The Current and Future State of the Pharmacy Workforce

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Disclosure Statement

I do not have (nor does any immediate family member have) a vested interest in or affiliation with any corporate organization offering financial support or grant monies for this continuing education activity.

I am an employee of ASHP which is a member of the National Workforce Center.

ASHP is one of the five pharmacy organizations that governs PTCB.
Learning Objectives

• To describe the current state of the pharmacy workforce
• To compare the factors that determine supply versus demand
• To forecast the availability of residency positions in the future
• To analyze potential implications for NMSHP and ASHP

Technician Objectives

• To describe the current state of the pharmacy technician workforce
• To justify how pharmacy technicians support the improvement of medication use and optimize medication-related outcomes
• To identify how changing roles of pharmacy technicians influence workforce demand

National Pharmacist Workforce Survey 2014
Pharmacy Workforce Center, Inc.

- 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 Professions (BHPPr)
- National Alliance of State Pharmacy Associations (NASPA)
- National Association of Boards of Pharmacy (NABP)
- National Association of Chain Drug Stores (NACDS) Foundation
- National Community Pharmacists Association (NCPA)
- Pharmacy Technician Certification Board (PTCB)

True or False

There are more licensed pharmacists with a Pharm.D. degree than a B.S. Pharm degree

- True
- False
**Highest Degree Earned by Licensed Pharmacists**

<table>
<thead>
<tr>
<th>Year</th>
<th>BS Pharmacy</th>
<th>PharmD</th>
<th>Other (MS/MBA/PhD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>52</td>
<td>38</td>
<td>10</td>
</tr>
<tr>
<td>2009</td>
<td>66</td>
<td>22</td>
<td>12</td>
</tr>
<tr>
<td>2004</td>
<td>71</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>2000</td>
<td>74</td>
<td>14</td>
<td>12</td>
</tr>
</tbody>
</table>

**True or False**

*The race/ethnicity of licensed pharmacists is primarily Asian.*

- **True**
- **False**
Race/Ethnicity of Licensed Pharmacists

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Asian</th>
<th>Black</th>
<th>Hispanic</th>
<th>American Indian</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>88%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>2004</td>
<td>88%</td>
<td>7%</td>
<td>8%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2009</td>
<td>87%</td>
<td>8%</td>
<td>8%</td>
<td>7%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>2014</td>
<td>85%</td>
<td>9%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

True or False

The percent of actively practicing pharmacists that are female is over 50%.

- True
- False
Percent of Actively Practicing Pharmacists that are Female: 1990-2014

Mean Full-Time Equivalent (FTE) Contributions by Age & Gender
Practice Settings of Licensed Pharmacists

Practice Settings

Community: Independent, Chain, Mass Merchandiser, Supermarket

Hospital: Inpatient or outpatient hospital settings

Other Patient Care Settings: long term care, nuclear, clinic-based, central fill, home health/infusion, and specialty pharmacies

Other Non-Patient Care Settings: pharmacy benefit administration, academic, government administration, pharmaceutical industry, consulting, professional associations, and other organizations that were not licensed as a pharmacy
Practice Setting shifts: 2009 vs. 2014

Ratings of Workload as High or Excessively High* by Work Setting: 2004, 2009 & 2014
The practice setting with the highest job satisfaction rating is:

A) Independent
B) Chain
C) Hospital
D) Other
Proportion of U.S. Pharmacists by Segment in Descending Size
(2009 data in lighter tone and 2014 data in darker tone)

Proportions of Community Pharmacists in U.S.
Pharmacist Segments in 2009 and 2014
Proportions of Hospital Setting Pharmacists in U.S. Pharmacist Segments in 2009 and 2014

Proportion with Residency Training for U.S. Pharmacist Segments in 2009 and 2014
How many pharmacists are there?

- The Department of Labor, Bureau of Labor Statistics (BLS), reports that in 2012 there were 286,400 pharmacists
- BLS projects 14% growth by 2022, or 327,800 pharmacists
- They project employment figures, not supply and demand

National Center for Health Workforce Analysis

Health Workforce Projection: Pharmacists

• Released December 2014
• Uses HRSA Health Workforce Simulation Model
• Accounts for changes in supply (new entrants, retirement, hours worked patterns)
• Accounts for changes in demand (ACA Rx coverage, population demographics, demand for prescription medications)
• Does not account for future growth in patient care services/roles of pharmacists, provider status, changes in part D coverage

http://bhpr.hrsa.gov/healthworkforce/supplydemand/pharmacy/
Estimated Supply and Demand for Pharmacists 2012-2025

