.4	2.7	0.7
Other (non-patient care)	126	89.7	10.3	7.5	8.1	4.3
Total	1691	82.3	17.7	100.0	100.0	100.0
2009						
Independent	171	62.0	38.0	14.4	11.7	23.1
Chain	295	76.6	23.4	24.9	25.0	24.6
Mass Merchandiser	58	79.3	20.7	4.9	5.1	4.3
Supermarket	114	80.7	19.3	9.6	10.2	7.8
Hospital	318	78.3	21.7	26.8	27.5	24.6
Other Patient Care Practice	123	74.8	25.2	10.4	10.2	11.0
Industry	40	87.5	12.5	3.4	3.9	1.8
Other (non-patient care)	67	88.1	11.9	5.6	6.5	2.8
Total	1186	76.3	23.7	100.0	100.0	100.0
2004						
Independent	190	64.7	35.3	15.1	12.3	25.9
Chain	350	78.5	21.5	27.7	27.3	29.0
Mass Merchandiser	57	75.4	24.6	4.5	4.3	5.4
Supermarket	115	89.6	10.4	9.1	10.3	4.6
Hospital	312	83.3	16.7	24.7	25.8	20.1
Other Patient Care Practice	148	77.6	22.4	11.7	11.4	12.7
Industry	27	96.3	3.7	2.1	2.6	0.4
Other (non-patient care)	65	92.3	7.7	5.2	6.0	1.9
Total	1,264	79.5	20.5	100	100	100
2000						
Independent	300	68.0	32.0	16.3	13.3	30.9
Chain	434	88.5	11.5	23.5	25.0	16.1
Mass Merchandiser	122	86.9	13.1	6.6	6.9	5.1
Supermarket	166	86.1	13.9	9.0	9.3	7.4
Hospital	444	85.8	14.2	24.1	24.8	20.3
Other Patient Care Practice	257	80.9	19.1	13.9	13.6	15.8
Industry	44	95.5	4.5	2.4	2.7	0.6
Other (non-patient care)	78	84.6	15.4	4.2	4.3	3.9
Total	1,845	83.1	16.9	100	100	100

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. *Chain* indicates a combination of small chain and large chain settings. *Hospital* is a combination of

government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care, and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.), and other non-patient care.
In 2014 *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of clinic pharmacies, mail service, nursing home/long term care, specialty pharmacy, ambulatory care, other patient care, other, and home health/infusion. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, and other non-patient care.

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Table 2.2.4: Actively Practicing Pharmacists' Primary Employment Position by Gender

	Percent by Row			Percent by Column		
Position	**# of Cases**	**Males**	**Females**	**All Cases**	**Males**	**Females**
2014						
Owner/Partner	69	72.5	27.5	5.0	8.8	2.4
Management	415	44.8	55.2	30.4	32.9	28.5
Staff	885	37.3	62.7	64.6	58.3	69.1
Total	1,369	43.1	58.7	100.0	100.0	100.0
2009						
Owner/Partner	96	76.0	24.0	8.1	11.6	8.1
Management	351	59.5	40.5	29.8	33.2	29.8
Staff	732	47.5	52.5	62.1	55.2	62.1
Total	1,179	53.4	46.6	100.0	100.0	100.0
2004						
Owner/Partner	82	85.4	14.6	6.5	10.3	2.1
Management	364	58.8	41.2	28.8	31.3	25.8
Staff	814	48.9	51.1	64.7	58.4	72.1
Total	1,260	54.1	45.9	100.0	100.0	100.0
2000						
Owner/Partner	130	85.4	14.6	7.0	10.9	2.3
Management	552	63.0	37.0	29.9	34.1	24.7
Staff	1162	48.2	51.8	63.1	55.0	73.0
Total	1,844	55.2	44.8	100.0	100.0	100.0

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in her or his primary employment setting. Partner is defined as ≥25% ownership. Management includes manager, director, supervisor and assistant manager.

Table 2.2.5: Actively Practicing Pharmacists by Work Status versus Age Category by Gender

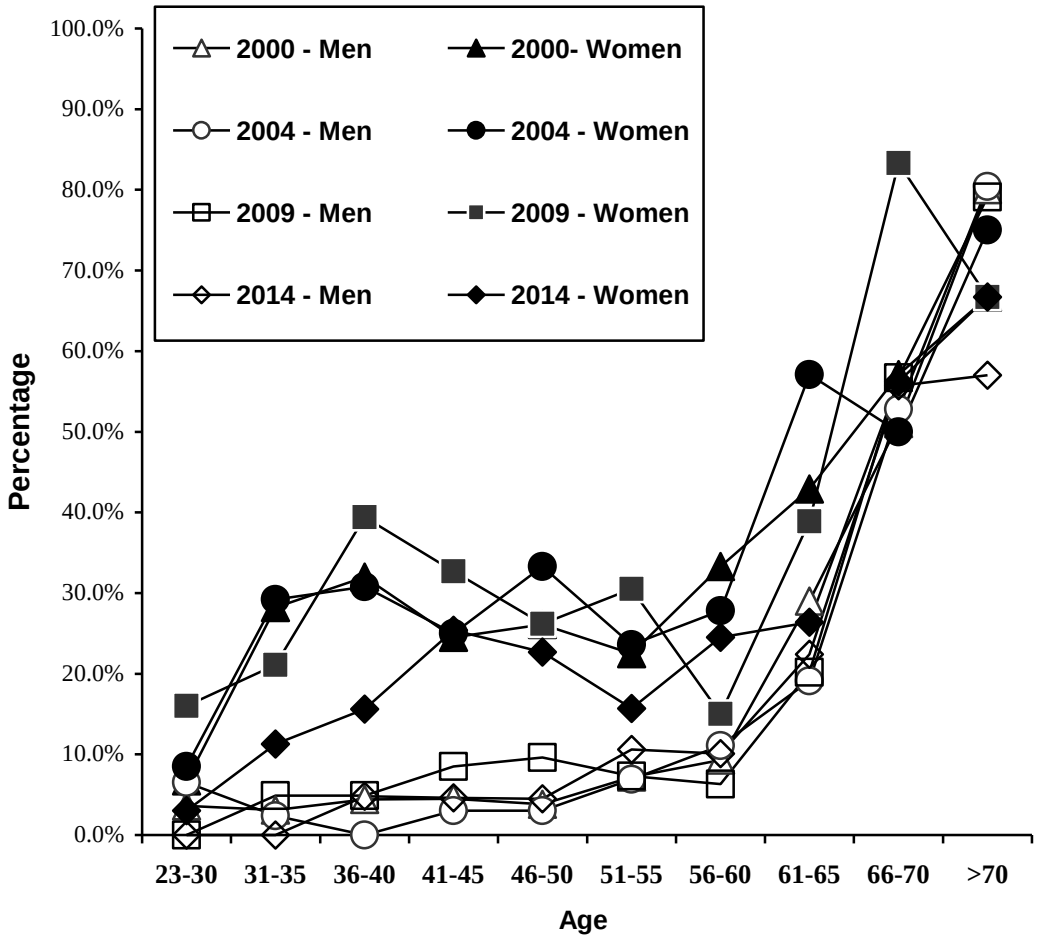
	2014 Percent by Row			2009 Percent by Row			2004 Percent by Row			2000 Percent by Row		
	All Cases	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**
Male Age Category												
23–30	45	100.0	0.0	7	100.0	--	31	93.5	6.5	84	96.4	3.6
31–35	45	100.0	0.0	41	95.1	4.9	42	97.6	2.4	96	96.9	3.1
36–40	63	95.2	4.8	41	95.1	4.9	57	100.0	0.0	114	95.6	4.4
41–45	65	95.4	4.6	47	91.5	8.5	67	97.0	3.0	134	95.5	4.5
46–50	66	95.5	4.5	73	90.4	9.6	100	97.0	3.0	182	96.2	3.8
51–55	94	89.4	10.6	109	92.7	7.3	130	93.1	6.9	138	92.8	7.2
56–60	129	89.9	10.1	126	93.7	6.3	90	88.9	11.1	118	90.7	9.3
61–65	107	77.6	22.4	89	79.8	20.2	68	80.9	19.1	69	71.0	29.0
66–70	70	44.3	55.7	60	43.3	56.7	53	47.2	52.8	49	49.0	51.0
>70	42	42.9	57.1	43	20.9	79.1	46	19.6	80.4	35	20.0	80.0
Total	726	83.6	16.4	636	81.6	18.4	684	84.6	15.4	1,019	88.4	11.6
Female Age Category												
23–30	99	97.0	3.0	25	84.0	16.0	82	91.5	8.5	195	93.3	6.7
31–35	141	88.7	11.3	76	78.9	21.1	113	70.8	29.2	156	71.8	28.2
36–40	141	84.4	15.6	99	60.6	39.4	92	69.2	30.8	169	68.0	32.0
41–45	138	74.6	25.4	98	67.3	32.7	92	75.0	25.0	159	75.5	24.5
46–50	150	77.3	22.7	80	73.8	26.2	93	66.7	33.3	69	73.9	26.1
51–55	127	84.3	15.7	105	69.5	30.5	55	76.4	23.6	40	77.5	22.5
56–60	94	75.5	24.5	40	85.0	15.0	36	72.2	27.8	21	66.7	33.3
61–65	53	73.6	26.4	18	61.1	38.9	7	42.9	57.1	7	57.1	42.9
66–70	16	43.8	56.2	6	16.7	83.3	6	50.0	50.0	7	42.9	57.1
>70	6	33.3	66.7	3	33.3	66.7	4	25.0	75.0	3	33.3	66.7
Total	965	81.3	18.7	550	70.2	29.8	580	73.2	26.8	826	76.6	23.4

	2014 Percent by Column			2009 Percent by Column			2004 Percent by Column			2000 Percent by Column		
	All Cases	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**	**All Cases**	**Full-time**	**Part-time**
Male Age Category												
23–30	6.2	7.4	0.0	1.1	1.3	--	4.5	5.0	1.9	8.2	9.0	2.5
31–35	6.2	7.4	0.0	6.4	7.5	1.7	6.1	7.1	1.0	9.4	10.3	2.5
36–40	8.7	9.9	2.5	6.4	7.5	1.7	8.3	9.8	--	11.2	12.1	4.2
41–45	9.0	10.2	2.5	7.4	8.3	3.4	9.8	11.2	1.9	13.2	14.2	5.1
46–50	9.1	10.4	2.5	11.5	12.7	6.0	14.6	16.8	2.9	17.9	19.4	5.9
51–55	12.9	13.8	8.4	17.1	19.5	6.8	19.0	20.9	8.6	13.5	14.2	8.5
56–60	17.8	19.1	10.9	19.8	22.7	6.8	13.2	13.8	9.5	11.6	11.9	9.3
61–65	14.7	13.7	20.2	14.0	13.7	15.4	9.9	9.5	12.4	6.8	5.4	16.9
66–70	9.6	5.1	32.8	9.4	5.0	29.1	7.7	4.3	26.7	4.8	2.7	21.2
>70	5.8	3.0	20.2	6.8	1.7	29.1	6.7	1.6	35.2	3.4	0.8	23.7
Total	100	100	100	100	100	100	100	100	100	100	100	100
Female Age Category												
23–30	10.3	12.2	1.7	4.5	5.4	2.4	14.1	17.6	4.5	23.6	28.8	6.7
31–35	14.6	15.9	8.9	13.8	15.5	9.8	19.5	18.8	21.3	18.9	17.7	22.8
36–40	14.6	15.2	12.2	18.0	15.5	23.8	15.9	15.1	18.1	20.5	18.2	28.0
41–45	14.3	13.1	19.4	17.8	17.1	19.5	15.9	16.2	14.8	19.2	19.0	20.2
46–50	15.5	14.8	18.9	14.5	15.3	12.8	16.0	14.6	20.0	8.4	8.1	9.3
51–55	13.2	13.6	11.1	19.1	18.9	19.5	9.5	9.9	8.4	4.8	4.9	4.7
56–60	9.7	9.0	12.8	7.3	8.8	3.7	6.2	6.1	6.5	2.5	2.2	3.6
61–65	5.5	5.0	7.8	3.3	2.8	4.3	1.2	0.7	2.6	.8	0.6	1.6
66–70	1.7	0.9	5.0	1.1	0.3	3.0	1.0	0.7	1.9	.8	0.5	2.1
>70	0.6	0.3	2.2	.5	0.3	1.2	.7	0.2	1.9	.4	0.2	1.0
Total	100	100	100	100	100	100	100	100	100	100	100	100

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in her or his primary employment setting.

Figure 2.2.1

Proportion of Actively Practicing Pharmacists Working Part-time by Age Group and Gender



Note: *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in her or his primary employment setting.

Table 2.2.6: Pharmacists Working Full-time by Gender versus Primary Employment Practice Setting

	Percent by Row			Percent by Column		
Practice Setting	**Number of Cases**	**Males**	**Females**	**All Cases**	**Males**	**Females**
2014						
Independent	102	55.9	44.1	7.3	9.4	5.7
Chain	288	45.5	54.5	20.7	21.6	20.0
Mass Merchandiser	96	40.6	59.4	6.9	6.4	7.3
Supermarket	111	40.5	59.5	8.0	7.4	8.4
Hospital	423	42.8	57.2	30.4	29.8	30.8
Other Patient Care Practice	221	43.9	56.1	15.9	16.0	15.8
Industry	38	34.2	65.8	2.7	2.1	3.2
Other (non-patient care)	113	38.9	61.1	8.1	7.2	8.8
Total	1,392	43.6	56.4	100.0	100.0	100.0
2009						
Independent	106	68.9	31.1	11.7	14.1	8.5
Chain	226	55.8	44.2	25.0	24.3	25.9
Mass Merchandiser	46	56.5	43.5	5.1	5.0	5.2
Supermarket	92	63.0	37.0	10.2	11.2	8.8
Hospital	249	54.2	45.8	27.5	26.0	29.5
Other Patient Care Practice	92	55.4	44.6	10.2	9.8	10.6
Industry	35	51.4	48.6	3.9	3.5	4.4
Other (non-patient care)	59	54.2	45.8	6.5	6.2	7.0
Total	905	57.3	42.7	100.0	100.0	100.0
2004						
Independent	123	73.2	26.8	12.3	15.6	7.8
Chain	275	63.5	36.5	27.3	30.1	23.6
Mass Merchandiser	43	67.4	32.6	4.3	5.0	3.3
Supermarket	103	55.3	44.7	10.3	9.9	10.8
Hospital	260	49.8	50.2	25.8	22.3	30.7
Other Patient Care Practice	114	52.6	47.4	11.4	10.4	12.7
Industry	26	42.3	57.7	2.6	1.9	3.5
Other (non-patient care)	60	46.7	53.3	6.0	4.8	7.5
Total	1,004	57.7	42.3	100.0	100.0	100.0
2000						
Independent	204	74.0	26.0	13.3	16.8	8.4
Chain	384	59.6	40.4	25.0	25.4	24.5
Mass Merchandiser	106	56.6	43.4	6.9	6.7	7.3
Supermarket	143	57.3	42.7	9.3	9.1	9.6
Hospital	381	52.8	47.2	24.8	22.3	28.4
Other Patient Care Practice	208	59.1	40.9	13.6	13.7	13.4
Industry	42	50.0	50.0	2.7	2.3	3.3
Other (non-patient care)	66	51.5	48.5	4.3	3.8	5.1
Total	1,534	58.7	41.3	100.0	100.0	100.0

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting. *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.
In 2014 *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of clinic pharmacies, mail service, nursing home/long term care, specialty pharmacy, ambulatory care, other patient care, other, and home health/infusion. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, and other non-patient care.

Table 2.2.7: Pharmacists Working Part-time by Gender versus Primary Employment Practice Setting

	Percent by Row			Percent by Column		
Practice Setting	**Number of Cases**	**Males**	**Females**	**All Cases**	**Males**	**Females**
2014						
Independent	65	60.0	40.0	21.7	32.8	14.4
Chain	36	44.4	55.6	12.0	13.4	11.1
Mass Merchandiser	24	29.2	70.8	8.0	5.9	9.4
Supermarket	23	43.5	56.5	7.7	8.4	7.2
Hospital	74	21.6	78.4	24.7	13.4	32.2
Other Patient Care Practice	62	35.5	64.5	20.7	18.5	22.2
Industry	2	100.0	0.0	0.7	1.7	0.0
Other (non-patient care)	13	53.8	46.2	4.3	5.9	3.3
Total	299	39.8	60.2	100.0	100.0	100.0
2009						
Independent	65	63.1	36.9	23.1	35.0	14.6
Chain	69	46.4	53.6	24.6	27.4	22.6
Mass Merchandiser	12	33.3	66.7	4.3	3.4	4.9
Supermarket	22	36.4	63.6	7.8	6.8	8.5
Hospital	69	26.1	73.9	24.6	15.4	31.1
Other Patient Care Practice	31	32.3	67.7	11.0	8.5	12.8
Industry	5	40.0	60.0	1.8	1.7	1.8
Other (non-patient care)	8	25.0	75.0	2.8	1.7	3.7
Total	281	41.6	58.4	100.0	100.0	100.0
2004						
Independent	67	50.7	49.3	25.9	32.7	21.3
Chain	75	46.7	53.3	29.0	33.7	25.8
Mass Merchandiser	14	28.6	71.4	5.4	3.8	6.5
Supermarket	12	25.0	75.0	4.6	2.9	5.8
Hospital	52	25.0	75.0	20.1	12.5	25.2
Other Patient Care Practice	34	36.4	63.6	12.7	11.5	13.5
Industry	1	--	100.0	0.4	--	0.6
Other (non-patient care)	5	60.0	40.0	1.9	2.9	1.3
Total	260	40.2	59.8	100.0	100.0	100.0
2000						
Independent	96	59.4	40.6	30.9	48.3	20.2
Chain	50	42.0	58.0	16.1	17.8	15.0
Mass Merchandiser	16	25.0	75.0	5.1	3.4	6.2
Supermarket	23	34.8	65.2	7.4	6.8	7.8
Hospital	63	27.0	73.0	20.3	14.4	23.8
Other Patient Care Practice	49	18.4	81.6	15.8	7.6	20.7
Industry	2	--	100.0	0.6	--	1.0
Other (non-patient care)	12	16.7	83.3	3.9	1.7	5.2
Total	311	37.9	62.1	100.0	100.0	100.0

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

In 2014 *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of clinic pharmacies, mail service, nursing home/long term care, specialty pharmacy, ambulatory care, other patient care, other, and home health/infusion. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, and other non-patient care.

Section 2.3: Hours Worked by Actively Practicing Pharmacists

Tables 2.3.1 through 2.3.4 describe hours worked by actively practicing pharmacists. Table 2.3.5 describes secondary employment and hours worked annually in secondary employment. Among pharmacists working full-time, the gap in hours worked between males and females continues to narrow. In 2014, males working full-time worked 1.6 hours more than females (Table 2.3.1). This difference between men and women in weekly hours worked was 2.4 hours in 2009, 2.1 hours in 2004, and 2.3 hours in 2000. Overall, pharmacists working full-time worked an average of 44.2 hours per week in 2014, 43.8 hours per week in 2009, 43.4 hours per week in 2004 and 44.2 hours per week in 2000. Pharmacists in industry and other (non-patient care) settings worked the most hours weekly (51.8 hours and 47.7 hours, respectively). For part-time pharmacists, the average hours worked per week did not change significantly (20.1 hours in 2014, 19.4 hours per week in 2009, 19.1 hours per week in 2004 and 19.0 hours per week in 2000). In 2014, 2009 and 2004, pharmacists worked the most part-time hours in mass merchandiser and supermarket settings. In 2000 the most part-time hours were worked in supermarkets and industry (both around 20 hours weekly).

In 2014, the number of full-time hours worked by male and female pharmacists was more similar across age groups than in previous years (Table 2.3.2). In general, males tended to work more hours per week in all age ranges except 66 - 70 years of age. This pattern is consistent will all other years except in 2000, in which males worked more hours than females in all age ranges.

With regard to hours worked for part-time pharmacists, all age groups contributed significant hours per week to the workforce except males 2335 years of age in 2014 and 2330 years of age in 2009. In 2004 the 3640 age group had no male respondents who were working part-time.

Male full-time pharmacists worked more hours per week across all position types compared to females (Table 2.3.3). For pharmacists working part-time in 2014, males in owner or partner positions worked 0.5 more hours per week than females. However, females in part-time management and staff positions worked more hours per week than their male counterparts nearly consistently across all years.

A full-time equivalent (FTE) was calculated using the number of reported total hours worked in primary employment and the number of weeks worked annually. We defined 1.0 FTE as a pharmacist working 40 hours per week, 52 weeks per year, or 2,080 hours. In 2014, pharmacists contributed 0.94 FTE (Table 2.3.4); in 2009 and in 2004 they contributed an average of 0.87 FTE. In 2000 pharmacists contributed an average of 0.93 FTE to the workforce.

As noted previously, the difference in workforce contribution of actively practicing male and female pharmacists continues to narrow. In 2014, males contributed 0.95 FTE and females contributed 0.93 FTE. In 2009, male pharmacists contributed an average of 0.92 FTE compared to 0.82 FTE for females. This difference is almost identical to the results from 2004 (0.91 and 0.82, respectively) and less than in 2000 (0.99 and 0.87). For each age category except age 66-70 in 2014, age >70 in 2009, age 66-70 in 2004 and age > 70 in 2000, male pharmacists contributed more FTEs than females.

For 2014, the pattern of FTE contribution by males and females across age categories is summarized in Figure 2.3.1.

Table 2.3.5 shows the percentage of actively practicing pharmacists who reported secondary employment and hours worked. In 2014, overall, nearly 8% of pharmacists had secondary jobs. Approximately 14% of owners worked in a secondary job. The most common primary employment settings for pharmacists with a secondary position were industry (10.5%), hospital (9.2%), and other (non-patient care) (9.2%). The total annual hourly workforce contributions of pharmacists are obtained from multiplying the hours per week and the weeks per year reported (not all pharmacists worked over the entire year). Male pharmacists that had secondary employment worked almost twice as many annual hours in their secondary pharmacist work as female pharmacists. If the annual hours are converted to an estimated average weekly hours by

dividing the table results by 52, overall nearly 6 hours per week were worked by pharmacists that had secondary employment. There was considerable variation in the annual hours in secondary employment among respondents in different primary practice settings.

Table 2.3.1: Actively Practicing Pharmacists' Mean Weekly Hours Worked in Primary Employment by Work Status and Gender versus Practice Setting

	Full-time			Part-time		
Practice Setting	**All Full-time**	**Males**	**Females**	**All Part-time**	**Males**	**Females**
2014	(n = 1,431)	(n = 622)	(n = 809)	(n = 313)	(n = 125)	(n = 188)
Independent	44.2	46.6	41.0	19.0	17.7	21.1
Chain	43.5	43.9	43.0	19.9	16.9	22.4
Mass Merchandiser	42.0	42.3	41.9	21.2	16.6	23.1
Supermarket	42.1	43.5	41.1	22.4	20.3	23.7
Hospital	44.1	44.8	43.6	19.9	18.8	20.2
Other Patient Care Practice	44.4	45.6	43.6	20.7	19.3	21.5
Industry	51.8	52.5	51.4	--	--	--
Other (non-patient care)	47.7	49.1	46.9	17.8	15.8	19.8
Total	44.2	45.1	43.5	20.1	20.3	20.6
2009	(n = 905)	(n = 519)	(n = 386)	(n = 281)	(n = 117)	(n = 164)
Independent	47.3	48.7	44.1	18.0	17.1	19.6
Chain	41.8	42.8	40.4	18.2	17.3	18.9
Mass Merchandiser	41.9	43.1	40.3	23.1	22.5	23.4
Supermarket	41.2	42.0	39.6	21.6	18.1	23.6
Hospital	44.1	45.0	43.1	21.2	17.9	22.3
Other Patient Care Practice	42.7	44.2	40.9	17.9	17.6	18.0
Industry	50.2	49.4	51.1	21.5	25.0	19.2
Other (non-patient care)	47.2	47.9	46.5	20.7	25.0	19.3
Total	43.8	44.8	42.4	19.4	17.8	20.6
2004	(n = 1,004)	(n = 579)	(n = 425)	(n = 260)	(n = 105)	(n = 155)
Independent	44.4	46.1	39.8	16.8	15.9	17.7
Chain	42.8	43.7	41.0	18.2	16.2	19.9
Mass Merchandiser	41.1	42.2	38.8	23.7	26.6	22.6
Supermarket	41.2	41.6	40.7	22.8	24.3	22.3
Hospital	43.4	43.7	43.0	20.2	17.5	21.1
Other Patient Care Practice	44.3	45.3	43.3	21.5	19.4	22.7
Industry	48.8	50.9	47.3	12.0	---	12.0
Other (non-patient care)	46.0	47.3	44.9	16.0	16.7	15.0
Total	43.4	44.3	42.2	19.1	17.3	20.3
2000	(n = 1,534)	(n = 901)	(n = 633)	(n = 311)	(n = 118)	(n = 193)
Independent	47.7	49.6	42.5	17.8	17.0	18.9
Chain	43.3	44.2	42.1	19.7	16.4	22.1
Mass Merchandiser	43.3	44.0	42.4	19.1	19.3	19.1
Supermarket	41.9	42.4	41.1	20.5	21.6	20.0
Hospital	43.4	44.1	42.7	19.7	19.2	19.9
Other Patient Care Practice	44.1	44.6	43.3	19.2	16.2	19.8
Industry	46.8	45.6	48.1	20.0	---	20.0
Other (non-patient care)	47.5	47.5	47.5	18.8	19.0	18.7
Total	44.2	45.1	42.8	19.0	17.6	19.9

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Weekly hours are actual hours worked, rather than scheduled hours. Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other. Data not reported in cells with fewer than three responses.

Table 2.3.2: Actively Practicing Pharmacists' Mean Weekly Hours Worked in Primary Employment by Work Status and Gender versus Age Category

	Full-time			Part-time		
Age Category	**All Full-time**	**Males**	**Females**	**All Part-time**	**Males**	**Females**
2014	(n = 1,392)	(n = 608)	(n = 784)	(n = 300)	(n = 121)	(n = 179)
23–30	43.9	44.5	43.7	26.0	--	26.0
31–35	43.9	44.0	43.9	22.9	--	22.9
36–40	43.7	44.2	43.1	23.2	23.0	23.2
41–45	44.7	47.1	43.3	22.0	23.0	21.9
46–50	44.8	46.9	43.6	21.3	18.0	21.6
51–55	44.9	44.8	45.0	23.1	22.2	23.6
56–60	44.0	45.6	41.4	19.4	19.4	19.4
61–65	44.5	44.9	43.6	19.7	20.0	19.2
66–70	42.0	41.0	46.1	16.6	16.7	16.2
>70	45.1	45.1	45.0	15.9	15.1	19.7
Total	44.2	45.1	43.6	20.1	18.1	21.5
2009	(n = 905)	(n = 519)	(n = 386)	(n = 281)	(n = 117)	(n = 164)
23–30	43.0	43.7	42.7	17.5	--	17.5
31–35	42.6	43.2	42.3	19.8	20.5	19.7
36–40	42.3	43.8	41.4	19.8	20.5	19.7
41–45	43.5	44.7	42.7	20.7	21.5	20.6
46–50	44.6	46.4	42.6	22.0	17.4	23.5
51–55	45.5	46.8	43.8	21.8	25.0	21.0
56–60	43.7	44.5	41.0	21.8	20.9	22.9
61–65	44.2	44.9	40.3	18.8	18.4	19.9
66–70	41.7	41.6	44.0	18.2	18.7	14.8
>70	37.2	37.8	32.0	14.2	13.6	24.0
Total	43.8	44.8	42.4	19.4	17.8	20.6
2004	(n = 1,004)	(n = 579)	(n = 425)	(n = 260)	(n = 105)	(n = 155)
23–30	43.2	44.6	42.7	20.9	16.0	22.3
31–35	42.1	43.8	41.2	20.8	20.0	20.9
36–40	43.4	44.2	42.7	19.8	---	19.8
41–45	44.5	46.5	42.7	20.3	27.0	19.7
46–50	44.3	45.7	42.1	21.3	16.7	21.8
51–55	43.6	43.6	43.5	19.5	20.3	18.9
56–60	43.2	44.0	40.6	20.5	18.7	22.2
61–65	43.5	43.7	40.0	16.5	16.3	17.0
66–70	39.3	39.3	39.3	17.9	18.1	15.5
>70	42.3	43.2	34.0	15.1	15.1	15.2
Total	43.4	44.3	42.2	19.1	17.2	20.3
2000	(n = 1,534)	(n = 901)	(n = 633)	(n = 311)	(n = 118)	(n = 193)
23–30	43.4	45.0	42.7	16.6	13.0	17.5
31–35	44.0	45.4	42.8	19.4	19.3	19.4
36–40	43.8	44.4	43.2	20.6	26.6	20.0
41–45	43.8	44.7	42.9	20.5	16.1	21.2
46–50	45.6	46.1	44.0	20.0	17.4	21.1
51–55	44.7	45.3	42.4	20.8	22.4	19.0
56–60	44.7	45.2	40.6	21.4	20.9	22.3
61–65	43.0	43.3	39.3	16.5	16.5	16.7
66–70	44.1	44.3	42.3	16.9	17.0	16.3
>70	46.4	47.3	40.0	15.0	14.9	16.5
Total	44.2	45.1	42.8	19.0	17.6	19.9

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment.

Table 2.3.3: Actively Practicing Pharmacists' Mean Weekly Hours Worked in Primary Employment by Work Status and Gender versus Position Type

	Full-time			Part-time		
Position Type	**All Full-time**	**Males**	**Females**	**All Part-time**	**Males**	**Females**
2014	(n = 1,163)	(n = 510)	(n = 653)	(n = 259)	(n = 108)	(n = 151)
Owner, Partner	49.6	50.4	47.4	20.4	20.5	20.0
Management	46.0	47.1	45.1	24.5	21.6	27.7
Staff	43.1	43.4	42.8	19.6	17.5	20.8
Total	44.4	45.2	43.7	19.9	18.2	21.1
2009	(n = 900)	(n = 515)	(n = 385)	(n = 279)	(n = 115)	(n = 164)
Owner, Partner	51.3	51.7	49.7	20.5	21.5	18.9
Management	45.1	45.9	43.8	22.7	22.9	22.6
Staff	41.7	42.4	41.0	19.1	16.9	20.5
Total	43.8	44.8	42.3	19.5	18.0	20.6
2004	(n = 1,003)	(n = 578)	(n = 425)	(n = 260)	(n = 105)	(n = 155)
Owner, Partner	47.6	48.3	43.2	19.6	20.7	13.0
Management	44.9	45.5	44.1	26.6	22.0	30.0
Staff	42.0	42.7	41.2	18.9	16.6	20.3
Total	43.4	44.3	42.2	19.1	17.2	20.5
2000	(n =1,533)	(n = 901)	(n = 632)	(n = 311)	(n = 118)	(n = 193)
Owner, Partner	51.5	52.2	47.4	22.9	22.8	23.3
Management	45.8	46.1	45.3	23.0	22.0	24.0
Staff	42.2	42.8	41.6	18.6	16.6	19.6
Total	44.2	45.1	42.9	19.0	17.6	19.9

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. Weekly hours worked are actual hours worked, rather than scheduled hours worked. Pharmacists were classified as working part-time if they worked 30 hours or less per week in their primary employment. *Partner* is defined as ≥25% ownership. *Management* includes manager, director, supervisor, and assistant manager.

Table 2.3.4: Actively Practicing Pharmacists' Mean Full-time Equivalent (FTE) in Primary Employment by Gender and Age Category

Age Category	All Pharmacists	Males	Females
2014	(n = 1,352)	(n = 590)	(n = 762)
24–30	1.01	1.03	.99
31–35	1.00	1.03	1.00
36–40	.97	.99	.96
41–45	.97	1.10	.90
46–50	.94	1.04	.90
51–55	.99	1.01	.98
56–60	.93	.99	.85
61–65	.90	.91	.87
66–70	.63	.62	.69
>70	.62	.65	.44
Total	.94	.95	.93
2009	(n = 1154)	(n = 619)	(n = 535)
24–30	.94	1.01	.92
31–35	.88	.98	.83
36–40	.83	1.01	.76
41–45	.86	.99	.79
46–50	.92	1.02	.86
51–55	.94	1.04	.83
56–60	.96	.98	.87
61–65	.88	.91	.75
66–70	.63	.64	.56
>70	.44	.43	.71
Total	.87	.92	.82
2004	(n = 1,246)	(n = 677)	(n = 569)
24–30	.94	.95	.93
31–35	.85	1.02	.79
36–40	.88	1.03	.79
41–45	.92	1.05	.83
46–50	.91	1.02	.78
51–55	.92	.95	.86
56–60	.88	.90	.84
61–65	.84	.87	.49
66–70	.64	.63	.65
>70	.46	.46	.38
Total	.87	.91	.82
2000	(n = 1,824)	(n = 1,006)	(n = 818)
23–30	.98	1.04	.96
31–35	.92	1.05	.83
36–40	.91	1.03	.84
41–45	.95	1.03	.88
46–50	1.00	1.05	.88
51–55	.99	1.03	.86
56–60	.97	.99	.83
61–65	.80	.82	.66
66–70	.72	.73	.64
>70	.47	.45	.60
Total	.93	.99	.87

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. A pharmacist who works 40 hours a week for 52 weeks equals 1.0 Full Time Equivalent (FTE). We determined a respondent's FTE value by multiplying actual weekly hours worked in primary employment by weeks worked per year.

Figure 2.3.1

Summary of Actively Practicing Pharmacists' Mean Full-Time Equivalent (FTE) Contributions in Primary Employment during 2014

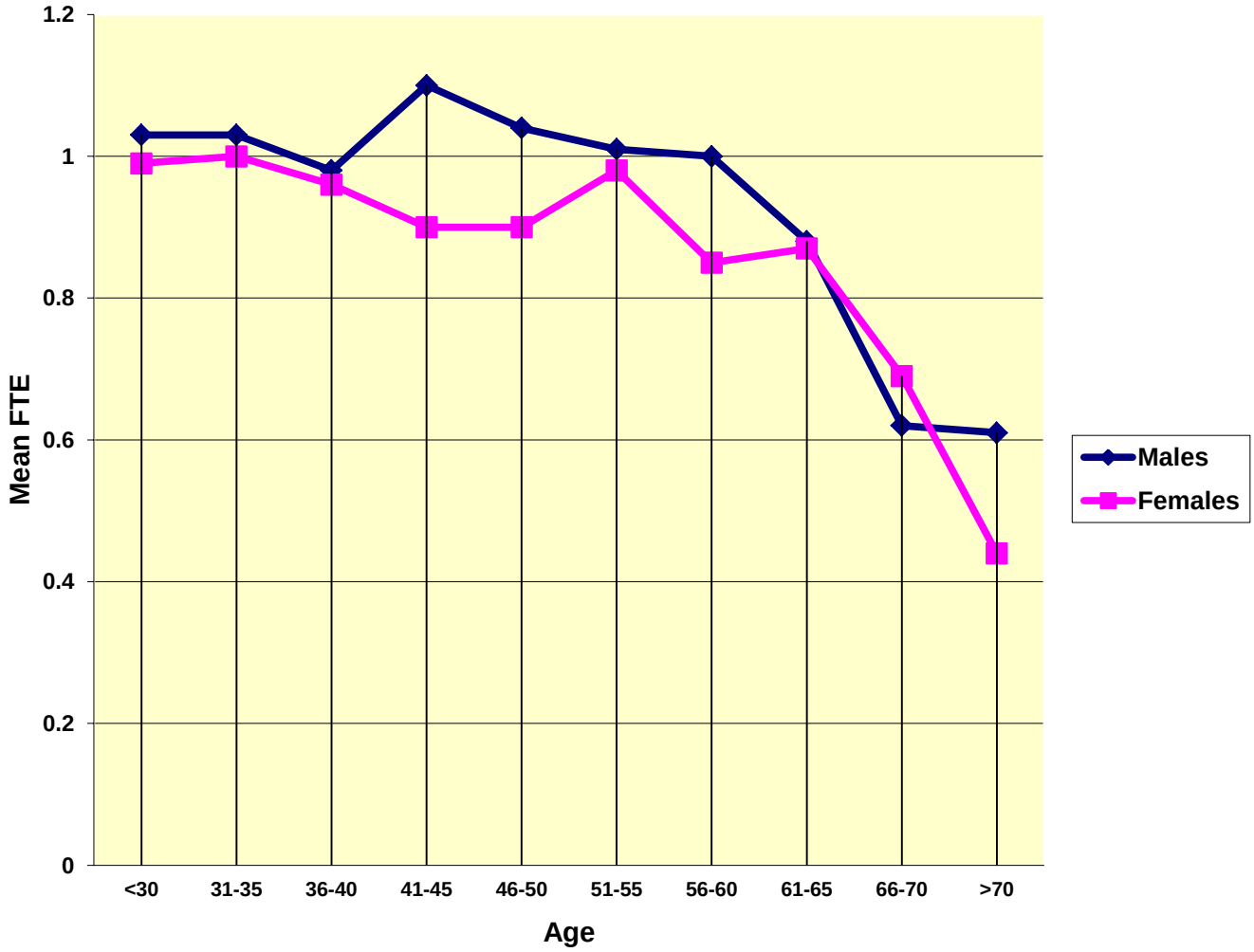


Table 2.3.5: Percentage of Actively Practicing Pharmacists with Secondary Employment and Annual Hours Worked in Secondary Employment Positions

Variable	Secondary Employment (%)	Average Annual Hours in Secondary Position (N)
Gender		
Male (n = 621)	8.7	392 (45)
Female (n = 811)	7.0	218 (47)
Total (n = 1,432)	7.8	303 (92)
Position		
Owner (n = 56)	14.3	242 (7)
Manager (n = 391)	9.7	239 (31)
Staff (n = 715)	9.1	348 (54)
Total (n = 1,162)	7.8	303 (92)
Practice Setting		
Chain (n = 296)	4.1	363 (12)
Mass Merchandiser (n = 99)	6.1	237 (6)
Supermarket (n = 114)	7.9	162 (6)
Hospital (n = 433)	9.2	338 (36)
Other Patient Care Practice (n = 224)	8.0	229 (15)
Industry (n = 38)	10.5	120 (3)
Other (non-patient care) (n = 119)	9.2	178 (8)
Total (n = 1,428)	7.7	297 (91)

Note: Ns for respondent characteristics are total numbers of actively practicing, full-time pharmacist respondents with those characteristics. Percentages with secondary employment as a percentage of the total in the category. N for average annual hours is the number of respondents reporting hours and weeks in their secondary positions. There were 10 respondents with two secondary employment positions and one respondent with three secondary employment positions. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Section 2.4: Changes in Base Pay and Additional Earnings

Tables 2.4.1 through 2.4.4 highlight aspects of changes in earnings for pharmacists. In previous surveys, we requested specific monetary amounts of compensation (base pay and pay schedule). Because of the large number of missing data for these questions, in 2014 we asked whether there had been a change in base pay and reasons for changes in base pay. Overall, an increase in pay over the past year was experienced by nearly two-thirds of pharmacists, and a few pharmacists (less than 6%) had decreases in pay. As shown in Table 2.4.1, slightly more female pharmacists received an increase in base pay than their male colleagues (64.3% females versus 60.1% males). Pharmacists in management positions saw increases in pay a bit more often than staff pharmacists (71.6% versus 63.5%) and owners more often had stagnant or decreased pay (57.4% and 14.8%, respectively). Pay increases were most prevalent for pharmacists working in industry (73.5%) and, with the exception of independent pharmacy sites; community pharmacists more often (65% to 72%) had increases in pay in the last year.

Tables 2.4.2 and 2.4.3 show proportions of pharmacists that had a change in pay with different reasons for the base pay changes. The most common reason for a base pay change was merit. Overall, 85.3% of pharmacists saw a merit-based change in pay. Compared to other pharmacists, owners more often had changes in pay that were related to hours worked or position change. The highest proportion of pharmacists with merit-based changes was among pharmacists in mass merchandiser pharmacies, where more than 9 in 10 pharmacists had a merit-based pay change in the last year. Since increases in pay were the most prevalent changes in pay, these proportions are approximately the proportions of actively practicing pharmacists with an increase in pay in the last year. When the respondents were restricted to only those with merit-based pay increase, the average percentage increase in base pay was 2.3%, with owners having the highest percent increase (4%) and the chain pharmacy setting having the lowest (1.8%) (see Table 2.4.3).

Table 2.4.4 shows the percentages of pharmacists with additional earnings. Managers (60.9%) and pharmacists in industry (83.9%) received bonuses more frequently. Overtime was received more by mass merchandiser (54.3%) and supermarket (52.1%) pharmacists. Incentive pay was more common for chain (22.5%) and industry (23.3%) pharmacists. Approximately 40% of chain pharmacists received profit sharing and about 52% of mass merchandiser pharmacists received stock options; hospital (10.5%) and other (non-patient care) settings (14.9%) received other types of additional earnings.

Table 2.4.1: Percentage of Actively Practicing Full-Time Pharmacists with Change in Base Pay since Last Year

Variable	Increase (%)	Decrease (%)	No Change (%)
Gender			
Male (n = 549)	60.1	5.6	34.2
Female (n = 791)	64.3	5.7	30.0
Total (n = 1,340)	62.6	5.7	31.7
Position			
Owner (n = 54)	27.8	14.8	57.4
Manager (n = 388)	71.6	2.3	26.0
Staff (n = 704)	63.5	5.5	31.0
Total (n = 1,146)	64.6	4.9	30.5
Practice Setting			
Independent (n = 99)	27.3	19.2	53.5
Chain (n = 262)	64.9	4.6	30.5
Mass Merchandiser (n = 101)	69.3	1.0	29.7
Supermarket (n = 110)	71.8	8.2	20.0
Hospital (n = 407)	64.9	4.9	30.2
Other Patient Care Practice (n = 222)	62.2	5.0	32.9
Industry (n = 34)	73.5	5.9	20.6
Other (non-patient care) (n = 102)	62.7	1.0	36.3
Total (n = 1,337)	62.6	5.6	31.8

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.
Chain is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Table 2.4.2: Percentage of Actively Practicing Full-Time Pharmacists with Different Reasons for a Base Pay Change in the Last Year

Variable	Hours Worked (%)	Merit (%)	Position Change (%)
Gender			
Male (n = 347)	6.6	83.3	17.0
Female (n = 533)	6.0	86.7	15.0
Total (n = 880)	6.2	85.3	15.8
Position			
Owner (n = 15)	13.3	66.7	26.7
Manager (n = 282)	3.2	86.2	20.6
Staff (n = 464)	6.7	86.2	14.9
Total (n = 761)	5.5	85.7	18.3
Practice Setting			
Independent (n = 36)	27.8	61.1	22.2
Chain (n = 177)	5.6	83.6	18.6
Mass Merchandiser (n = 69)	2.9	91.3	11.5
Supermarket (n = 87)	9.2	85.1	18.4
Hospital (n = 278)	4.7	86.3	14.7
Other Patient Care Practice (n = 143)	6.3	89.5	9.1
Industry (n = 25)	--	88.0	24.0
Other (non-patient care) (n = 63)	4.8	82.5	20.6
Total (n = 878)	6.3	85.3	12.3

Notes: Merit based changes (predominantly increases) in base pay included changes related to performance, merit, and inflation. Percentages sum to >100% due to multiple reasons for some respondents; merit and position change were the most prevalent combined responses.
Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.
Chain is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Table 2.4.3: Actively Practicing Full-Time Pharmacists Average Percent Merit-based Base Pay Increase in Last Year

Variable	Increase (%)
Gender	
Male (n = 241)	2.3
Female (n = 333)	2.4
Total (n = 574)	2.3
Position	
Owner (n = 8)	4.0
Manager (n = 215)	2.4
Staff (n = 351)	2.3
Total (n = 574)	2.3
Practice Setting	
Independent (n = 10)	2.3
Chain (n = 125)	1.8
Mass Merchandiser (n = 40)	2.1
Supermarket (n = 56)	2.1
Hospital (n = 18)	2.5
Other Patient Care Practice (n = 99)	2.6
Industry (n = 16)	3.7
Other (non-patient care) (n = 43)	3.0
Total (n = 573)	2.3

Note: Only respondents that had a merit-based pay increase were included in the average percent change calculation. Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.
Chain is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Table 2.4.4: Percentage of Actively Practicing Full-Time Pharmacists with Additional Earnings

Variable	Overtime	Bonus	Incentive Pay	Profit Sharing	Stock Options	Other
Gender						
Male (n = 490)	36.7	44.6	14.0	22.6	19.3	8.6
Female (n = 643)	38.9	49.3	13.9	18.8	24.1	8.7
Total (n = 1,133)	38.0	47.3	13.9	20.4	22.0	8.7
Position						
Owner (n = 53)	7.5	35.2	7.5	32.1	3.8	6.8
Manager (n = 383)	32.4	60.9	16.2	27.0	33.9	7.2
Staff (n = 696)	43.4	40.7	13.2	16.0	16.9	9.6
Total (n = 1,132)	38.0	47.3	13.9	20.5	22.0	8.7
Practice Setting						
Independent (n = 75)	14.7	33.3	1.3	24.0	1.4	6.6
Chain (n = 230)	45.2	59.7	22.5	43.5	51.5	6.5
Mass Merchandiser (n = 81)	54.3	68.4	17.7	40.5	51.9	5.6
Supermarket (n = 96)	52.1	70.8	15.2	27.7	28.0	5.5
Hospital (n = 349)	40.7	26.4	9.5	4.9	2.6	10.5
Other Patient Care Practice (n = 178)	38.2	49.4	12.4	11.7	14.1	9.7
Industry (n = 30)	0	83.9	23.3	16.7	62.1	0
Other (non-patient care) (n = 92)	10.9	47.3	14.3	12.2	6.7	14.9
Total (n = 1,131)	37.9	47.3	13.9	20.5	22.0	8.7

Note: Ns are total numbers of actively practicing, full-time pharmacist respondents for the Overtime question; the specific N for each question varied slightly from this total N. Specific percentages are based on the number of respondents answering each question.
Results based on respondents who worked full time and were actively practicing as a pharmacist or in a pharmacy-related position.
Full-time is defined as working more than 30 hours weekly at the primary employer.
Chain is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Section 2.5: Work History of Actively Practicing Pharmacists

Pharmacists reported how long (in years) they had worked for their current employer. Males working full-time reported being with their current employers longer than females (Table 2.5.1). Generally, as might be expected, years with current employer increased as years of experience increased. For 2014, pharmacists reported working with their current employer the longest in independent and chain (both 12.9 years), hospital and mass merchandiser (11.8 and 11.3 years, respectively), and the least (9.0 years) in other patient care practice settings. An overall general trend over time (since 2000) has been for the length of time in current position by pharmacists to increase, however the 2014 results for pharmacists in independent community pharmacy and hospital practice settings were contrary to this trend, declining slightly. These contrary changes in 2014 may represent either pharmacists pursuing other opportunities or the loss of jobs in those settings.

For 2014, the work settings with the highest proportion of full time pharmacists working for less than three years were other (non-patient) care (25.8%), and industry (24.0%) (see Table 2.5.1). As noted above, the proportion of pharmacists who have been with their employer for less than three years may be an indication of turnover, but also could reflect job expansion and new hiring in certain sectors. It is noteworthy that for independent community pharmacy settings, the proportion of full-time pharmacists working for less than three years fluctuated from 19.7% in 2014 to 17.1% in 2009 to 14.0% in 2004 to 19.0% in 2000. Also noteworthy is the decrease in the proportion of full-time pharmacists working for less than three years overall (14.6% in 2014, 16.4% in 2009, 20.0% in 2004, 31.0% in 2000).

Tables 2.5.2 through 2.5.4 show the mean number of employers and years per employer reported by actively practicing full-time pharmacists by gender, years of experience and employment setting. In general, the mean number of employers went down in 2014 (3.3 employers) compared to 2009 (3.8 employers), 2004 (3.9 employers), and 2000 (3.7 employers). However, the mean years per employer has generally increased since 2000, with a slight dip in 2014 (to 7.9 years), with 8.2 years in 2009, 6.8 years in 2004, and 6.5 years in 2000. During the 2000-to-2014 time period males tended to stay longer with their employers (average 8.3 years) than females (average 6.3 years). The number of employers over time was on average 3.9 for males and 3.4 for females. And, as expected, the more years a pharmacist worked, the greater the number of employers and years per employers (Table 2.5.3).

In terms of practice setting (Table 2.5.4), pharmacists who worked in chain settings or supermarket pharmacies worked the longest per employer in 2014. This finding was inconsistent in 2009, 2004, and 2000 as the longest time per employer was in the independent setting. This may be reflected in the fact that there are fewer independent community pharmacies than there were in previous years or that chain pharmacists tend to stay within that sector due to limited job opportunities in other areas. Further research is needed to better understand pharmacist job movement patterns.

Table 2.5.1: Actively Practicing Full-Time Pharmacists' Mean Years with Current Employer in Primary Employment versus Gender, Age, and Practice Setting

Variable	Mean Years with Current Employer				Percentage of Pharmacists with Current Employer for Less Than Three Years			
	2014	**2009**	**2004**	**2000**	**2014**	**2009**	**2004**	**2000**
Gender	(n = 1,157)	(n = 901)	(n = 1,003)	(n = 1,518)	(n = 1,157)	(n = 901)	(n = 1,003)	(n = 1,518)
Male	12.8	12.6	10.8	9.8	12.0	14.8	18	27
Female	10.2	10.3	8.3	6.6	16.7	18.7	22	36
Total	11.3	11.6	9.7	8.5	14.6	16.4	20	31
Age Category	(n = 1,120)	(n = 901)	(n = 1,002)	(n = 1,518)	(n = 1,120)	(n = 901)	(n = 1,002)	(n = 1,518)
23–30	3.7	4.4	3.6	2.9	39.3	35.7	43	56
31–35	6.3	6.1	6.1	5.2	21.0	22.2	18	32
36–40	9.0	8.4	7.2	7.7	11.6	16.2	23	28
41–45	10.7	9.7	8.9	8.8	19.7	15.6	16	24
46–50	11.4	12.2	9.7	10.8	18.5	14.5	19	25
51–55	13.8	12.6	12.9	12.0	8.7	17.8	13	24
56–60	16.6	15.2	15.0	13.1	6.8	15.3	12	22
61–65	15.5	15.9	13.4	13.4	7.3	9.8	19	17
66–70	17.2	14.7	14.5	16.6	6.7	11.5	15	22
>70	22.5	17.1	20.3	26.9	--	0	0	0
Total	11.2	11.6	9.7	8.5	14.6	16.4	20	31
Practice Setting	(n = 1,153)	(n = 901)	(n = 1,002)	(n = 1,518)	(n = 1,153)	(n = 901)	(n = 1,002)	(n = 1,518)
Independent	12.9	14.5	15.1	14.3	19.7	17.1	14	19
Chain	12.9	11.8	10.0	8.1	10.9	12.0	17	29
Mass Merchandiser	11.3	9.1	8.5	6.3	9.6	17.4	19	40
Supermarket	10.6	9.9	7.4	6.5	9.3	12.0	23	38
Hospital	11.8	13.4	9.9	9.2	16.7	12.9	21	26
Other Patient Care Practice	9.0	9.4	6.8	5.8	14.2	25.3	25	41
Industry	9.8	9.2	6.3	6.8	24.0	34.3	31	33
Other (non-patient care)	10.0	7.8	8.7	6.3	25.8	28.8	17	38
Total	11.3	11.6	9.7	8.5	14.7	16.4	20	31

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care Practice* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other (non-patient care)* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia, government (FDA, etc.) and other.

Table 2.5.2: Actively Practicing Full-Time Pharmacists' Mean Number of Employers and Mean Years per Employer versus Gender

	Male	Female	Total
2014	(n = 462)	(n = 600)	(n = 1,062)
Mean Number of Employers	3.3	3.2	3.3
Mean Years per Employer	9.2	6.9	7.9
2009	(n = 475)	(n = 361)	(n = 836)
Mean Number of Employers	4.0	3.6	3.8
Mean Years per Employer	8.9	7.2	8.2
2004	(n = 198)	(n = 160)	(n = 358)
Mean Number of Employers	4.1	3.6	3.9
Mean Years per Employer	7.4	6.1	6.8
2000	(n = 863)	(n = 607)	(n = 1,470)
Mean Number of Employers	4.0	3.2	3.7
Mean Years per Employer	7.6	4.9	6.5

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

Table 2.5.3: Actively Practicing Full-Time Pharmacists' Mean Number of Employers and Mean Years per Employer versus Years of Experience

	0-5 Years	6-10 Years	11-20 Years	21-30 Years	>30 Years	Total
2014						
	(n = 126)	(n = 151)	(n = 229)	(n = 250)	(n = 278)	(n = 1,034)
Mean Number of Employers	1.8	2.2	3.0	3.9	4.2	3.3
Mean Years per Employer	2.3	4.7	6.8	9.0	12.0	7.9
2009	(n = 19)	(n = 79)	(n =187)	(n = 222)	(n =317)	(n = 824)
Mean Number of Employers	1.7	2. 4	3.3	4.1	4.5	3.8
Mean Years per Employer	2.8	4.1	6.0	8.4	10.7	8.2
2004	(n = 27)	(n = 56)	(n = 85)	(n = 119)	(n =71)	(n = 358)
Mean Number of Employers	2.0	2.6	3.6	4.4	5.0	3.9
Mean Years per Employer	2.1	3.9	6.2	8.1	9.5	6.8
2000	(n = 244)	(n = 243)	(n = 387)	(n = 390)	(n = 206)	(n = 1,470)
Mean Number of Employers	2.0	2.8	3.6	4.4	5.5	3.7
Mean Years per Employer	1.9	3.9	6.4	8.9	10.6	6.5

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

Table 2.5.4: Actively Practicing Full-Time Pharmacists' Mean Number of Employers and Mean Years per Employer Versus Primary Employment Setting

	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2014	(n = 72)	(n = 212)	(n = 74)	(n = 87)	(n = 322)	(n = 170)	(n = 121)	(n = 1,058)
Mean Number of Employers	3.1	2.5	2.9	3.2	3.3	3.8	3.9	3.3
Mean Years per Employer	8.1	9.4	7.4	8.3	7.8	6.6	7.4	7.9
2009	(n = 101)	(n = 205)	(n = 42)	(n = 83)	(n = 233)	(n = 87)	(n = 83)	(n = 834)
Mean Number of Employers	3.3	3.6	3.8	4.2	3.7	4.2	4.7	3.8
Mean Years per Employer	10.5	8.7	6.6	7.5	8.4	6.9	5.8	8.2
2004	(n = 44)	(n = 99)	(n = 19)	(n = 36)	(n = 89)	(n = 41)	(n = 30)	(n = 358)
Mean Number of Employers	3.6	3.7	3.6	3.4	4.3	3.8	4.5	4.0
Mean Years per Employer	11.0	7.4	5.8	5.9	5.8	4.9	6.2	7.1
2000	(n = 195)	(n = 371)	(n = 103)	(n =136)	(n = 365)	(n = 198)	(n = 102)	(n = 1,470)
Mean Number of Employers	3.3	3.4	3.7	4.1	3.6	4.1	4.3	3.7
Mean Years per Employer	9.7	7.0	5.6	5.3	6.3	4.9	4.8	6.5

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government.

Section 2.6: Ratings of Workload by Pharmacists Working Full-Time

Tables 2.6.1 through 2.6.5 show pharmacists' ratings of workload. Overall, 66% of pharmacists in 2014 rated their workload level at their place of practice as high or excessively high. In 2009 and 2004, 68% and 54% of pharmacists rated their workload as high or excessively high, respectively (see Table 2.6.1). Furthermore, 64% of pharmacists who reported working full-time in 2014 reported that their workload increased or greatly increased compared to a year ago. This proportion was higher than in 2009 (61%) and 2004 (58%).

Across practice settings, the highest proportions of pharmacists rating their workload as high or extremely high were in chain (80%) and mass merchandiser (76%) pharmacy settings. The lowest proportions of pharmacists rating their workload as high or extremely high were in independent community (47%) and other patient care (53%) pharmacy settings, and in both of these settings there were lower proportions of pharmacists in 2014 rating their workload high, in contrast to the other settings where the proportions in 2014 and 2009 were similar or increased. These data are summarized in Figure 2.6.1.

Table 2.6.2 shows that males and females rated their workload level similarly. In terms of position, workload was rated similarly by management and staff pharmacists (see Table 2.6.3).

Table 2.6.4 summarizes the effects of current workload by gender on pharmacists. Of note is that 45% of pharmacists in 2014 reported that current workload had negative or very negative effects on mental/emotional health. This percentage has increased from 2009 (37%) and 2004 (30%). In addition, in 2014, 2009 and 2004, a larger proportion of males and females reported that their current level of workload had a negative or very negative effect on pharmacist- and patient- care–related issues relative to job-related issues (job performance, motivation to work at their pharmacy, and job satisfaction).

Tables 2.6.5 and 2.6.6 summarize effects of current workload on pharmacists working full-time by practice setting and position, respectively. In 2014 pharmacists working in chain (68%) and mass merchandiser settings (63%) indicated that their current workload had negative or very negative effects on the time spent with patients. Additionally, 78% and 72% of pharmacists working in chain and supermarket settings, respectively, indicated negative or very negative effects on the opportunity to take adequate breaks. Across a majority of practice settings, proportions in 2014 were higher than in 2009 and 2004. A similar conclusion of increased negative effects of workload on pharmacists between 2004 and 2014 is seen by position. Also, from 2004 to 2014, generally, a larger proportion of staff pharmacists rate the effects of workload as negative or very negative for each job-related, pharmacist-related, and patient-care–related item relative to pharmacists in management positions.

Table 2.6.1: Ratings of Workload by Pharmacists Working Full-Time by Practice Setting

	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2014	(n = 72)	(n = 228)	(n = 80)	(n = 95)	(n = 343)	(n = 178)	(n = 120)	(n = 1,116)
% Who Rate Workload Level at Their Pharmacy as High or Excessively High	47	80	76	68	63	53	73	66
% Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	49	76	75	64	57	62	61	64
2009	(n = 106)	(n = 226)	(n = 46)	(n = 92)	(n = 249)	(n = 92)	(n = 94)	(n = 905)
% Who Rate Workload Level at their Pharmacy as High or Excessively High	66	72	67	69	64	64	72	68
% Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	60	65	65	63	60	49	64	61
2004	(n = 124)	(n = 276)	(n = 45)	(n = 103)	(n = 264)	(n = 107)	(n = 13)	(n = 932)
% Who Rate Workload Level at their Pharmacy as High or Excessively High	43	59	42	35	61	56	58	54
% Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	48	57	49	46	64	67	75	58

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government.
In 2014 *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of clinic pharmacies, mail service, nursing home/long term care, specialty pharmacy, ambulatory care, other patient care, other, and home health/infusion. *Other* is defined as settings where pharmacists may not provide patient care and is a combination of MCO/PBM, education/academia and other non-patient care.

Figure 2.6.1

Proportion of Pharmacists Who Rated Workload as High or Excessively High (2014 vs. 2009 vs. 2004) by Work Setting

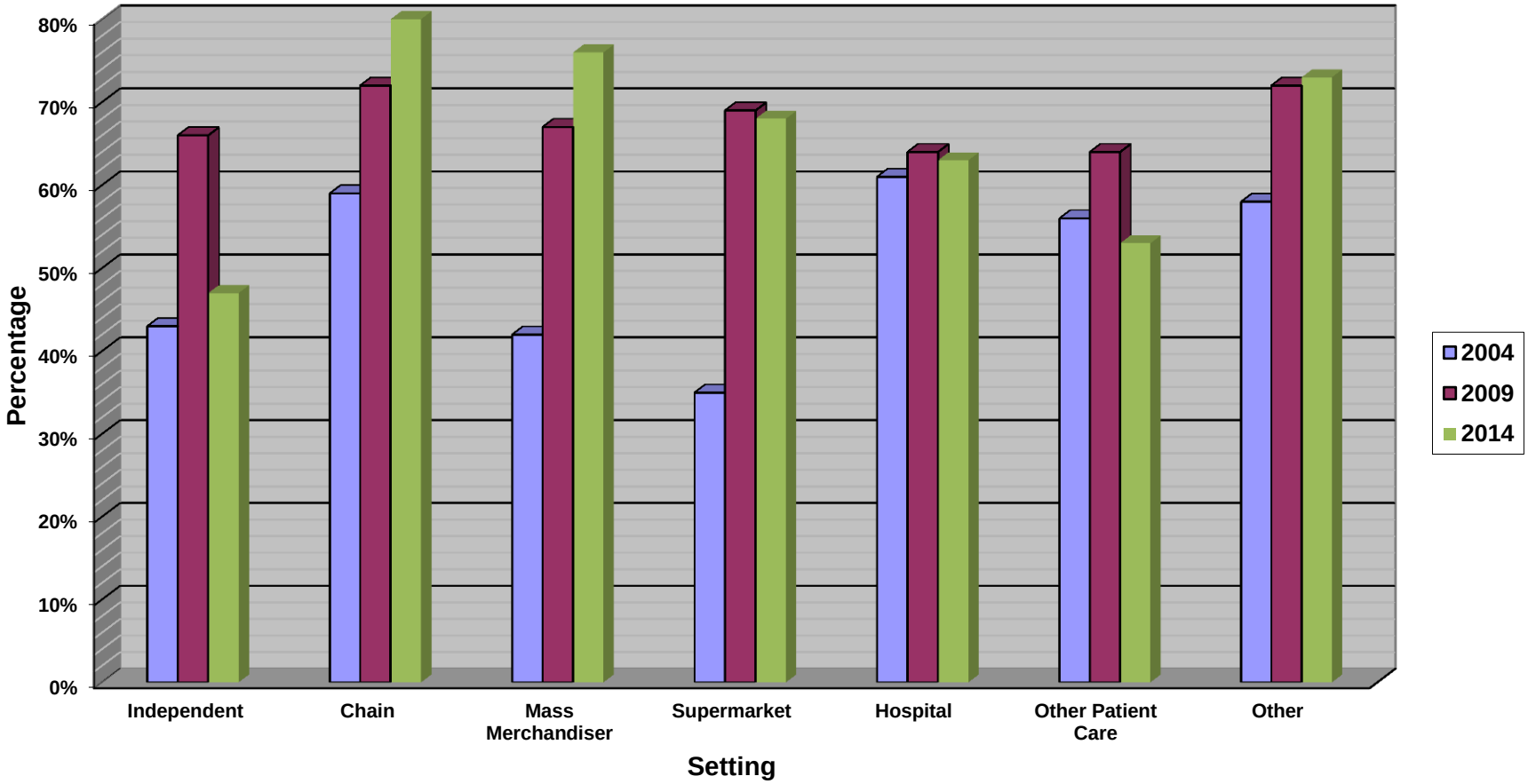


Table 2.6.2: Ratings of Workload by Pharmacists Working Full-Time by Gender

	Male	Female	Total
2014	(n = 492)	(n = 624)	(n = 1,116)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	62	70	66
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	59	67	64
2009	(n = 519)	(n = 386)	(n = 905)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	68	67	68
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	61	61	61
2004	(n = 525)	(n = 407)	(n = 932)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	54	53	54
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	55	61	58

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

Table 2.6.3: Ratings of Workload by Pharmacists Working Full-Time by Position

	Management	Staff	Total
2014	(n = 387)	(n = 459)	(n = 846)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	72	67	66
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	67	63	63
2009	(n = 406)	(n = 494)	(n = 900)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	68	67	68
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	63	60	61
2004	(n = 525)	(n = 407)	(n = 932)
Percentage Who Rate Workload Level at Their Pharmacy as High or Excessively High	54	53	54
Percentage Who Report That Workload Has Increased or Greatly Increased Compared to a Year Ago	55	61	58

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

Table 2.6.4: Effect of Current Workload on Pharmacists Working Full-Time by Gender

Effect Current Level of Workload in the Pharmacy Has on (reporting "negative" or "very negative" [%])	Male	Female	Total
2014	(n = 489)	(n = 621)	(n = 1,110)
Job Related			
Job Performance	26	29	28
Motivation to Work at This Pharmacy	30	34	32
Job Satisfaction	35	42	39
Pharmacist Related			
Mental/Emotional Health	38	50	45
Physical health	33	40	37
Opportunity to Take Adequate Breaks	49	59	55
Patient Care Related			
Time Spent in Contact with Patients	41	42	41
Quality of Care Provided to Patients	25	29	27
2009	(n = 519)	(n = 386)	(n = 905)
Job Related			
Job Performance	28	19	25
Motivation to Work at This Pharmacy	26	22	25
Job Satisfaction	34	29	31
Pharmacist Related			
Mental/Emotional Health	37	37	37
Physical health	31	33	32
Opportunity to Take Adequate Breaks	51	54	53
Patient Care Related			
Time Spent in Contact with Patients	41	37	39
Quality of Care Provided to Patients	29	25	27
Opportunity to Solve Drug Therapy Problems	30	26	29
Opportunity to Reduce Potential Errors	34	29	32
2004	(n = 525)	(n = 407)	(n = 932)
Job Related			
Job Performance	27	17	22
Motivation to Work at This Pharmacy	22	20	21
Job Satisfaction	28	26	27
Pharmacist Related			
Mental/Emotional Health	30	31	30
Physical health	26	27	27
Opportunity to Take Adequate Breaks	48	47	48
Patient Care Related			
Time Spent in Contact with Patients	36	32	35
Quality of Care Provided to Patients	29	23	27
Opportunity to Solve Drug Therapy Problems	34	31	33
Opportunity to Reduce Potential Errors	36	35	36

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. Effect of current level of workload in pharmacy on each aspect was measured using a five-point scale (1 = very negative, 2 = negative, 3 = neither negative nor positive, 4 = positive and 5 = very positive). The scale also has a "does not apply" option.

Note: The 2014 survey did not include the last two items related to patient care that were included in the 2009 and 2004 surveys.

Table 2.6.5: Effect of Current Workload on Pharmacists Working Full-Time by Practice Setting

Effect of Current Level of Pharmacy Workload on (reporting "negative" or "very negative" [%])	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other Non-Patient Care**	**Total**
2014	(n = 72)	(n= 228)	(n = 79)	(n = 95)	(n = 341)	(n = 178)	(n = 117)	(n = 1110)
Job Related								
Job Performance	18	41	39	28	25	23	19	28
Motivation to Work at This Pharmacy	22	49	39	35	29	24	21	32
Job Satisfaction	31	55	53	35	36	31	29	39
Pharmacist Related								
Mental/Emotional Health	31	57	60	44	41	39	38	45
Physical health	24	50	47	39	34	31	30	37
Opportunity to Take Adequate Breaks	44	78	68	72	49	40	32	55
Patient Care Related								
Time Spent in Contact with Patients	35	68	63	52	35	28	9	41
Quality of Care Provided to Patients	13	46	51	32	20	24	5	27
Effect of Current Level of Pharmacy Workload on (reporting "negative" or "very negative" [%])	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other Non-Patient Care**	**Total**
2009	(n = 106)	(n= 226)	(n = 46)	(n = 92)	(n = 249)	(n = 92)	(n = 94)	(n = 905)
Job Related								
Job Performance	24	32	26	26	22	23	14	25
Motivation to Work at This Pharmacy	21	31	37	29	22	21	12	25
Job Satisfaction	29	37	46	36	30	30	13	31
Pharmacist Related								
Mental/Emotional Health	39	42	52	41	35	30	21	37
Physical health	38	36	44	35	27	30	22	32
Opportunity to Take Adequate Breaks	59	65	59	69	43	39	34	53
Patient Care Related								
Time Spent in Contact with Patients	42	52	61	54	31	28	13	39
Quality of Care Provided to Patients	20	36	50	38	24	20	6	27
Opportunity to Solve Drug Therapy Problems	28	33	50	35	29	22	7	29
Opportunity to Reduce Potential Errors	28	37	39	38	34	28	12	32

Effect of Current Level of Pharmacy Workload on (reporting "negative" or "very negative" [%])	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other Non-Patient Care**	**Total**
2004	(n = 124)	(n= 163)	(n = 45)	(n = 103)	(n = 264)	(n = 107)	(n = 13)	(n = 932)
Job Related								
Job Performance	16	29	31	12	25	12	25	22
Motivation to Work at This Pharmacy	16	26	36	15	19	16	33	21
Job Satisfaction	19	32	36	22	28	20	33	27
Pharmacist Related								
Mental/Emotional Health	21	33	38	26	34	24	50	30
Physical health	20	31	44	24	25	23	25	27
Opportunity to Take Adequate Breaks	43	62	53	52	41	27	18	48
Patient Care Related								
Time Spent in Contact with Patients	29	45	47	26	33	25	27	35
Quality of Care Provided to Patients	21	32	36	18	30	23	0	27
Opportunity to Solve Drug Therapy Problems	24	37	42	24	38	26	18	33
Opportunity to Reduce Potential Errors	29	39	40	20	46	28	18	36

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government Effect of current level of workload in pharmacy on each aspect was measured using a five-point scale (1 = very negative, 2 = negative, 3 = neither negative nor positive, 4 = positive, and 5 = very positive). The scale also has a "does not apply" option.
The 2014 survey did not include the last two items related to patient care that were included in the 2009 and 2004 surveys.

Table 2.6.6: Effect of Current Workload on Pharmacists Working Full-Time by Position

Effect of Current Level of Pharmacy Workload on (reporting "negative" or "very negative" [%])	Management	Staff	Total
2014	(n = 427)	(n = 681)	(n = 1,108)
Job Related			
Job Performance	26	29	28
Motivation to Work at This Pharmacy	27	35	32
Job Satisfaction	32	43	39
Pharmacist Related			
Mental/Emotional Health	41	47	45
Physical health	33	39	37
Opportunity to Take Adequate Breaks	55	54	55
Patient Care Related			
Time Spent in Contact with Patients	39	43	41
Quality of Care Provided to Patients	23	30	27
2009	(n = 406)	(n = 494)	(n = 900)
Job Related			
Job Performance	24	25	25
Motivation to Work at This Pharmacy	23	26	24
Job Satisfaction	28	34	31
Pharmacist Related			
Mental/Emotional Health	38	36	37
Physical health	33	31	32
Opportunity to Take Adequate Breaks	55	50	52
Patient Care Related			
Time Spent in Contact with Patients	40	39	40
Quality of Care Provided to Patients	26	29	27
Opportunity to Solve Drug Therapy Problems	29	29	29
Opportunity to Reduce Potential Errors	29	34	32
2004	(n = 302)	(n = 567)	(n = 934)
Job Related			
Job Performance	20	24	22
Motivation to Work at This Pharmacy	18	22	21
Job Satisfaction	25	28	27
Pharmacist Related			
Mental/Emotional Health	29	31	30
Physical health	26	27	26
Opportunity to Take Adequate Breaks	50	46	48
Patient Care Related			
Time Spent in Contact with Patients	33	36	35
Quality of Care Provided to Patients	23	29	27
Opportunity to Solve Drug Therapy Problems	30	35	33
Opportunity to Reduce Potential Errors	32	38	36

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting. *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers. Effect of current level of workload in pharmacy on each aspect was measured using a five-point scale (1 = very negative, 2 = negative, 3 = neither negative nor positive, 4 = positive, and 5 = very positive). The scale also has a "does not apply" option.
The 2014 survey did not include the last two items related to patient care that were included in the 2009 and 2004 surveys.

Section 2.7: Debt Load for Pharmacists Working Full-Time

Pharmacist respondents were asked questions about the amount of their student loan debt when they graduated from pharmacy school and their current level of student loan debt. Tables 2.7.1 and 2.7.2 summarize this information for pharmacists working full-time and by gender.

In 2014, pharmacists reported an average current student loan debt of $18,131 compared to $38,136 when they graduated. This compares to current student loan debt of $4,224 in 2009, compared to $14,936 when they graduated from pharmacy school and $3,782 and $11,848, respectively in 2004 (Table 2.7.1). Pharmacists with five years or less of experience reported an average student loan debt of $108,407 when they graduated and a current student loan debt of $76,791. In 2009, these figures were $79,895 and $61,667, respectively, and in 2004 these figures were $42,600 and $28,854. In 2014 only 11% of respondents with five years or less in practice reported having zero student loan debt at time of graduation and 32% reported no student loan debt currently.

Females tended to have more student loan debt than males (Table 2.7.2). In 2014, males had an average of $31,553 upon graduation and females had an average of $43,258. This compares to $12,012 and $19,453, respectively in 2009 and $8,102 and $16,493 in 2004.

Table 2.7.1: Debt Load for Pharmacists Actively Practicing and Working Full-Time by Years of Experience

2014	≤5 Years	6-10 Years	11-15 Years	16-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	41-45 Years	>45 Years	Total
Total Student Loan Debt Amount at Time of Graduation from Pharmacy School (mean $ amount)	n = 138 $108,407	n = 157 $76,148	n = 123 $50,276	n = 105 $27,852	n = 124 $13,900	n = 129 $9,760	n = 126 $6,365	n = 112 $3,951	n = 32 $1,819	n = 13 $308	n = 1,059 $38,136
Zero ($0) Student Loan Debt at Time of Graduation (%)	11	14	16	22	39	33	51	59	66	85	31
Total Student Loan Debt Currently (mean $ amount)	$76,791	$43,123	$14,648	$1,542	$363	$0	$317	$0	$0	$0	$18,131
Zero ($0) Student Loan Debt Currently (%)	32	34	67	92	99	100	99	100	100	100	77
2009	**≤5 Years**	**6-10 Years**	**11-15 Years**	**16-20 Years**	**21-25 Years**	**26-30 Years**	**31-35 Years**	**36-40 Years**	**41-45 Years**	**>45 Years**	**Total**
Approximate Total Household Debt (e.g., Mortgage, Student Loans, Car Loans, Consumer Debt, Etc.) (mean $ amount)	n = 19 $221,280	n = 76 $270,647	n = 88 $174,477	n = 93 $196,225	n = 96 $174,767	n = 119 $118,233	n = 148 $97,876	n = 103 $102,240	n = 43 $73,263	n = 15 $153,714	n = 800 $149,038
Zero ($0) Household Debt (%)	12	5	18	4	15	21	29	36	50	57	22
Total Student Loan Debt Amount at Time of Graduation from Pharmacy School (mean $ amount)	$79,895	$47,118	$27,097	$15,155	$12,890	$6,456	$3,966	$2,698	$990	$400	$14,936
Zero ($0) Student Loan Debt at Time of Graduation (%)	5	20	23	34	40	42	62	64	77	87	45
Total Student Loan Debt Currently (mean $ amount)	$61,667	$23,368	$4,998	$247	$0	$0	$176	$0	$0	$0	$4,224
Zero ($0) Student Loan Debt Currently (%)	17	46	84	98	100	100	99	100	100	100	91

2004	≤5 Years	6-10 Years	11-15 Years	16-20 Years	21-25 Years	26-30 Years	31-35 Years	36-40 Years	41-45 Years	>45 Years	Total
Approximate Total Household Debt (e.g., Mortgage, Student Loans, Car Loans, Consumer Debt, Etc.) (mean $ amount)	n = 72 $184,129	n = 123 $163,675	n = 119 $137,472	n = 91 $141,792	n = 130 $136,198	n = 139 $106,555	n = 81 $121,500	n = 50 $72,351	n = 22 $56,845	n = 12 $70,786	n = 839 $131,247
Zero ($0) Household Debt (%)	2	6	8	12	11	12	15	22	41	64	12
Total Student Loan Debt Amount at Time of Graduation from Pharmacy School (mean $ amount)	$42,600	$24,889	$10,975	$9,744	$5,859	$3,397	$2,334	$1,161	$432	$0	$11,848
Zero ($0) Student Loan Debt Amount at Time of Graduation (%)	20	26	37	39	40	58	64	71	86	100	45
Total Student Loan Debt Currently (mean $ amount)	$28,854	$6,822	$525	$77	$77	$633	$1,099	$0	$0	$0	$3,782
Zero ($0) Student Loan Debt Currently (%)	28	69	94	98	99	98	96	100	100	100	87

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

Table 2.7.2: Debt Load for Pharmacists Actively Practicing and Working Full-time by Gender

	2014			2009			2004		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
	(n = 463)	(n = 607)	(n = 1,070)	(n = 406)	(n = 288)	(n = 694)	(n = 479)	(n = 377)	(n = 856)
Total Student Loan Debt Amount at Time of Graduation from Pharmacy School (mean $ amount)	$31,553	$43,258	$38,193	$12,012	$19,453	$15,123	$8,102	$16,493	$11,772
Zero ($0) Student Loan Debt at Time of Graduation (mean $ amount) [%]	35	28	32	49	40	44.7	52	36	45
Total Student Loan Debt Currently	$14,842	$20,658	$18,127	$3,395	$5,653	$4,361	$2,527	$5,272	$3,132
Zero ($0) Student Loan Debt Currently (%)	83	72	77	93	87	90.5	92	82	88%

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

SECTION 3

PHARMACISTS' WORK ACTIVITIES AND WORK ENVIRONMENT

Section 3.1: Work Activities for Pharmacists Working Full-Time

Although the definitions for work activities were consistent between the 2014 and 2009 studies, the titles for "Medication Dispensing" and "Patient Care Services" activities were altered slightly from the 2009 survey. The work activity titled "Medication Dispensing" in 2009 was changed to "Patient Care Services Associated with Medication Dispensing" in 2014. Similarly, "Patient Care Services" was changed to "Patient Care Services Not Associated with Medication Dispensing" in 2014. These changes were made both to recognize the patient care services that are included within the medication dispensing function and to distinguish these services from non-dispensing activities.

For 2014 and 2009, the work activities are defined below.

- **Patient Care Services Associated with Medication Dispensing:** preparing, distributing, and administering medication products, including associated consultation, interacting with patients about selection and use of over-the-counter products, and interactions with other professionals during the medication-dispensing process.
- **Patient Care Services Not Associated with Medication Dispensing:** assessing and evaluating patient medication-related needs, monitoring and adjusting patients' treatments to attain desired outcome, and other services designed for patient care management.
- **Business/Organization Management:** managing personnel, finances and systems.
- **Research:** discovery, development and evaluation of products, services and/or ideas.
- **Education:** teaching, precepting, and mentoring of students/trainees/technicians.
- **Other Activities:** any activities not described in other categories.

For reference and context, the work activities for 2000 and 2004 are listed below.

- **Medication Dispensing:** preparing, dispensing, distributing and administering medications (traditional dispensing and medication distribution activities).
- **Consultation:** consulting and communicating with patients about prescription medications; interacting/communicating with other health professionals on patient's behalf (via phone, face-to-face, etc.); patient/provider education.
- **Drug Use Management:** assessing and evaluating patient medication-related needs; monitoring and adjusting treatment to attain desired outcomes.
- **Business Management:** managing pharmacy personnel, finances and systems; processing and reconciling third-party claims; other business-management activities.
- **Other:** teaching, precepting, research, etc.

We also inquired if the pharmacists felt that their time in each particular category of work activity was more, the same or less when compared to a year ago. Tables 3.1.1 through 3.1.9 present these results.

Table 3.1.1 shows that, overall, full-time pharmacists in 2014 devoted 49% of their time to patient care services associated with medication dispensing, 21% of their time to patient care services not associated with medication dispensing, 13% to business/organization management, 7% to education, 4% to research, and 6% to other activities. In 2009, pharmacists devoted 55% of their time to medication dispensing, 16% to patient care services, 14% to business/organization management, 5% to education, 4% to research, and 5% to other activities. In 2014, on average, pharmacists practicing in community pharmacy settings

(independent, chain, mass merchandiser, or supermarket pharmacies), devoted at least 68% of their time to patient care services associated with medication dispensing and 11.8% of their time in patient care services not associated with medication dispensing. Hospital and other patient care pharmacists devoted 43% of their time to patient care services associated with medication dispensing and these pharmacists devoted 30% of their time to patient care on average. Pharmacists in other (non-patient care) and industry settings exhibited a different pattern of work activities including business/organization management (28.5% of their time, on average), research (25%), and other activities (25%). The amount of time spent in various activities in 2014 were very similar to 2009, with a slight increase in patient care services not associated with medication dispensing (+2.0%) and a decrease (-6.3%) in patient care services associated with medication dispensing in community pharmacy settings.

As shown in Table 3.1.1, the majority of pharmacists reported in 2014 that they spent nearly the same amount of time in each activity as in 2009, but it is interesting to note that even though the percentage of time spent in each activity did not change much between 2014 and 2009, an average of 35.3% of the respondents in community pharmacy settings indicated that the amount of time spent over the last year in patient care services not associated with medication dispensing was much more.

For context and comparison, Table 3.1.2 summarizes data from 2004 and 2000.

Tables 3.1.3 through 3.1.6 show these findings for respondents categorized by gender and position. In 2014, females spent slightly less time in patient care services associated with medication dispensing and business/organization management and slightly more time in patient care services not associated with medication dispensing, education and other activities. Compared to a year ago, females indicated that they spend more time than males on each of the categories (except patient care services associated with medication dispensing). These patterns of response are similar to 2009. For context and comparison, Table 3.1.4 contains data from 2004 and 2000.

As expected, staff pharmacists spent more time in dispensing and patient care services and less time in business/organization management than those in management positions (Table 3.1.5). It is interesting to note that when compared to 2009, staff pharmacists are spending less of their time in medication dispensing (52% in 2014 versus 60% in 2009) and more time in patient care services (27% in 2014 versus 21% in 2009). For context and comparison, Table 3.1.6 contains data from 2004 and 2000.

Although pharmacists are spending more time in patient care services not associated with medication dispensing and less time in patient care services associated with medication dispensing, the findings suggest that they are feeling busier in each area. That is, they feel like they need to spend more time in patient care services not associated with dispensing, but still continue to increase their productivity in the medication dispensing domain.

When one considers changes between 2014 and 2009 in the proportion of time devoted to patient care services not associated with medication dispensing, hours worked per week, and expansion of residency training from 2009 to 2014, it is clear that pharmacist capacity for patient care services not associated with medication dispensing increased between 2009 and 2014. However, there remains a need for, and segment of, pharmacists devoted to specialty practices, dispensing, and patient care services which are delivered at the point-of-care.

Tables 3.1.7 through 3.1.9 show these same analyses but with part-time pharmacists included. The most striking difference is the percentage of time spent in patient care services associated with medication dispensing is greater in all settings and by gender. This indicates that most pharmacists in part-time positions are contributing to the provision of medication dispensing regardless of employment setting or gender.

Table 3.1.1: Actual Work Activities for Pharmacists Working Full-time by Practice Setting (2014 and 2009)

Actual Amount of Time Spent (percentage of week; mean +/–SD)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other Non-Patient Care	Industry	Total
	(n = 75)	(n = 228)	(n = 77)	(n = 95)	(n = 341)	(n = 178)	(n = 93)	(n = 30)	(n = 1,117)
Patient Care Services Associated with Medication Dispensing	64+/–25	67+/–20	71+/–16	70+/–20	41+/–31	45+/–36	5+/–16	0+/–0	49+/–33
Patient Care Services Not Associated with Medication Dispensing	13+/–10	13+/–12	11+/–11	10+/–9	33+/–26	27+/–32	15+/–28	3+/–13	21+/–24
Business/Organization Management	14+/–19	11+/–13	10+/–10	10+/–11	11+/–23	15+/–25	27+/–33	30+/–36	13+/–22
Education	5+/–7	5+/–6	6+/–6	8+/–9	7+/–7	6+/–8	12+/–20	8+/–14	7+/–9
Research/Scholarship	2+/–4	1+/–3	0.3+/–1	0.6+/–2	3+/–7	2+/–6	18+/–29	32+/–36	4+/–13
Other Activities	3+/–8	3+/–7	1+/–4	1+/–4	4+/–15	6+/–17	22+/–35	28+/–38	6+/–18
Compared to a Year Ago, Percentage of Time Spent	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other Non-Patient Care**	**Industry**	**Total**
2014	(n = 72)	(n = 227)	(n = 75)	(n = 94)	(n = 333)	(n = 175)	(n = 90)	(n = 26)	(n = 1,092)
Patient Care Services Associated with Medication Dispensing									
More	19%	27%	21%	20%	16%	14%	3%	0%	18%
Same	63%	55%	57%	64%	66%	74%	88%	100%	67%
Less	18%	18%	21%	16%	18%	13%	9%	0%	16%
Patient Care Services Not Associated with Medication Dispensing									
More	24%	38%	42%	37%	26%	11%	8%	4%	26%
Same	69%	50%	50%	54%	66%	77%	84%	96%	65%
Less	7%	11%	8%	10%	9%	12%	8%	0%	9%
Business/Organization Management									
More	23%	32%	25%	30%	11%	15%	16%	7%	20%
Same	73%	61%	74%	64%	84%	76%	77%	74%	74%
Less	4%	7%	1%	6%	5%	10%	7%	6%	6%
Education									
More	16%	15%	13%	22%	17%	10%	15%	11%	15%
Same	72%	72%	79%	70%	74%	78%	80%	86%	75%
Less	12%	13%	8%	8%	9%	12%	6%	4%	10%

Research/Scholarship									
More	6%	1%	0%	2%	6%	5%	8%	11%	4%
Same	87%	91%	94%	92%	88%	89%	85%	89%	89%
Less	7%	8%	6%	6%	6%	5%	7%	0%	6%
Other Activities									
More	11%	18%	10%	12%	9%	8%	12%	4%	11%
Same	88%	82%	87%	89%	88%	88%	84%	96%	87%
Less	2%	1%	3%	0%	3%	4%	4%	0%	2%
Actual Amount of Time Spent (percentage of week; mean +/–SD)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**		**Total**
2009	(n = 104)	(n = 224)	(n = 46)	(n = 90)	(n = 247)	(n = 90)	(n = 88)		(n = 889)
Medication Dispensing	70+/–17	74+/–20	75+/–22	78+/–18	43+/–35	42+/–34	4+/–15		55+/–34
Patient Care Services	11+/–9	11+/–11	9+/–9	8+/–9	27+/–27	27+/–29	7+/–19		16+/–21
Business/Organization Management	12+/–11	10+/–14	9+/–14	9+/–14	15+/–26	18+/–28	27+/–32		14+/–22
Education	3+/–3	3+/–5	5+/–5	2+/–3	6+/–8	3+/–5	12+/–20		5+/–9
Research	2+/–6	1+/–3	1+/–3	1+/–3	3+/–6	3+/–7	27+/–30		4+/–13
Other Activities	2+/–7	1+/–7	1+/–2	1+/–4	6+/–17	8+/–23	23+/–36		5+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. For 2009, it was a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government. For 2014, Industry was separated into its own category.

Definitions for Work Activities were the same in 2014 and 2009. However, the variable labels differed slightly as described below.

- Patient Care Services Associated with Medication Dispensing (2014)/Medication Dispensing (2009): preparing, distributing, and administering medication products, including associated consultation, interacting with patients about selection and use of over-the-counter products, and interactions with other professionals during the medication dispensing process.
- Patient Care Services Not Associated with Medication Dispensing (2014)/Patient Care Services (2009): assessing and evaluating patient medication-related needs, monitoring and adjusting patients' treatments to attain desired outcome, and other services designed for patient care management.
- Business/Organization Management (2014 and 2009): managing personnel, finances, and systems.
- Research/Scholarship (2014)/Research (2009): discovery, development, and evaluation of products, services, and/or ideas.
- Education (2014 and 2009): teaching, precepting and mentoring of students/trainees.
- Other Activities (2014 and 2009): any activities not described in other categories.

Table 3.1.2: Actual Work Activities for Pharmacists Working Full-Time by Practice Setting (2004 and 2000)

Actual Amount of Time Spent (percentage of day; mean +/–SD)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2004	(n = 124)	(n = 276)	(n = 45)	(n = 103)	(n = 264)	(n = 107)	(n = 13)	(n = 932)
Consultation	19+/–13	18+/–13	23+/–16	20+/–13	18+/–18	23+/–23	23+/–21	19+/–16
Drug-Use Management	8+/–10	9+/–10	9+/–7	8+/–8	20+/–20	16+/–20	15+/–12	13+/–15
Business Management	16 +/–15	16+/–15	15+/–11	14+/–12	17+/–28	12+/–22	16+/–26	16+/–20
Medication Dispensing	56 +/–23	54+/–22	53+/–22	55+/–22	37+/–31	45+/–32	26+/–31	49+/–27
Other Activities	1+/–3	3+/–7	1+/–2	3+/–12	5+/–10	4+/–9	20+/–23	4+/–9
2000	(n = 193)	(n = 355)	(n = 101)	(n = 136)	(n = 197)	(n = 145)	(n = 12)	(n = 1,139)
Consultation	19+/–13	19+/–12	20+/–14	19+/–12	19+/–15	20+/–17	25+/–15	19+/–14
Drug-Use Management	8+/–7	9+/–9	9+/–8	8+/–8	17+/–15	14+/–17	13+/–13	11+/–12
Business Management	18+/–14	15+/–13	16+/–14	17+/–13	18+/–27	21+/–26	17+/–20	17+/–17
Medication Dispensing	55+/–21	57+/–22	55+/–23	56+/–20	46+/–29	45+/–28	45+/–23	53+/–24
Other Activities*								

Note: Results based on respondents who provided information for a minimum set of variables in the core survey. Full-time pharmacists worked more than 30 hours weekly in their primary employment setting.

*We did not include the category “Other Activities” in the 2000 survey instrument.

Table 3.1.3: Actual Work Activities for Pharmacists Working Full-Time by Gender (2014 and 2009)

Actual Amount of Time Spent (percentage of week; mean+/–SD)	**Male**	**Female**	**Total**
2014	(n = 484)	(n = 636)	(n = 1120)
Patient Care Services Associated with Medication Dispensing	52+/–33	47+/–33	49+/–33
Patient Care Services Not Associated with Medication Dispensing	19+/–22	23+/–26	21+/–24
Business/Organization Management	16+/–24	12+/–20	13+/–22
Education	6+/–8	8+/–10	7+/–9
Research/Scholarship	4+/–13	4+/–13	4+/–13
Other Activities	4+/–14	7+/–20	6+/–18
	Male	**Female**	**Total**
Compared to a Year Ago, Percentage of Time Spent	(n = 473)	(n = 622)	(n = 1095)
2014			
Patient Care Services Associated with Medication Dispensing			
More	20%	16%	18%
Same	65%	68%	67%
Less	15%	17%	16%
Patient Care Services Not Associated with Medication Dispensing			
More	25%	27%	26%
Same	65%	64%	65%
Less	11%	8%	9%
Business/Organization Management			
More	19%	20%	20%
Same	75%	73%	74%
Less	6%	6%	6%
Education			
More	14%	16%	15%
Same	76%	74%	75%
Less	11%	9%	10%
Research/Scholarship			
More	4%	5%	4%
Same	88%	91%	89%
Less	8%	5%	6%
Other Activities			
More	9%	13%	11%
Same	89%	85%	87%
Less	2%	2%	2%
Actual Amount of Time Spent (percentage of week; mean+/–SD)	**Male**	**Female**	**Total**
2009	(n = 510)	(n = 379)	(n = 889)
Medication Dispensing	57+/–35	53+/–34	55+/–34
Patient Care Services	14+/–20	20+/–22	16+/–21
Business/Organization Management	17+/–25	11+/–17	14+/–22
Education	4+/–8	6+/–10	5+/–9
Research	4+/–11	5+/–14	4+/–13
Other Activities	5+/–17	6+/–18	5+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer

Table 3.1.4: Actual Work Activities for Pharmacists Working Full-Time by Gender (2004 and 2000)

Actual Amount of Time Spent (percentage of day; mean+/–SD)	Male	Female	Total
2004	(n = 525)	(n = 407)	(n = 932)
Consultation	17+/–14	22+/–18	19+/–16
Drug Use Management	11+/–14	15+/–16	13+/–15
Business Management	17+/–21	13+/–18	16+/–20
Medication Dispensing	51+/–27	46+/–28	49+/–27
Other Activities	3+/–9	4+/–9	4+/–9
2000	(n = 692)	(n = 447)	(n = 1,139)
Consultation	17+/–12	23+/–15	19+/–14
Drug Use Management	10+/–11	12+/–13	11+/–12
Business Management	18+/–20	15+/–17	17+/–17
Medication Dispensing	55+/–24	50+/–23	53+/–24
Other Activities*			

Note: Results based on respondents who provided information for a minimum set of variables in the core survey. Full-time pharmacists worked more than 30 hours weekly in their primary employment setting.
*We did not include the category "Other Activities" in the 2000 survey instrument.

Table 3.1.5: Actual Work Activities for Pharmacists Working Full-Time by Position (2014 and 2009)

Actual Amount of Time Spent (percentage of week; mean+/–SD)	**Management**	**Staff**	**Total**
2014	(n = 429)	(n = 685)	(n = 1,114)
Patient Care Services Associated with Medication Dispensing	45+/–33	52+/–33	49+/–33
Patient Care Services Not Associated with Medication Dispensing	11+/–13	27+/–27	21+/–24
Business/Organization Management	27+/–29	5+/–9	14+/–22
Education	7+/–9	7+/–9	7+/–9
Research/Scholarship	5+/–16	3+/–11	4+/–13
Other Activities	5+/–15	6+/–19	6+/–18
Compared to a Year Ago, Percentage of Time Spent	**Management**	**Staff**	**Total**
2014	(n = 416)	(n = 676)	(n = 1,092)
Patient Care Services Associated with Medication Dispensing			
More	18%	17%	18%
Same	68%	66%	67%
Less	14%	17%	16%
Patient Care Services Not Associated with Medication Dispensing			
More	25%	27%	26%
Same	67%	63%	64%
Less	8%	10%	9%
Business/Organization Management			
More	29%	14%	20%
Same	63%	81%	74%
Less	8%	6%	6%
Education			
More	16%	15%	15%
Same	74%	76%	75%
Less	11%	10%	10%
Research/Scholarship			
More	4%	5%	4%
Same	89%	90%	89%
Less	7%	6%	6%
Other Activities			
More	11%	12%	11%
Same	87%	86%	87%
Less	2%	3%	2%

Actual Amount of Time Spent (percentage of week; mean +/–SD)	**Management**	**Staff**	**Total**
2009	(n = 399)	(n = 486)	(n = 885)
Medication Dispensing	50+/–33	60+/–35	55+/–34
Patient Care Services	11+/–13	21+/–25	16+/–21
Business/Organization Management	25+/–26	5+/–11	14+/–22
Education	5+/–9	5+/–9	5+/–9
Research	5+/–13	4+/–12	4+/–13
Other Activities	4+/–15	6+/–20	5+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

Table 3.1.6: Actual Work Activities for Pharmacists Working Full-Time by Position (2004 and 2000)

Actual Amount of Time Spent (percentage of day; mean+/–SD)	Management	Staff	Total
2004	(n = 302)	(n = 567)	(n = 934)
Consultation	17+/–14	21+/–17	19+/–16
Drug Use Management	10+/–12	15+/–17	13+/–15
Business Management	26+/–25	9+/–13	16+/–20
Medication Dispensing	44+/–25	52+/–28	49+/–27
Other Activities	3+/–9	4+/–9	4+/–9
2000	(n = 513)	(n = 626)	(n =1,139)
Consultation	18+/–13	20+/–14	19+/–14
Drug Use Management	9+/–9	12+/–13	11+/–12
Business Management	24+/–22	11+/–13	17+/–17
Medication Dispensing	49+/–25	57+/–22	53+/–24
Other Activities*			

Note: Results based on respondents who provided information for a minimum set of variables in the core survey. Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

*We did not include the category "Other Activities" in the 2000 survey instrument.

Table 3.1.7 Actual Work Activities for Pharmacists Working Full-Time and Part-Time by Practice Setting

Actual Amount of Time Spent (percentage of week; mean+/–SD)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other Non-Patient Care	Industry	Total
2014	(n = 132)	(n = 263)	(n = 99)	(n = 115)	(n = 407)	(n = 222)	(n = 108)	(n = 32)	(n = 1,378)
Patient Care Services Associated with Medication Dispensing	69+/–24	68+/–21	73+/–18	73+/–19	43+/–32	45+/–36	6+/–19	3+/–14	51+/–34
Patient Care Services Not Associated with Medication Dispensing	12+/–11	13+/–12	11+/–11	9+/–9	33+/–27	27+/–31	15+/–27	3+/–13	21+/–24
Business/Organization Management	10+/–16	10+/–13	8+/–9	9+/–11	10+/–22	13+/–24	26+/–33	28+/–35	12+/–21
Education	5+/–9	6+/–6	6+/–6	7+/–8	7+/–7	6+/–7	12+/–21	7+/–14	7+/–9
Research/Scholarship	2+/–4	1+/–3	0.4+/–2	0.6+/–2	2+/–7	2+/–6	19+/–31	30+/–36	4+/–13
Other Activities	3+/–8	3+/–9	2+/–11	1+/–4	5+/–15	6+/–18	22+/–36	29+/–39	6+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. For 2009, it was a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government. For 2014, Industry was separated into its own category.

Table 3.1.8 Actual Work Activities for Pharmacists Working Full-Time and Part-Time by Gender

Actual Amount of Time Spent (percentage of week; mean+/–SD)	**Male**	**Female**	**Total**
2014	(n = 599)	(n = 783)	(n = 1,382)
Patient Care Services Associated with Medication Dispensing	55+/–34	49+/–33	52+/–34
Patient Care Services Not Associated with Medication Dispensing	18+/–22	23+/–26	20+/–24
Business/Organization Management	14+/–23	10+/–19	12+/–21
Education	6+/–9	7+/–9	7+/–9
Research/Scholarship	4+/–13	4+/–13	4+/–13
Other Activities	5+/–16	7+/–19	6+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer

Table 3.1.9 Actual Work Activities for Pharmacists Working Full-Time and Part-Time by Position

Actual Amount of Time Spent (percentage of week; mean+/–SD)	Management	Staff	Total
2014	(n = 467)	(n = 906)	(n = 1,373)
Patient Care Services Associated with Medication Dispensing	44+/–33	55+/–33	51+/–34
Patient Care Services Not Associated with Medication Dispensing	11+/–14	25+/–27	21+/–24
Business/Organization Management	27+/–29	4+/–8	12+/–21
Education	7+/–9	7+/–10	7+/–9
Research/Scholarship	5+/–17	3+/–10	4+/–13
Other Activities	5+/–17	6+/–18	6+/–18

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

Section 3.2 Pharmacy Staffing

We asked respondents to report the numbers of different staff that are on duty during the greatest proportion of their workday. Table 3.2.1 and Table 3.2.2 contain information only for pharmacists working full-time.

In 2014 76% of pharmacists overall reported they worked with one or more pharmacists during their workday; a higher proportion of pharmacists in hospital settings (89%) worked with one or more pharmacists. These numbers compare to 63% overall and 87% of hospital pharmacists in 2004, the last time this question was included in the survey (Table 3.2.1). In community settings the percentages of pharmacists reporting that they worked with one or more pharmacists during the day ranged from 57% in chain pharmacies to 75% in mass merchandiser pharmacies. In 2004, more than half of independent (52%), chain (52%) and supermarket (61%) pharmacists did not work with another pharmacist. In 2004 overall 25% of pharmacists reported working with an intern, and that proportion was similar across all settings and similar to findings in 2004.

In 2014, approximately two-thirds of pharmacists in hospital pharmacy settings reported working with three or more technicians, up slightly from 2004. In 2014, on average, 23% of pharmacists in community settings, except in mass merchandiser settings, reported working with three or more technicians, whereas in 2004, less than 16%, on average, of pharmacists in community settings were working with three or more technicians. On average, 4%, of pharmacists in the community pharmacy setting in 2014 were working with other health care professionals. Extending comparisons back to 2000; a general trend has been for pharmacists to be working with more colleagues, predominantly support staff, but also sometimes peers, around them.

In 2014, slightly more female pharmacists worked with at least one additional pharmacist compared to males (78% versus 74%), respectively (Table 3.2.2). These proportions were 66% and 60%, and 64% and 58%, respectively in 2004 and 2000. Almost 80% of staff pharmacists work with at least one other pharmacist, compared to 70% of management pharmacists (Table 3.2.3). This is comparable to 67% of staff pharmacists and 56% of management pharmacists in 2004, and 65% of staff pharmacists and 55% of management pharmacists in 2000.

Table 3.2.1: Pharmacy Staff Working with Full-Time Pharmacists by Practice Setting

With Whom Pharmacists Typically Work in Proximity during a Majority of the Workday (%)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2014	(n = 85)	(n = 239)	(n = 92)	(n = 102)	(n = 367)	(n = 195)	(n = 51)	(n = 1,131)
≥1 pharmacist	69	57	75	63	89	85	80	76
≥1 student	28	26	27	25	51	35	39	36
≥1 resident	7	3	1	1	34	7	22	15
<1 technician	7	5	3	6	12	17	42	11
1 - 1.5 technicians	21	17	21	30	9	10	13	15
2 - 2.5 technicians	30	30	12	26	11	13	4	18
3 technicians	20	25	20	14	13	10	2	16
>3 technicians	22	23	44	24	54	50	39	40
≥1 health care practitioner (non-pharmacists)	7	4	3	2	20	30	35	15
2004	(n = 124)	(n = 276)	(n = 45)	(n = 103)	(n = 264)	(n = 107)	(n = 13)	(n = 932)
≥1 pharmacist	48	48	60	39	87	82	54	63
≥1 intern	15	28	24	24	27	25	31	25
≥1 resident	1	1	0	2	24	8	8	9
0 technicians	10	13	16	19	16	19	46	15
1 technician	22	20	18	28	8	13	8	17
2 technicians	36	27	27	29	13	10	23	22
3 technicians	19	19	22	13	11	9	8	15
>3 technicians	14	22	18	11	53	47	15	31
0 clerks	29	53	56	72	74	62	54	59
1 clerk	29	26	37	19	11	12	23	20
2 clerks	23	15	4	5	11	15	0	13
>2 clerks	19	7	4	4	5	11	23	8
≥1 health care practitioners (non-pharmacists)	6	1	0	0	20	24	46	10
2000	(n = 193)	(n = 355)	(n = 101)	(n = 136)	(n = 197)	(n = 145)	(n = 12)	(n = 1,139)
≥1 pharmacist	46	46	65	51	84	83	92	60
≥1 intern	12	13	11	10	16	19	17	14
0 technicians	24	13	5	24	7	10	8	14
1 technician	33	30	27	24	13	17	17	25

With Whom Pharmacists Typically Work in Proximity during a Majority of the Workday (%)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2 technicians	28	33	40	31	19	18	25	28
3 technicians	9	15	16	13	21	10	0	14
>3 technicians	16	9	12	8	40	45	50	19
0 clerks	44	48	35	66	71	55	50	53
1 clerk	33	32	36	26	15	17	25	27
2 clerks	14	16	16	7	7	10	17	12
>2 clerks	9	4	13	1	7	18	8	8

Note: *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. *Other* is defined as a setting where pharmacists may not provide patient care, and primarily includes industry, academia, managed care administrators, and government.

Table 3.2.2: Pharmacy Staff Working with Full-Time Pharmacists by Gender

With Whom Pharmacists Typically Work in Proximity during a Majority of the Workday (%)	Male	Female	Total
2014	(n = 397)	(n = 585)	(n = 982)
≥1 pharmacist	74	78	76
≥1 student	34	38	36
≥1 resident	16	14	15
<1 technician	9	12	11
1 - 1.5 technician	17	14	15
2 - 2.5 technicians	18	19	18
3 technicians	17	15	16
>3 technicians	39	40	40
≥1 health care practitioners (non-pharmacists)	13	16	15
2004	(n = 525)	(n = 407)	(n = 932)
≥1 pharmacist	60	66	63
≥1 intern	24	27	25
≥1 resident	6	11	9
0 technicians	15	15	15
1 technician	16	18	17
2 technicians	25	18	22
3 technicians	14	16	15
>3 technicians	30	33	31
0 clerks	56	62	59
1 clerk	21	19	20
2 clerks	14	11	13
>2 clerks	9	8	8
≥1 health care practitioners (non-pharmacists)	9	11	10
2000	(n = 692)	(n = 447)	(n = 1,139)
≥1 pharmacist	58	64	60
≥1 intern	13	15	14
0 technicians	14	14	14
1 technician	28	21	25
2 technicians	27	30	28
3 technicians	14	14	14
>3 technicians	17	21	19
0 clerks	52	55	53
1 clerk	27	25	27
2 clerks	13	11	12
>2 clerks	8	9	8

Table 3.2.3: Pharmacy Staff Working with Full-Time Pharmacists by Position

With Whom Pharmacists Typically Work in Proximity during a Majority of the Workday (%)	Management	Staff	Total
2014	(n = 363)	(n = 772)	(n = 1,135)
≥1 pharmacist	70	79	76
≥1 student	31	39	36
≥1 resident	7	18	15
<1 technician	6	13	11
1 - 1.5 technician	22	12	15
2 - 2.5 technicians	25	15	18
3 technicians	18	15	16
>3 technicians	29	45	40
≥1 health care practitioners (non-pharmacists)	9	18	15
2004	(n = 367)	(n = 567)	(n = 934)
≥1 pharmacist	56	67	63
≥1 intern	22	27	25
≥1 resident	5	11	9
0 technicians	12	17	15
1 technician	20	15	17
2 technicians	23	21	22
3 technicians	18	13	15
>3 technicians	27	34	31
0 clerks	51	64	59
1 clerk	23	18	20
2 clerks	16	11	13
>2 clerks	10	7	8
≥1 health care practitioners (non-pharmacists)	8	12	10
2000	(n = 513)	(n = 626)	(n = 1,139)
≥1 pharmacist	55	65	60
≥1 intern	16	11	14
0 technicians	15	13	14
1 technician	26	24	25
2 technicians	30	27	28
3 technicians	13	14	14
>3 technicians	16	22	19
0 clerks	53	53	53
1 clerk	29	25	27
2 clerks	11	13	12
>2 clerks	7	9	8

Note: *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

Section 3.3: Workplace Labor Reductions Reported by Pharmacists Working Full-Time

As in 2009, we asked pharmacists to report changes at their place of employment related to staffing or operations during the year prior to the survey, including (1) pharmacist layoffs, (2) mandatory reductions in pharmacist hours, (3) early retirement incentives for pharmacists, and (4) restructuring of pharmacist work schedules to save labor costs. Tables 3.3.1 through 3.3.3 display these results for both 2014 and 2009.

Table 3.3.1 shows that of the four workforce adjustments we described in this study, the most common workforce adjustment reported by pharmacists was "restructuring of pharmacist work schedules to save labor costs" (35%), followed by "mandatory reductions in pharmacist hours" (17%), "pharmacist layoffs" (9%), and "early retirement incentives for pharmacists" (6%). These proportions are all higher than in 2009 (26%, 13%, 6% and 4%, respectively). "Pharmacist layoffs" were most common in industry, other patient care and other (non-patient care) employment settings. "Restructuring of pharmacist work schedules" was more commonly reported by pharmacists practicing in chain and hospital settings. Also, "mandatory reductions in pharmacist hours" was more commonly reported by pharmacists practicing in chain pharmacies. One explanation for the differences across practice settings may be differences in organizational and staff sizes, adjustments in prescription dispensing volumes and in dispensing processes, and adjustments in service offerings or savings of labor costs. Tables 3.2.2 and 3.2.3 show that the pattern of the four workforce adjustments was similar for pharmacists categorized by gender and by position.

These results are reflective of changes pharmacist employers are making as they try to adjust to the ever-changing health care system and the pharmacy marketplace. The results in this section suggest pharmacist employers are cutting back on pharmacist staffing levels. These results, combined with results that show how pharmacists are reacting to workload in their environments, suggest that continued monitoring of these factors is important. The increased use of these strategies in 2014 may be a continued reaction to the recession in 2009 or just typical for the profession as it continually adjusts to other economic and professional developments.

Table 3.3.1: Labor Reductions in Workplace for Pharmacists Working Full-Time by Practice Setting

Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other Non-Patient Care	Industry	Total
2014	(n = 104)	(n = 292)	(n = 99)	(n = 113)	(n = 426)	(n = 223)	(n = 113)	(n = 29)	(n = 1,399)
Pharmacist Layoffs	5	6	8	6	8	15	12	21	9
Mandatory Reductions in Pharmacist Hours	(n = 104) 10	(n = 295) 27	(n = 98) 20	(n = 114) 18	(n = 426) 18	(n = 222) 14	(n = 113) 3	(n = 28) 4	(n = 1,400) 17
Early Retirement Incentives for Pharmacists	(n = 104) 1	(n = 294) 5	(n = 98) 3	(n = 113) 7	(n = 427) 7	(n = 222) 8	(113) 4	(n = 29) 10	(n = 1,400) 6
Restructuring of Pharmacist Work Schedules	(n = 104) 15	(n = 296) 41	(n = 99) 37	(n = 114) 32	(n = 427) 43	(n = 221) 32	(113) 14	(n = 28) 25	(n = 1,402) 35

Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2009								
Pharmacist Layoffs	(n = 105) 4	(n = 217) 7	(n = 45) 4	(n = 91) 7	(n = 244) 4	(n = 92) 7	(n = 90) 11	(n = 884) 6
Mandatory Reductions in Pharmacist Hours	(n = 103) 4	(n = 224) 25	(n = 46) 11	(n = 90) 17	(n = 246) 11	(n = 91) 9	(n = 88) 3	(n = 888) 13
Retirement Incentives for Pharmacists	(n = 103) 0	(n = 214) 7	(n = 46) 7	(n = 90) 2	(n = 244) 3	(n = 90) 2	(n = 89) 3	(n = 876) 4
Pharmacist Work Schedules	(n = 106) 9	(n = 224) 35	(n = 46) 22	(n = 92) 25	(n = 246) 34	(n = 92) 23	(n = 88) 7	(n = 894) 26

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government.

Table 3.3.2: Labor Reductions in Workplace for Pharmacists Working Full-Time by Gender

Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	**Male**	**Female**	**Total**
2014			
	(n = 612)	(n = 792)	(n = 1,404)
Pharmacist Layoffs	9	9	9
	(n = 614)	(n = 791)	(n = 1,405)
Mandatory Reductions in Pharmacist Hours	18	17	17
	(n = 614)	(n = 791)	(n = 1,405)
Early Retirement Incentives for Pharmacists	6	6	6
	(n = 615)	(n = 792)	(n = 1,407)
Restructuring of Pharmacist Work Schedules	36	34	35
Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	**Male**	**Female**	**Total**
2009			
	(n = 509)	(n = 375)	(n = 884)
Pharmacist Layoffs	6	7	6
	(n = 511)	(n = 377)	(n = 888)
Mandatory Reductions in Pharmacist Hours	12	15	13
	(n = 506)	(n = 370)	(n = 876)
Early Retirement Incentives for Pharmacists	3	4	4
	(n = 515)	(n = 379)	(n = 894)
Restructuring of Pharmacist Work Schedules	23	29	26

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.

Table 3.3.3: Labor Reductions in Workplace for Pharmacists Working Full-Time by Position

Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	**Management**	**Staff**	**Total**
2014			
Pharmacist Layoffs	(n = 435) 7	(n = 706) 11	(n = 1,141) 10
Mandatory Reductions in Pharmacist Hours	(n = 435) 17	(n = 706) 19	(n = 1,141) 18
Early Retirement Incentives for Pharmacists	(n = 434) 6	(n = 707) 6	(n = 1,141) 6
Restructuring of Pharmacist Work Schedules	(n = 447) 29	(n = 707) 42	(n = 1,144) 37
Proportion of Respondents Reporting Occurrence in the Workplace during the Past Year (%)	**Management**	**Staff**	**Total**
2009			
Pharmacist Layoffs	(n = 399) 6	(n = 482) 6	(n = 881) 6
Mandatory Reductions in Pharmacist Hours	(n = 397) 11	(n = 488) 15	(n = 885) 13
Early Retirement Incentives for Pharmacists	(n = 394) 3	(n = 479) 4	(n = 873) 4
Restructuring of Pharmacist Work Schedules	(n = 403) 22	(n = 488) 29	(n = 891) 26

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.

3.4 Current and Potential Service Provision at Practice Settings

In 2014 pharmacists reported which of 12 services were offered at their practice site. The services include (1) complex non-sterile compounding , (2) complex sterile compounding, (3) medication therapy management, (4) disease state management, (5) adjusting medication therapy, (6) health screening or coaching, (7) discharge counseling, (8) medication reconciliation, (9) immunization, (10) point of care testing, (11) ordering lab tests and (12) collaborative practice agreements. Pharmacists reported perceptions of innovativeness, the adequacy of resources available to offer new services and the extent of changes that occurred at their practice sites to provide services. Table 3.4.1 through Table 3.4.3 includes responses for pharmacists practicing full-time in patient care.

Overall, the most common services reported by pharmacists as offered at their practice sites were medication therapy management (60%), followed by immunization (53%) and adjusting medication therapy (52%) (Table 3.4.1). In 2004, only 13% of pharmacies offered medication therapy management services and 15% offered immunizations. These changes are most likely due to the requirements in health reform and pharmacies looking for new services that are reimbursable. In addition, 48% of pharmacists in chain sites and 57% of pharmacists in supermarket sites reported their pharmacies offer health screening or coaching. This compares to 7% and 27%, respectively, in 2004. Seventy-seven percent of hospitals offered medication reconciliation in 2014. Over 25% of other patient care and hospital pharmacies have collaborative practice agreements in place. All of these examples are significant changes in the amount of services offered across practice settings.

Perceptions of a practice site's innovativeness was measured with a summated scale of three items (rated on a five-point scale) which asked pharmacists the extent to which they agree with the following statements: (1) Our pharmacy is known as an innovator among pharmacies in our area; (2) We promote new, innovative services in our pharmacy and (3) Our pharmacy provides leadership in developing new services. Table 3.4.2 shows an overall mean score of 9.8 (SD = $\pm$3.8) in 2014. This score is slightly higher than in 2004 (mean = 9.6; SD = $\pm$2.7). Looking across all practice sites, innovativeness is slightly higher in all settings. These findings suggest that with the addition of new services, pharmacists perceive their practice setting to be more innovative.

Pharmacists were also asked to rate (excellent, very good, good, fair and poor) their practice sites on the adequacy of resources to develop and provide pharmacist and/or pharmacy services. Table 3.4.3 summarizes the overall ratings given by the pharmacists. In 2014, pharmacists reported that overall their practice sites had "good to very good" resources regarding their skills to provide services, resources to obtain payment for services and skills to market services. In 2004, pharmacists were more likely to give "fair to good" scores in these areas. The resource that did not change to a great extent in 10 years was staffing. Pharmacists reported in 2014 that staffing was "fair to good" for both pharmacist and technician staffing, which is slightly higher than in 2004. The difference between 2004 and 2014 most likely is due to restructuring of hours and staffing in pharmacies, which results in pharmacists feeling that they cannot "do any more." According to the results, pharmacists practicing in chain and mass merchandiser pharmacy sites felt the most strongly in this area. Pharmacists working in other patient care practice settings reported that they had more resources to offer new services, but also felt the burden of a lack of technician staffing to provide new services.

Pharmacists were asked to report how much (none, a little, a lot) various aspects or characteristics of their pharmacies had changed to provide innovative pharmacist and/or pharmacy services. Their responses are summarized in Table 3.4.4. Over one-third of pharmacists reported that in 2014 the emphasis on "patient (non-dispensing services), system for documenting patient care and access to electronic patient data had changed 'a lot' over the last two years." Over 70% of pharmacists felt that financial incentives for

pharmacists had “not changed at all” in the last two years. This proportion was higher for each practice setting in 2014 than it was in 2004.

Table 3.4.1: Services Offered in Practice Site Reported by Actively Practicing Pharmacists

Type of Service (percentage of pharmacists whose site offers each type of service)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Total**
2014	(n = 64)	(n = 240)	(n = 92)	(n = 102)	(n = 367)	(n = 157)	(n = 1,022)
Complex Non-sterile Compounding	51	18	10	10	32	31	26
Complex Sterile Compounding	16	3	0	1	53	37	27
Disease State Management	20	29	17	28	51	43	37
Medication Therapy Management	66	70	72	72	50	53	60
Adjusting Medication Therapy	30	26	22	24	85	62	52
Health Screening or Coaching	23	48	29	57	17	15	29
Immunization	55	95	92	93	19	21	53
Discharge Counseling	14	7	10	9	58	20	28
Medication Reconciliation	20	23	13	24	77	48	45
Point of Care Testing	3	20	6	12	15	14	14
Ordering Lab Tests	6	3	1	1	75	32	33
Collaborative Practice Agreements	19	8	3	14	37	25	14
2004	(n = 78)	(n = 137)	(n = 21)	(n = 37)	(n = 93)	(n = 46)	(n = 407)
General/Simple Compounding	89	87	86	92	77	74	84
Specialty/Complex Compounding	36	5	0	8	27	37	20
Drug Information Service	73	64	52	65	63	63	65
Durable Medical Equipment	63	15	10	14	10	17	23
Home Infusion	9	1	0	0	7	33	7
Immunization	10	11	10	43	16	13	15
Health Screening	18	7	10	27	12	7	12
Smoking Cessation	17	10	14	22	25	13	16
Mailed Refill Reminders	3	15	24	19	1	4	9
Medication Therapy Management	10	9	5	5	20	24	13
Nutritional Support	9	3	0	3	45	30	17
Pharmacy Newsletter	6	12	0	11	38	20	17
Pharmacokinetic Dosing	3	0	0	0	73	37	21
Veterinary Pharmacy	23	2	5	3	1	7	7
Wellness Screening	8	3	5	11	10	9	7
Other	14	6	10	5	9	13	9

Note: *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services.

Table 3.4.2: Characteristics of Practice Site (Entrepreneurial Orientation) Reported by Actively Practicing Pharmacists

	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Total
2014	(n = 102)	(n = 258)	(n = 102)	(n = 109)	(n = 397)	(n = 209)	(n = 1,179)
Innovativeness	9.9 (3.4)	10.6 (4.3)	8.7 (3.4)	9.3 (3.1)	10.8 (3.9)	11.8 (5.2)	9.8 (3.8)
2004	(n = 77)	(n = 132)	(n = 22)	(n = 36)	(n = 93)	(n = 45)	(n = 405)
Autonomy	10.5 (2.4)	8.9 (2.4)	8.7 (3.4)	9.2 (2.8)	8.8 (2.4)	9.6 (2.5)	9.3 (2.6)
Proactiveness	10.7 (2.3)	10.3 (2.3)	10.3 (2.5)	10.5 (2.3)	9.4 (2.3)	10.6 (2.7)	10.2 (2.4)
Innovativeness	9.8 (2.6)	9.9 (2.6)	8.3 (3.1)	9.0 (2.7)	9.5 (2.8)	10.4 (2.6)	9.6 (2.7)
Competitive Aggressiveness	9.0 (2.6)	10.3 (2.4)	10.5 (2.8)	9.6 (2.3)	8.3 (2.1)	9.6 (2.6)	9.5 (2.5)
Work Ethic	12.4 (1.7)	11.3 (2.0)	11.1 (1.9)	11.1 (2.2)	10.2 (2.6)	11.4 (1.8)	11.2 (2.2)
Risk Taking	8.9 (2.6)	8.4 (2.2)	8.2 (2.6)	7.9 (2.4)	7.9 (2.0)	8.5 (2.3)	8.3 (2.3)

Note: *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. Numbers in cells are means (standard deviations). Mean score based on scale of 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree, 5 = strongly agree. Each characteristic score is the sum of three items.

Table 3.4.3: Adequacy of Resources in Work Site for Pharmacy/Pharmacist Services Reported by Actively Practicing Pharmacists

	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Total
2014	(n = 101)	(n = 258)	(n = 103)	(n = 107)	(n = 398)	(n = 210)	(n = 1,179)
Skills to Provide Services	3.7 (1.5)	3.3 (1.3)	3.0 (1.4)	3.4 (1.4)	3.5 (1.2)	3.9 (1.7)	3.5 (1.5)
Financial Resources to Implement New Services	3.3 (2.1)	3.2 (2.2)	3.2 (2.3)	3.2 (2.5)	2.6 (1.7)	3.8 (2.4)	3.1 (2.2)
Expertise to Develop New Services	3.2 (1.9)	3.2 (1.8)	2.9 (1.9)	3.1 (1.8)	3.2 (1.4)	3.8 (2.1)	3.3 (1.9)
Pharmacist Staffing to Provide New Services	3.2 (2.0)	2.0 (1.5)	2.0 (1.4)	2.3 (1.7)	2.5 (1.4)	3.3 (2.2)	2.5 (1.9)
Technician Staffing to Provide New Services	3.3 (2.2)	1.9 (1.4)	2.0 (1.4)	2.3 (1.6)	2.5 (1.6)	3.7 (2.6)	2.5 (1.9)
Resources to Obtain Payment for Services	3.0 (2.1)	3.2 (2.3)	3.0 (2.0)	3.2 (2.2)	3.6 (3.0)	4.2 (3.0)	3.5 (2.6)
Skills to Market Services	2.8 (1.7)	3.0 (2.0)	2.8 (1.8)	3.0 (2.0)	3.9 (2.8)	4.2 (2.8)	3.5 (2.1)
2004	(n = 75)	(n = 135)	(n = 22)	(n = 36)	(n = 90)	(n = 45)	(n = 403)
Skills to Provide Services	3.5 (1.0)	3.2 (0.9)	2.7 (0.8)	3.2 (1.1)	3.3 (0.9)	3.5 (0.9)	3.3 (1.0)
Financial Resources to Implement New Services	3.1 (1.1)	3.0 (1.1)	2.6 (1.1)	2.7 (1.0)	2.3 (1.0)	3.0 (1.1)	2.8 (1.1)
Expertise to Develop New Services	3.1 (0.9)	2.9 (1.0)	2.5 (1.0)	2.6 (1.0)	2.9 (1.0)	3.0 (0.9)	2.9 (1.0)
Staffing Levels to Provide New Services	2.9 (1.1)	2.3 (1.0)	2.0 (1.2)	2.3 (1.1)	2.1 (1.0)	2.7 (1.0)	2.4 (1.1)
Resources to Obtain Payment for Services	2.6 (1.1)	2.6 (1.1)	2.0 (1.0)	2.3 (1.0)	2.2 (1.0)	2.7 (1.2)	2.4 (1.1)
Skills to Market Services	2.6 (1.0)	2.8 (1.0)	2.5 (1.0)	2.4 (0.9)	2.5 (1.0)	3.0 (1.1)	2.7 (1.0)

Note: *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services.
Numbers in cells are means (standard deviation). Average score based on scale: 1 = poor, 2 = fair, 3 = good, 4 = very good, 5 = excellent.

Table 3.4.4: Amount of Change to Be Able to Provide Innovative Pharmacy/Pharmacist Services Reported by Actively Practicing Pharmacists

Amount of Change Percentage of Pharmacists Reporting How Much (% None/% a Lot) Their Site Has Changed Each Item in the Past Two Years	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Total**
2014	(n = 101)	(n = 259)	(n = 104)	(n = 108)	(n = 399)	(n = 210)	(n = 1,181)
The Information Collected about Patients	34/12	24/29	28/20	29/18	27/30	30/23	28/25
The System for Documenting Patient Care	40/15	24/28	33/18	31/17	17/47	31/31	26/32
The Skills and Knowledge of Our Pharmacists	23/27	18/29	18/20	16/17	17/24	26/23	19/24
Responsibilities and Activities of Pharmacy Technicians	28/16	17/34	21/38	19/19	25/25	23/24	22/27
Staffing Patterns in the Pharmacy	45/8	31/32	38/27	36/16	26/30	24/26	30/26
Layout and Workflow of the Pharmacy	44/12	46/24	44/20	43/16	31/28	28/31	37/24
Marketing Activities	49/11	27/22	38/19	28/15	45/5	34/13	37/13
Interactions with Physicians	32/14	45/9	51/7	51/8	25/28	37/21	37/18
Asking Patients to Pay for Pharmacy Services	67/6	52/7	61/5	52/8	47/2	37/5	50/6
Drug Information Access	35/22	40/19	49/11	44/16	37/21	39/25	40/21
Financial Incentives for Pharmacists	68/5	72/7	73/4	65/6	72/7	65/3	70/6
Emphasis on Patient (Non-dispensing) Services	32/17	11/47	14/31	10/39	17/38	24/21	17/35
Use of Technology/Automation in Dispensing	48/21	50/15	56/13	53/10	22/39	33/25	38/25
Access to Electronic Patient Data	36/18	22/30	31/18	32/20	20/54	31/37	26/36
2009	(n = 76)	(n = 136)	(n = 22)	(n = 35)	(n = 88)	(n = 43)	(n = 400)
The Information Collected about Patients	24/15	20/27	27/9	43/9	21/33	23/28	24/24
The System for Documenting Patient Care	32/24	24/26	27/36	39/17	16/46	26/35	25/31
The Skills and Knowledge of Our Pharmacists	13/28	13/21	27/14	22/11	16/25	19/23	16/22
Responsibilities and Activities of Pharmacy Technicians	18/30	12/42	23/36	17/25	22/30	21/36	18/35
Staffing Patterns in the Pharmacy	29/17	31/21	36/23	47/3	29/24	32/20	32/19
Layout and Workflow of the Pharmacy	30/33	33/35	46/23	39/6	47/28	24/37	36/30
Marketing Activities	40/11	32/14	55/9	42/6	80/2	31/21	46/11
Interactions with Physicians	38/11	42/7	73/0	58/3	22/21	37/19	40/11
Asking Patients to Pay for Pharmacy Services	76/7	84/2	100/0	83/0	88/0	78/5	84/3
Drug Information Access	27/20	33/13	46/5	39/17	28/29	27/14	31/18
Financial Incentives for Pharmacists	58/8	51/5	55/9	39/6	67/7	61/9	56/7
Collection of Patient Lab Data	88/4	90/1	91/0	91/0	31/27	57/7	73/8

Note: *Actively practicing* is defined as a licensed pharmacist who is working full-time or part-time in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services.

Amount of change in the pharmacy was measured on a three-point scale of None, A Little, and A Lot.

Section 3.5: Work Contributions (Hours per Week) Expected in Three Years

Tables 3.5.1 through 3.5.3 describe the contributions pharmacists plan to make over the next three years in terms of work hours categorized by practice setting, gender and position. As seen in Table 3.5.1, the majority of pharmacists (70%) expect to be working about the same or more hours per week three years from now. This proportion is virtually the same as it was in 2009. Pharmacists working in independent community settings were less likely than respondents working in other practice settings to report that they planned to work about the same or more hours per week (53% in 2014 and 52% in 2009). Table 3.5.2 and Table 3.5.3 show that the pattern of responses to this question was similar for pharmacists categorized by gender and by position.

Table 3.5.1: Hours per Week Expected in Three Years for Pharmacists Working Full-Time by Practice Setting

Expected Hours per Week in Three Years Compared to Now (%)	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other Non-Patient Care	Total
2014	(n = 73)	(n = 228)	(n = 80)	(n = 95)	(n = 344)	(n = 178)	(n = 121)	(n = 1,119)
Same or More Hours per Week	53	66	70	72	75	71	67	70
Fewer Hours per Week	37	25	20	21	19	21	24	22
2009	(n = 105)	(n = 222)	(n = 46)	(n = 92)	(n = 247)	(n = 91)	(n = 94)	(n = 897)
Same or More Hours per Week	52	76	74	69	74	65	77	71
Fewer Hours per Week	42	23	22	26	21	28	17	25

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care and home health. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia and government.
Percentages may not sum to 100% due to "do not know" responses.

Table 3.5.2: Hours per Week Expected in Three Years for Pharmacists Working Full-Time by Gender

Expected Hours per Week in Three Years Compared to Now (%)	Male	Female	Total
2014	(n = 494)	(n = 625)	(n = 1,119)
Same or More Hours per Week	69	70	70
Fewer Hours per Week	22	22	22
2009	(n = 512)	(n = 385)	(n = 897)
Same or More Hours per Week	71	71	71
Fewer Hours per Week	24	25	25

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer.
Percentages may not sum to 100% due to "do not know" responses.

Table 3.5.3: Hours per Week Expected in Three Years for Pharmacists Working Full-Time by Position

Expected Hours per Week in Three Years Compared to Now (%)	Management	Staff	Total
2014	(n = 428)	(n = 689)	(n = 1,117)
Same or More Hours per Week	69	70	70
Fewer Hours per Week	24	21	22
2009	(n = 402)	(n = 490)	(n = 892)
Same or More Hours per Week	70	71	71
Fewer Hours per Week	26	24	25

Note: Results based on respondents who provided information for a minimum set of variables (work status, gender, age, hours worked weekly at primary employment setting, and practice setting). *Full-time* is defined as working more than 30 hours weekly at the primary employer. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.
Percentages may not sum to 100% due to "do not know" responses.

SECTION 4

PHARMACISTS' QUALITY OF WORK-LIFE

4.1 Work Attitudes

The quality of work-life section included validated scales to measure pharmacists' attitudes about work-life conflict, satisfaction, commitment and control. Responses for pharmacists working full-time are reported in the tables and highlighted in this section of the report. The tables include data from the 2004 and 2000 workforce surveys for comparison. In general, attitudes in 2004 were more favorable than in 2014 and in 2000.

Tables 4.1.1 through 4.1.4 summarize work attitude responses for pharmacists categorized by practice setting, gender, position and years of experience, respectively. Each table shows the percent of pharmacist respondents that had scores above the midpoint of the summated scale measures (high levels) of work-home conflict (work spills over to home life), job satisfaction, and organizational and career commitment, home-work conflict (home life spills over to work) and control in the work environment. In 2014, more than one-half of the respondents reported high levels of work-home conflict with pharmacists in all practice settings reporting at least 51% except for other patient care and other (non-patient care) settings (Table 4.1.1). These levels were similar to those in 2000. In 2014, respondents in community pharmacy (independent, chain, mass merchandiser, and supermarket) practice settings were experiencing slightly lower levels of job satisfaction than in 2000 (76%, 59%, 61%, and 69%, respectively in 2000 and 75%, 46%, 49%, and 64%, respectively in 2014). Job satisfaction is particularly high in other (non-patient care) settings (83%) in 2014. Levels of organizational commitment are higher in most practice settings except chain pharmacy (51% in 2000, 46% in 2014). Interestingly, high levels of commitment to the profession were found in 2004 (65%) and 2014 (66%) compared to 2000 (50%). A small proportion of respondents reported high levels of home-work conflict (9%), with the highest level in independent community pharmacy (14%) and the lowest in mass merchandiser (2%). Overall, only one-third of respondents felt they had a high level of control in their work environment with the higher levels in independent community pharmacy (61%) and other (non-patient care) (57%) areas. The general pattern represents one in which levels of the work-attitudes increased, decreased or stayed the same in 2014 after improving from 2000 to 2004.

The same pattern is seen when categorized by gender and position (Tables 4.1.2 and 4.1.3). In 2014, males had higher levels of job satisfaction and experienced a higher level of control in the work environment than females. Females had a higher level of career commitment, comparable work-home conflict, organizational commitment, and home-work conflict and lower levels of control in the work environment than males. Since 2004, job satisfaction of both male and female pharmacists has greatly decreased (67% and 63% in 2014 and 76% and 78% in 2004, respectively). The same pattern can be seen when comparing the work attitudes by position. Higher mean scores were found for pharmacists in management positions relative to staff positions in 2014, but these scores were lower than in 2004.

Table 4.1.4 shows the work attitudes of pharmacists categorized by years of experience. In 2014 the least experienced group obtained higher scores in all categories except home-work conflict when compared to pharmacists with greater than 30 years of experience. In 2004 the work-attitudes ratings of the least experienced group often were very similar to those in the most experienced group. This is in contrast to job satisfaction outside of pharmacy, where usually the most experienced group has the most positive levels of work attitudes.

Table 4.1.1 Work Attitudes for Pharmacists Working Full-Time by Practice Setting

Work Attitude (percentage experiencing high levels of each work attitude)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
2014	(n = 76)	(n = 233)	(n = 82)	(n = 95)	(n = 352)	(n = 178)	(n = 126)	(n = 1,142)
Work-Home Conflict	51	58	62	55	53	46	41	52
Job Satisfaction	75	46	49	64	68	74	83	65
Organizational Commitment	88	46	49	59	65	61	76	61
Career Commitment	67	57	62	64	68	61	82	66
Home-Work Conflict*	14	11	2	4	9	8	11	9
Control in Work Environment*	61	30	18	31	31	37	57	34
2004	(n = 42)	(n = 102)	(n = 18)	(n = 32)	(n = 106)	(n = 40)	(n = 8)	(n = 349)
Work-Home Conflict	45	59	50	28	29	27	13	40
Job Satisfaction	95	70	56	63	81	88	50	77
Organizational Commitment	86	51	39	34	65	61	63	59
Career Commitment	86	59	44	63	66	71	63	65
Role Conflict**	7	24	50	31	22	12	38	22
Role Overload**	64	75	61	63	73	55	50	68
Role Ambiguity**	2	9	17	10	11	15	14	10
2000	(n = 181)	(n = 360)	(n = 101)	(n = 131)	(n = 349)	(n = 187)	(n = 92)	(n = 1,401)
Work-Home Conflict	44	55	62	50	53	46	46	51
Job Satisfaction	76	59	61	69	63	68	82	66
Organizational Commitment	81	51	47	54	53	60	53	58
Career Commitment	58	49	36	48	53	47	54	50
Role Conflict**	24	34	45	37	32	28	21	32
Role Overload**	72	82	80	70	81	68	58	76
Role Ambiguity**	7	11	12	8	18	11	10	12

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia, managed care administrators, and government. High level was defined as scoring above the midpoint of the summated score. Role Conflict is a six-item measure, Role Overload is a three-item measure, Role Ambiguity is a five-item measure, Work-Home Conflict and Home-Work Conflict are two-item measures, and Organizational Commitment is a four-item measure, and all were measured using a seven-point scale (1 = strongly disagree to 7 = strongly agree). Job Satisfaction is a five-item measure and Career Commitment is a five-item measure and both were measured using a five-point scale (1 = strongly disagree to 5 = strongly agree). Control in the Work Environment is a six-item measure using a five-point scale (0 = no control to 4 = total control).

*Only measured in 2014.

**Only measured in 2004 and 2000.

Table 4.1.2: Work Attitudes for Pharmacists Working Full-Time by Gender

Work Attitude (percentage experiencing high levels of each work attitude)	**Male**	**Female**	**Total**
2014	(n = 504)	(n = 641)	(n = 1,145)
Work-Home Conflict	53	52	52
Job Satisfaction	67	63	65
Organizational Commitment	61	62	61
Career Commitment	61	69	65
Home-Work Conflict*	9	9	9
Control in Work Environment*	39	30	34
2004	(n = 208)	(n = 139)	(n = 349)
Work-Home Conflict	43	35	4
Job Satisfaction	76	78	77
Organizational Commitment	60	58	59
Career Commitment	61	72	65
Role Conflict**	23	22	22
Role Overload**	67	70	68
Role Ambiguity**	10	11	10
2000	(n = 825)	(n = 576)	(n = 1,401)
Work-Home Conflict	49	55	51
Job Satisfaction	63	71	66
Organizational Commitment	56	62	58
Career Commitment	46	56	50
Role Conflict**	33	29	32
Role Overload**	75	78	76
Role Ambiguity**	12	12	12

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. High level was defined as scoring above the midpoint of the summated score. Role Conflict is a six-item measure, Role Overload is a three-item measure, Role Ambiguity is a five-item measure, Work-Home Conflict and Home-Work Conflict are two-item measures, and Organizational Commitment is a four-item measure and all were measured using a seven-point scale (1 = strongly disagree to 7 = strongly agree). Job Satisfaction is a five-item measure and Career Commitment is a five-item measure and both were measured using a five-point scale (1 = strongly disagree to 5 = strongly agree). Control in the Work Environment is a six-item measure using a five-point scale (0 = no control to 4 = total control).
*Only measured in 2014.
**Only measured in 2004 and 2000.

Table 4.1.3: Work Attitudes for Pharmacists Working Full-Time by Position

Work Attitude (percentage experiencing high levels of each work attitude)	**Management**	**Staff**	**Total**
2014	(n = 504)	(n = 641)	(n = 1,145)
Work-Home Conflict	53	52	52
Job Satisfaction	69	62	65
Organizational Commitment	69	56	61
Career Commitment	71	62	65
Home-Work Conflict*	9	9	9
Control in Work Environment*	57	20	34
2004	(n =145)	(n = 204)	(n = 349)
Work-Home Conflict	41	39	40
Job Satisfaction	81	73	77
Organizational Commitment	73	49	59
Career Commitment	71	62	66
Role Conflict**	18	25	22
Role Overload**	70	66	68
Role Ambiguity**	7	12	10
2000	(n = 595)	(n = 806)	(n = 1,401)
Work-Home Conflict	52	51	51
Job Satisfaction	71	62	66
Organizational Commitment	69	50	58
Career Commitment	53	48	50
Role Conflict**	29	33	32
Role Overload**	73	78	76
Role Ambiguity**	11	13	12

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers. High level was defined as scoring above the midpoint of the summated score. Role Conflict is a six-item measure, Role Overload is a three-item measure, Role Ambiguity is a five-item measure, Work-Home Conflict and Home-Work Conflict are two-item measures and Organizational Commitment is a four-item measure, and all were measured using a seven-point scale (1 = strongly disagree to 7 = strongly agree). Job Satisfaction is a five-item measure and Career Commitment is a five-item measure and both were measured using a five-point scale (1 = strongly disagree to 5 = strongly agree). Control in the Work Environment is a six-item measure using a five-point scale (0 = no control to 4 = total control).
*Only measured in 2014.
**Only measured in 2000 and 2004.

Table 4.1.4: Work Attitudes for Pharmacists Working Full-Time by Years of Experience

Work Attitude (percentage experiencing high levels of each work attitude)	**0-5 Years**	**6-10 Years**	**11-20 Years**	**21-30 Years**	**>30 Years**	**Total**
2014	(n = 141)	(n = 161)	(n = 248)	(n = 262)	(n = 299)	(n = 1,111)
Work-Home Conflict	55	55	57	49	48	52
Job Satisfaction	66	62	67	67	63	65
Organizational Commitment	62	61	65	63	56	62
Career Commitment	73	65	65	62	65	65
Home-Work Conflict*	6	11	10	9	7	9
Control in Work Environment*	35	36	38	34	29	34
2004	(n = 35)	(n = 43)	(n = 73)	(n = 118)	(n = 76)	(n = 345)
Work-Home Conflict	31	40	43	45	35	40
Job Satisfaction	74	82	78	76	75	77
Organizational Commitment	69	61	58	60	54	59
Career Commitment	74	81	60	59	69	66
Role Conflict**	17	21	26	22	21	22
Role Overload**	66	77	67	66	66	68
Role Ambiguity**	3	10	11	14	7	10
2000	(n = 238)	(n = 229)	(n = 367)	(n = 369)	(n = 198)	(n = 1,401)
Work-Home Conflict	55	49	58	53	35	51
Job Satisfaction	65	69	64	63	73	66
Organizational Commitment	56	61	56	60	59	58
Career Commitment	50	53	53	43	55	50
Role Conflict**	37	33	34	29	25	32
Role Overload**	73	79	76	80	68	76
Role Ambiguity**	11	7	14	14	11	12

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. High level was defined as scoring above the midpoint of the summated score. Role Conflict is a six-item measure, Role Overload is a three-item measure, Role Ambiguity is a five-item measure, Work-Home Conflict and Home-Work Conflict are two-item measures, and Organizational Commitment is a four-item measure and all were measured using a seven-point scale (1 = strongly disagree, to 7 = Strongly agree). Job Satisfaction is a five-item measure and Career Commitment is a five-item measure and both were measured using a five-point scale (1 = strongly disagree to 5 = strongly agree). Control in the Work Environment is a six-item measure using a five-point scale (0 = no control to 4 = total control).
*Only measured in 2014.
**Only measured in 2000 and 2004.

4.2 Job Stress

Tables 4.2.1 through 4.2.4 describe job stress items reported by full-time respondents by practice setting, gender, position and years of experience. Additional stress items were included in the 2014 survey, thus a contrast on all items between the three surveys is not possible. The findings reported in the tables focus on the percentages of pharmacists reporting experiences or aspects that are "highly stressful." The top-rated item in 2014 was "having so much work to do that everything cannot be done well" (45%). It was the most stressful event for all practice settings except independent community pharmacy. In 2004, 33% of the respondents rated this item as highly stressful. Independent community pharmacists reported that "doing excessive paperwork" (38%) was the most stressful in both 2014 and 2004 (42%). More than one-half of chain and mass merchandiser pharmacists found "having to meet quotas" as highly stressful, and "not being staffed with an adequate number of technicians" was highly stressful for pharmacists in chain (67%), mass merchandiser (53%), supermarket (45%) and hospital (32%) pharmacy settings in 2014. The lack of adequate technicians was somewhat different for pharmacists practicing in chain (54%) and mass merchandiser (61%) settings in 2004. "Not being staffed with an adequate number of pharmacists" was highly stressful for one-third of pharmacists in all practice settings except independent pharmacy settings in 2014, whereas "not being staffed with an adequate number of personnel" was highly stressful for pharmacists in 2000.

The same items were rated has "highly stressful" by gender and position. Table 4.2.2 shows that a larger proportion of female pharmacists rated "having so much work to do that everything cannot be done well" and "not being staffed with an adequate number of technicians" more highly than males (49% and 46%, and 41% and 37%, respectively) in 2014. This compares to 39% and 43% for females and 29% and 34% for males in 2004. This same pattern was seen for pharmacists in management and staff positions in 2014 (Table 4.2.3). In 2004, "dealing with difficult patients" and "being interrupted by phone calls" also were rated as "highly stressful" by management. By years of experience, more than 40% of these same items regarding "having too much work to do" and "inadequate staffing" were rated "highly stressful" in 2014. A similar pattern was found in 2004 and 2000.

An analysis of the quality of work-life measures suggest that pharmacists may not be enjoying working in some practice settings as much as they once did. This could be due to the stressors within the work environments (e.g., inadequate staff, workload issues), which are in the control of employers. Of interest is that the proportion of pharmacists' with high ratings of "motivation to work in the profession (career commitment)" has increased since 2000 and was consistent in 2014 and 2004 despite large drops in job satisfaction between 2004 and 2014. (see Table 4.1.1 to Table 4.1.4) This could be due to a variety of factors, such as pharmacists are being recognized to a greater extent as a part of the health care team by both patients and other health practitioners, and/or the extent of training obtained by pharmacists enhances their identification with the profession.

Table 4.2.1: Job Stress for Pharmacists Working Full-Time by Practice Setting

Stress Event (percentage experiencing high levels of stress by event)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
2014	(n = 76)	(n = 236)	(n = 82)	(n = 95)	(n = 346)	(n = 170)	(n = 100)	(n = 1,105)
Being interrupted by phone calls or people while performing job duties	30	40	39	32	36	32	16	34
Not being staffed with an adequate number of pharmacists	15	42	33	29	38	32	30	34
Not being staffed with an adequate number of technicians	18	67	53	45	32	34	28	42
Doing excessive paper work or documentation (e.g., third-party work, medication records)	38	37	27	30	19	24	19	27
**Learning new technology/automation	4	11	6	7	12	11	6	10
**Having to meet quotas	5	54	51	39	26	28	29	36
*Having so much work to do that everything cannot be done well	21	60	61	56	41	35	37	45
*Dealing with difficult coworkers	22	17	17	26	25	28	21	23
*Disagreeing with other health care professionals concerning the treatment of patients	9	8	1	6	10	10	4	8
*Keeping up with new developments in order to maintain professional competency	8	10	5	3	11	13	6	9
*Dealing with difficult patients	21	40	32	38	11	19	5	24
*Possessing inadequate information regarding a patient's medical condition	10	13	16	8	14	19	6	13
*Feeling ultimately responsible for patient outcomes from drug therapy	12	15	18	16	17	19	12	16
**Feeling that I will make a mistake in treating a patient	22	33	46	30	27	27	20	29
****Delegating previous or new tasks to pharmacy technicians	4	12	4	6	6	11	0	7

Stress Event (percentage experiencing high levels of stress by event)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
2004	(n = 43)	(n = 102)	(n = 18)	(n = 32)	(n = 107)	(n = 41)	(n = 7)	(n = 349)
Being interrupted by phone calls or people while performing job duties	23	47	56	34	36	24	14	37
Not being staffed with an adequate number of pharmacists	14	39	39	16	41	32	43	34
Not being staffed with an adequate number of technicians	14	54	61	31	34	24	29	38
Doing excessive paper work (e.g., third-party work, medication records)	42	28	39	25	14	17	29	24
Not being able to practice pharmacy the way I think it should be practiced	14	24	22	29	20	10	29	20
Not receiving constructive feedback from my supervisors	5	15	11	23	12	17	29	14
Experiencing job policies and procedures which are not enforced consistently	7	14	17	13	24	12	29	16
*Having so much work to do that everything cannot be done well	12	40	33	22	44	24	14	33
*Disagreeing with other health care professionals concerning the treatment of patients	5	8	6	6	9	12	14	8
*Keeping up with new developments in order to maintain professional competency	7	10	11	16	10	20	29	12
*Dealing with difficult patents	28	50	61	44	17	22	29	33
*Dealing with difficult coworkers	7	33	22	28	35	22	50	29
*Possessing inadequate information regarding a patient's medical condition	2	10	6	13	13	17	14	11
*Feeling ultimately responsible for patient outcomes from drug therapy	7	14	6	16	14	12	14	13
*Fearing that I will make a mistake in treating a patient	9	38	39	28	27	29	29	29

Stress Event (percentage experiencing high levels of stress by event)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
2000	(n = 181)	(n = 360)	(n = 101)	(n =131)	(n = 349)	(n = 187)	(n = 92)	(n = 1,401)
Being interrupted by phone calls or people while performing job duties	42	42	41	37	40	25	10	37
Not being staffed with an adequate number of personnel	19	58	55	45	54	36	20	45
Doing excessive paper work (e.g., third-party work, medication records)	29	22	20	22	15	17	8	19
Not being able to practice pharmacy the way I think it should be practiced	19	23	28	19	21	13	9	20
Not receiving constructive feedback from my supervisors	6	15	12	14	17	11	7	13
Experiencing job policies and procedures which are not enforced consistently	4	13	17	13	27	19	10	16

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia, managed care administrators, and government. Each stress item was measured using a five-point scale (0 = does not apply, 1 = not at all stressful, 2 = not too stressful, 3 = somewhat stressful, 4 = highly stressful)

*Item not included on 2000 survey.

**Item added in 2014.

Table 4.2.2: Job Stress for Pharmacists Working Full-Time by Gender

Stress Event (percentage experiencing high levels of stress by event)	**Male**	**Female**	**Total**
2014	(n = 490)	(n = 618)	(n = 1,108)
Being interrupted by phone calls or people while performing job duties	34	34	34
Not being staffed with an adequate number of pharmacists	31	37	34
Not being staffed with an adequate number of technicians	37	46	42
Doing excessive paper work or documentation (e.g., third-party work, medication records)	29	25	27
**Learning new technology/automation	11	9	10
**Having to meet quotas	32	40	36
*Having so much work to do that everything cannot be done well	41	49	45
*Dealing with difficult coworkers	20	25	23
*Disagreeing with other health care professionals concerning the treatment of patients	7	10	8
*Keeping up with new developments in order to maintain professional competency	7	12	9
*Dealing with difficult patients	22	26	24
*Possessing inadequate information regarding a patient's medical condition	15	12	13
*Feeling ultimately responsible for patient outcomes from drug therapy	14	18	17
**Feeling that I will make a mistake in treating a patient	26	33	30
**Delegating previous or new tasks to pharmacy technicians	7	8	7
2004	(n = 208)	(n = 140)	(n = 349)
Being interrupted by phone calls or people while performing job duties	34	40	37
Not being staffed with an adequate number of pharmacists	30	39	34
Not being staffed with an adequate number of technicians	34	43	38
Doing excessive paper work (e.g., third-party work, medication records)	27	20	24
Not being able to practice pharmacy the way I think it should be practiced	18	23	20
Not receiving constructive feedback from my supervisors	12	17	14
Experiencing job policies and procedures which are not enforced consistently	13	20	16
*Having so much work to do that everything cannot be done well	29	39	33
*Disagreeing with other health care professionals concerning the treatment of patients	8	9	8
*Keeping up with new developments in order to maintain professional competency	10	14	12
*Dealing with difficult patients	33	34	33
*Dealing with difficult coworkers	26	32	29
*Possessing inadequate information regarding a patient's medical condition	9	14	11
*Feeling ultimately responsible for patient outcomes from drug therapy	10	16	12
*Fearing that I will make a mistake in treating a patient	23	37	29

Stress Event (percentage experiencing high levels of stress by event)	**Male**	**Female**	**Total**
2000	(n = 825)	(n = 576)	(n = 1,401)
Being interrupted by phone calls or people while performing job duties	37	36	37
Not being staffed with an adequate number of personnel	41	51	45
Doing excessive paper work (e.g., third-party work, medication records)	21	17	19
Not being able to practice pharmacy the way I think it should be practiced	20	19	20
Not receiving constructive feedback from my supervisors	13	13	13
Experiencing job policies and procedures which are not enforced consistently	15	18	16

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. Each stress item was measured using a five-point scale (0 = Does Not Apply, 1 = Not At All Stressful, 2 = Not Too Stressful, 3 = Somewhat Stressful, 4 = Highly Stressful)
*Item not included on 2000 survey
**Item added in 2014

Table 4.2.3: Job Stress for Pharmacists Working Full-Time by Position

Stress Event (percentage experiencing high levels of stress by event)	**Management**	**Staff**	**Total**
2014	(n = 432)	(n = 684)	(n = 1,107)
Being interrupted by phone calls or people while performing job duties	29	37	34
Not being staffed with an adequate number of pharmacists	32	36	34
Not being staffed with an adequate number of technicians	42	42	42
Doing excessive paper work or documentation (e.g., third-party work, medication records)	33	23	27
**Learning new technology/automation	10	10	10
**Having to meet quotas	39	35	36
*Having so much work to do that everything cannot be done well	47	45	45
*Dealing with difficult coworkers	22	23	23
*Disagreeing with other health care professionals concerning the treatment of patients	7	9	8
*Keeping up with new developments in order to maintain professional competency	8	10	9
*Dealing with difficult patients	26	23	24
*Possessing inadequate information regarding a patient's medical condition	13	14	13
*Feeling ultimately responsible for patient outcomes from drug therapy	15	17	17
*Fearing that I will make a mistake in treating a patient	26	32	30
**Delegating previous or new tasks to pharmacy technicians	8	7	7
2004	(n = 145)	(n = 204)	(n = 349)
Being interrupted by phone calls or people while performing job duties	34	39	37
Not being staffed with an adequate number of pharmacists	29	37	34
Not being staffed with an adequate number of technicians	33	41	38
Doing excessive paper work (e.g., third-party work, medication records)	32	19	24
Not being able to practice pharmacy the way I think it should be practiced	21	20	20
Not receiving constructive feedback from my supervisors	9	17	14
Experiencing job policies and procedures which are not enforced consistently	8	22	16
*Having so much work to do that everything cannot be done well	31	35	33
*Disagreeing with other health care professionals concerning the treatment of patients	6	10	8
*Keeping up with new developments in order to maintain professional competency	10	13	12
*Dealing with difficult patients	40	29	33
*Dealing with difficult coworkers	29	28	28
*Possessing inadequate information regarding a patient's medical condition	8	13	11
*Feeling ultimately responsible for patient outcomes from drug therapy	10	15	13
*Fearing that I will make a mistake in treating a patient	22	34	29

Stress Event (percentage experiencing high levels of stress by event)	**Management**	**Staff**	**Total**
2000	(n = 595)	(n = 806)	(n = 1,401)
Being interrupted by phone calls or people while performing job duties	33	40	37
Not being staffed with an adequate number of personnel	38	51	45
Doing excessive paper work (e.g., third-party work, medication records)	23	17	19
Not being able to practice pharmacy the way I think it should be practiced	22	18	20
Not receiving constructive feedback from my supervisors	10	15	13
Experiencing job policies and procedures which are not enforced consistently	12	20	16

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers. Each stress item was measured using a five-point scale (0 = does not apply, 1 = not at all stressful, 2 = not too stressful, 3 = somewhat stressful, 4 = highly stressful)
*Item not included on 2000 survey.
**Item added in 2014.

Table 4.2.4: Job Stress for Pharmacists Working Full-Time by Years of Experience

Stress Event (percentage experiencing high levels of stress by event)	**0-5 Years**	**6-10 Years**	**11-20 Years**	**21-30 Years**	**>30 Years**	**Total**
2014	(n = 141)	(n = 158)	(n = 232)	(n = 257)	(n = 288)	(n = 1,076)
Being interrupted by phone calls or people while performing job duties	31	35	29	37	35	34
Not being staffed with an adequate number of pharmacists	39	40	32	37	28	34
Not being staffed with an adequate number of technicians	42	44	43	41	36	41
Doing excessive paper work or documentation (e.g., third-party work, medication records)	22	35	20	25	31	27
**Learning new technology/automation	5	5	10	10	15	10
**Having to meet quotas	28	38	37	39	38	36
*Having so much work to do that everything cannot be done well	47	43	49	45	43	45
*Dealing with difficult coworkers	21	24	26	22	21	23
*Disagreeing with other health care professionals concerning the treatment of patients	10	10	9	9	5	8
*Keeping up with new developments in order to maintain professional competency	11	9	6	11	11	10
*Dealing with difficult patients	32	30	21	22	22	24
*Possessing inadequate information regarding a patient's medical condition	11	18	10	15	15	14
*Feeling ultimately responsible for patient outcomes from drug therapy	16	21	16	17	14	17
*Fearing that I will make a mistake in treating a patient	30	25	26	34	31	30
**Delegating previous or new tasks to pharmacy technicians	7	10	8	8	6	8
2004	(n = 35)	(n = 44)	(n = 73)	(n = 118)	(n = 75)	(n = 345)
Being interrupted by phone calls or people while performing job duties	29	39	44	38	34	37
Not being staffed with an adequate number of pharmacists	51	30	40	33	24	34
Not being staffed with an adequate number of technicians	43	39	41	37	31	38
Doing excessive paper work (e.g., third-party work, medication records)	14	23	34	24	21	24

Stress Event (percentage experiencing high levels of stress by event)	**0-5 Years**	**6-10 Years**	**11-20 Years**	**21-30 Years**	**>30 Years**	**Total**
Not being able to practice pharmacy the way I think it should be practiced	14	23	22	21	16	30
Not receiving constructive feedback from my supervisors	9	14	19	13	10	13
Experiencing job policies and procedures which are not enforced consistently	14	11	14	17	18	16
*Having so much work to do that everything cannot be done well	34	34	44	36	18	33
*Disagreeing with other health care professionals concerning the treatment of patients	11	11	10	7	5	8
*Keeping up with new developments in order to maintain professional competency	9	11	15	11	11	12
*Dealing with difficult patients	20	32	41	40	25	34
*Dealing with difficult coworkers	26	30	41	30	17	29
*Possessing inadequate information regarding a patient's medical condition	9	16	12	11	8	11
*Feeling ultimately responsible for patient outcomes from drug therapy	17	11	14	14	8	13
*Fearing that I will make a mistake in treating a patient	31	39	33	25	25	29
2000	(n = 238)	(n = 229)	(n = 367)	(n = 369)	(n = 198)	(n = 1,401)
Being interrupted by phone calls or people while performing job duties	32	35	40	38	36	37
Not being staffed with an adequate number of personnel	52	45	49	44	33	45
Doing excessive paper work (e.g., third-party work, medication records)	22	13	16	23	22	19
Not being able to practice pharmacy the way I think it should be practiced	24	18	19	21	18	20
Not receiving constructive feedback from my supervisors	13	14	13	12	12	13
Experiencing job policies and procedures which are not enforced consistently	18	17	18	16	12	16

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. Each stress item was measured using a five-point scale (0 = does not apply, 1 = not at all stressful, 2 = not too stressful, 3 = somewhat stressful, 4 = highly stressful)

*Item not included on 2000 survey.

**Item added in 2014.

4.3 Current Job

Respondents were asked to rate how easy (very difficult, difficult, neither difficult nor easy, easy, or very easy) it would be to find an acceptable job within the year and to find a job with specific characteristics. Tables 4.3.1 through 4.3.3 show these results categorized by practice setting, gender and years of experience.

Table 4.3.1 summarizes the proportions of pharmacists reporting it would be difficult to find alternate positions or one with specified characteristics. Overall, 70% of pharmacists in 2014 thought it would be "difficult or very difficult" to find an acceptable job within the next year. This compares to 32% in 2004. There was considerable variability in the percentages of pharmacists reporting difficulty in finding jobs with the different characteristics. For example, 78% of pharmacists reported it would be difficult or very difficult to find a job with a better work schedule, but 35% reported it would be difficult or very difficult to find a job with more patient contact. In 2014, when higher percentages of pharmacists reported difficulty in finding a job with a given characteristic, each of the characteristics was rated higher than in 2004 and 2000. This suggests that their current jobs are more consistent with what pharmacists want and/or it would be harder in 2014 to improve the level of that characteristic by switching jobs. Higher ratings of difficulty may be related to pharmacists feeling that the job market is tight and that it is not easy to obtain a new job and therefore they are more content with their current situation. As shown in Table 4.3.1, less than 35% of pharmacists working in chain, other patient care and other (non-patient) care practice settings thought it would be difficult to find a job with more patient contact, and the same proportion of pharmacists working in mass merchandiser and supermarket settings thought it would be difficult to find a job with more intellectual challenge.

The comparison of pharmacists' ratings by gender in Table 4.3.2 shows that a slightly higher proportion of female pharmacists (72%) than male pharmacists (68%) reported it would be difficult or very difficult to find an acceptable job within the year. For both males and females more patient contact (39% and 33%, respectively) and better relationships with patients (44% and 39%) were the least difficult characteristics to find. In 2004 and 2000 a higher proportion of males overall found it difficult or very difficult to find a job with a certain characteristic, compared to females.

In a comparison of pharmacists by years of experience (Table 4.3.3), the proportion of pharmacists who reported it would be difficult or very difficult to find an acceptable job within the next year ranged from 62% for pharmacists with zero to five years of experience to 74% for pharmacists with 11 to 20 years of experience. In general pharmacists with greater than 30 years of experience rated each characteristic higher than pharmacists with zero to five years of experience, with the exception of "better professional treatment by management." Only 23% of pharmacists with greater than 30 years of experience thought this characteristic would be the most difficult to find. Pharmacists with zero to five years of experience rated more intellectual challenge (39%), and better professional role opportunity (36%) lower than all other years of experience, while pharmacists who have been in practice between 21 and 30 years rated more patient contact (29%) lower than other groups. Comparisons to 2004 suggest that over 30 years of experience correlates with pharmacists feeling they would have less difficulty in finding a job with better professional treatment by management (23% in 2014 versus 55% in 2004), and better relationships with patients (39% in 2014 versus 46% in 2004). The findings indicate dissatisfaction with these characteristics correlate with more years of experience. This suggests that pharmacists with the greatest years of experience may be feeling the least valued in their workplace. More research is need in this area to uncover the underlying causes.

Table 4.3.1: Full-time Pharmacists' Ratings of the Difficulty of Finding an Acceptable Job in Pharmacy by Practice Setting

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
2014	(n = 72)	(n = 222)	(n = 80)	(n = 94)	(n = 341)	(n = 174)	(n = 117)	(n = 1,100)
An acceptable job alternative within the next year	71	61	67	68	77	78	50	70
A better work schedule	85	64	76	79	81	86	78	78
Better pharmacist co-workers	63	48	57	71	66	61	50	60
Better technician co-workers	62	55	49	60	53	55	32	53
Less workload	61	58	68	71	58	68	51	61
Better pay	49	66	66	59	51	56	52	57
More intellectual challenge	47	29	32	34	52	42	62	44
More patient contact	57	34	43	44	36	32	15	35
Better advancement opportunity	51	41	41	50	46	44	52	46
Better benefits	35	56	54	62	60	51	59	56
Less stress	54	54	54	65	56	65	49	57
Better professional treatment by management	70	46	42	52	50	55	52	51
Better geographic location	63	60	59	64	59	66	57	61
Better relationships with patients	64	43	44	48	38	39	22	41
Better relationship with management	66	41	35	47	43	49	49	46
Better professional role opportunity	49	39	38	44	51	54	62	49
Better pharmacist staffing levels	79	51	58	68	57	61	39	71
Better technician staffing levels	71	52	55	64	50	59	27	54
2004	(n = 39)	(n = 94)	(n = 18)	(n = 35)	(n = 86)	(n = 40)	(n = 19)	(n = 331)
An acceptable job alternative within the next year	38	19	28	23	35	48	47	32
A better work schedule	67	55	72	49	72	93	68	67
Better pharmacist co-workers	67	50	45	63	47	68	42	54
Better technician co-workers	74	53	50	63	44	45	26	52
Less workload	54	44	45	49	48	55	42	47
Better pay	41	35	28	14	27	33	58	32
More intellectual challenge	44	19	33	11	49	50	58	36
More patient contact	62	22	33	31	20	18	26	27

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**Independent**	**Chain**	**Mass Merchandiser**	**Super-market**	**Hospital**	**Other Patient Care**	**Other**	**Total**
Better advancement opportunity	33	29	39	23	23	25	53	29
Better benefits	39	37	44	40	49	38	74	43
Less stress	59	38	45	57	49	45	53	47
Better professional treatment by management	72	36	50	43	50	53	53	48
Better geographic location	64	50	45	60	45	53	58	52
Better relationships with patients	74	36	39	43	27	28	22	37
Better relationship with management	77	33	39	34	41	48	42	43
Better professional role opportunity	66	25	33	32	38	58	47	39
Better pharmacist staffing levels	54	43	61	54	43	53	42	48
Better technician staffing levels	67	42	61	52	43	50	32	48
2000	(n = 174)	(n = 363)	(n = 104)	(n = 133)	(n = 358)	(n = 200)	(n = 94)	(n = 1,426)
An acceptable job alternative within the next year	32	25	23	26	26	33	48	29
A better work schedule	63	61	58	63	62	74	80	64
Better co-workers*	72	61	57	63	48	60	71	59
Less workload	57	52	52	64	46	51	48	52
Better pay	41	40	26	28	18	25	40	30
More intellectual challenge	33	29	20	27	45	39	67	37
More patient contact	52	42	38	52	23	23	17	35
Better advancement opportunity	43	40	32	38	29	32	46	36
Better benefits	26	47	30	43	39	32	59	40
Less stress	55	50	54	56	43	48	47	49
Better professional treatment by management	62	47	46	48	42	47	63	49

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. The difficulty of finding each characteristic of an acceptable job alternative was measured using a five-point scale (1 = very difficult, 2 = difficult, 3 = neither difficult nor easy, 4 = easy, and 5 = very easy). *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia, managed care administrators, and government.
*"Better co-workers" was expanded into two items, namely "better pharmacist co-workers" and "better technician co-workers" for 2004.

Table 4.3.2: Full-time Pharmacists' Ratings of the Difficulty of Finding an Acceptable Job in Pharmacy by Gender

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**Male**	**Female**	**Total**
2014	(n = 482)	(n = 618)	(n = 1,100)
An acceptable job alternative within the next year	68	72	70
A better work schedule	73	81	78
Better pharmacist co-workers	59	61	60
Better technician co-workers	55	52	53
Less workload	61	61	61
Better pay	60	54	57
More intellectual challenge	42	45	44
More patient contact	39	33	35
Better advancement opportunity	48	44	46
Better benefits	59	53	56
Less stress	56	58	57
Better professional treatment by management	54	49	51
Better geographic location	59	63	61
Better relationships with patients	44	39	41
Better relationship with management	47	44	46
Better professional role opportunity	52	46	49
Better pharmacist staffing levels	58	58	58
Better technician staffing levels	56	52	54
2004	(n = 186)	(n = 145)	(n = 331)
An acceptable job alternative within the next year	30	33	32
A better work schedule	62	72	67
Better pharmacist co-workers	54	53	54
Better technician co-workers	55	47	52
Less workload	46	49	47
Better pay	36	28	32
More intellectual challenge	39	31	36
More patient contact	31	23	27
Better advancement opportunity	34	22	29
Better benefits	47	38	43
Less stress	49	45	47
Better professional treatment by management	51	45	48
Better geographic location	53	50	52
Better relationships with patients	37	38	37
Better relationship with management	45	41	43
Better professional role opportunity	45	32	39
Better pharmacist staffing levels	50	44	48
Better technician staffing levels	49	45	48
2000	(n = 829)	(n = 597)	(n = 1,426)
An acceptable job alternative within the next year	26	32	29
A better work schedule	61	69	64
Better co-workers*	60	58	59
Less workload	51	53	52
Better pay	33	27	30

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**Male**	**Female**	**Total**
More intellectual challenge	37	36	37
More patient contact	37	32	35
Better advancement opportunity	39	32	36
Better benefits	41	38	40
Less stress	49	50	49
Better professional treatment by management	49	48	49

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. The difficulty of finding each characteristic of an acceptable job alternative was measured using a five-point scale (1 = very difficult, 2 = difficult, 3 = neither difficult nor easy, 4 = easy, and 5 = very easy)
*"Better co-workers" was expanded into two items, namely "better pharmacist co-workers" and "better technician co-workers" for 2004.

Table 4.3.3: Full-time Pharmacists' Ratings of the Difficulty of Finding an Acceptable Job in Pharmacy by Years of Experience

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**0–5 Years**	**6–10 Years**	**11–20 Years**	**21–30 Years**	**>30 Years**	**Total**
2014	(n = 142)	(n = 158)	(n = 243)	(n = 261)	(n = 289)	(n = 1,093)
An acceptable job alternative within the next year	62	65	74	71	73	70
A better work schedule	73	74	83	79	76	78
Better pharmacist co-workers	61	65	61	54	62	60
Better technician co-workers	50	58	48	51	58	53
Less workload	56	58	59	66	63	61
Better pay	52	58	55	59	58	57
More intellectual challenge	39	46	45	40	47	44
More patient contact	34	42	36	29	37	35
Better advancement opportunity	42	53	45	41	49	46
Better benefits	48	58	58	54	57	56
Less stress	52	55	53	59	63	57
Better professional treatment by management	46	55	50	50	23	51
Better geographic location	66	58	62	59	61	61
Better relationships with patients	40	44	43	40	39	41
Better relationship with management	41	49	44	45	47	46
Better professional role opportunity	36	51	53	49	49	49
Better pharmacist staffing levels	53	60	54	62	58	58
Better technician staffing levels	49	55	47	59	56	54
2004	(n = 21)	(n = 55)	(n = 81)	(n = 110)	(n = 64)	(n = 331)
An acceptable job alternative within the next year	19	36	32	31	31	32
A better work schedule	71	71	73	65	55	67
Better pharmacist co-workers	67	55	54	48	58	54
Better technician co-workers	71	46	46	51	59	52
Less workload	67	38	52	51	38	47
Better pay	38	36	31	29	33	32

Difficulty of Finding an Acceptable Job (percentage reporting difficult or very difficult to find)	**0–5 Years**	**6–10 Years**	**11–20 Years**	**21–30 Years**	**>30 Years**	**Total**
More intellectual challenge	38	31	33	37	39	36
More patient contact	33	20	21	31	33	27
Better advancement opportunity	33	24	31	26	34	29
Better benefits	48	49	37	43	45	43
Less stress	43	40	47	49	53	47
Better professional treatment by management	57	51	45	45	55	48
Better geographic location	48	44	45	55	66	52
Better relationships with patients	24	26	42	37	46	37
Better relationship with management	38	42	42	40	52	43
Better professional role opportunity	38	38	37	36	50	39
Better pharmacist staffing levels	43	45	47	47	53	48
Better technician staffing levels	43	48	43	52	47	48
2000	(n = 242)	(n = 233)	(n = 370)	(n = 384)	(n = 197)	(n = 1,426)
An acceptable job alternative within the next year	27	27	30	29	28	29
A better work schedule	61	70	65	63	64	64
Better co-workers*	55	58	58	59	70	59
Less workload	50	53	51	52	55	52
Better pay	25	27	31	33	36	30
More intellectual challenge	34	35	37	40	34	37
More patient contact	32	31	33	35	44	35
Better advancement opportunity	28	35	37	40	37	36
Better benefits	31	46	39	40	42	40
Less stress	45	53	48	48	54	49
Better professional treatment by management	46	52	45	47	56	49

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. The difficulty of finding each characteristic of an acceptable job alternative was measured using a 5-point scale (1 = very difficult, 2 = difficult, 3 = neither difficult nor easy, 4 = easy, and 5 = very easy).
*"Better co-workers" was expanded into two items, namely "better pharmacist co-workers" and "better technician co-workers" for 2004.

4.4 Future Career Plans

Tables 4.4.1 through 4.4.3 report pharmacists' future work plans. Table 4.4.1 shows that the majority of pharmacists expect to be working with their current employer three years from now (78%). Pharmacists currently working at chain pharmacies had the highest proportion reporting that they planned to be retired or out of the workplace (12%), followed by supermarket pharmacies (11%), and mass merchandiser pharmacies had the lowest proportion (7%). Twenty-four percent of pharmacists working in mass merchandiser settings reported that they would be working with a different employer in the next three years and 8% of pharmacists working in other patient care indicated they would be employed in a different profession.

Table 4.4.2 shows that 15% of male and 6% of female pharmacists expect to be retired by 2017. Table 4.4.3 shows that the pattern of responses to this question differed little for respondents categorized by position.

Table 4.4.1: Career Plans over the Next Three Years for Full-time Pharmacists by Practice Setting

In the Next Three Years, Proportion of Pharmacists Likely to Be (%)*	Independent	Chain	Mass Merchandiser	Super-market	Hospital	Other Patient Care	Other	Total
2014	(n = 80)	(n = 231)	(n = 82)	(n = 99)	(n = 353)	(n = 184)	(n = 91)	(n = 1,120)
Working with current employer at current position and worksite	79	72	70	81	83	83	77	78
Working with current employer in a different position	14	24	17	17	19	17	29	20
Working with a different employer, doing same type of work	11	19	24	10	12	16	19	15
Employed in a different profession	5	7	6	7	4	8	7	6
Retired	10	12	7	11	10	10	9	10

Note: Full-time pharmacists worked more than 30 hours weekly in their primary employment setting. *Chain* is a combination of small chain and large chain settings. *Hospital* is a combination of government and non-government hospitals. *Other Patient Care* is defined as settings where pharmacists are providing patient care and is a combination of HMO-operated pharmacies, clinic pharmacies, mail service, nuclear, nursing home/long term care, home health, and armed services. *Other* is defined as a setting where pharmacists may not provide patient care. It is a combination of "Industry" and "Other (non-patient care)" settings. It primarily includes industry, academia, managed care administrators, and government.
*Proportion of respondents who answered either *likely* or *very likely* on a scale of 1 = very unlikely, 2 = unlikely, 3 = likely, 4 = very likely.

Table 4.4.2: Career Plans over the Next Three Years for Full-Time Pharmacists by Gender

In the Next Three Years, Proportion of Pharmacists Likely to Be (%)*	Male	Female	Total
2014	(n = 491)	(n = 660)	(n = 1,151)
Working with current employer at current position and worksite	78	78	78
Working with current employer in a different position	21	20	20
Working with a different employer, doing same type of work	15	16	16
Employed in a different position	7	5	6
Retired	15	6	10

Note: * Proportion of respondents who answered either likely or very likely on a scale of 1 = very unlikely, 2 = unlikely, 3 = likely, 4 = very likely.

Table 4.4.3: Career Plans over the Next Three Years for Full-Time Pharmacists by Position

In the Next Three Years, Proportion of Pharmacists Likely to Be (%)*	Management	Staff	Total
2014	(n = 431)	(n = 717)	(n = 1,135)
Working with current employer at current position and worksite	78	79	78
Working with current employer in a different position	23	19	20
Working with a different employer, doing the same type of work	16	16	16
Employed in a different profession	4	7	6
Retired	11	8	10

Note: *Management* includes pharmacists who are owners/partners, managers, directors, supervisors and assistant managers.
*Proportion of respondents who answered either likely or very likely on a scale of 1 = very unlikely, 2 = unlikely, 3 = likely, 4 = very likely.

Limitations

The results and our interpretation of them should be tempered by the limitations of the study. The results are based on respondents' self-reports, raising questions regarding the extent to which respondents gave socially desirable responses or the extent to which they correctly interpreted the questions. By conducting a pilot test of our questionnaire and study procedures we found that the questions were interpreted correctly and that our study design was feasible.

Our findings showed that we achieved a geographically diverse sample of pharmacists for this study in that all regions of the United States were represented in proportion to the U.S. population and in proportion to our sampling frame. Thus, while we achieved good geographic coverage, some areas of the country were disproportionately represented in this study. To overcome this limitation, we report aggregate data and not state- or region-specific findings.

Non-response bias is another limitation. It is possible that responders were more interested in the topic we studied or had stronger opinions about the questions we asked than those who chose not to respond. Our findings suggest that pharmacists who were licensed up to 1980 were more likely to respond. This may have been due to our study methods in which we encouraged all of those with a pharmacy license to respond even if they were not currently practicing pharmacy. We also over-sampled pharmacists who were more recently licensed, so their views are a greater part of our study sample than in the past.

CONCLUSIONS

Overall, the results of this study suggest that we are living in dynamic times as a health profession. We have shifted from a male-dominated to a female-dominated profession. Male pharmacists will continue to retire in large numbers given that almost 50% of actively practicing pharmacists who are over 55 years old are male. Almost 38% of pharmacists have a PharmD degree. More pharmacists are reporting their pharmacies are providing direct patient care services. As the area of coordination of care for patients with chronic conditions grows, the number of opportunities for pharmacists in new roles is likely to increase. Pharmacists in 2014 have the highest level of commitment to the profession seen in the past 15 years.

The increase in services and new roles has led to more job stress and dissatisfaction for pharmacy practitioners. The most satisfied pharmacists are those outside of patient care areas. In addition, pharmacists are feeling less able to change jobs and move around as they have in the past. Still unknown are the outcomes of health care reform and how the U.S. economy will fare. In addition, there will be a greater number of individuals eligible for health services and medications and greater demands on our health care system.

The pharmacy profession currently has, and will continue to build, capacity for contributing to the U.S. health care system in newly identified roles. However, as shifts in professional roles occur, deployment of capacity must meet the requirements of changing service models. Strategic decisions regarding pharmacy workforce, educational training, professional training and redeployment, updates to practice acts and regulations, new documentation and billing systems, enhanced information exchange, collaborative practice models, infrastructure, technology, policy, and new business models are crucial. An understanding of the most appropriate timing for making such changes can lead to cost-effective use of scarce and limited resources for improving patient care. Advances in information technology that support health information exchange may facilitate evolving change in pharmacists' patient care activities. Since personnel costs are a major component of pharmacy operating costs, changes in the pharmacy workforce are important to monitor.

Appendix A

Data Collection Forms and Code Book

2014 NATIONAL PHARMACIST WORKFORCE SURVEY

INSTRUCTIONS: Please check or fill in the appropriate blanks and return this survey in the enclosed, postage paid, return envelope. If you would like a summary of the results, send your name and address to Caroline A. Gaither via email: cgaither@umn.edu. **Even if you do not currently work in a pharmacy or as a pharmacist, we still ask you to complete the survey as best you can.**

SECTION 1: GENERAL EMPLOYMENT STATUS AND WORK ENVIRONMENT

1. Please check the category that best matches your employment status.
   _____ Practicing as a pharmacist
   _____ Employed in a pharmacy-related field or position, but not practicing as a pharmacist
   _____ Retired, but still working in pharmacy or employed part-time as a pharmacist
   _____ Retired, do not practice pharmacy at all (Skip to Section 6 on page 11)
   _____ Employed in a career not related to pharmacy (Describe: _____)
   (Skip to Section 6 on Page 11)
   _____ Unemployed (check one: __ seeking __ not seeking employment) (Skip to Section 6 on page 11)

2. Please check the ONE item that best describes your primary place of employment.
   _____ Independent community pharmacy (fewer than 4 stores under the same ownership)
   _____ Small chain community pharmacy (4 to 10 stores under the same ownership)
   _____ Large chain community pharmacy (more than 10 units under same ownership)
   _____ Mass merchandiser (e.g., Costco, Target, Wal-Mart)
   _____ Supermarket pharmacy
   _____ Clinic-based pharmacy (a licensed pharmacy located in or near a medical clinic)
   _____ Mail service pharmacy
   _____ Specialty pharmacy
   _____ Government hospital / health system (____ inpatient ____ outpatient)
   _____ Non-government hospital / health system (____ inpatient ____ outpatient)
   _____ Home health / Infusion
   _____ Nursing home / Long term care
   _____ Ambulatory care (e.g., medical clinic, office-based practice, not a licensed pharmacy)
   _____ Pharmacy benefit administration (e.g., PBM, managed care)
   _____ Academic institution
   _____ Other organization (__for-profit __non-profit) describe: _____

3. What is the zip code for your primary place of employment? ____ ____ ____ ____ ____

4. Number of years employed by your present employer: _____ years

5. Which of the following best describes your current position?
   _____ Owner/partner/executive officer (If applicable, percent ownership: _____ %)
   _____ Management (e.g. director, manager, assistant manager, supervisor)
   _____ Staff (e.g. clinical, consultant, staff, floater, or relief pharmacist)
   _____ Other (explain): _____

6. What is your current job title? _____

7. What are the two (2) biggest workforce related changes (staffing, hours, schedules, etc.) you have seen at your place of employment within the past year? If no changes, please skip to Question 8, page 2.

   1. _____
   2. _____

8. In your primary place of employment, what is the total number of: full-time pharmacists currently employed? _____
part-time pharmacists currently employed? _____

9. In your primary place of employment, what is the number of vacant: full-time pharmacist positions? _____
part-time pharmacist positions? _____

10. In your primary place of employment, have any of the following taken place during the past year?

Pharmacist lay-offs	_____ Yes	_____ No
Mandatory reductions in pharmacist hours	_____ Yes	_____ No
Early retirement incentives for pharmacists	_____ Yes	_____ No
Restructuring of pharmacist work schedules to save labor costs	_____ Yes	_____ No

SECTION 2: YOUR WORK

A. Defining Your Work Environment

1. For a typical week, estimate your percent of **actual time spent** and how this **compares** to what you were doing a year ago in the following professional activities. Please ensure that the total percentage equals 100%. If any activity is not applicable please write "N/A" in the corresponding box. For the column that asks about how this percentage **compares with a year ago**, please check the appropriate response "more", "same", or "less" for each activity.

Professional Activity Category	% of Actual Time Spent	Compared to a year ago:
Patient Care Services Associated with Medication Dispensing: preparing, distributing, and administering medication products, including associated consultation, interacting with patients about selection and use of over-the-counter products, and interactions with other professionals during the medication dispensing process.		__ more __ same __ less
Patient Care Services Not Associated with Medication Dispensing: assessing and evaluating patient medication-related needs, monitoring and adjusting patients' treatments to attain desired outcomes, and other services designed for patient care management.		__ more __ same __ less
Business/Organization Management: managing personnel, finances, and operations.		__ more __ same __ less
Research/Scholarship: discovery, development, and evaluation of products, services, and/or ideas. Please Describe:		__ more __ same __ less
Education: teaching, precepting, and mentoring of students/trainees/technicians:		__ more __ same __ less
Other: any activities not described in the above categories. Please Describe:		__ more __ same __ less
Total	**100%**	

B. Work With Others

1. How many other staff, typically, are on duty in your immediate work group or team during the greatest proportion of your workday? Please fill in the number for each type of employee.

_____ Pharmacists _____ Pharmacy technicians (number certified _____)
_____ Student pharmacists/ interns _____ Pharmacy residents
_____ Other health care practitioners _____ Other (please describe): _____

C. Workload, Workload Perceptions and Compensation

1 How would you rate your workload in your workplace? (circle your response)

Excessively low **Low** **About right** **High** **Excessively high**

2. Compared to last year at this time, how has your workload changed? (circle your response)

Greatly decreased **Decreased** **Stayed the same** **Increased** **Greatly increased**

3. How does the current level of workload in your workplace affect you? If an item is not applicable, please circle "N/A" in the corresponding box.

What effect does the current level of workload have on:	Very negative	Negative	Neither negative nor positive	Positive	Very positive	Does not apply
a. your job performance	1	2	3	4	5	N/A
b. your motivation to work at your workplace	1	2	3	4	5	N/A
c. your job satisfaction	1	2	3	4	5	N/A
d. your mental/emotional health	1	2	3	4	5	N/A
e. your physical health	1	2	3	4	5	N/A
f. your time spent with each client/patient	1	2	3	4	5	N/A
g. the quality of care you provide to patients	1	2	3	4	5	N/A
j. your opportunity to take adequate breaks	1	2	3	4	5	N/A

4. List all the activities that are used to determine your current workload during a typical day: (prescriptions dispensed, patients seen, orders reviewed, etc.)

_____
_____
_____

5. How many hours do you work in a typical week at your primary employment? (Include the total actual hours you consider being 'on duty' in activities covered in your job description).
   a. Paid hours worked per week (hours scheduled that your pay is based on): _____ hours
   b. Total actual hours worked in a typical week: _____ hours
   c. Ideally, how many hours would you choose to work each week? _____ hours
   d. Of the total 'duty hours' reported in question 5a, how many of these hours are worked at a location away from your primary place of employment (at home, another practice site, etc.)? (Please do not report hours of travel for which you are compensated.) _____ hours

6. Three years from now, do you expect to be working: (check one)
   _____ more hours per week than you are now?
   _____ about the same hours per week that you are now?
   _____ fewer hours per week than you are now?
   _____ at this time, I am not able to answer this question.

7. Of the total 52 weeks during the past year, how many weeks were you employed and working in your primary employment? (Please exclude weeks that you were on vacation and other times you were not working in a pharmacy related capacity) _____ weeks

8. Compared to this time last year, did your base pay: (check one) ____ go up ____ go down ____ stay the same

   a. If it went up; what was the percentage change from last year: _____ %

   b. If it changed, was the change due to: (check all that apply)
   _____ change in hours worked in a typical week
   _____ change in hourly or base pay rate related to performance, merit, inflation, etc.
   _____ change in hourly or base pay rate related to change in position or duties

9. Not including your base pay, did you have any of the following additional earnings during the past year:

Overtime	_____ Yes	_____ No
Bonus	_____ Yes	_____ No
Incentive pay	_____ Yes	_____ No
Profit sharing	_____ Yes	_____ No
Stock options	_____ Yes	_____ No
Other (describe):	_____	

10. If you have secondary pharmacy or pharmacy-related employment from another employer, please describe below:

Employment Setting	Hours per week	Weeks per year

D. Changes in Your Work Environment

1. In recent years there have been changes in the general economy and health care. Please indicate how the following have changed in the past year. If any activity is not applicable, please circle "N/A".

	Decreased	Stayed the same	Increased	Does not apply
Hours you are scheduled for work	1	2	3	N/A
Overtime hours available for you to work	1	2	3	N/A
Ease of taking scheduled time off	1	2	3	N/A
Flexibility in your work schedule	1	2	3	N/A
Hours you work with another pharmacist	1	2	3	N/A
Number of pharmacists with whom you work	1	2	3	N/A
Number of technicians with whom you work	1	2	3	N/A
Number of pharmacies in your locale/community	1	2	3	N/A
Pharmacist turnover at your work site	1	2	3	N/A
Pharmacy technician turnover at your worksite	1	2	3	N/A
Opportunities for secondary employment in pharmacy	1	2	3	N/A
Ease of pharmacists in your community finding work in pharmacy	1	2	3	N/A
Your ability to change to a new or different employer in pharmacy	1	2	3	N/A
Your feeling of job security	1	2	3	N/A
Your level of job stress	1	2	3	N/A
Your level of job satisfaction	1	2	3	N/A
Your use of technology or automation at your workplace	1	2	3	N/A

SECTION 3: YOUR PRACTICE SITE

A. Services Provided at Your Practice Site

1. Pharmacists have started to provide a variety of services at their practice sites. From the list below, please indicate which services are provided at your practice site by pharmacists. Check all that apply. If NONE of the services apply to your work setting, please check here_____ and skip to QUESTION 2.

_____ Disease state management
_____ Complex non-sterile compounding
_____ Medication therapy management services
_____ Complex sterile compounding
_____ Adjusting medication therapy
_____ Health screening or coaching
_____ Discharge counseling
_____ Medication reconciliation
_____ Immunization
_____ Point of care testing
_____ Ordering lab tests
_____ Collaborative practice agreements

2. Are the following monitored or evaluated at your primary work setting?

Activity	Yes	No
Patient satisfaction		
Quality of care		
Patient outcomes		
Patient safety		

3. Are you a part of an interprofessional health care team or group that is actively involved in the delivery of non-dispensing patient care activities?
_____Yes _____No

4. Do you personally have regular, direct contact with a physician and/or other health care provider regarding patient care activities such as discussing medication therapy goals or outcomes of medication therapy (not including routine prescription refills or verification of orders)?
_____Yes _____No

5. Is your practice setting currently involved in a patient-centered medical home?
_____Yes _____No _____Don‘t know

6. Is your practice setting currently affiliated with an accountable care organization?
_____Yes _____No _____Don’t know

B. Characteristics of Your Practice Site

1. The questions in this section relate to your practice site **as an organization**. Please answer the questions with this perspective in mind. If an item is not applicable, circle “N/A”.

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

a. Our pharmacy is known as an innovator among pharmacies in our area.	1	2	3	4	5	N/A
b. We promote new, innovative services in our pharmacy.	1	2	3	4	5	N/A
c. Our pharmacy provides leadership in developing new services.	1	2	3	4	5	N/A
d. The mission, values and objectives are clearly and widely understood and owned by all pharmacy staff.	1	2	3	4	5	N/A
e. Our pharmacy concentrates on achieving its mission, values, and objectives.	1	2	3	4	5	N/A
f. Collaboration and co-ordination is a major part of our approach to the organization of pharmacy services.	1	2	3	4	5	N/A

2. The following resources are important for developing and providing pharmacist/pharmacy services. Please use the scale below to rate how adequate your available resources are in helping your practice site develop and provide these services. If an item is not applicable, circle "N/A.

How adequate are:	**Poor**	**Fair**	**Good**	**Very good**	**Excellent**	**Does not apply**
a. Skills to provide services?	1	2	3	4	5	N/A
b. Financial resources to implement new services?	1	2	3	4	5	N/A
c. Expertise to develop new services?	1	2	3	4	5	N/A
d. Pharmacist staffing levels to provide new services?	1	2	3	4	5	N/A
e. Technician staffing levels to provide new services?	1	2	3	4	5	N/A
f. Resources to obtain payment for services?	1	2	3	4	5	N/A
g. Skills to market services.	1	2	3	4	5	N/A

3. During the past two years, how much has each of the following changed in your practice site to be able to provide pharmacist and/or pharmacy services? If an item is not applicable, circle "N/A".

	None 1	**A little 2**	**A lot 3**	**Does not apply**
a. Emphasis on patient or non-dispensing pharmacy services at your site	1	2	3	N/A
b. The information collected about patients	1	2	3	N/A
c. Access to electronic patient data	1	2	3	N/A
d. The system for documenting patient care	1	2	3	N/A
e. Interactions with physicians	1	2	3	N/A
f. Drug information access	1	2	3	N/A
g. The skills and knowledge of our pharmacists	1	2	3	N/A
h. Responsibilities and activities of pharmacy technicians	1	2	3	N/A
i. Staffing patterns in the pharmacy	1	2	3	N/A
j. Layout and workflow of the pharmacy	1	2	3	N/A
k. Marketing activities	1	2	3	N/A
l. Financial incentives for pharmacists	1	2	3	N/A
m. Asking patients to pay for pharmacy services	1	2	3	N/A
n. Use of technology/automation in dispensing medication	1	2	3	N/A

SECTION 4: QUALITY OF WORKLIFE

A. Stress in Your Work Environment

Using the scale below, circle the number representing how stressful each item is to you. If an item does not apply, circle "N/A".

Not at all stressful	Not too stressful	Somewhat stressful	Highly Stressful
0	1	2	3

In general, how stressful is:

a. being interrupted by phone calls or people while performing job duties?	0	1	2	3	N/A
b. not being staffed with an adequate number of pharmacists?	0	1	2	3	N/A
c. not being staffed with an adequate number of technicians?	0	1	2	3	N/A
d. doing excessive paper work or documentation (i.e., third party work, patient records)?	0	1	2	3	N/A
e. learning to use new technology or automation?	0	1	2	3	N/A
f. having to meet quotas set by management?	0	1	2	3	N/A
g. having so much work to do that everything cannot be done well?	0	1	2	3	N/A
h. dealing with difficult coworkers?	0	1	2	3	N/A
i. disagreeing with other health care professionals concerning the treatment of patients?	0	1	2	3	N/A
j. keeping up with new developments in order to maintain professional competency?	0	1	2	3	N/A
k. dealing with difficult patients?	0	1	2	3	N/A
l. possessing inadequate information regarding a patient's medical condition?	0	1	2	3	N/A
m. feeling ultimately responsible for patient outcomes from drug therapy?	0	1	2	3	N/A
n. fearing that I will make a mistake in treating a patient?	0	1	2	3	N/A
o. delegating previous or new tasks to pharmacy technicians?	0	1	2	3	N/A

B. Control in Your Work Environment

Please use the scale below to report how much control you have over the following items. If an item is not applicable, circle N/A.

No control	A little control	Moderate control	A lot of control	Total control
0	1	2	3	4

At your practice site, how much control do you have over:

a. your ability to take time from work for non-work activities?	0	1	2	3	4	N/A
b. the development of workplace policies?	0	1	2	3	4	N/A
c. the responsibilities delegated to support staff?	0	1	2	3	4	N/A
d. how workplace problems are solved?	0	1	2	3	4	N/A
e. the time spent in various work activities?	0	1	2	3	4	N/A
f. the quality of care provided to patients?	0	1	2	3	4	N/A

C. Job Satisfaction in Your Work Environment

Please use the scale below to report your level of satisfaction with the following items.

Very dissatisfied	Dissatisfied	Neither dissatisfied nor satisfied	Satisfied	Very satisfied
1	2	3	4	5

In general, how satisfied are you with:

a. your present job when compared to jobs in other organizations?	1	2	3	4	5
b. the progress you are making toward the goals you set?	1	2	3	4	5
c. the chance your job gives you to do what you are best at doing?	1	2	3	4	5
d. your present job in light of your career expectations?	1	2	3	4	5
e. your present job when you consider the expectations you had when you took the job?	1	2	3	4	5

D. Professional Commitment

Please use the scale below to report your thoughts about pharmacy as a profession.

Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

a. If I could do it all over again, I would not choose to work in the pharmacy profession.	1	2	3	4	5
b. For me, this is the ideal profession for a life's work.	1	2	3	4	5
c. I am disappointed that I ever entered the pharmacy profession.	1	2	3	4	5
d. I like this profession too well to give it up.	1	2	3	4	5
e. If I could go into a different profession other than pharmacy which paid the same, I would probably do so.	1	2	3	4	5

E. Work-Home Roles and Organizational Commitment

Please use the scale below to report on your work-homes roles and feelings about your employing organization.

Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree
1	2	3	4	5	6	7

a. In general, the demands of work do not interfere with my home, family or social life.	1	2	3	4	5	6	7
b. In general, my work has disadvantages for my home, family or social life.	1	2	3	4	5	6	7
c. Often, my home, family or social life interferes with my responsibilities at work such as getting to work on time, accomplishing daily work tasks, or working overtime.	1	2	3	4	5	6	7
d. Often, my home, family or social life keeps me from spending the amount of time I would like to spend on job or career-related activities.	1	2	3	4	5	6	7
e. I do not feel like "part of the family" at my organization.	1	2	3	4	5	6	7
f. I do not feel "emotionally attached" to this organization.	1	2	3	4	5	6	7
g. This organization has a great deal of personal meaning for me.	1	2	3	4	5	6	7
h. I do not feel a strong sense of belonging to my organization.	1	2	3	4	5	6	7
i. There is a high level of trust between top management and staff.	1	2	3	4	5	6	7
j. There is a high level of trust between pharmacist/pharmacy staff and other health care providers.	1	2	3	4	5	6	7

SECTION 5: YOUR CAREER

A. Past Work Experiences

Please describe your work history since obtaining your pharmacist license by completing the table below. You may list your jobs in chronological order starting with your first job, or in reverse order, whichever is easiest for you. **If you were out of the workforce for a period of time (e.g. illness, family-related, personal), please include this time period; under "Employment setting" write "Out" and why you were not working.** If you need more space, please use a separate piece of paper.

Employment Setting (refer to Section 1, Question 2 for setting types)	Approximate Start Date (month/year)	Approximate End Date (month/year)	Geographic Location (City, State)	Reason(s) for leaving

B. Current Job

Questions in this section capture your thoughts about aspects of your current job.

	Very difficult	Difficult	Neither difficult nor easy	Easy	Very easy
1. In general, how easy would it be to find an acceptable job alternative within the next year? **(please circle)**					

2. Please rate how easy or difficult it would be for you to find another job with the characteristics as described. If an item is not applicable, please leave it blank and skip to the next one.

How difficult would it be for you to find another pharmacy job with:	Very difficult	Difficult	Neither difficult nor easy	Easy	Very easy
a. a better work schedule?	1	2	3	4	5
b. better pharmacist co-workers?	1	2	3	4	5
c. better technician co-workers	1	2	3	4	5
d. less workload	1	2	3	4	5
e. better pay?	1	2	3	4	5
f. more intellectual challenge?	1	2	3	4	5
g. more patient contact?	1	2	3	4	5
h. better advancement opportunity?	1	2	3	4	5
i. better benefits?	1	2	3	4	5
j. less stress?	1	2	3	4	5
k. better professional treatment by management?	1	2	3	4	5
l. better geographic location?	1	2	3	4	5
m. better relationships with patients?	1	2	3	4	5
n. better relationship with management?	1	2	3	4	5
o. better professional role opportunity?	1	2	3	4	5
p. better pharmacist staffing levels?	1	2	3	4	5
q. better technician staffing levels?	1	2	3	4	5

C. Future Work Plans

We are interested in information concerning your future employment plans. Please think about your career plans regarding the next 3 years. How likely are you to experience the following career changes?

	Very unlikely	Unlikely	Likely	Very likely
a. I will be working with my current employer at my current position and worksite.	1	2	3	4
b. I will be working with my current employer in a different position	1	2	3	4
c. I will be working with my current employer at a different worksite.	1	2	3	4
d. I will be working with a different employer, but within the same type of work I am in now.	1	2	3	4
e. I will be working with a different employer doing different work than the type I am doing now.	1	2	3	4
f. I will be employed in a different profession.	1	2	3	4
g. I will pursue specialty education (e.g., Board of Pharmacy Specialty Certification, Certified Diabetes Educator).	1	2	3	4
h. I will pursue non-pharmacy education.	1	2	3	4
i. I will experience temporary and voluntary unemployment (including for medical reasons).	1	2	3	4
j. I will experience temporary and involuntary unemployment.	1	2	3	4

k. I will be out of the workforce, but would not consider myself to be retired.	1	2	3	4
l. I will be retired.	1	2	3	4

SECTION 6: INFORMATION ABOUT YOURSELF

These questions are about you and help us analyze the results. Check the space next to your response or write your answer in the space provided. If any questions are not applicable to you, please feel free to leave them blank.

1. What is your age? _____ Years

2. In what year were you first licensed as a pharmacist? _____ (year of first licensure)

3. Please identify any educational experiences you have completed/earned? (check all that apply)

_____ BS Pharmacy
_____ PharmD
_____ PhD
_____ Fellowship
_____ Certification Program (describe) _____
_____ Masters (__MS, __MBA, __MA, __MPH)
_____ Residency (type) _____
_____ Other (describe) _____

4. Do you have a National Provider Identifier (NPI) Number? _____ Yes _____ No;

Why or Why Not? _____

5. What is your gender? _____ Male _____ Female

6. How would you identify your ethnicity or race?

_____ American Indian
_____ Asian
_____ Black/African American
_____ Latino/Latina
_____ White/Caucasian
_____ Other (specify): _____

7. Geographic location and re-location are important to workforce planning.

a. Where did you spend most of your childhood years (birth to 18 years old)?
City/town_____ State (or Country)_____
b. From which state (country) and school did you earn your initial Pharmacy Practice Degree?
State (or Country):_____School:_____

8. In what U.S. states are you currently licensed as a pharmacist? (List all U.S. states)_____

9. What is the zip code of your current primary residence? ____ ____ ____ ____ ____

10. What is your marital status?

__single (never married); __ separated/ divorced; __ married; __legally or otherwise partnered; __ widowed

11. What was your student loan debt at your time of graduation from pharmacy school? $ _____

12. What is the current balance of your student loan debt? $ _____

13. Please provide us with any other comments you have about your job, work life or career that would help us understand your perspectives on your job or career in pharmacy in the space below and on the back page.

Please return your completed form in the postage paid envelope provided.
THANK YOU VERY MUCH FOR YOUR HELP!

2014 NATIONAL PHARMACIST WORKFORCE SURVEY

INSTRUCTIONS: Please check or fill in the appropriate blanks and return this brief form in the enclosed, postage paid, return envelope. Or if you would like to complete the full 11- page questionnaire, you can electronically at (paste into your browser): https://umn.qualtrics.com/SE/?SID=SV_a8BUIgQA9MrBKAd **Even if you do not currently work in a pharmacy or as a pharmacist, we still ask you to complete the survey.**

SECTION 1: GENERAL EMPLOYMENT STATUS AND WORK ENVIRONMENT

1. Please check the category that best matches your employment status

_____ Practicing as a pharmacist
_____ Employed in a pharmacy-related field or position, but not practicing as a pharmacist
_____ Retired, but still working in pharmacy or employed part-time as a pharmacist
_____ Retired, do not practice pharmacy at all (Skip to Section 2 on page 2)
_____ Employed in a career not related to pharmacy (Describe: _____)
(Skip to Section 2 on page 2)
_____ Unemployed (check one: __ seeking __ not seeking employment) (Skip to Section 2 on page 2)

2. Please check the ONE item that best describes your primary place of employment.

_____ Independent community pharmacy (fewer than 4 stores under the same ownership)
_____ Small chain community pharmacy (4 to 10 stores under the same ownership)
_____ Large chain community pharmacy (more than 10 units under same ownership)
_____ Mass merchandiser (e.g., Costco, Target, Wal-Mart)
_____ Supermarket pharmacy
_____ Clinic-based pharmacy (a licensed pharmacy located in or near a medical clinic)
_____ Mail service pharmacy
_____ Specialty pharmacy
_____ Government hospital / health system (____ inpatient ____ outpatient)
_____ Non-government hospital / health system (____ inpatient ____ outpatient)
_____ Home health / Infusion
_____ Nursing home / Long term care
_____ Ambulatory care (e.g., medical clinic, office-based practice, not a licensed pharmacy)
_____ Pharmacy benefit administration (e.g., PBM, managed care)
_____ Academic institution
_____ Other organization (__for-profit __non-profit) describe: _____

3. How many hours do you work in a typical week at your primary employment? (Include the total actual hours you consider being 'on duty' in activities covered in your job description).

a. Paid hours worked per week (hours scheduled that your pay is based on): _____ hours
b. Total actual hours worked in a typical week: _____ hours
c. Ideally, how many hours would you choose to work each week? _____ hours
d. Of the total 'duty hours' reported in question 3a, how many of these hours are worked at a location away from your primary place of employment (at home, another practice site, etc.)? (Please do not report hours of travel for which you are compensated.) _____ hours

4. In your primary place of employment, what is the number of vacant: full-time pharmacist positions? _____
part-time pharmacist positions? _____

5. In your primary place of employment, have any of the following taken place during the past year?

Pharmacist lay-offs	_____ Yes	_____ No
Mandatory reductions in pharmacist hours	_____ Yes	_____ No
Early retirement incentives for pharmacists	_____ Yes	_____ No
Restructuring of pharmacist work schedules to save labor costs	_____ Yes	_____ No

6. What % of time do you spend weekly in **patient care services associated with medication dispensing** (defined as preparing, distributing, and administering medication products, including associated consultation, interacting with patients about selection and use of over-the-counter products, and interactions with other professionals during the medication dispensing process):

_____ %

SECTION 2: INFORMATION ABOUT YOURSELF

These questions are about you and help us analyze the results. Check the space next to your response or write your answer in the space provided. If any questions are not applicable to you, please feel free to leave them blank.

1. What is your age? _____ Years

2. In what year were you first licensed as a pharmacist? _____ (year of first licensure)

3. Please identify any educational experiences have you completed/earned? (Check all that apply)

_____ BS Pharmacy
_____ PharmD
_____ PhD
_____ Fellowship
_____ Certification Program (describe) _____
_____ Masters (__MS, __MBA, __MA, __MPH)
_____ Residency (type) _____
_____ Other (describe) _____

4. What is your gender? _____ Male _____ Female

Finally, we would appreciate your comments about why you were not able to complete the full survey for this study. Your insights and advice will help us plan the next National Pharmacist Workforce Survey.

Please return your completed form in the postage paid envelope provided.

THANK YOU VERY MUCH FOR YOUR HELP!

2014 NATIONAL PHARMACIST WORKFORCE SURVEY

CODE BOOK

For complete wording of each question in the survey, refer to the survey forms titled "2014 NATIONAL PHARMACIST WORKFORCE SURVEY" at the end of this document.

Variable Name	Description	Coding	Notes
RespID	Respondent Identification	Number on form	
Datereturned	Date survey was received in mail	mo / day / year	
Mailing	Which mailing survey was from	1 = first mailing of the survey 2 = second mailing of the survey 3 = final contact using the 2-page option	
Empstat	Employment Status	1 = practicing as pharmacist 2 = employed in a pharmacy-related field… 3 = retired, but still working in pharmacy or… 4 = retired, do not practice pharmacy at all 5 = employed in a career not related to phar… 6 = unemployed	
Career	Career not related to pharmacy	String variable	Description of career
Seeking	Seeking employment or not	1 = seeking; 2 = not seeking employment	
Practcode	Primary place of employment	1 = independent 2 = small chain 3 = large chain 4 = mass merchandiser 5 = supermarket 6 = clinic-based pharmacy 7 = mail service pharmacy 8 = specialty pharmacy 9 = government hospital / health system 10 = Non-government hospital / health system 11 = Home health / Infusion 12 = Nursing home / Long term care 13 = Ambulatory care 14 = Pharmacy benefit administration 15 = Academic institution 16 = Other 17 = Other Patient Care 18 = Other non-patient Care 19 = industry	
Typegov	Type of Gov Hospital	1 = inpatient, 2 = outpatient, 3 = both	
Typenongov	Type of Non-Gov Hospital	1 = inpatient, 2 = outpatient, 3 = both	
Profit	For profit or non-profit Org	1 = for-profit; 2 = non-profit	
Otherpract	Description of Other practice	String variable	
Zipemp	Zip code of place of employment	5-digit zip code	
Yearsemp	Yrs employed by current employer	# (Years)	
Position	Current Position	1 = owner/partner/executive officer 2 = management 3 = staff 4 = other	
Perown	Percent Ownership	% reported --- 50% would be entered as 50	Just enter #
Otherpos	Description of other position	String variable	
Jobtitle	Job title	String variable	
Nochange	No changes listed	1 = yes; 2 = no	
Workfchg1	Biggest workforce related changes	String variable	
Workfchg2	Biggest workforce related changes	String variable	
Fullrphemp	Full time RPhs employed	#	
Partrphemp	Part time RPhs employed	#	
FullrphVA	Full time RPh vacant	#	

PartrphVA	Part time RPh vacant	#	
Layoff	Layoffs	1 = Yes, 2 = No	
CutHRS	Mandatory reductions in hours	1 = Yes, 2 = No	
Earlyret	Early retirement incentives	1 = Yes, 2 = No	
Restruct	Restructuring work schedules	1 = Yes, 2 = No	
PcDisp	% time in dispensing	# that is, 50% would be entered as 50	
PcDispyr	PcDisp compared to a year ago	1 = more, 2 = same, 3 = less	
PCNonDisp	% time in patient care non-disp	#	
PCNondipsyr	PcNonDisp compared to a year ago	1 = more, 2 = same, 3 = less	
Manage	% time in management	#	
Manageyr	Manage compared to a year ago	1 = more, 2 = same, 3 = less	
ResearchDes	Description of Research	String variable	
Research	% time in research	#	
ResearchYr	Research compared to a year ago	1 = more, 2 = same, 3 = less	
Education	% time in education	#	
Educatiyr	Education compared to a year ago	1 = more, 2 = same, 3 = less	
OTHACTDES	Description of Other Activities	String variable	
OthAct	% time in Other Activities	#	
OthActyr	OthAct compared to a year ago	1 = more, 2 = same, 3 = less	
WorkRPh	Other pharmacists work with	#	
WorkStudent	Students work with	#	
WorkNCP	Other HealthCarePrac work with	#	
WorkTech	Techs work with	#	
Techcertified	Number certified	#	
WorkResi	Pharmacy Residents work with	#	
WorkOTHER	Others work with	#	
WorkOTHDES	Description of Others	String variable	
RATEWorkLD	How rate your workload	1 = excessively low 2 = low 3 = about right 4 = high 5 = excessively high	
ChangeWorkLD	Workload changed from year ago	1 = greatly decreased 2 = decreased 3 = stayed the same 4 = increased 5 = greatly increased	
	Current level of Workload effect on:		
JobPerf	job performance	1= very negative	
Motiv	motivation to work	2 = negative	
JobSat	job satisfaction	3 = neither negative nor positive	
Mental	mental/emotional health	4 = positive	
Physical	physical health	5 = very positive	
Time	time spent with clients/patients		
Quality	quality of care you provide to patients	9 = does not apply	
Breaks	opportunity to take adequate breaks		
ActWorkLD	Activities used to determine workload	String variable	
PaidHrs	Paid hours worked per week	Hours per week	
ActHrs	Actual hours worked per week	Hours per week	
IdHrs	Ideal hours to work per week	Hours per week	
AwayHrs	Of paid hours, how many away from site?	Hours per week	
ThreeYears	Three years from now plan to be working	1 = more hours per week 2 = about same hours per week 3 = fewer hours per week 4 = unable to answer	
Wkswork	Weeks worked in past year	Number of weeks	
Basepay	Compared to year ago, base pay:	1 = go up, 2 = go down, 3 = stay the same	
Paychange	If went up, % pay change from last year	% reported ----- 4% would be entered as 4	Just number
ChgHRS	Change due to hours	1 = yes, 2 = no	
ChgMERIT	Change due to merit	1 = yes, 2 = no	
ChgPOS	Change due to new position/duties	1 = yes, 2 = no	
	Additional earnings from:		
Overtime	Overtime		
Bonus	Bonus		

Incentpay ProfShar Stock OtherEarn	Incentive Pay Profit Sharing Stock Options Other	1 = yes 2 = no	
NumWork	Number of employment settings listed	#	
Empset1	Employment setting for 1st job listed	See Practcode (1-16) If not 1-16, then type it in.	
Set1Hrs	Hours per week	Hours per week	
Set1Week	Weeks per year	Weeks per year	
Empset2	Employment setting for 2nd job listed	See Practcode (1-16)	
Set2Hrs	Hours per week	Hours per week	
Set2Week	Weeks per year	Weeks per year	
Empset3	Employment setting for 3rd job listed	See Practcode (1-16)	
Set3Hrs	Hours per week	Hours per week	
Set3Week	Weeks per year	Weeks per year	
	Changes in work environment in past year		
Change1 Change2 Change3 Change4 Change5 Change6 Change7 Change8 Change9 Change10 Change11 Change12 Change13 Change14 Change15 Change16 Change17	Hours scheduled Overtime available Ease of taking time off Flex in work schedule Hours with another pharmacist Number of pharmacists Number of technicians Number of pharmacies in community Pharmacist turnover at your site Technician turnover at your site Opportunity for secondary employment Ease in pharmacists finding work Ability to change employer in pharmacy Feeling of job security Level of job stress Job satisfaction Use of technology or automation	1 = decreased 2 = stayed the same 3 = increased 9 = does not apply	
ServeNo	No services listed provided at site	1 = yes, this was checked 2 = no, it was not checked	
	Services Provided:		
Disease Nonsterile MTM Sterile AdjMTM Helathscrn Discharge Reconcili Immun POCtest Labtest PracAge	Disease state management Non-sterile compounding Medication Therapy Management Sterile compounding Adjusting medication therapy Health screening or coaching Discharge counseling Med reconciliation Immunization Point of care testing Ordering lab tests Collaborative Practice Agreements	1 = yes 2 = no	
	Monitored or evaluated at setting:		
PatSat QualCare Patout Patsafe	Patient Satisfaction Quality of Care Patient Outcomes Patient Safety	1 = yes 2 = no	
Interproff	Part of Interprofessional team?	1 = yes, 2 = no	
Conthcp	Regular contact with health care providers	1 = yes, 2 = no	
Medhom	Part of Patient centered medical home?	1 = yes, 2 = no, 3 = don't know	
ACO	Part of accountable care organization?	1 = yes, 2 = no, 3 = don't know	
	Practice site characteristics:		
charaA charaB charaC	Known as innovator Promote new services Provides leadership for new services	1 = strongly disagree 2 = disagree 3 = neither disagree nor agree 4 = agree	

charaD	Mission values objectives clear	5 = strongly agree	
charaE	Concentrate on mission values objectives		
charaF	Collaboration major part of our approach	9 = does not apply	
	How adequate are:		
ResourcesA	Skills to provide services	1 = Poor	
ResourcesB	Financial resources to implement	2 = Fair	
ResourcesC	Expertise	3 = Good	
ResourcesD	Pharmacist staffing levels	4 = Very Good	
ResourcesE	Technician staffing levels	5 = Excellent	
ResourcesF	Resources to obtain payment		
ResourcesG	Skills to market services	9 = does not apply	
	Past 2 years, change in practice:		
Changepraca	Emphasis on patient		
Changepracb	Information collected about patients		
Changepracc	Access to electronic patient data		
Changepracd	Systems for documenting patient care	1 = none	
Changeprace	Interactions with physicians	2 = a little	
Changepracf	Drug information access	3 = a lot	
Changepracg	Skills and knowledge of pharmacists		
Changeprach	Responsibilities/activities of technicians	9 = does not apply	
Changepraci	Staffing patterns in the pharmacy		
Changepracj	Layout and workflow of the pharmacy		
Changeprack	Marketing activities		
Changepracl	Financial incentives for pharmacists		
Changepracm	Asking patients to pay for services		
Changepracn	Use of dispensing tech/ automation		
	Stress in work environment:		
Stressa	Interrupted		
Stressb	Too few pharmacists	0 = not at all stressful	
Stressc	Too few techs	1 = not too stressful	
Stressd	Excessive paper work	2 = somewhat stressful	
Stresse	Learning new technology	3 = highly stressful	
Stressf	Having to meet quotas		
Stressg	Having too much work to do	9 = not applicable	
Stressh	Dealing with difficult co-workers		
Stressi	Disagreeing with other H.C. professionals		
Stressj	Keeping up with new developments		
Stressk	Dealing with difficult patients		
Stressl	Inadequate information regarding pts		
Stressm	Feeling responsible for med outcomes		
Stressn	Fearing that I will make a mistake		
Stresso	Delegating tasks to techs		
	Control in your work environment:		
		0 = No control	
Controla	Ability to take time	1 = A little control	
Controlb	Development of policies	2 = Moderate control	
Controlc	Responsibilities delegated to staff	3 = A lot of control	
Controld	How problems are resolved	4 = Total Control	
Controle	Time spent in work activities		
Controlf	Quality of care provided to patients	9 = not applicable	
	Job Satisfaction in your work Environment		
Jobsata	Your present job compared to others	1 = very dissatisfied	
Jobsatb	Progress you are making	2 = dissatisfied	
Jobsatc	Job gives you a chance to do your best	3 = neither dissatisfied nor satisfied	
Jobsatd	Present job in light of career expectations	4 = satisfied	
Jobsate	Present job vs. expectations when took it	5 = very satisfied	

	Professional Commitment		
Profcomma	Could do over, would not choose pharm	1 = strongly disagree	Take care to reverse code correctly before summing.
Profcommb	For me, ideal profession	2 = disagree	
Profcommc	Disappointed I entered pharmacy	3 = neither disagree nor agree	
Profcommd	Like profession too well to give it up	4 = agree	
Profcomme	If could go different, I would	5 = strongly agree	
	Work – Home Roles and Org Commitment		
Wkhm1	Work does not interfere with home		Take care to reverse code correctly before summing.
Wkhm2	Work had disadvantages for home	1 = strongly disagree	
Hmwk1	Home keeps me from work responsibility	2 = moderately disagree	
Hmwk2	Home keeps me from time at work	3 = slightly disagree	
Orgcom1	Don't feel like part of family in org	4 = neither agree nor disagree	
Orgcom2	Don't feel emotionally attached to org	5 = slightly agree	
Orgcom3	This org has a great deal of meaning to me	6 = moderately agree	
Orgcom4	I don't feel sense of belonging to org	7 = strongly agree	
Orgcom5	High level of trust between mgmt – staff		
Orgcom6	High level trust pharm - other providers		
Numcareer	Number of employment settings listed	#	
Career1	Career setting type	See coding for Practcode (1-16) + OUT = 99	
Start1	Month / year	Enter just YEAR	
End1	Month / year	Enter just YEAR	
Zip1	Geographic Location	String variable - City, state --- will look up zips later	
Leave1	Reason(s) for leaving	String variable --- can create codes later	

Repeat sequence above for as many career settings that are listed. Currently, the data file goes up through Career13.

Start with oldest one first and then go through to the CURRENT position. You may have to go to page 1 to find CURRENT position information.

Do not include positions that were held BEFORE pharmacist licensure. Do NOT include Internship positions.

accepjob	How easy to find acceptable job alternative	1 = very difficult 2 = difficult 3 = neither difficult nor easy 4 = easy 5 = very easy	
	How difficult to find another job with:		
Awtjoba	Better work schedule		
Awtjobb	Better pharmacist co-workers		
Awtjobc	Better technician co-workers		
Awtjobd	Less workload	1 = very difficult	
Awtjobe	Better pay	2 = difficult	
Awtjobf	More intellectual challenge	3 = neither difficult nor easy	
Awtjobg	More patient contact	4 = easy	
Awtjobh	Better advancement opportunity	5 = very easy	
Awtjobi	Better benefits		
Awtjobj	Less stress		
Awtjobk	Better professional treatment by mgmt.		
Awtjobl	Better geographic location		
Awtjobm	Better relationships with patients		
Awtjobn	Better relationship with management		
Awtjobo	Better professional role opportunity		
Awtjobp	Better pharmacist staffing levels		
Awtjobq	Better technician staffing levels		
	Likely to experience in next three years:		
Fwplan2a	Current employer – same positon		
Fwplan2b	Current employer – different position		

Fwplan2c Fwplan2d Fwplan2e Fwplan2f Fwplan2g Fwplan2h Fwplan2i Fwplan2j Fwplan2k Fwplan2l	Current employer – different site Different employer – same work Different employer – different work Different profession Pursue specialty education Pursue non-pharmacy education Temporary, voluntary unemployment Temporary, involuntary unemployment Out of workforce but not retired I will be retired	1 = very unlikely 2 = unlikely 3 = likely 4 = very likely	
Age	Age in years	Years	
yrlic	Year first licensed as a pharmacist	Year of first licensure	
MissEd	Missing Education Data	1 = missing all educational experience data 2 = reported educ experience data for at least one	
BSpharmacy	Completed BS Pharmacy degree	1 = yes, 2 = no	
PharmD	Completed PharmD	1 = yes, 2 = no	
PhD	Completed PhD	1 = yes, 2 = no	
Fellowship	Completed Fellowship	1 = yes, 2 = no	
Certificateprogram	Completed Certification Program	1 = yes, 2 = no	
Certdescribe	Description of certification program	String variable	
Masters	Completed Masters	1 = yes, 2 = no	
MasterType	Master program type	1 = MS 2 = MBA 3 = MA 4 = MPH 9 = more than one checked	
Residency	Completed Residency	1 = yes, 2 = no	
Residtype	Description of residency program	String variable	
Other	Completed Other	1 = yes, 2 = no	
Othereductype	Description of other program	String variable	
NPI	Have a national provider number	1 = yes, 2 = no	
NPIWhy	Description of why or why not	String variable	
Sex	Gender	1 = male, 2 = female	
Ethnicity	Ethnicity or race	1 = American Indian 2 = Asian 3 = Black / African American 4 = Latino / Latina 5 = White / Caucasian 6 = Other (specify)	**If checked more than one, code as 6 and describe.**
EthnDesc	Description of Other Ethnicity	String variable	
Citytown	Where spent most of childhood	String variable for city or town	
Zip	Zip code of City town listed	5-digit zip code	
statecountrychild	Where spent most of childhood	String variable for state or country	
Intdegreestate	Initial Degree from state/county	String variable for state/country	
School	Initial Degree from which school	String variable for school	
Numstate	Number of states currently licensed	#	
State1	Name of state licensed	String variable	
State2	Name of state licensed	String variable	
State3	Name of state licensed	String variable	
State4	Name of state licensed	String variable	
State5	Name of state licensed	String variable	
State6	Name of state licensed	String variable	
State7	Name of state licensed	String variable	
State8	Name of state licensed	String variable	
State9	Name of state licensed	String variable	
State10	Name of state licensed	String variable	
State 11	Name of state licensed	String variable	
State 12	Name of state licensed	String variable	
State13			
State14			
State15			
State16			

Zipres	Zip code of primary residence	5-digit zip code	
Marital	Marital status	1 = single (never married) 2 = separated / divorced 3 = married 4 = legally of otherwise partnered 5 = widowed	
Sloangrad	Student loan debt at graduation	#	
Sloannow	Student loan debt now	#	
comments	Comments made	1 = yes 2 = no	
TotalAct	Computed variable	Total of work activity variables to verify summation to 100.	
RPhFullTime	Select-If variable	Emptstat = 1 & Acthrs > = 30	
AllFullTime	ActHrs >= 30	0 = < 30 hours per week 1 = 30 or more hours per week	
newpractcode	Recoded practice settings	1 = independent 2 = chain 3 = mass merchandiser 4 = supermarket 5 = other patient care 6 = hospital/health system 7 = other non-patient care 8= industry	
rprofcomma05 rprofcommc05 rprofcomme05	Reverse coded profcomma05 Reverse coded profcommc05 Reverse coded profcomme05	5 = strongly disagree 4 = disagree 3 = neither disagree nor agree 2 = agree 1 = strongly agree	
rwkhm117 rorgcom117 rorgcom217 rorgcm417	Reverse coded wkhm117 Reverse coded orgcom117 Reverse coded orgcom217 Reverse coded orgcom417	7= strongly disagree 6 = moderately disagree 5 = slightly disagree 4 = neither agree nor disagree 3 = slightly agree 2 = moderately agree 1 = strongly agree	
jobsat2014	Jobsata + Jobsatb + Jobsatc+ Jobsatd + Jobsate	5-25	
carcom2014	rprofcomma05 + profcommb + rprofcommc05 + profcommd rprofcomme05	5-25	
orgcom2014	rorgcom117 + orgcom217 + orgcom117 + rorgcom417	4-28	
hmwk2014	Hmwk317 + Hmwk417	2-14	
Wkhm2014	rwkhm117 +Wkhm217	2-14	
revallfulltime	Actual hours worked $\leq$ 30 hours per week	0 = $\leq$ 30 hours per week 1 = > 30 hours per week	
rstressa rstressb rstressc rstressd rstresse rstressf rstressg rstressh rstressi rstressj rstressk rstressl rstressm rstressn rstresso	Recoded stress items with "not applicable" removed	0 = not at all stressful 1 = not too stressful 2 = somewhat stressful 3 = highly stressful	
rcontrola	Recoded control items with "not	0 = No control	

rcontrolb rcontrolc rcontrold rcontrole rcontrolf	applicable" removed	1 = A little control 2 = Moderate control 3 = A lot of control 4 = Total Control	
yrsexp	Years since first licensed	2014-yrlic	
newposition	Recoded position	1= management 2 = staff	
inewpractcode	Recoded practice setting with industry put into "other non-patient care"	1 = independent 2 = chain 3 = mass merchandiser 4 = supermarket 5 = other patient care 6 = hospital/health system 7 = other non-patient care	
yrsexpgrps	Years since first licensed into groups	1 = 0-5 years 2 = 6-10 years 3 = 11-20 years 4 = 21-30 years 5 = > 30 years	
control2014rev	rcontrola + rcontrolb + rcontrolc + rcontrold + rcontrole + rontrolf	0-24	
midwkhm	% lower or higher than midpoint for work-home conflict	1 = ≤ 8 2 = > 8	
midorgcom	% lower or higher than midpoint for organizational commitment	1= ≤ 16 2 = > 16	
midhmwk	% lower or higher than midpoint for home-work conflict	1 = ≤ 8 2 = > 8	
midcarcom	% lower or higher than midpoint for career commitment	1 = ≤ 15 2 = > 15	
midcontrol	% lower or higher than midpoint for control in the work environment	1 = ≤ 12 2 = > 12	
midjobsat	% lower or higher than midpoint for Job satisfaction	1 = ≤ 15 2 = > 15	
decades	Year of first licensure groups	1 = up to 1960 2 = 1961 to 1970 3 = 1971 to 1980 4 = 1981 to 1990 5= 1991 to 2000 6 = 2001 to 2010 7 = 2011 to 2013	
agegroups	age coded into groups	1= ≤ 30 years old 2 = 31 to 40 years old 3 = 41 to 50 years old 4 = 51 to 60 years old 5 = 61 to 70 years old 6 = > 70 years old	
earlylate	compares early and late respondents	1 = responded to first mailing 2 = responded to third mailing	

Appendix B

Cover Letters and Forms

Pre-notification Letter
May 2014

Dear Fellow Pharmacist:

A few weeks from now you will receive in the mail a request to fill out a questionnaire for an important research project being funded by Pharmacy Workforce Center (PWC), a consortium of pharmacy organizations established in 1989 as a non-profit corporation and coordinated by the American Association of Colleges of Pharmacy. **A small token of our appreciation for participating in the survey will be included with that mailing.**

The purpose of the survey is to collect reliable information on demographic characteristics, work contributions and on the quality of work life of the national pharmacist workforce in the United States during 2014. Similar surveys were conducted in 2000, 2004 and 2009. The University of Minnesota, College of Pharmacy is conducting this survey on behalf of PWC in an objective, high quality manner so that the findings will be considered reliable and valid.

I am writing you in advance because many people like to know ahead of time that they will be contacted. Your name was randomly selected from a roster of all licensed pharmacists residing in the United States. Before we send the survey to our sample members, we would like to make sure that our sample of pharmacists is as error-free as possible. It is possible that some members of our sample are not pharmacists since some state board of pharmacy records include names of student pharmacists, pharmacy technicians, dispensing physicians, drug enforcement officials, or others who may not be licensed pharmacists.

At this time, we would also like to determine if we have included you in our sample of pharmacists by mistake. If you believe that we should remove your name from our sample, please check the appropriate space on the enclosed form and mail it back to us in the postage paid envelope provided. You may also let me know by email (cgaither@umn.edu**) or telephone (612-626-0811).**

Thank you for helping us gather these workforce data. We believe the results will be useful to you as a pharmacist and others interested in our profession. It is only with the support of pharmacists like you that our research can be successful.

Sincerely,

Caroline A. Gaither, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

2014 National Pharmacist Workforce Survey

If you believe that we should remove your name from our sample, please check the appropriate space below and mail this form back to us in the postage paid envelope provided. You may also let us know by contacting Caroline Gaither at either cgaither@umn.edu **(e-mail) or 612-626-0811 (office phone).**

Please remove this name from your national random sample of pharmacists for the following reason:

_____ The person to whom this letter was sent is not licensed as a pharmacist.

_____ The person to whom this letter was sent is a licensed pharmacist, but is not able to participate in the survey due to circumstances that do not permit him or her from doing so.

If you are willing to provide specific comments to help us document and understand the reason you checked above, please write them in the space below:

You can use postage paid envelope provided to return this form.

THANK YOU VERY MUCH FOR YOUR HELP!

Cover letter 1
June 2014

Dear Colleague:

I am writing to **ask for your participation** in a nationwide study of pharmacists being funded by the Pharmacy Workforce Center, in conjunction with the University of Minnesota, College of Pharmacy. This study is part of an on-going effort by the Pharmacy Workforce Center to collect reliable and valid information on the demographic characteristics, work contributions and quality of work life of the pharmacists in the United States.

Results from the study will be used to help understand trends in the current pharmacist workforce and help with pharmacy workforce planning. The 2014 survey will add to previously completed surveys in 2000, 2004 and 2009. To review findings from those surveys, go to: http://www.aacp.org/resources/research/pharmacymanpower/Pages/default.aspx.

Your name was one of a select number of pharmacists chosen randomly from a roster of all licensed pharmacists residing in the United States. Whether you are actively practicing as a pharmacist or not, your response is valuable in helping understand the pharmacist workforce in the United States**. Therefore, every response is important in providing accurate results**.

The enclosed survey was designed for ease of completion and should take no longer than 20-30 minutes to complete. You can return in the enclosed postage paid envelope. A small gift is enclosed as a token of our appreciation for your help. Once we receive your survey, you will also be entered into a drawing to receive one of five cash prizes of $100.00.

We greatly appreciate your assistance to continue documenting, evaluating, and sharing this important information. The findings have been useful to members of our profession, educators, policy makers, and others.

Your response is **confidential.** Only aggregate responses will be reported. By returning the survey form to us, you are providing your consent to participate in the project. An identification number is on each questionnaire to help us follow up on non-responses. The final report will be submitted to the Pharmacy Workforce Center and results from the study will be presented nationwide and published in pharmacy journals. Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota or with the funder of the project. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting these relationships.

Thank you for helping us collect this important information. If you have any questions or comments about the study, please contact me at cgaither@umn.edu or 612-626-0811. If you would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Caroline A. Gaither, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

Postcard Thank-you/Reminder (Used in Pilot Test Only)
Dear Colleague

Approximately 10 days ago, a questionnaire asking about your work life and contributions to the health of our society was mailed to you. Your name was one of a select number of pharmacists randomly chosen from a list of all pharmacists licensed in the United States.

If you already have completed and returned the questionnaire to us, **THANK YOU VERY MUCH FOR YOUR HELP!** If not, please do so today. We are especially grateful for your help because it is only by asking people like you to share your experiences that we can understand the diverse characteristics of the pharmacist workforce and its contributions to society.

If you did not receive a questionnaire, or if it was misplaced, please contact me at cgaither@umn.edu or 612-626-0811 and we will get another one in the mail to you today.

Sincerely,

Caroline A. Gaither, R.Ph., Ph.D.
Principal Investigator, University of Minnesota

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Cover letter 2
July 2014

Dear Pharmacist:

Approximately four weeks ago I sent a questionnaire to you that asked about your employment, work activities and quality of work life. To the best of my knowledge, I have not yet received your completed questionnaire.

I am writing you again because of the importance that your questionnaire has for helping to get accurate results. The surveys we have received thus far have been very insightful, but are still not enough to represent the experiences of pharmacists in the United States.

Another survey form is enclosed for your convenience. Please take about 20-30 minutes to complete the enclosed questionnaire and then return it to us in the postage paid envelope we have provided. If you feel you cannot or do not want to participate, let us know by returning a note or a blank questionnaire so we can remove you from our sample.

Your participation is voluntary and your responses will be kept private. Only aggregate results will be reported. By returning the survey form to us, you are providing your consent to participate in the project. Remember, once we receive the completed survey, you will be entered into a drawing to win one of five $100.00 cash prizes.

Thank you very much for your time and effort. Your cooperation is valued and greatly appreciated. If you have any questions or comments about the study, please contact Dr. Caroline A. Gaither at 612-626-0811 or at cgaither@umn.edu. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Caroline A. Gaither, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

Final Non Respondent survey
September 2014

Dear Pharmacist:

I need your help! Over the past four months, I sent you several mailings asking about an important research study regarding the pharmacy workforce. If you have already completed and returned the questionnaire, **THANK YOU!**

The study is drawing to a close, and hope that you might take a few moments to give us answers to 10 general questions about you and your workplace. We know you are busy, but we are concerned that people who have not responded may have different characteristics and experiences than those who have. Hearing from everyone in this study helps assure that the survey results are as accurate as possible.

This enclosed form should take no longer than 5 minutes to complete. Please return it in the enclosed postage paid envelope. If you would like to complete the entire 11-page questionnaire, you can do so electronically at (paste into your browser) https://umn.qualtrics.com/SE/?SID=SV_a8BUIgQA9MrBKAd

Your participation is voluntary and your responses will be kept private. By responding to our request, you are providing your consent to participate in the project. If at all possible, please respond by **October 22, 2014**.

If there is a particular reason for your non-participation in this study, I would appreciate a brief e-mail (to cgaither@umn.edu) explaining why you did not want to participate.

If you have any questions or comments about the study, please contact Dr. Caroline A. Gaither at 612-626-0811 or at cgaither@umn.edu. If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, you also may contact the Research Subjects' Advocate Line, D528 Mayo, 420 Delaware Street, SE, Minneapolis, MN 55455; 612-625-1650.

Sincerely,

Caroline A. Gaither, R.Ph., Ph.D.
Principal Investigator
University of Minnesota

Attachment 2

BOARD OF PHARMACY

REVIEW OF NATIONAL EXAMINATIONS FOR THE CERTIFICATION OF PHARMACY TECHNICIANS

Pharmacy Technician Certification Exam (PTCE)

Exam for the Certification of Pharmacy Technicians (ExCPT)

OFFICE OF PROFESSIONAL EXAMINATION SERVICES

STATE OF CALIFORNIA

DEPARTMENT OF CONSUMER AFFAIRS

BOARD OF PHARMACY

REVIEW OF NATIONAL EXAMINATIONS FOR THE CERTIFICATION OF PHARMACY TECHNICIANS

Pharmacy Technician Certification Exam (PTCE)

Exam for the Certification of Pharmacy Technicians (ExCPT)

This report was prepared and written by the
Office of Professional Examination Services
California Department of Consumer Affairs

November 2014

Heidi Lincer-Hill, Ph.D., Chief

Judy Geer, Personnel Selection Consultant

EXECUTIVE SUMMARY

Licensing boards and bureaus within the California Department of Consumer Affairs (DCA) are required to ensure that national examination programs selected for use in the California licensure process comply with psychometric and legal standards. The California Board of Pharmacy (Board) requested that the DCA Office of Professional Examination Services (OPES) complete a comprehensive review of the Pharmacy Technician Certification Board's (PTCB) Pharmacy Technician Certification Exam (PTCE) and the National Healthcareer Association's (NHA) Exam for the Certification of Pharmacy Technicians (ExCPT). At present there are three routes from which candidates may select to become certified pharmacy technicians in California, only one of which requires successful completion of an examination.

This examination review was conducted to help the Board determine whether to include acceptance of ExCPT certification as a requirement for certification for all candidates. The review evaluated the applicability of the PTCE and the ExCPT for use in California and identified how well the relevant areas of California pharmacy technician practice are covered by the examinations.

In 2010 the Board of Pharmacy of the State of Texas adopted the PTCE as its licensing instrument for pharmacy technicians. As part of its decision-making process, the Texas board contracted with three psychometricians to conduct a thorough review of the development process for both the PTCE and the ExCPT. OPES requested and reviewed a copy of the Texas study in order to determine whether (a) occupational analyses, (b) examination development, (c) passing scores, (d) test administration, (e) examination performance, and (f) test security procedures meet professional guidelines and technical standards. OPES found that the procedures used to establish and support the validity and defensibility of the PTCE's and the ExCPT's examination program components listed above do meet professional guidelines and technical standards outlined in the *Standards for Educational and Psychological Testing (APA Standards)* and the California Business and Professions (B&P) Code Section 139.

OPES requested additional information from both PTCB and NHA in order to review the specifics of their examinations and examination development processes. Both examination providers complied with OPES's request and provided detailed confidential and proprietary reports as well as sample test items for review by participants in OPES's examination review.

Because pharmacy technicians work under the direct supervision of pharmacists, the Board arranged for the convening of two panels comprised of licensed pharmacists and pharmacy technicians to serve as subject matter experts (SMEs). The purpose of the SME panels was to review the examination content of the PTCE and the ExCPT, and to compare this content to the requirements of practice for pharmacy technicians in California. Because pharmacy technicians' practice settings can affect the knowledge

required of entry-level practitioners, the SMEs were selected based on their geographic location, experience, and practice settings.

It should be noted that there are different requirement standards for entry-level pharmacy technicians depending on the practice setting. A consistent issue with this examination review project was to attempt to reach consensus among practicing pharmacists and pharmacy technicians regarding the specific level of task and knowledge proficiency required for licensure/certification. There is at present no occupational analysis for the practice of pharmacy technicians specific to California.

During meetings of both SME panels, participants were asked to complete task and knowledge surveys for both examinations. Each panel of SMEs was able to examine the results of their respective surveys and to determine the extent to which important aspects of practice in California are covered by each examination provider's respective examination plan.

TABLE OF CONTENTS

LIST OF APPENDICES

CHAPTER 1. INTRODUCTION

PURPOSE OF THE COMPREHENSIVE REVIEW

Licensing boards and bureaus within the California Department of Consumer Affairs (DCA) are required to ensure that national examination programs selected for use in the California licensure process comply with psychometric and legal standards. The public must be confident that candidates passing a certification examination have the requisite knowledge and skills to competently and safely practice in their respective professions.

The California Board of Pharmacy (Board) requested that the DCA Office of Professional Examination Services (OPES) complete a comprehensive review of the Pharmacy Technician Certification Board's (PTCB) Pharmacy Technician Certification Exam (PTCE) and the National Healthcareer Association's (NHA) Exam for the Certification of Pharmacy Technicians (ExCPT). The purpose of the review was to determine if the PTCE and/or the ExCPT examinations adequately assess competencies relevant to practice in California and whether the examinations meet professional guidelines and technical standards outlined in *Standards for Education and Psychological Testing (Standards)*[1] and the California Business and Professions (B&P) Code Section 139. In addition to the review, OPES was asked to identify if there are areas of California pharmacy technician practice not covered by the PTCE and ExCPT examinations.

Both PTCB and NHA submitted their occupational analysis procedures and results for use in this review.

OPES, in collaboration with the Board, requested documentation from PTCB and NHA to determine whether (a) occupational analyses[2], (b) examination development, (c) passing scores[3], (d) test administration, (e) examination performance, and (f) test security procedures met professional guidelines and technical standards outlined in the *Standards* and B&P Code Section 139.

[1] American Educational Research Association, American Psychological Association, & National Council on Measurement in Education. (1999). *Standards for Educational and Psychological Testing.* Washington, DC: American Education Research Association.
[2] An occupational analysis is also known as a job analysis, practice analysis, or task analysis.
[3] A passing score is also known as a pass point, cut score, or standard score.

CHAPTER 2. OCCUPATIONAL ANALYSIS

STANDARDS

The most relevant Standard relating to occupational analysis, as applied to credentialing or licensing examinations, is:

> **Standard 14.14**
> The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of the content for credential-worthy performance in an occupation or profession. A rationale should be provided to support a claim that the knowledge of skills being assessed are required for credential-worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted. (p. 161)

The comment following Standard 14.14 emphasizes its relevance:

> *Comment:* Some form of job or practice analysis provides the primary basis for defining the content domain. If the same examination is used in the licensure or certification of people employed in a variety of settings and specialties, a number of different job settings may need to be analyzed. Although the job analysis techniques may be similar to those used in employment testing, the emphasis for licensure is limited appropriately to knowledge and skills necessary for effective practice. In tests used for licensure, skills that may be important to success but are not directly related to the purpose of licensure (e.g., protecting the public) should not be included. (p. 161)

California B&P Code Section 139 requires that every California licensure board, bureau, commission, and program report annually on the frequency of their occupational analyses and the validation and development of examinations. The DCA Examination Validation Policy states:

> Occupational analyses and/or validations should be conducted every three to seven years, with a recommended standard of five years, unless the board, program, bureau, or division can provide verifiable evidence through subject matter experts or similar procedure that the existing occupational analysis continues to represent current practice standards, tasks, and technology.

Additionally the *Principles for the Validation and Use of Personnel Selection Procedure* (Society of Industrial and Organization Psychology, 2003) notes:

> When selection procedure is designed explicitly as a sample of important elements in the work domain, the validation study should provide evidence that the selection procedure samples the important work behaviors, activities, and/or worker KSAOs necessary for performance on the job, in job training, or on specified aspects of either. This provides the rationale for the generalization of the results from the validation study to prediction of work behaviors. (p. 21)

FINDINGS

OPES reviewed the occupational analyses for the two examinations and found them to be consistent with professional standards.

Occupational Analyses – Methodology and Timeframe

The purpose of occupational analyses is to identify the important procedures and tasks commonly performed by entry-level pharmacy technicians. The methodology used to conduct each occupational analysis study was a survey.

> Finding 1. OPES reviewed the occupational analyses for the two examinations and found that the timeframes in which each analysis study was conducted are considered to be current, valid, and legally defensible.

Occupational Analysis – Development of Survey Instrument and Sampling Plan

OPES reviewed the occupational analyses for the two examinations and found them to be consistent with professional standards.

> Finding 2. OPES reviewed the occupational analyses for the two examinations and found the methodology used by both PTCB and NHA to develop the survey instrument met professional guidelines and technical standards.

> Finding 3. OPES reviewed the occupational analyses for the two examinations and found the development of the sampling plans was reasonable and meets professional standards.

Occupational Analysis – Survey Results

After administering the surveys, PTCB and NHA collected the data and analyzed the survey results.

> Finding 4. OPES reviewed the occupational analyses for the two examinations and found respondents consisted of practicing pharmacy technicians and pharmacists from throughout the U.S.

Occupational Analysis – Final Examination Plan/Specifications (Content Outline)

The content outlines for the PTCE and ExCPT are based on the results of the occupational analyses performed by PTCB and NHA. Examination committees for their respective examination plans reviewed the results of their occupational analyses and developed the content plans and relative weightings.

> Finding 5. OPES reviewed the occupational analyses for the two examinations and found the linkage between critical competencies required by entry-level pharmacy technicians in California and the major content areas of the examinations demonstrates a sufficient level of content coverage for use as a valid measure of entry-level knowledge.

CHAPTER 3. EXAMINATION ANALYSIS

STANDARDS

Examination development includes many steps within an examination program, from the development and evaluation of an occupational analysis to scoring and analyzing questions (items) following the administration of an examination. Specific activities evaluated in this section include item writing, linking items to the content outline/plan, developing the scoring criteria, and developing examination forms.

The Standards most relevant to examination development, as applied to credentialing or licensing examinations, are:

> **Standard 3.6**
> The type of items, the response formats, scoring procedures, and test administration procedures should be selected based on the purposes of the test. . . . The qualifications, relevant experiences, and demographic characteristics of expert judges should also be documented. (p. 44)
>
> **Standard 3.7**
> The procedures used to develop, review, and try out items, and to select items from the item pool should be documented. If the items were classified into different categories or subtests according to the test specifications, the procedures used for the classification and appropriateness and accuracy of the classification should be documented. (p. 44)
>
> **Standard 3.11**
> Test developers should document the extent to which the content domain of a test represents the defined domain and test specifications. (p. 45)
>
> Finding 6. OPES reviewed the technical summary reports for the two examinations and found the criteria used to develop the two tests are consistent with professional guidelines and technical standards.

Examination Development – Size of Item Banks

> Finding 7. OPES reviewed the occupational analyses for the two examinations and found the number of items maintained within the item banks is consistent with professional guidelines and technical standards.

CONCLUSIONS

Given the findings, the examination development activities conducted by PTCB and NHA meet professional guidelines and technical standards.

CHAPTER 4. PASSING SCORES

STANDARDS

The passing score of an examination is the score that represents the level of performance that divides those candidates for licensure who are minimally competent and those who are incompetent.

The Standards most relevant to passing scores, or cut scores, for credentialing or licensing examinations are:

> **Standard 4.19**
> When proposed score interpretations involve one or more cut scores, the rationale and procedures used for establishing cut scores should be clearly documented. (p. 59)
>
> **Standard 4.21**
> When cut scores defining pass-fail or proficiency categories are based on direct judgments about the adequacy of item or test performance or performance levels, the judgmental process should be designed so that judges can bring their knowledge and experience to bear in a reasonable way. (p. 60)
>
> **Standard 14.15**
> Estimates of the reliability of test-based credentialing decisions should be provided. (p. 162)
>
> **Standard 14.17**
> The level of performance required for passing a credentialing test should depend on the knowledge and skills necessary for acceptable performance in the occupation or profession and should not be adjusted to regulate the number or proportion of persons passing the test. (p. 162)

The supporting commentary on passing or cut scores in the *Standards,* (Chapter 4--Scales, Norms, and Score Comparability) states that there can be no single method for determining cut scores for all tests and all purposes. The process should be clearly documented and defensible. The qualifications and the process of selection of the judges involved should be part of the documentation. A sufficiently large and representative group of judges should be involved, and care must be taken to ensure that judges understand what they are to do.

In addition, the supporting commentary in the *Standards*, (Chapter 14--Testing in Employment and Credentialing) states that the focus of credentialing standards in "levels of knowledge and performance necessary for safe and appropriate practice" (p. 156). "Standards must be high enough to protect the public, as well as the practitioner, but not so high as to be unreasonably limiting" (p. 157).

Passing Scores – Purpose, Use of Subject Matter Experts, and Methodology

The process of establishing passing scores for licensure exams relies upon the expertise and judgment of SMEs.

> Finding 8. The PTCE and ExCPT tests incorporate minimum competency standards by which candidate competency can be evaluated.
>
> Finding 9. The training of the SMEs and the application of appropriate methods of establishing cut scores are consistent with professional guidelines and technical standards.

CONCLUSIONS

Given the findings, the passing score procedures implemented by PTCB and NHA demonstrate a sufficient degree of validity, thereby meeting professional guidelines and technical standards.

CHAPTER 5. TEST ADMINISTRATION

STANDARDS

The Standards most relevant to the test administration of credentialing or licensing examinations are:

Standard 3.22
Procedures for scoring and, if relevant, scoring criteria should be presented by the test developer in sufficient detail and clarity to maximize the accuracy of scoring. Instructions for using rating scales or for deriving scores obtained by coding, scaling, or classifying constructed responses should be clear. This is especially critical if tests are scored locally. (p. 45)

Standard 3.24
When scoring is done locally and requires scorer judgment, the test user is responsible for providing adequate training and instruction to the scorers and for examining scorer agreement and accuracy. The test developer should document the expected level of scorer agreement and accuracy. (p. 45)

Standard 5.1
Test administrators should follow carefully the standardized procedures for administration and scoring specified by the test developer, unless the situation or a test taker's disability dictates that an exception should be made. (p. 63)

Standard 5.6
Reasonable efforts should be made to assure the integrity of test scores by eliminating opportunities for test takers to attain scores by fraudulent means. (p. 64)

Standard 8.2
Where appropriate, test takers should be provided, in advance, as much information about the test, the testing process, the intended test use, test scoring criteria, testing policy, and confidentiality protection as is consistent with obtaining valid responses. (pp. 86-87)

Finding 10. OPES reviewed the technical summary reports of PTCB and NHA and found that the test administration, test center, registration of candidates, special accommodations, and standardized delivery systems meet professional guidelines and technical standards.

Finding 11. The examination security measures relating to test administration appear to meet professional guidelines and technical standards.

CONCLUSION

Given the findings, the test administration activities conducted by PTCB and NHA appear to meet professional guidelines and technical standards.

CHAPTER 6. EXAMINATION SCORING AND PERFORMANCE

STANDARDS

The Standards most relevant to examination performance of credentialing or licensing examinations, as applied by the *Standards*, are:

> **Standard 2.1**
> For each total score, subscore, or combination of scores that is to be interpreted, estimates of relevant reliabilities and standard errors of measurement or test information functions should be reported. (p. 31)

> **Standard 3.9**
> When a test developer evaluates the psychometric properties of items, the classical or item response theory (IRT) model used for evaluating the psychometric properties of items should be documented. The sample used for estimating item properties should be described and should be of adequate size and diversity for the procedure. The process by which items are selected and the data used for item selection, such as item difficulty, item discrimination, and/or item information, should also be documented. When IRT is used to estimate item parameters in test development, the item response model, estimation procedures, and evidence of model fit should be documented. (pp. 44-45)

> Finding 12. OPES reviewed the examination scoring and performance methodology for the two examinations and found them to be consistent with professional standards.

CONCLUSION

Given the findings, the examination scoring and performance activities conducted by PTCB and NHA appear to meet professional guidelines and technical standards.

CHAPTER 7. INFORMATION AVAILABLE TO CANDIDATES

STANDARDS

The Standards most relevant to candidate information, as applied by the *Standards* to credentialing or licensing examinations, are:

> **Standard 5.5**
> Instructions to test takers should clearly indicate how to make responses. Instructions should also be given in the use of any equipment likely to be unfamiliar to test takers. Opportunity to practice responding should be given when equipment is involved, unless use of the equipment is being assessed. (p. 63)
>
> **Standard 8.1**
> Any information about test content and purposes that is available to any test taker prior to testing should be available to *all* test takers. Important information should be available free of charge and in accessible formats. (p. 86)
>
> **Standard 8.2**
> Where appropriate, test takers should be provided, in advance, as much information about the test, the testing process, the intended test use, test scoring criteria, testing policy, and confidentiality protection as is consistent with valid responses. (p. 86)

Websites for both examinations provide candidates with detailed information on the testing process. Both examination providers supply candidates with detailed handbooks or guidebooks that explain the procedures for the application process, what information will be tested, test center information including registration requirements, security measures, and score reporting.

> Finding 13. The PTCB and ExCPT websites provide extensive information to candidates regarding all aspects of the examination and testing process. Candidates can access application forms, test plans, study guides, and information regarding renewing their certifications. Test scheduling and contact information are readily available.

CONCLUSION

Given the findings, the information provided to candidates about the PTCE and ExCPT certifications is comprehensive and meets professional guidelines.

CHAPTER 8. TEST SECURITY

The Standards most relevant to test security, as applied to credentialing or licensing examinations, are:

Standard 5.6
Reasonable efforts should be made to assure the integrity of test scores by eliminating opportunities for test takers to attain scores by fraudulent means. (p. 64)

Standard 5.7
Test users have the responsibility of protecting the security of test materials at all times. (p. 64)

Finding 14. OPES reviewed the examination security measures for the two examinations and found them to be consistent with professional standards.

CONCLUSION

The examination security measures relating to test administration appear to meet professional guidelines and technical standards.

CHAPTER 9. COMPARISON OF THE PTCE AND ExCPT EXAMINATION CONTENT PLANS

UTILIZATION OF EXPERTS

Two two-day meetings were convened by OPES on August 15-16, 2013, and October 3-4, 2013, to evaluate and compare the PTCB's Pharmacy Technician Certification Exam (PTCE) and the NHA's Exam for the Certification of Pharmacy Technicians (ExCPT) examination plans. The Board recruited 15 SMEs to participate in the meeting using guidelines generated by OPES. Subject Matter Expert Selection Guidelines can be found in Appendix 1. Due to the nature of the supervisorial aspects of practice, SMEs were comprised of pharmacists and pharmacy technicians. Of the total 15 participants, seven were licensed pharmacists and eight were pharmacy technicians.

Another consideration in the selection of SMEs is the perception that job tasks vary depending on work settings; this results in the requirement to test a wide range of knowledge within the practice. While there are many possible workplaces in which pharmacy technicians may practice, the two commonly identified settings which represent two sides of an apparent dichotomy appear to be hospital and retail. Therefore, SMEs were also recruited on the basis of their practice settings. Their titles and work environments broke down as follows:

Profession	Work setting	
	Hospital	Retail
Pharmacy technician	4	4
Pharmacist	3*	5*

**One pharmacist identified himself as being experienced in both environments.*

The SMEs represented both Northern and Southern California, and included participants from urban and rural areas. They had been licensed from 6 to 20+ years (mean = 15 years licensed), and worked as pharmacists or pharmacy technicians in various settings. The SMEs completed workshop participation paperwork, security agreements, and separate agreements addressing the proprietary and confidential materials provided by both examination providers. The Subject Matter Expert Participant Agreement can be found in Appendix 2. Completed documents as well as SME personal data forms are on file at OPES.

Note that due to the small number of SMEs involved in the review process, conclusions by one or both panel meetings are included in this report.

An OPES facilitator gave an orientation to each group and stated the purpose of the meetings, the project background leading to the review of the examinations, and the role of the SMEs. The SMEs were then given task and knowledge surveys of both examinations and were asked to evaluate the contents of each examination's plan. The SMEs were asked to examine the two plans for comprehensiveness as applied to the practice of pharmacy technicians in California and also to determine whether any important aspects of California practice were omitted by either examination plan.

After reviewing the results of their surveys, the OPES facilitator led the two groups' respective discussions about the application of the PTCE and the ExCPT examination plans to the practice of pharmacy technicians in relation to each SME's own work experience/settings. A further discussion addressed how well each examination plan captured the tasks and knowledge relevant to pharmacy technician practice in general in California, while disregarding, to the extent possible, the requirements of specific job settings.

During the first panel meeting, the SMEs expressed the opinion that their single most troubling concern was that newly licensed pharmacy technicians are entering the workplace with poor basic mathematical skills. This deficiency represents a significant gap in the skill set required to adequately perform many of the tasks of a pharmacy technician. The SMEs at the second panel meeting agreed with this opinion and were able to review and critique five sample mathematical questions from each of the two examinations.

DELETION OF TASK AND KNOWLEDGE STATEMENTS

An important part of the examination review process was to discover which parts of the examination did not fulfill the requirements for the purpose of licensing pharmacy technicians in California. Numerous statements were identified as topics that would not be appropriate for a California licensing examination. The explanation for the identification of these statements is described below.

The wording of examination plan statements in both examinations occasionally presented challenges to the SMEs that made it difficult for the SMEs to evaluate. In some instances the lack of clarity in the terms used caused confusion (e.g., "remote verification system"). In other instances the use of multiple action verbs in statements (e.g., "Assess, prioritize, and disseminate. . .") made the statements difficult to rate

since the SMEs found that not all the verbs were relevant to their practice or experience.

The SMEs were instructed on the purpose of licensing examinations and the nature of the subject matter that is relevant to public protection. During their scrutiny of the examination plans, the SMEs identified statements that represented knowledge unrelated to the issue of public protection.

The SMEs were also informed that licensing examinations should be written at an entry level of difficulty and are intended to help identify candidates who have mastered enough of the fundamentals of a practice or profession to protect the public from harm. The SMEs indicated a number of statements tested candidates beyond entry level.

The SMEs identified statements in which some or all of the content reflects practices that are illegal for a pharmacy technician in California to perform. Note that OPES received and evaluated lists of both task and knowledge statements from both examination providers. The task list from PTCB contained four statements thought by the SMEs to be illegal practice in California. This list was included in the confidential materials supplied by PTCB; therefore, those statements are not displayed in this report.

Each statement was ranked by its importance and frequency by the SMEs through a survey evaluation process. The SMEs were tasked with determining at which point in the hierarchy of statements the ratings reflected information that was too insignificant or irrelevant to pharmacy technicians. Statements not meeting the threshold of criticality were highlighted.

The SMEs also detected statements that were written beyond the scope of practice of pharmacy technicians in California. In some of these cases the SMEs felt the statements reflected more of a pharmacist's rather than a pharmacy technician's responsibility.

Also, as a consequence of the SMEs' deliberations, numerous statements were deemed extraneous to practice in California.

The rationale behind deleting statements can be found in the color-coded chart legend box that appears below:

Lack of relevance to public protection
Beyond entry level of difficulty
Illegal practice for pharmacy technicians
Below threshold of criticality to practice
Beyond the scope of pharmacy technician practice

The list of the knowledge, skills, and abilities (KSAs) for the PTCE appears in Appendix 3. Once the surveys were completed the SMEs were asked for their comments and impressions of each examination. SME comments regarding the PTCE examination plan appear in Appendix 4. The list of tasks and KSAs for the ExCPT appear in Appendices 6 and 7 respectively. SME comments regarding the ExCPT examination plan appear in Appendix 8.

Note that due to the small number of SMEs involved, determinations by one or both panel meetings are indicated on the task and KSA lists. While reviewing the results of their surveys, SMEs emphasized that the evaluations were influenced by the work experience of those in attendance. Also note that in some instances more than one reason could be cited (e.g., a statement might score below the threshold of criticality due to being beyond the scope of practice).

In addition to completing all the objectives assigned in the first meeting, SMEs at the second panel meeting were given access to sample mathematical questions from both examinations. SME comments regarding the reviewed questions for the PTCE appear in Appendix 5; comments regarding the reviewed mathematical questions from the ExCPT appear in Appendix 9.

CHAPTER 10. CONCLUSIONS

Due to issues identified at the two SME panel meetings, it was not possible for either group to give either examination an unqualified endorsement.

Each panel meeting ended with a discussion regarding the SMEs' overall impressions of the two examinations. It was clear during both discussions that the SMEs were keenly aware of the divergent requirements for pharmacy technicians depending on the employment setting. A major challenge to creating a national examination for pharmacy technicians is the identification of the core knowledge that effectively represents the spectrum of pharmacy technician work settings. As was stated at one meeting, "Due to the dichotomy between ambulatory and institutional settings, it is difficult to adequately assess minimum competence of both in the same examination."

While the SMEs believed that the ExCPT effectively covers a broader middle ground of retail and hospital setting responsibilities, they felt that the PTCE covered more inpatient work setting responsibilities. The SMEs agreed that in some cases tasks that were given lower ratings were still important to pharmacy technician practice in hospital settings; these identified tasks will be performed less often if at all in retail settings.

A major concern of the SMEs was the lack of a requirement for an educational/practical component for certification; at present PTCB requires neither. It was stated by SMEs that certification based on passing an examination, which can be obtained with the help of an online examination preparation service that requires no pharmacy-related education or experience, should not be accepted as the equivalent of the educational and/or practical backgrounds required of other avenues to certification. The SMEs expressed concern that there may be an overreliance on merely passing an examination, especially if that examination does not adequately represent the competency required of pharmacy technicians to fulfill the responsibilities once hired.

As a condition of registration, candidates pursuing ExCPT certification, in addition to being at least 18 years of age and possessing a high school diploma or equivalent, must also demonstrate completion of a training program or have at least 12 months of pharmacy-related experience within the last 36 months.

The SMEs who participated in the two meetings expressed their overall recommendations as follows:

Panel 1	Panel 2
• Require graduation from an accredited pharmacy technician course through an educational institution.* • Pass the Exam for Certification of Pharmacy Technicians (ExCPT) examination.	• Implement educational and/or practical experience standards as a requirement to sit for any [certification] examination to demonstrate an appropriate skill level to protect the public and secondarily to help overcome overreliance on an examination as the sole determinant of the competence of the technicians.

**The graduation requirement recommendation from Panel 1 could be considered met if the ExCPT's training program could be equated with that of an accredited pharmacy technician course through an educational institution.*

Despite the equivocal results of the review of the PTCE and the ExCPT examinations, the Board has a number of options from which to choose with regard to the certification requirements for pharmacy technicians.

OPTION 1:

Create and implement a California version of the pharmacy technician certification examination, and include an education/practical experience requirement to the application process.

Primary benefits:

- The examination would include only those topics considered critical and relevant to pharmacy technician practice in California and would avoid any question of illegal practices appearing on the examination.
- California-wide standards for education/practical experience could be established that would enhance certification overall as a representation of a standard of competence not currently uniformly required.
- Would deter candidates from pursuing certification through the use of "certification mill" websites that require no pharmacy-related education or experience and that may bestow certification on candidates unable to fulfill the responsibilities of the job.

Practical considerations:

- Would require a complete occupational analysis in order to develop an examination plan.
- Would require a complete examination development cycle to create an item bank and create an examination.
- Would require the expense of developing minimum education/practical experience requirements.
- Would require ongoing expense to generate and administer examinations as well as the expense of the test application process.
- There is a potential dearth of reference materials that can be referenced during examination development.

OPTION 2:

Accept certification from both the PTCB and the NHA provided that the examination providers can assure the Board that no questions concerning tasks considered illegal in California will appear on versions administered to California candidates.

Primary benefits:

- There are test administration systems in place for both examinations.
- Candidates would be given the opportunity to select the examination that may be more relevant to the work setting of their choice.
- May assist potential employers by selecting candidates whose certification more appropriately matches the requirements of their work settings.
- The ExCPT examination has a pharmacy technician-related education/practical experience component in its application process.

Practical considerations:

- It is unknown whether the examination providers are capable of making modifications to their examinations to accommodate California candidates.
- There is no requirement for education and/or practical experience for PTCE certification.
- There is no deterrent against using online certification mill websites that require no education/practical experience in their application process.

OPTION 3:

Modify the Board's acceptance of PTCB certification only by requiring an additional education and/or practical experience component; obtain assurance from the examination providers that no items regarding practices considered illegal in California will appear on examinations administered to California candidates; **and** accept candidates' certification results from the ExCPT examination with its current education/practical experience component.

Primary benefits:

- There are test administration systems in place for both examinations.
- Candidates would be given the opportunity to select the examination that may be more relevant to the work setting of their choice.
- May assist potential employers by selecting candidates whose certification more appropriately matches the requirements of their work settings.
- The ExCPT examination has a pharmacy technician-related education/practical experience component in its application process.
- The addition of an education/practical experience component to PTCE certification would serve to help enhance pharmacy technician practice overall as a representation of a standard of competence not currently uniformly required.
- Would increase the professionalism of the practice, thereby increasing public protection, by helping to ensure that qualifications important to fulfilling the requisite tasks of a pharmacy technician are met.

Practical considerations:

- The expense of developing and administering an education/practical experience component to the Board's processing of PTCE candidates unless borne by PTCB.
- The expense of communicating application process changes as well as the cost of their implementation.

CHAPTER 11. RECOMMENDATION

OPES recommends that the Board consider the criticality of conducting an occupational analysis for the practice of pharmacy technicians prior to deciding on an Option from Chapter 10. The concerns uncovered during the course of this review and discussed in this report are indicative of some fundamental issues that the Board could resolve through an occupational analysis. It is apparent that only by obtaining a thorough current knowledge of practice in California can the Board reach a thoughtful decision that would benefit practitioners and consumers in this State.

Such an analysis could provide the Board with firsthand knowledge of the full breadth of the practice and, therefore, would assist the Board to more accurately evaluate the common knowledge required of pharmacy technicians regardless of work setting. By having a complete list of critical tasks performed by practitioners, the decision to accept either or both national examinations with or without stipulations could be made with more assurance and on a more empirical basis.

Conducting an occupational analysis would also fulfill the requirements of Business and Professions Code Section 139 and would assist the Board in its goal of ensuring that its pharmacy technician certification program meets legal, technical, and professional standards.

APPENDIX 1

SUBJECT MATTER EXPERT SELECTION GUIDELINES

SUBJECT MATTER EXPERT SELECTION GUIDELINES

Board of Pharmacy
Pharmacy Technician Certification Examination Audit
Subject Matter Expert Selection Guidelines

As various practitioners are considered for inclusion in the workshops to compare the certification examinations of the Pharmacy Technician Certification Board (PTCB) and the National Healthcareer Association's (NHA) Exam for the Certification of Pharmacy Technicians (ExCPT), here are a few guidelines we would like to offer to aid in the selection of participants to optimize the results of the workshop.

- The subject matter experts (SMEs) should be evenly divided between pharmacists and pharmacy technicians if not more heavily weighted toward pharmacy technicians. Although pharmacy technicians are closely supervised by pharmacists, it is imperative we obtain and consider the input of practicing pharmacy technicians.

- The SMEs selected for the workshop should represent a broad spectrum of work experience and backgrounds in different environments to reflect the composition of practitioners throughout the State.

- The SMEs should represent differing lengths of licensure. It is particularly desirable to have newer licensees attend to gain from their more current exposure to coursework in preparing for the licensure examination.

- No SME should be in a position either at the work site or in a more formal setting to teach candidates or help prepare candidates to sit for any certification examination.

- No SME should be in a position that could be deemed a conflict of interest, nor should any SME have a vested interest in having the California Board of Pharmacy select one examination over the other.

- No SME should be in a position to gain from exposure to proprietary information from the PTCB or the NHA/ExCPT that is shared at the workshop.

- No SME with ties to either the PTCB or the NHA/ExCPT should be recruited to attend the workshops.

- Prospective SMEs should be advised before attending the workshop that they will be asked to disclose all their work and professional affiliations and to sign a nondisclosure document at the commencement of the meeting.

APPENDIX 2

SUBJECT MATTER EXPERT PARTICIPANT AGREEMENT

SUBJECT MATTER EXPERT PARTICIPANT AGREEMENT

Board of Pharmacy
Subject Matter Expert Participant Agreement

As a participant as a subject matter expert (SME) in the Office of Professional Examination Services' (OPES) audit of the National Healthcareer Association's (NHA) Examination for the Certification of Pharmacy Technicians (ExCPT) and the Pharmacy Technician Certification Board's pharmacy technician certification examinations, you may be exposed to certain proprietary information about either or both examinations. Due to the nature of the audit that is being conducted on behalf of the California Board of Pharmacy, it is necessary to obtain your agreement with the following restrictions in order for you to participate.

Your signature on this document attests that you comply with the following requirements:

- SMEs may not be in a position either at the work site or in a more formal setting to teach candidates or help prepare candidates to sit for any certification examination.
- SMEs may not be in a position that could be deemed a conflict of interest, nor have vested interests in having the California Board of Pharmacy select one examination over the other.
- SMEs may not be in a position to gain from exposure to proprietary information from the PTCB or the NHA/ExCPT that is shared at the workshop.
- SMEs may not have any relationship nor affiliation with either the PTCB or the NHA/ExCPT.
- SMEs must disclose all their work and professional affiliations on the examination security form at the commencement of the meeting.
- SMEs agree to keep all information discussed confidential.

_____	_____
(Printed name)	(Witness printed name)
_____	_____
(Signature)	(Witness signature)
_____	_____
(Date signed)	(Date witnessed)

APPENDIX 3

PHARMACY TECHNICIAN CERTIFICATION EXAMINATION (PTCE)
MASTER LIST OF KNOWLEDGE AND SKILLS

Note: The color coding on the following pages is an elaboration of the concerns SMEs expressed regarding the applicability of a number of the statements to pharmacy technician practice in California. (See page 16.)

PHARMACY TECHNICIAN CERTIFICATION EXAMINATION (PTCE)
MASTER LIST OF KNOWLEDGE AND SKILLS

Lack of relevance to public protection
Beyond entry level of difficulty
Illegal practice for pharmacy technicians
Below threshold of criticality to practice
Beyond the scope of pharmacy technician practice

1. Pharmacology for Technicians	
1.1	Generic and brand names of pharmaceuticals
1.2	Therapeutic equivalence
1.3	Drug interactions (e.g., drug-disease, drug-drug, drug-dietary supplement, drug-OTC, drug-laboratory, drug-nutrient)
1.4	Strengths/dose, dosage forms, physical appearance, routes of administration, and duration of drug therapy
1.5	Common and severe side or adverse effects, allergies, and therapeutic contraindications associated with medications
1.6	Dosage and indication of legend, OTC medications, herbal and dietary supplements
2. Pharmacy Law and Regulations	
2.1	Storage, handling, and disposal of hazardous substances and wastes (e.g., MSDS)
2.2	Hazardous substances exposure, prevention and treatment (e.g., eyewash, spill kit, MSDS)
2.3	Controlled substance transfer regulations (DEA)
2.4	Controlled substance documentation requirements for receiving, ordering, returning, loss/theft, destruction (DEA)
2.5	Formula to verify the validity of a prescriber's DEA number (DEA)
2.6	Record keeping, documentation, and record retention (e.g., length of time prescriptions are maintained on file)
2.7	Restricted drug programs and related prescription-processing requirements (e.g., thalidomide, isotretinoin, clozapine)
2.8	Professional standards related to data integrity, security, and confidentiality (e.g., HIPAA, backing up and archiving)
2.9	Requirement for consultation (e.g., OBRA '90)
2.10	FDA's recall classification
2.11	Infection control standards (e.g., laminar air flow, clean room, hand washing, cleaning counting trays, countertop, and equipment) (OSHA, USP 795 and 797)
2.12	Record keeping for repackaged and recalled products and supplies (TJC, BOP)
2.13	Professional standards regarding the roles and responsibilities of pharmacists, pharmacy technicians, and other pharmacy employees (TJC, BOP)

2.14	Reconciliation between state and federal laws and regulations
2.15	Facility, equipment, and supply requirements (e.g., space requirements, prescription file storage, cleanliness, reference materials) (TJC, USP, BOP)
3. Sterile and Non-Sterile Compounding	
3.1	Infection control (e.g., hand washing, PPE)
3.2	Handling and disposal requirements (e.g., receptacles, waste streams)
3.3	Documentation (e.g., batch preparation, compounding record)
3.4	Determine product stability (e.g., beyond use dating, signs of incompatibility)
3.5	Selection and use of equipment and supplies
3.6	Sterile compounding processes
3.7	Non-sterile compounding processes
4. Medication Safety	
4.1	Error prevention strategies for data entry (e.g., prescription or medication order to correct patient)
4.2	Patient package insert and medication guide requirements (e.g., special directions and precautions)
4.3	Identify issues that require pharmacist intervention (e.g., DUR, ADE, OTC recommendation, therapeutic substitution, misuse, missed dose)
4.4	Look-alike/sound-alike medications
4.5	High-alert/risk medications
4.6	Common safety strategies (e.g., tall man lettering, separating inventory, leading and trailing zeros, limit use of error prone abbreviations)
5. Pharmacy Quality Assurance	
5.1	Quality assurance practices for medication and inventory control systems (e.g., matching National Drug Code (NDC) number, bar code, data entry)
5.2	Infection control procedures and documentation, (e.g., personal protective equipment [PPE], needle recapping)
5.3	Risk management guidelines and regulations (e.g., error prevention strategies)
5.4	Communication channels necessary to ensure appropriate follow-up and problem resolution (e.g., product recalls, shortages)
5.5	Productivity, efficiency, and customer satisfaction measures
6. Medication Order Entry and Fill Process	
6.1	Order entry process
6.2	Intake, interpretation, and data entry
6.3	Calculate doses required
6.4	Fill process (e.g., select appropriate product, apply special handling requirements, measure, and prepare product for final check)
6.5	Labeling requirements (e.g., auxiliary and warning labels, expiration date, patient specific information)

6.6	Packaging requirements (e.g., type of bags, syringes, glass, pvc, child resistant, light resistant)
6.7	Dispensing process (e.g., validation, documentation and distribution)
7. Pharmacy Inventory Management	
7.1	Function and application of NDC, lot numbers and expiration dates
7.2	Formulary or approved/preferred product list
7.3	Ordering and receiving processes (e.g., maintain par levels, rotate stock)
7.4	Storage requirements (e.g., refrigeration, freezer, warmer)
7.5	Removal (e.g., recalls, returns, outdates, reverse distribution)
8. Pharmacy Billing and Reimbursement	
8.1	Reimbursement policies and plans (e.g., HMOs, PPO, CMS, private plans)
8.2	Third party resolution (e.g., prior authorization, rejected claims, plan limitation)
8.3	Third party reimbursement systems (e.g., PBM, medication assistance programs, coupons, and self-pay)
8.4	Healthcare reimbursement systems (e.g., home health, long-term care, home infusion)
8.5	Coordination of benefits
9. Pharmacy Information System Usage and Application	
9.1	Pharmacy-related computer applications for documenting the dispensing of prescriptions or medication orders (e.g., maintaining the electronic medical record, patient adherence, risk factors, alcohol drug use, drug allergies, side effects)
9.2	Databases, pharmacy computer applications, and documentation management (e.g., user access, drug database, interface, inventory report, usage reports, override reports, diversion reports)

APPENDIX 4

SME COMMENTS REGARDING
PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE)
EXAMINATION PLAN

SME COMMENTS REGARDING
PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE)
EXAMINATION PLAN

1	According to the examination plan basic mathematics may not be tested sufficiently to determine candidates' math skills in calculating doses/dilutions/supplies.
2	Lack of knowledge of laws and regulations specific to California.
3	Medication error prevention/remediation issues are not adequately addressed.
4	Inadequate coverage of hospital-setting issues.
5	Contains more inpatient tasks and more statements on sterile compounding [than on the ExCPT examination plan].
6	Health Insurance Portability and Accountability Act (HIPAA) coverage appears adequate.
7	Inventory geared toward outpatient settings.
8	Inpatient settings allow limited tech-check-tech; outpatient settings do not.
9	More tasks are written out of scope or beyond minimum competence for California practice [than on the ExCPT examination plan].
10	Multiple tasks contained in single statements should have been separated into separate statements.
11	Much tech activity is skill based and not tested adequately in a paper and pencil examination.
12	Identified statements as illegal practice in California.
13	Identified statements beyond minimum competence.
14	Identified duplicated statements.
15	Lacks statement on Federal Law.
16	Includes several managerial (non -public protection) tasks
17	No mention of medication reconciliation.
18	More hospital coverage.
19	Limited tech-check-tech.
20	The number of tasks in the exam plan outnumbers the number of questions on the exam; therefore, not every task will be tested.
21	Pharmacology is beyond the scope of pharmacy technician practice in California.
22	Questioned the relevancy of questions regarding pharmacy billing and reimbursement.
23	Not necessarily geared toward minimum competence.

APPENDIX 5

SME COMMENTS REGARDING
PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE)
SAMPLE MATHEMATICS QUESTIONS

SME COMMENTS REGARDING
PHARMACY TECHNICIAN CERTIFICATION EXAM (PTCE)
SAMPLE MATHEMATICS QUESTIONS

1	Content of stems (questions) incomplete, unclear, and not reflective of practice or real life authenticity.
2	Lack of clarity in stems and in the distractors serve to distract test takers.
3	Concepts are good and relevant but are abstract and not constructed in real-life terms.
4	In some cases the key was mathematically correct but physically impossible and appear to identify the need for better vetting.
5	The questions required more complex thinking [than those on the ExCPT].
6	The questions provided a good balance of inpatient and outpatient knowledge required.

APPENDIX 6

EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
MASTER LIST OF TASKS

Note: The color coding on the following pages is an elaboration of the concerns SMEs expressed regarding the applicability of a number of the statements to pharmacy technician practice in California. (See page 16.)

EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
MASTER LIST OF TASKS

Lack of relevance to public protection
Beyond entry level of difficulty
Illegal practice for pharmacy technicians
Below threshold of criticality to practice
Beyond the scope of pharmacy technician practice

1. REGULATIONS AND PHARMACY DUTIES	
1A. Overview of technician's duties and general information	
1	Ensure all work performed by the technician is checked by the pharmacist.
2	Identify medication prescribing and/or use patterns requiring pharmacist intervention.
3	Differentiate between tasks that may be performed by a pharmacy technician and those that must be performed by a pharmacist.
4	Comply with rules and regulations when filling prescriptions.
5	Follow policies and regulations when filling prescriptions.
6	Maintain a clean work environment in the pharmacy and patient care areas.
7	Maintain pharmacy security by following proper procedures (e.g., alarms, personnel admitted, restricted areas).
8	Remove recalled, discontinued, and overstocked products from inventory.
9	Assist the pharmacist in managing inventory by placing, receiving, verifying, and stocking orders.
10	Communicate to staff, healthcare professionals, and patients any changes in product availability (e.g., new, discontinued, back ordered, and recalled products).
11	Maintain proper supplies of prescription vials, caps, bottles, and other supplies.
12	Identify expired products in a pharmacy's inventory.
13	Dispose of drugs using proper procedures.
1B. Controlled substances	
14	Properly fill all classes of prescriptions.
15	Differentiate among the controlled substances schedules and the products within them.
16	Comply with rules and regulations when refilling prescriptions.
17	Follow the proper rules and regulations regarding the transfer of prescriptions between pharmacies.
18	Follow the proper rules and regulations for non-controlled substances when handling refills and/or partial filling of prescriptions.
19	Follow the correct procedures for handling requests for pseudoephedrine.
20	Comply with laws that pertain to handling sales of Schedule V and regulated non-prescription products.

21	Follow laws and regulations of the Controlled Substance Act with regard to ordering, storage, inventory, and dispensing.
22	Differentiate between legitimate versus illegitimate DEA numbers.
	1C. Other laws and regulations
23	Maintain HIPAA compliance while communicating with patients.
24	Maintain HIPAA compliance while communicating with healthcare professionals.
25	Comply with HIPAA requirements regarding collection, storage, and disclosure of patient information.
26	Comply with laws and regulations regarding generic substitution.
27	Identify the practitioners who are authorized to prescribe specific mediations.
28	Interpret prescriber identifier numbers (e.g., DEA, NPI, UPIN).
29	Properly package prescription medications in child-resistant containers or other approved containers as required.
30	Comply with professional, state, and federal laws and regulations.
31	Use information found on medication stock bottles, such as drug name and strength, expiration date, and lot number.
32	Inform patients of the different types of information they can find on an OTC package label.
	2. DRUGS AND DRUG THERAPY
	2A. Drug classification
33	Differentiate among different therapeutic classes of drugs.
34	Differentiate among various dosage forms (e.g., tablets versus capsules, ointments versus creams, controlled-release versus immediate-release, parenteral versus oral).
35	Match commonly used over-the-counter products with their most common indicators.
36	Interpret what is represented by each of the three components of an NDC number.
	2B. Most frequently prescribed medications
37	Interpret basic medical terminology commonly used in the pharmacy in order to effectively assist the pharmacist.
38	Match brand and generic names of commonly used prescription drugs.
39	Contrast generic and brand-name medications with regard to cost and effectiveness.
40	Match commonly used prescription drugs with their most common indications.
41	Recognize common and serious adverse drug reactions, contraindications, and drug interactions.
42	Recognize physical interactions and incompatibilities in the preparation of compounded and parenteral medications.

3. DISPENSING PROCESS	
3A. Prescription information	
43	Analyze a prescription form for completeness and gather any information that is missing.
44	Properly process telephone, facsimile, and electronic prescription orders.
45	Obtain prescription refill authorization requests from prescribers.
46	Obtain information from patients pertaining to demographics, medication history, health conditions, allergies, and third-party payers.
47	Correctly translate a prescriber's directions for use into accurate and complete directions for the patient.
48	Interpret abbreviations used on prescriptions.
49	Avoid common misinterpretations of prescription abbreviations.
3B. Preparing/dispensing prescriptions	
50	Maintain and calibrate sterile compounding equipment.
51	Identify drugs that require special handling procedures.
52	Communicate appropriately and professionally with patients.
53	Communicate appropriately and professionally with healthcare professionals.
54	Follow proper record-keeping procedures pertaining to the pharmacy.
55	Follow the pharmacy's quality assurance policies and procedures.
56	Follow proper procedures to avoid medication errors.
57	Take proper corrective action after detecting potential medication errors.
58	Prevent mix-ups between look-alike, sound-alike products.
59	Follow proper procedures to assure delivery of the correct prescriptions to patients.
60	Properly use automated dispensing devices or other devices used in the dispensing process.
61	Maintain, calibrate, and stock automated dispensing systems.
62	Accurately enter prescription information into the computer.
63	Properly and accurately prepare prescription labels.
64	Prepare printed patient information leaflets.
65	Use the proper DAW code when entering prescription data into the computer.
66	Take proper action when receiving computerized messages, such as compliance alerts or interaction alerts, while entering data for a prescription.
67	Use auxiliary labels properly.
68	Properly label drug products packaged in approved containers or, when appropriate, in original packages.
69	Properly enter, update, and maintain electronic patient profiles.
70	Properly package and ship medications.
71	Answer patients' questions about their third-party prescription coverage.

72	Interpret third-party payer identifier numbers (e.g., BIN, PCN).
73	Complete claim forms properly.
74	Properly process third-party prescriptions.
75	Contact third-party payers and/or prescribers with regard to rejected claims.
	3C. Calculations
76	Convert within and between each of the systems of measurement.
77	Calculate the quantities of prescription medications to be dispensed.
78	Correctly calculate the days' supply for prescriptions.
79	Properly calculate individual and daily dosages.
80	Correctly perform compounding calculations (e.g., ratio strength, w/w%, w/v%, v/v%, dilution/concentration, mEq).
	3D. Sterile products, unit does and repackaging
81	Perform basic pharmacy business calculations (e.g., pricing and inventory control).
82	Follow proper compounding procedures for non-sterile products.
83	Properly label and dispense medications when using multidose vials, punch cards, or unit-dose packaging.
84	Properly repackage and label unit-of-use products.
85	Properly calculate expiration dates for repackaged products.
86	Help patients interpret available manufacturer information regarding the use of various compliance aids and devices.
87	Differentiate among the various routes of administration for parenteral products.
88	Differentiate among the various types of sterile products.
89	Follow correct procedures for maintaining the environment for the sterile product compounding area.
90	Compound and label sterile products accurately.

APPENDIX 7

EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
EXAMINATION PLAN

Note: The color coding on the following pages is an elaboration of the concerns SMEs expressed regarding the applicability of a number of the statements to pharmacy technician practice in California. (See page 16.)

EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
EXAMINATION PLAN

Lack of relevance to public protection
Beyond entry level of difficulty
Illegal practice for pharmacy technicians
Below threshold of criticality to practice
Beyond the scope of pharmacy technician practice

REGULATIONS AND TECHNICIAN DUTIES	
1.1 Overview of technician duties and general information	
1.1.1	The role of pharmacists and pharmacy technicians
1.1.2	Functions that a technician may and may not perform
1.1.3	Prescription department layout and workflow
1.1.4	Pharmacy security
1.1.5	Inventory control
1.1.6	Stock medications
1.1.7	Identifying expired products
1.2 Controlled substances	
1.2.1	Difference among the controlled substances schedules
1.2.2	Refills, partial refills, filing, and prescription transfers
1.2.3	Correct procedures for handling Schedule V sales
1.2.4	Controlled Substance Act
1.2.5	DEA numbers
1.3 Other laws and regulations	
1.3.1	Federal privacy act
1.3.2	Generic substitution (incl. brand vs. generic products)
1.3.3	Professionals with prescribing authority (and acronyms)
1.3.4	Child-resistant packaging
1.3.5	Role of government agencies (Board of Pharmacy, DEA, FDA, etc.)
1.3.6	Manufacturer drug package labeling
1.3.7	OTC package labeling
DRUGS AND DRUG THERAPY	
2.1 Drug classification	
2.1.1	Major drug classes (e.g., analgesics, anesthetics, antibiotics, etc.)
2.1.2	Dosage forms (types, characteristics and uses)
2.1.3	Over-the-counter products
2.1.4	NDC number
2.2 Most frequently prescribed medications	
2.2.1	Brand and generic names

2.2.2	Basic mechanism action (pharmacology) and drug classification
2.2.3	Primary indications
2.2.4	Common adverse drug reactions, interactions, and contraindications
DISPENSING PROCESS	
3.1 Prescription information	
3.1.1	Information required on a valid prescription form
3.1.2	Telephoned and faxed prescriptions
3.1.3	Refill requirements
3.1.4	Patient information (age, gender, etc.)
3.1.5	Interpreting prescribers' directions for prescription labels
3.1.6	Recognizing and using common prescription abbreviations
3.2 Preparing/dispensing prescriptions	
3.2.1	Avoiding errors (such as sound-alike/look-alike names)
3.2.2	Systems for checking prescriptions
3.2.3	Automated dispensing systems (including quality control)
3.2.4	Procedures for preparing prescriptions and data entry
3.2.5	Labeling prescriptions properly
3.2.6	Purpose and use of patient records
3.2.7	Proper packaging and storage
3.2.8	Managed care prescriptions
3.3 Calculations	
3.3.1	Conversions/systems of measurement used in pharmacy
3.3.2	Calculating the amounts of prescription ingredients
3.3.3	Calculating quantity or day's supply to be dispensed
3.3.4	Calculating individual and daily doses
3.3.5	Calculations used in compounding
3.3.6	Calculating dosages and administration rates for IVs
3.3.7	Business calculations (pricing, markup, inventory control)
3.4 Sterile products, unit dose and repackaging	
3.4.1	Drug distribution systems used in hospitals and nursing homes
3.4.2	Procedures for repackaging medications
3.4.3	Prescription compliance aids
3.4.4	Aseptic technique and the use of laminar flow hoods
3.4.5	Special procedures for chemotherapy
3.4.6	Routes of administration for parenteral products
3.4.7	Types of sterile products
3.4.8	Correct procedures for maintaining the sterile product environment
3.4.9	Accurate compounding and labeling of sterile product prescriptions

APPENDIX 8

SME COMMENTS REGARDING
EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
EXAMINATION PLAN

SME COMMENTS REGARDING
EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT)
EXAMINATION PLAN

1	The task statements are written more clearly [than on the PTCE].
2	The knowledge being tested represents a broader middle ground that addresses both retail and hospital settings.
3	Captures communication avenues between pharmacy technicians and patients and pharmacy technicians and healthcare professionals.
4	Represents a more robust coverage of mathematics.
5	Captures a broader range of practical knowledge required of entry-level pharmacy technicians.
6	The emphasis on the prevention of medication errors enhances patient safety.
7	Identified similar and overlapping statements.
8	Identified a statement beyond pharmacy technician scope.
9	Identified unclear wording.
10	Identified a statement of illegal practice in California.
11	Privacy is given priority.
12	IV compounding and sterile procedures should have more emphasis for technicians working in hospital settings.
13	Task statements more heavily weighted to outpatient tasks.
14	Since more pharmacy technicians are employed in outpatient settings it is reasonable that the examination contents should be weighted toward outpatient technicians.
15	Statement concerning “business calculations” outdated.
16	The examination plan is clearer and more reflective of practice in the retail setting [than the PTCE].
17	The examination plan’s content areas are appropriately weighted toward practice in the retail setting.
18	Inadequate coverage of hospital setting pharmacy technician responsibilities.

APPENDIX 9

SME COMMENTS REGARDING EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT) SAMPLE MATHEMATICS QUESTIONS

SME COMMENTS REGARDING EXAM FOR THE CERTIFICATION OF PHARMACY TECHNICIANS (ExCPT) SAMPLE MATHEMATICS QUESTIONS

1	Calculations call for only basic one-step arithmetic.
2	The questions need more complexity.
3	The questions lack current practice application.
4	Some of the terminology used is outmoded.
5	The formatting of the items should be written so they appear in the form of questions using complete sentences.
6	Some of the distractors are notably implausible.

Attachment 3

National Healthcareer Association: Exam for the Certification of Pharmacy Technicians (ExCPT)

Presented at the California Board of Pharmacy Licensing Committee Meeting

January 6, 2016

National Healthcareer Association

- NHA is a national certification agency offering certification programs accredited by the National Commission for Certifying Agencies (NCCA).
- NHA has issued more than 500,000 certifications since its inception in 1989.
- In 2009, NHA acquired the Institute for the Certification of Pharmacy Technicians (ICPT) and the Exam for the Certification of Pharmacy Technicians (ExCPT).
- Boards of Pharmacy throughout the United States have accepted the ExCPT.

Board of Pharmacy Recognition of ExCPT

Certification required of all technicians

District of Columbia	**Massachusetts**	**Nebraska**	**Virginia**
Iowa	**Maryland**	**New Mexico**	**Washington**
Idaho	**Michigan**	**Oregon**	**West Virginia**
Illinois	**Mississippi**	**Rhode Island**	
Indiana	**Montana**	**Utah**	

Certification required for increased ratio or advanced tasks

Alabama	**Georgia**	**Minnesota**	**Ohio**
Connecticut	**Kansas**	**Nevada**	**Tennessee**
Delaware	**Kentucky**	**New Jersey**	

NCCA Accreditation

- NHA's ExCPT has been accredited by the National Commission for Certifying Agencies (NCCA) since 2008.
  - This is the same accreditation held by PTCB for the PTCE.
- NCCA accreditation entails an objective third party assessment of:
  - Program governance;
  - Psychometric soundness; and
  - Exam administration and security.
- Continuous monitoring: reports required annually; full reaccreditation application every 5 years
- NCCA's rigorous standards require a significant investment of resources by certifying agency; requires high quality.

ExCPT Certification Program Overview

Eligibility requirements

To be eligible to sit for the ExCPT exam, a candidate must:

- Be no more than 30 days from possessing a high school diploma or the equivalent; and
- Have sufficient training either through:
  - A pharmacy technician training program offered by:
    - An accredited or state-recognized institution; or
    - An employer-based training program that is recognized by the Board of Pharmacy; or
    - By any branch of the U.S. military.
  - Work experience:
    - At least 1200 hours of supervised pharmacy-related work experience.

Exam Prep (optional)

Learning manual and workbook; study guide; practice tests

Exam

Timed exam consisting of 120 questions; 2 hours and 10 minutes to complete.

Continuing Education and Recertification

Recertification every 2 years, contingent upon completion of 20 hours of continuing education, including 1 hour of pharmacy law.

All ExCPT Exams Are Administered by Independent Third Party: PSI Services

- PSI offers state-of-the-art, computer-based exams.
- PSI is the test center of choice for the California Department of Consumer Affairs (DCA): 60,000 candidates annually for 18 individual regulatory agencies under DCA.
- Test centers located throughout California.
- No walk-in candidates allowed. Must register in advance and verify identity with government-issued ID on exam day.

Development of a Certification Examination

NCCA Standards

- Ten of the 24 NCCA Standards relate directly to examination development (from job analysis through reliability of scores and reporting documentation requirements).
- The design and execution of the development process must adhere to the same level of rigor.
- Psychometricians who are trained specifically in this field guide the process and analyze the data resulting from each step (surveys, passing point (Angoff) studies, technical manuals).
- Evidence that each standard has been met is submitted and published at least annually, or more often, as is dictated by the life cycle of the examination program.

Development Process

- Job analysis conducted by psychometricians using Board-approved subject matter experts and data from broad sample of practitioners
- Item writing workshops/item review meetings with test development experts (and editorial/media staff to meet style specifications)
- Test development assembly of form(s) according to blueprint resulting from job analysis (must match exactly)
- Establishment of passing point (Angoff study) and transformation to appropriate scaled score, provisional scoring period, pretest data, final release, post-release analysis of drift
- Compilation of statistics for technical manual/submission to NCCA (reliability, speededness, bias, content match, etc.)

Changes to Bus. & Prof. Code §4202

- Currently, Bus. & Prof. Code §4202, subd. (a) provides that the Board of Pharmacy may issue a pharmacy technician license to high school graduates who meet any of the following conditions:
  - Associates Degree in Pharmacy Technology
  - Completed a course of training approved by the board
  - Graduated from a school of pharmacy approved by the board
  - Is certified by the Pharmacy Technician Certification Board
- That last avenue (#4 above) essentially gives a monopoly on certification to one particular company. The PTCB is one certification agency that offers an accredited certification exam; NHA is the other.
- It is unusual and unfair for a state to give a statutory monopoly to one particular vendor in a particular field.
- The inclusion of PTCB as the sole named entity in Section 4202 occurred in 2003, prior to the national administration of the ExCPT.

Changes to Bus. & Prof. Code §4202

- Because it appears likely that the Board of Pharmacy will be recommending substantial changes to the various education and certification avenues for PTs, there will likely already be legislation in this area that could serve as a vehicle to change the current monopoly that exists in state law.
- We suggest the following language: change subparagraph (4) to read as follows – "is certified by a Board-approved pharmacy technician certifying organization offering a pharmacy technician certification program accredited by the National Commission for Certifying Agencies (NCCA)."
- The ExCPT is the only other nationally recognized, NCCA-accredited pharmacy technician certification program, so there would not be a flood of other organizations requesting approval. Even if others enter the market in the future, our proposed language gives the Board the flexibility to review and accept other certification programs without the need for a statutory amendment.

Questions?

Attachment 4

Business and Professions Code Section 4038(a)
"Pharmacy technician" means an individual who assists a pharmacist in a pharmacy in the performance of his or her pharmacy related duties, as specified in Section 4115.

Title 16 CCR Section 1793 - Definition
“Pharmacy technician” means an individual who, under the direct supervision and control of a pharmacist, performs packaging, manipulative, repetitive, or other nondiscretionary tasks related to the processing of a prescription in a pharmacy, but who does not perform duties restricted to a pharmacist under section 1793.1. Authority cited: Sections 4005, 4007, 4038, 4115 and 4202, Business and Professions Code. Reference: Sections 4005, 4007, 4038, 4115 and 4202, Business and Professions Code.

Title 16 CCR Section 1793.2. - Duties of a Pharmacy Technician.
“Nondiscretionary tasks” as used in Business and Professions Code section 4115, include:
(a) removing the drug or drugs from stock;
(b) counting, pouring, or mixing pharmaceuticals;
(c) placing the product into a container;
(d) affixing the label or labels to the container;
(e) packaging and repackaging.

Title 16 CCR Section 1793.2. - Duties of a Pharmacy Technician.
“Nondiscretionary tasks” as used in Business and Professions Code section 4115, include:
(a) removing the drug or drugs from stock;
(b) counting, pouring, or mixing pharmaceuticals;
(c) placing the product into a container;
(d) affixing the label or labels to the container;
(e) packaging and repackaging.

Title 16 CCR Section 1793.3. - Other Non-Licensed Pharmacy Personnel.
(a) In addition to employing a pharmacy technician to perform the tasks specified in section 1793.2, a pharmacy may employ a non-licensed person to type a prescription label or otherwise enter prescription information into a computer record system, but the responsibility for the accuracy of the prescription information and the prescription as dispensed lies with the registered pharmacist who initials the prescription or prescription record. At the direction of the registered pharmacist, a non-licensed person may also request and receive refill authorization.
(b) A pharmacist may supervise the number of non-licensed personnel performing the duties specified in subdivision (a) that the pharmacist determines, in the exercise of his or her professional judgment, does not interfere with the effective performance of the pharmacist's responsibilities under the Pharmacy Law.
(c) A pharmacist who, exercising his or her professional judgment pursuant to subdivision (b), refuses to supervise the number of non-licensed personnel scheduled by the pharmacy, shall notify the pharmacist-in-charge in writing of his or her determination, specifying the circumstances of concern with respect to the pharmacy or the non-licensed personnel that have led to the determination, within a reasonable period, but not to exceed 24 hours, after the posting of the relevant schedule.
(d) No entity employing a pharmacist may discharge, discipline, or otherwise discriminate against any pharmacist in the terms and conditions of employment for exercising or attempting to exercise in good faith the right established pursuant to this section.

Title 16 CCR Section 1793.5. - Pharmacy Technician Application.

The "Pharmacy Technician Application (Form 17A-5(Rev. 01/11)), incorporated by reference herein, required by this section is available from the Board of Pharmacy upon request.

(a) Each application for a pharmacy technician license shall include:

(1) Information sufficient to identify the applicant.

(2) A description of the applicant's qualifications, and supporting documentation for those qualifications.

(3) A criminal background check that will require submission of fingerprints in a manner specified by the board and the fee authorized in Penal Code section 11105(e).

(4) A sealed, original Self-Query from the National Practitioner Data Bank – Healthcare Integrity and Protection Data Bank (NPDB-HIPDB) dated no earlier than 60 days of the date an application is submitted to the board.

(b) The applicant shall sign the application under penalty of perjury and shall submit it to the Board of Pharmacy.

(c) The board shall notify the applicant within 30 days if an application is deficient; and what is needed to correct the deficiency. Once the application is complete, and upon completion of any investigation conducted pursuant to section 4207 of the Business and Professions Code, the board will notify the applicant within 60 days of a license decision.

(d) Before expiration of a pharmacy technician license, a pharmacy technician must renew that license by payment of the fee specified in subdivision (r) of section 4400 of the Business and Professions Code.

Title 16 CCR Section 1793.6. - Training Courses Specified by the Board.

A course of training that meets the requirements of Business and Professions Code section 4202 (a)(2) is:

(a) Any pharmacy technician training program accredited by the American Society of Health-System Pharmacists,

(b) Any pharmacy technician training program provided by a branch of the federal armed services for which the applicant possesses a certificate of completion, or

(c) Any other course that provides a training period of at least 240 hours of instruction covering at least the following:

(1) Knowledge and understanding of different pharmacy practice settings.

(2) Knowledge and understanding of the duties and responsibilities of a pharmacy technician in relationship to other pharmacy personnel and knowledge of standards and ethics, laws and regulations governing the practice of pharmacy.

(3) Knowledge and ability to identify and employ pharmaceutical and medical terms, abbreviations and symbols commonly used in prescribing, dispensing and record keeping of medications.

(4) Knowledge of and the ability to carry out calculations required for common dosage determination, employing both the metric and apothecary systems.

(5) Knowledge and understanding of the identification of drugs, drug dosages, routes of administration, dosage forms and storage requirements.

(6) Knowledge of and ability to perform the manipulative and record-keeping functions involved in and related to dispensing prescriptions.

(7) Knowledge of and ability to perform procedures and techniques relating to manufacturing, packaging, and labeling of drug products.

Title 16 CCR Section 1793.7. - Requirements for Pharmacies Employing Pharmacy Technicians.

(a) Except as otherwise provided in section 1793.8, any function performed by a pharmacy technician in connection with the dispensing of a prescription, including repackaging from bulk and storage of pharmaceuticals, must be verified and documented in writing by a pharmacist. Except for the preparation of

prescriptions for an inpatient of a hospital and for an inmate of a correctional facility, the pharmacist shall indicate verification of the prescription by initialing the prescription label before the medication is provided to the patient.
(b) Pharmacy technicians must work under the direct supervision of a pharmacist and in such a relationship that the supervising pharmacist is fully aware of all activities involved in the preparation and dispensing of medications, including the maintenance of appropriate records.
(c) A pharmacy technician must wear identification clearly identifying him or her as a pharmacy technician.
(d) Any pharmacy employing or using a pharmacy technician shall develop a job description and written policies and procedures adequate to ensure compliance with the provisions of Article 11 of this Chapter, and shall maintain, for at least three years from the time of making, records adequate to establish compliance with these sections and written policies and procedures.
(e) A pharmacist shall be responsible for all activities of pharmacy technicians to ensure that all such activities are performed completely, safely and without risk of harm to patients.
(f) For the preparation of a prescription for an inpatient of a licensed health facility and for a patient of a licensed home health agency, the ratio shall not be less than one pharmacist on duty for a total of two pharmacy technicians on duty. Pursuant to Business and Professions Code section 4115(g)(1), this ratio shall not apply to the preparation of a prescription for an inmate of a correctional facility of the Department of the Youth Authority or the Department of Corrections, or for a person receiving treatment in a facility operated by the State Department of Mental Health, the State Department of Developmental Services, or the Department of Veterans Affairs.

Title 16 CCR Section 1793.8 - Technicians in Hospitals with Clinical Pharmacy Programs.
(a) A general acute care hospital, as defined in Health and Safety Code 1250 (a), that has an ongoing clinical pharmacy program may allow pharmacy technicians to check the work of other pharmacy technicians in connection with the filling of floor and ward stock and unit dose distribution systems for patients admitted to the hospital whose orders have previously been reviewed and approved by a licensed pharmacist. Only inpatient hospital pharmacies as defined in 4029(a) that maintain a clinical pharmacy services program as described in 4052.1 may have a technician checking technician program as described. The pharmacy shall have on file a description of the clinical pharmacy program prior to initiating a technician checking technician program.
(1) This section shall only apply to acute care inpatient hospital pharmacy settings.
(2) Hospital pharmacies that have a technician checking technician program shall deploy pharmacists to the inpatient care setting to provide clinical services.
(b) Compounded or repackaged products must have been previously checked by a pharmacist and then may be used by the technician to fill unit dose distribution systems, and floor and ward stock.
(c) To ensure quality patient care and reduce medication errors, programs that use pharmacy technicians to check the work of other pharmacy technicians pursuant to this section must include the following components:
(1) The overall operation of the program shall be the responsibility of the pharmacist-in-charge.
(2) The program shall be under the direct supervision of a pharmacist and the parameters for the direct supervision shall be specified in the facility's policies and procedures
(3) The pharmacy technician who performs the checking function has received specialized and advanced training as prescribed in the policies and procedures of the facility.
(4) To ensure quality there shall be ongoing evaluation of programs that use pharmacy technicians to check the work of other pharmacy technicians.

Business and Professions Code Section 4202. - Pharmacy Technician: License Requirements for Education, Experience; Board Regulations; Criminal Background Check; Discipline

(a) The board may issue a pharmacy technician license to an individual if he or she is a high school graduate or possesses a general educational development certificate equivalent, and meets any one of the following requirements:

(1) Has obtained an associate's degree in pharmacy technology.

(2) Has completed a course of training specified by the board.

(3) Has graduated from a school of pharmacy recognized by the board.

(4) Is certified by the Pharmacy Technician Certification Board.

(b) The board shall adopt regulations pursuant to this section for the licensure of pharmacy technicians and for the specification of training courses as set out in paragraph (2) of subdivision (a). Proof of the qualifications of any applicant for licensure as a pharmacy technician shall be made to the satisfaction of the board and shall be substantiated by any evidence required by the board.

(c) The board shall conduct a criminal background check of the applicant to determine if an applicant has committed acts that would constitute grounds for denial of licensure, pursuant to this chapter or Chapter 2 (commencing with Section 480) of Division 1.5.

(d) The board may suspend or revoke a license issued pursuant to this section on any ground specified in Section 4301.

(e) Once licensed as a pharmacist, the pharmacy technician registration is no longer valid and the pharmacy technician license shall be returned to the board within 15 days.

Attachment 5

FAQs FOR APPLICANTS WITH CRIMINAL HISTORY

1. **I have a criminal conviction. Am I eligible to obtain a license?**

   Currently, there is nothing in pharmacy law that requires a board to deny an application based on a specific conviction. That is, nothing is automatic. The board reviews applications with criminal history on a case-by-case basis and will consider mitigating evidence of rehabilitation using the following critera (California Code of Regulations Section 1769):

   - The nature and severity of the act(s) or offense(s)
   - Evidence of any act(s) committed subsequent to the act(s) or crimes
   - The time that has elapsed since commision of the act(s) or crime(s)
   - Whether the applicant has complied with any terms of parole, probation, restitution, or any other sanctions lawfully imposed against the applicant
   - Evidence, if any, of rehabilitation submitted by the applicant

   A determination regarding an applicant's elgibility to obtain a license will not be made prior to the submission of an application. Consequently, board staff will not provide opinions about whether an applicant's specific criminal history will result in the denial of an application.

2. **I'm applying for a license. Do I need to disclose my conviction although the case was dismissed pursant to Penal Code Section 1203.4?**

   Yes. Penal Code Section 1203.4 states, in part, "…the order does not relieve him or her of the obligation to disclose the conviction in repsonse to any direct question contained in any questionaire or application for public office, for licensure by any state or local agency, or for contracting with the California State Lottery…"

   Failure to disclose a conviction is grounds for denial of an application.

3. **I plead no contest/guilty to a traffic violation with a fine of less than $300. Do I need to disclose the infraction on my application?**

   No. You do not need to disclose any traffic infractions with a fine of less than $300 unless drugs and/or alcohol were involved.

4. **What happens after I submit my application and documents?**

   Your application will be forwarded to the enforcement unit for review of your criminal history, including the livescan results provided by the Department of Justice. Due to the high volume of applications, the enforcement unit may take up to 90 days to review criminal history. The review process may take longer if the application is missing necessary documentation. If additional documentation is required, the enforement unit will contact you.

5. **I have a job offer which requires a license. Is there anything I can do to expedite the enforcement review process?**

   In order to be fair to all applicants, the board reviews each application and all supplemental documents in the order they are received. The review time can be reduced if all necessary

information is provided with the application. If the board receives incomplete information, there will be additional delays. The time to review each case will vary with each application, and is dependant upon the number of convictions, the number of documents obtained for each conviction, and the severity and complexity of each case. It is important to read the application instructions carefully and provide all of the requested documents; this is the only way to expedite your application through the enforcement review process.

6. How will I be notified if I am missing information needed to complete the enforcement review process?

The board will notify you by mail if your application is deficient. The letter will identify the documentation necessary to complete the review of your application. These documents will also be revientation as soon as possible.

Please note, the burden is on the applicant to provide documentation to prove eligibility for licensure. Failure to provide the requested documentation will result in the application being withdrawn.

What are "certified" copies?

7. Certified copies are certified by a court or arresting agency to be "true and correct" copies of the original documents. The certification can be a stamp, seal, or a cover page to the documents.

8. What court records should I submit?

The court documents should include:

- Complaint or Indictment
- Plea and Minute Order
- Summary of Judgement
- Pre-Sentencing/Probation Report *when applicable*
- Dismissal per Penal Code Section 1203.4, 1203.4a, or 1203.41 *when applicable*
- Any other documents which pertain to the conviction

Please note:

Only providing documentation of the dismissal per Penal Code Section 1203.4, 1203.4a, or 1203.41 or any other state's equivalent law, does not satisfy the board's request. All other relevant documents listed above should also be provided.

Documentation from the court's internet website does not satisfy the board's request.

9. How do I obtain a copy of the arrest report?

Arrest reports are obtained from the law enforcement agency (Police Department, Sheriff's Department, Highway Patrol, Campus Police, etc…) that arrested and/or cited you.

If you do not know which law enforcement agency arrested and/or cited you, it may be necessary for you to contact law enforcement agencies in the area of your arrest to determine the correct agency. In some cases, the court records will indicate the name of the law enforcement agency; You may also contact the jail at which you were booked for assistance.

10. **What if the law enforcement agency will not release the report to me?**
    Provide a written statement to the board indicating that the law enforcement agency will not release the report to you. Please also provide the name of the law enforcement agency, date of arrest, type of offense, and case/report number. The board will request the report directly from the law enforcement agency.

11. **What if I am unable to obtain the arrest and/or court records because the documents have been purged or destroyed?**
    Ask the agency for written documentation on agency letterhead indicating the documents have been purged or destroyed.

12. **What should I include in my written explanation of the incident?**
    Your statement of explanation should provide a full description of the circumstances that led up to your arrest. Describe your actions that caused you to be arrested. Provide dates and as much detail as you can recall.
    To say that you were arrested and convicted is not sufficient detail.
    Disclosing personal life traumas which caused you to commit crimes is not required. The board needs a clear statement of facts.

13. **What evidence of rehabilitation should I include?**
    As described in California Code of Regulations Section 1769, you should provide evidence of compliance with any terms of parole, probation, restitution, or any other sanctions lawfully imposed.
    You may provide additional evidence of rehabilitation that you would like the board to consider to mitigate the actions that led to your conviction(s). This may include, certificates or letters confirming completion of any rehabilitation programs, community service, etc… These documents must be signed and dated, and include information regarding your attendance dates. You may also provide character reference letters from persons aware of your past criminal convictions.

14. **What happens to my application if I don't provide the documents required by the board?** The application will be withdrawn as incomplete; the applicant will need to submit a new application and fee.
    Please note, application fees are non-refundable.

Attachment 6

California Board of Pharmacy
Detailed Content Outline

1. PATIENT MEDICATIONS — 20 items

A. Collect, Organize, and Evaluate Information

1. Obtain information from the patient/patient's representative for patient profile (e.g., diagnosis or desired therapeutic outcome, allergies, adverse reactions, medical history)
2. Obtain information from prescriber and/or health care professionals for patient profile (e.g., diagnosis or desired therapeutic outcome, allergies, adverse reactions, medical history)
3. Assess prescription/medication order for completeness, correctness, authenticity, and legality
4. Assess prescription/medication order for appropriateness (e.g., drug selection, dosage, drug interactions, dosage form, delivery system)
5. Evaluate the medical record/patient profile for any or all of the following: disease states, clinical condition, medication use, allergies, adverse reactions, disabilities, medical/surgical therapies, laboratory findings, physical assessments and/or diagnostic tests
6. Perform physical assessment (e.g., vital signs/blood pressure measurement, observations of signs/symptoms)
7. Perform health screening (e.g., blood glucose checks, diagnostic tests)
8. Evaluate the pharmaceutical information needs of the patient/patient's representative

B. Dispense Medications

1. Select specific product(s) to be dispensed for a prescription/medication order
2. Document preparation of medication in various dosage forms (e.g., compounded, repackaging)
3. Document preparation of controlled substances for dispensing
4. Verify label(s) for prescription containers
5. Select auxiliary label(s) for container(s)
6. Perform the final check for medications, products, preparations, or devices prior to dispensing
7. Use automated dispensing machines
8. Administer medications, biologicals, and immunizations as ordered by a prescriber, protocol, or scope of practice
9. Participate in compounding (sterile and non-sterile)

2. PATIENT OUTCOMES 33 items

A. Determine a Course of Action

1. Develop a therapeutic regimen for prescription medications (e.g., recommend alteration of prescribed drug regimen, select drug if necessary, perform medication therapy management)
2. Collaborate with health care team/prescriber to determine goals of therapy and course of action
3. Assess changes in health status (e.g., onset of new disease states, changes in clinical condition)
4. Perform pharmacokinetic calculations
5. Perform monitoring and therapeutic management activities
6. Manage drug therapy according to protocols or scope of practice
7. Resolve problems that arise with patient's therapy (e.g., ADEs, drug interactions, non-adherence)
8. Apply results of literature in the performance of evidence-based pharmacotherapy
9. Assess patient for immunization needs
10. Resolve problems with insurance coverage of prescription, medication, or device orders
11. Perform medication reconciliation
12. Recommend/order necessary monitoring procedures (e.g., renal/hepatic function, glucose levels, EKG, drug levels)
13. Initiate pharmacist-provider therapies (e.g., hormonal contraceptives, smoking cessation, travel-related medications)

B. Educate Patients and Health Care Professionals

1. Assess the patient's understanding of the disease and treatment
2. Counsel patient/patient's representative regarding prescription medication therapy and devices
3. Counsel patient/patient's representative regarding nonprescription medication (OTC)
4. Counsel patient/patient's representative regarding herbal/complementary/alternative therapies
5. Counsel patient/patient's representative regarding non-drug therapy
6. Counsel patient/patient's representative regarding self-monitoring of therapy (e.g., devices, symptoms)
7. Verify the patient's/patient representative's understanding of the information presented
8. Educate health care professionals (e.g., physicians, nurses, medical residents/fellows, other health care providers/students, precepting intern pharmacists)
9. Communicate results of monitoring to patient/patient's representative, prescriber and/or other health care professionals
10. Respond to consumer inquiries (e.g. internet searches, media information, FDA patient safety alerts, radio/television commercials)
11. Provide supplemental information, as indicated (e.g., medication guides, computer-generated information)
12. Participate in emergency preparedness and response

C. Promote Public Health

1. Participate in population health screening and/or disease or condition management programs
2. Participate in health-related public awareness/patient education programs
3. Make recommendations regarding health care resources for patients (e.g., Medicare Part D, patient assistance programs)

3. PHARMACY OPERATIONS 22 items

A. Pharmaceuticals, Devices and Supplies, and Inventory Control

1. Ensure quality specifications for pharmaceuticals, durable medical equipment, devices, and supplies (e.g., sourcing, pedigree)
2. Place orders for pharmaceuticals, durable medical equipment, devices, and supplies, including expediting of emergency orders
3. Maintain a record-keeping system of items purchased/received/returned in compliance with legal requirements (e.g., dangerous drugs, devices, supplies)
4. Maintain a record of controlled substances ordered, received, stored, and removed from inventory
5. Dispose of expired, returned, or recalled pharmaceuticals, durable medical equipment, devices, supplies, and document actions taken
6. Respond to changes in product availability (e.g., drug shortages, recalls)
7. Design and implement policies to prevent theft and/or drug diversion
8. Comply with policies and procedures to prevent theft and/or drug diversion

B. Perform Quality Assurance/Improvement

1. Assess pharmacist and/or pharmacy technician competence
2. Ensure the accuracy of medication administration
3. Participate in a system to monitor/improve medication use including quality assurance programs (e.g., antimicrobial stewardship, standard order sets, peer review, self-evaluation)
4. Participate in a system for medication error prevention, assessment, and reporting (e.g., root cause analysis, National Patient Safety Goals, medication error reduction program)
5. Participate in systems by which adverse drug effects and interactions are prevented, documented, evaluated, and reported

C. Manage Operations, Human Resources and Information Systems

1. Monitor the practice site and/or service area for compliance with federal, state, and local laws, regulations, and professional standards/guidelines
2. Supervise the work of pharmacy personnel
3. Ensure the availability, control, and confidentiality of patient and prescription information (e.g., patient profiles, medication administration records)
4. Participate in the development of pharmacy policies and procedures, protocols, order sets, and/or therapeutic guidelines
5. Participate in the use of pharmacy information systems and technology (e.g., electronic health record, e-prescribing, CURES)
6. Manage the use of pharmacy information systems and technology (e.g., electronic health record, e-prescribing, CURES)

D. Manage Formulary and Medication Use Systems

1. Use a formulary system (e.g., therapeutic conversion, advising patients and prescribers)

2. Manage an existing formulary system (e.g., formulary guidelines, criteria for use, tier placement, evaluation of products for inclusion)
3. Apply therapeutic interchanges
4. Design medication use evaluations (e.g., set criteria, establish data collection process)
5. Analyze medication use evaluation data
6. Apply results of medication use evaluations to revise practice procedures to improve patient outcomes

Total 75 items

Fifteen pretest items will be included on each test form.

Attachment 7

Board of Pharmacy Licensing Statistics - Fiscal Year 2015/16

APPLICATIONS

Received	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	35	70	45	38	40								228
Designated Representatives Vet (EXV)	0	1	0	0	0								1
Designated Representatives-3PL (DRL)	14	19	6	21	22								82
Intern Pharmacist (INT)	55	510	596	299	74								1534
Pharmacist (exam applications)	194	124	117	133	130								698
Pharmacist (initial licensing applications)	138	603	165	342	203								1451
Pharmacy Technician (TCH)	578	440	640	546	452								2656
Centralized Hospital Packaging (CHP)	0	0	0	0	0								0
Clinics (CLN)	6	7	18	12	9								52
Clinics Exempt (CLE)	3	3	4	1	1								12
Drug Room (DRM)	0	0	0	0	0								0
Drug Room Exempt (DRE)	0	0	0	0	0								0
Hospitals (HSP)	7	0	0	1	0								8
Hospitals - Temp	5	0	0	0	0								5
Hospitals Exempt (HPE)	0	0	0	0	0								0
Hypodermic Needle and Syringes (HYP)	0	0	1	0	1								2
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	0	0	0	0	0								0
Pharmacy (PHY)	33	48	48	31	281								441
Pharmacy - Temp	5	17	21	7	264								314
Pharmacy Exempt (PHE)	0	0	0	1	0								1
Pharmacy Nonresident (NRP)	12	17	18	9	17								73
Pharmacy Nonresident Temp	1	0	2	3	3								9
Sterile Compounding (LSC)	10	11	12	9	8								50
Sterile Compounding - Temp	6	5	6	3	4								24
Sterile Compounding Exempt (LSE)	0	0	0	0	0								0
Sterile Compounding Nonresident (NSC)	2	3	3	6	4								18
Sterile Compounding Nonresident Temp	0	0	0	1	0								1
Third-Party Logistics Providers (TPL)	2	2	1	1	0								6
Third-Party Logistics Providers - Temp	0	0	0	0	0								0
Third-Party Logistics Providers Nonresident (NPL)	4	3	3	11	5								26
Third-Party Logistics Providers Nonresident Temp	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer (VET)	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer - Temp	0	0	0	0	0								0
Wholesalers (WLS)	11	9	10	3	4								37
Wholesalers - Temp	4	0	1	1	0								6
Wholesalers Exempt (WLE)	0	0	0	0	0								0
Wholesalers Nonresident (OSD)	8	13	14	11	12								58
Wholesalers Nonresident - Temp	2	0	2	3	6								13
Total	1135	1905	1733	1493	1540	0	0	0	0	0	0	0	7806

All change of location applications are reported under the license type as a new license is issued effective 11/1/2014

APPLICATIONS (continued)

Issued	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	34	39	36	54	26								189
Designated Representatives Vet (EXV)	0	0	0	0	1								1
Designated Representatives-3PL (DRL)	34	19	19	14	25								111
Intern Pharmacist (INT)	103	222	639	408	105								1477
Pharmacist (initial licensing applications)	146	451	342	223	280								1442
Pharmacy Technician (TCH)	717	592	488	591	633								3021
Centralized Hospital Packaging (CHP)	1	0	0	0	0								1
Clinics (CLN)	12	7	10	9	10								48
Clinics Exempt (CLE)	1	0	0	4	3								8
Drug Room (DRM)	1	0	0	0	0								1
Drug Room Exempt (DRE)	0	0	0	0	0								0
Hospitals (HSP)	0	5	1	2	1								9
Hospitals - Temp	1	0	0	0	0								1
Hospitals Exempt (HPE)	0	1	0	0	1								2
Hypodermic Needle and Syringes (HYP)	0	6	1	0	0								7
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	0	0	0	0	0								0
Pharmacy (PHY)	30	36	38	49	35								188
Pharmacy - Temp	7	2	4	0	9								22
Pharmacy Exempt (PHE)	1	0	1	1	0								3
Pharmacy Nonresident (NRP)	3	9	5	7	6								30
Pharmacy Nonresident Temp	5	5	0	1	0								11
Sterile Compounding (LSC)	3	1	3	4	6								17
Sterile Compounding - Temp	2	6	0	0	4								12
Sterile Compounding Exempt (LSE)	0	0	1	1	0								2
Sterile Compounding Nonresident (NSC)	2	1	3	1	1								8
Sterile Compounding Nonresident Temp	0	0	0	1	0								1
Third-Party Logistics Providers (TPL)	3	1	2	1	2								9
Third-Party Logistics Providers-Temp	0	0	0	1	0								1
Third-Party Logistics Providers Nonresident (NPL)	10	2	6	3	8								29
Third-Party Logistics Providers Nonresident Temp	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer (VET)	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer - Temp	0	0	0	0	0								0
Wholesalers (WLS)	7	3	7	4	8								29
Wholesalers - Temp	0	0	0	0	0								0
Wholesalers Exempt (WLE)	0	0	0	0	0								0
Wholesalers Nonresident (OSD)	11	4	9	8	5								37
Wholesalers Nonresident - Temp	0	0	0	1	0								1
Total	1134	1412	1615	1388	1169	0	0	0	0	0	0	0	6718

APPLICATIONS (continued)

Pending	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
Designated Representatives (EXC)	228	257	263	24	257							
Designated Representatives Vet (EXV)	3	4	2	2	2							
Designated Representatives-3PL (DRL)	120	109	95	92	78							
Intern Pharmacist (INT)	102	384	313	184	146							
Pharmacist (exam applications)	905	805	750	824	849							
Pharmacist (eligible exam)	1981	1709	1501	1259	1013							
Pharmacy Technician (TCH)	1228	992	1130	1081	879							
Centralized Hospital Packaging (CHP)	16	16	16									
Clinics (CLN)	66	72	74	73	73							
Clinics Exempt (CLE)	10	11	15	14	12							
Drug Room (DRM)	1	1	1	2	3							
Drug Room Exempt (DRE)	0	0	0	1	1							
Hospitals (HSP)	22	14	14	14	12							
Hospitals Exempt (HPE)	4	4	4	3	2							
Hypodermic Needle and Syringes (HYP)	14	8	8	9	10							
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0							
Correctional Pharmacy (LCF)	0	0	0	0	0							
Pharmacy (PHY)	210	208	207	182	424							
Pharmacy Exempt (PHE)	4	5	4	4	4							
Pharmacy Nonresident (NRP)	203	204	212	215	226							
Sterile Compounding (LSC)	44	44	49	53	48							
Sterile Compounding - Exempt (LSE)	6	7	6	5	5							
Sterile Compounding Nonresident (NSC)	38	40	41	42	46							
Third-Party Logistics Providers (TPL)	12	13	11	10	8							
Third-Party Logistics Providers Nonresident (NPL)	52	54	49	56	54							
Veterinary Food-Animal Drug Retailer (VET)	1	1	1	1	1							
Wholesalers (WLS)	57	61	65	61	63							
Wholesalers Exempt (WLE)	0	0	0	0	0							
Wholesalers Nonresident (OSD)	73	83	86	88	95							
Total	5400	5106	4917	4299	4311	0	0	0	0	0	0	0

The number of temporary applications are included in the primary license type.

APPLICATIONS (continued)

Withdrawn	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	1	5	2	2	2								12
Designated Representatives Vet (EXV)	0	0	2	0	0								2
Designated Representatives-3PL (DRL)	0	0	1	0	0								1
Intern Pharmacist (INT)	0	0	0	0	0								0
Pharmacist (exam applications)	0	1	0	0	0								1
Pharmacist (initial licensing applications)	0	0	0	0	0								0
Pharmacy Technician (TCH)	132	53	11	13	16								225
Centralized Hospital Packaging (CHP)	0	0	0	0	0								0
Clinics (CLN)	0	1	0	3	0								4
Clinics Exempt (CLE)	0	0	0	0	0								0
Drug Room (DRM)	0	0	0	0	0								0
Drug Room Exempt (DRE)	0	0	0	0	0								0
Hospitals (HSP)	0	4	0	0	0								4
Hospitals Exempt (HPE)	0	0	0	0	0								0
Hypodermic Needle and Syringes (HYP)	4	0	0	0	0								4
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	0	0	0	0	0								0
Pharmacy (PHY)	0	1	3	4	8								16
Pharmacy Exempt (PHE)	0	0	0	0	0								0
Pharmacy Nonresident (NRP)	20	1	2	3	0								26
Sterile Compounding (LSC)	1	4	1	0	3								9
Sterile Compounding Exempt (LSE)	0	0	0	0	0								0
Sterile Compounding Nonresident (NSC)	0	0	1	1	0								2
Third-Party Logistics Providers (TPL)	0	0	1	0	0								1
Third-Party Logistics Providers Nonresident (NPL)	0	0	1	1	0								2
Veterinary Food-Animal Drug Retailer (VET)	0	0	0	0	0								0
Wholesalers (WLS)	1	0	0	2	0								3
Wholesalers Exempt (WLE)	0	0	0	0	0								0
Wholesalers Nonresident (OSD)	0	2	1	1	0								4
Total	159	72	26	30	29	0	0	0	0	0	0	0	316

The number of temporary applications withdrawn is reflected in the primary license type.

APPLICATIONS (continued)

Denied	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	1	0	0	0	0								1
Designated Representatives Vet (EXV)	0	0	0	0	0								0
Designated Representatives-3PL (DRL)	0	0	0	0	0								0
Intern Pharmacist (INT)	0	0	0	1	0								1
Pharmacist (exam applications)	2	0	0	1	0								3
Pharmacist (initial licensing applications)	0	0	0	0	1								1
Pharmacy Technician (TCH)	3	8	10	2	4								27
Centralized Hospital Packaging (CHP)	0	0	0	0	0								0
Clinics (CLN)	0	0	0	0	0								0
Clinics Exempt (CLE)	0	0	0	0	0								0
Drug Room (DRM)	0	0	0	0	0								0
Drug Room Exempt (DRE)	0	0	0	0	0								0
Hospitals (HSP)	0	0	0	0	0								0
Hospitals Exempt (HPE)	0	0	0	0	0								0
Hypodermic Needle and Syringes (HYP)	0	0	0	0	0								0
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	0	0	0	0	0								0
Pharmacy (PHY)	1	6	0	0	2								9
Pharmacy Exempt (PHE)	0	0	0	0	0								0
Pharmacy Nonresident (NRP)	0	1	0	0	0								1
Sterile Compounding (LSC)	0	0	0	0	0								0
Sterile Compounding Exempt (LSE)	0	0	0	0	0								0
Sterile Compounding Nonresident (NSC)	0	0	0	0	0								0
Third-Party Logistics Providers (TPL)	0	0	0	0	0								0
Third-Party Logistics Providers Nonresident (NPL)	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer (VET)	0	0	0	0	0								0
Wholesalers (WLS)	0	0	0	0	0								0
Wholesalers Exempt (WLE)	0	0	0	0	0								0
Wholesalers Nonresident (OSD)	0	0	0	0	0								0
Total	7	15	10	4	7	0	0	0	0	0	0	0	43

RESPOND TO STATUS REQUESTS

A. Email Inquiries	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Pharmacist/Intern Received	633	520	433	546	387								2519
Pharmacist/Intern Responded	550	452	400	455	361								2218
Pharmacy Technician Received	29	31	107	248	229								644
Pharmacy Technician Responded	36	41	72	167	251								567
Pharmacy Received	480	458	429	548	444								2359
Pharmacy Responded	384	370	404	381	320								1859
Sterile Compounding Received	187	190	167	204	154								902
Sterile Compounding Responded	88	129	135	125	112								589
Wholesale/Clinic/Hypodermic/3PL Received	255	260	428	306	315								1564
Wholesale/Clinic/Hypodermic/3PL Responded	164	468	296	240	416								1584
Pharmacist-in-Charge Received	245	186	162	210	148								951
Pharmacist-in-Charge Responded	190	150	139	143	98								720
Change of Permit Received	272	399	502	555	348								2076
Change of Permit Responded	355	287	329	381	250								1602
Renewals Received	127	202	170	255	201								955
Renewals Responded	109	186	157	213	129								794

B. Telephone Calls	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Pharmacist/Intern	204	191	141	112	121								769
Pharmacy	348	185	132	134	115								914
Sterile Compounding	72	39	21	70	27								229
Wholesale/Clinic/Hypodermic/3PL	109	120	134	136	96								595
Pharmacist-in-Charge	91	64	76	132	90								453
Change of Permit	32	60	79	85	50								306
Renewals	631	655	650	788	477								3201

UPDATE LICENSING RECORDS

A. Change of Pharmacist-in-Charge	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Received	177	181	218	165	219								960
Processed	196	233	208	197	86								920
Pending	284	246	114	225	332								332

B. Change of Desig. Representative-in-Charge	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Received	18	18	14	15	15								80
Processed	20	25	11	15	16								87
Pending	51	56	50	52	39								39

C. Change of Permits	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Received	164	77	142	149	112								644
Processed	152	311	56	83	73								675
Pending	621	403	459	583	601								601

D. Discontinuance of Business	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Received	33	43	46	39	30								191
Processed	34	29	51	37	12								163
Pending	78	88	82	93	87								87

E. Requests Approved	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Address/Name Changes	1053	1209	1022	1027	832								5143
Off-site Storage		52			50								102
Transfer of Intern Hours	3	7	5	3	1								19
License Verification	139	116	121	115	231								722

Revenue Received

A. Revenue Received	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Applications	203,149	282,959	383,966	293,075	380,040								$1,543,188
Renewals	843,082	1,573,955	1,016,429	2,287,772	973,220								$6,694,459
Cite and Fine	93,883	97,483	193,670	147,727	176,949								$709,712
Probation/Cost Recovery	61,591	84,166	200,259	39,882	41,522								$427,420
Request for Information/Lic. Verification	1,640	1,740	2,705	1,978	4,230								$12,293
Fingerprint Fee	7,595	6,811	7,203	9,212	5,710								$36,531

B. Licenses Renewed	JUL	AUG*	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	173	245	208	195	178								999
Designated Representatives Vet (EXV)	12	5	5	2	1								25
Designated Representatives-3PL (DRL)	0	0	0	0	0								0
Pharmacist (RPH)	1648	1629	1895	1739	1525								8436
Pharmacy Technician (TCH)	2569	2531	2708	2481	2329								12618
Centralized Hospital Packaging (CHP)	0	0	0	0	0								0
Clinics (CLN)	83	78	68	69	54								352
Clinics Exempt (CLE)	2	4	85	96	5								192
Drug Room (DRM)	2	0	2	0	1								5
Drug Room Exempt (DRE)	0	2	2	7	2								13
Hospitals (HSP)	19	16	26	82	21								164
Hospitals Exempt (HPE)	0	8	42	24	3								77
Hypodermic Needle and Syringes (HYP)	18	18	21	24	31								112
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	0	2	30	20	0								52
Pharmacy (PHY)	213	338	171	1489	279								2490
Pharmacy Exempt (PHE)	0	7	76	34	1								118
Pharmacy Nonresident (NRP)	29	30	25	31	38								153
Sterile Compounding (LSC)	57	35	50	156	44								342
Sterile Compounding Exempt (LSE)	0	1	11	95	0								107
Sterile Compounding Nonresident (NSC)	7	6	5	7	6								31
Third-Party Logistics Providers (TPL)	0	0	0	0	0								0
Third-Party Logistics Providers Nonresident (NPL)	0	0	0	0	0								0
Veterinary Food-Animal Drug Retailer (VET)	3	4	4	3	1								15
Wholesalers (WLS)	44	51	41	37	24								197
Wholesalers Exempt (WLE)	0	2	0	3	2								7
Wholesalers Nonresident (OSD)	59	50	58	52	54								273
Total	4938	5062	5533	6646	4599	0	0	0	0	0	0	0	26778

Current Licensees

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	FYTD
Designated Representatives (EXC)	3080	3121	3159	3204	3235								3235
Designated Representatives Vet (EXV)	69	69	69	69	70								70
Designated Representatives-3PL (DRL)	45	66	85	97	123								123
Intern Pharmacist (INT)	6305	6166	6459	6586	6420								6420
Pharmacist (RPH)	42638	43100	43294	43472	43744								43744
Pharmacy Technician (TCH)	74728	74875	74664	74656	74863								74863
Centralized Hospital Packaging (CHP)	5	5	5	3	3								3
Clinics (CLN)	1168	1168	1170	1175	1182								1182
Clinics Exempt (CLE)	244	243	247	247	249								249
Drug Room (DRM)	25	25	25	25	24								24
Drug Room Exempt (DRE)	14	14	13	13	13								13
Hospitals (HSP)	400	400	399	398	398								398
Hospitals Exempt (HPE)	85	86	86	86	86								86
Hypodermic Needle and Syringes (HYP)	278	281	281	281	281								281
Hypodermic Needle and Syringes Exempt (HYE)	0	0	0	0	0								0
Correctional Pharmacy (LCF)	53	53	53	53	53								53
Pharmacy (PHY)	6451	6439	6453	6463	6445								6445
Pharmacy Exempt (PHE)	124	124	124	124	124								124
Pharmacy Nonresident (NRP)	456	455	458	462	468								468
Sterile Compounding (LSC)	816	816	810	810	809								809
Sterile Compounding Exempt (LSE)	121	121	121	121	120								120
Sterile Compounding Nonresident (NSC)	91	91	94	95	95								95
Third-Party Logistics Providers (TPL)	3	4	6	8	10								10
Third-Party Logistics Providers Nonresident (NPL)	10	14	18	21	29								29
Veterinary Food-Animal Drug Retailer (VET)	24	24	24	24	24								24
Wholesalers (WLS)	626	623	622	622	628								628
Wholesalers Exempt (WLE)	16	16	16	16	16								16
Wholesalers Nonresident (OSD)	833	826	819	818	815								815
Total	138708	139225	139574	139949	140327	0	0	0	0	0	0	0	140327