<table>
<thead>
<tr>
<th>Supply</th>
<th>Pharmacists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated supply, 2012</td>
<td>264,100</td>
</tr>
<tr>
<td>Total supply growth, 2012-2025:</td>
<td>91,200 (35%)</td>
</tr>
<tr>
<td>New entrants</td>
<td>160,500</td>
</tr>
<tr>
<td>Changing work patterns (e.g., part time to full time hours)</td>
<td>7,960</td>
</tr>
<tr>
<td>Attrition (e.g., retirements, mortality)</td>
<td>61,340</td>
</tr>
<tr>
<td>Projected supply, 2025</td>
<td>355,300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Demand</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated demand, 2012</td>
<td>264,100</td>
</tr>
<tr>
<td>Total demand growth, 2012-2025:</td>
<td>42,300 (16%)</td>
</tr>
<tr>
<td>Changing demographics impact</td>
<td>35,800 (14%)</td>
</tr>
<tr>
<td>ACA insurance coverage impact</td>
<td>6,500 (2%)</td>
</tr>
<tr>
<td>Projected demand, 2025</td>
<td>306,400</td>
</tr>
</tbody>
</table>

Adequacy of supply, 2025

<table>
<thead>
<tr>
<th>Adequacy of supply, 2025</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected supply (minus) projected demand</td>
<td>48,900</td>
</tr>
</tbody>
</table>

Source: HRSA National Center for Healthcare Workforce Analysis

Hospital Pharmacist Vacancy Rates

ASHP Surveys show peak pharmacist shortage in 2000, with decline in vacancy rates

Source: 2012 ASHP National Survey of Hospitals
Supply of Pharmacists: Graduates from US Pharmacy Schools: 1960 - 2014

Source: AACP

A lot of press on possible surplus of pharmacists
ASHP Policy Position

1108
QUALITY OF PHARMACY EDUCATION AND EXPANSION OF COLLEGES OF PHARMACY
Source: Council on Education and Workforce Development

To support the Accreditation Council for Pharmacy Education’s continuing role of promulgating accreditation standards and guidelines and engaging in sound accreditation processes to ensure quality in the education provided by colleges of pharmacy; further,

To acknowledge that, in addition to a robust curriculum, access to quality experiential educational sites and the availability of qualified faculty (including preceptors and specialty-trained clinical faculty) are essential determinants of the ability to expand enrollment in existing or additional colleges of pharmacy; further,

To oppose expansion of enrollment in existing or new colleges of pharmacy unless well-designed projections demonstrate that such enrollment increases are necessary to maintain a viable pharmacist workforce.

Factors influencing the “supply”

• The number of pharmacy graduates
• State of the economy
  – Impact on the number of pharmacists retiring
  – Impact on part time to full time shift
• The gender mix (slowly growing)
• The number of international pharmacy graduates (minimal)
Factors influencing the “demand”

- The demand by employers
  - State of the economy
  - Prescription volume
  - NEW roles of pharmacists
  - Changing role of pharmacists
  - Changing role of pharmacy technicians
  - Impact of automation and technology

Pharmacy Technicians
When considering all pharmacy practice locations, there are more pharmacists than pharmacy technicians in the U.S.

- True
- False

Pharmacy Technicians

- According to the U.S. Bureau of Labor Statistics, there are currently 396,540 pharmacy support personnel (355,300 pharmacy technicians + 41,240 pharmacy aides) (2012) -
  - 53% work in retail pharmacy settings
  - 17% work in hospitals/health systems
  - 12% work in general merchandise stores
  - 7% work in grocery stores
  - 3% work in ambulatory health care services

- BLS projects a 20% growth by the year 2020

- Training, certification requirements, and registration by states vary greatly

- 70% or more of hospital technicians are trained “on the job”
ASHP Position on Pharmacy Technicians

Well-qualified, competent pharmacy technicians are integral to the safe provision of medications in all settings. To achieve this, ASHP:

- Supports uniform training – ASHP/ACPE-accredited
- Support certification through PTCB
- Support licensure through state boards

(Ideally should be completed in this sequence)

Status of State Regulation of Pharmacy Technicians

Regulations on TRAINING
- 38 states require education and training (in some form)

Regulations on CERTIFICATION
- All 50 states recognize and accept PTCB for pharmacy technician certification
- There are 23 states which require PTCB
- A total of 6 states recognize PTCB and no other exam for certification

Regulations on REGISTRATION
- 36 states require registration
- 10 states require licensure
- 9 states have no registration or licensure requirements:

Regulations on TECH-CHECK-TECH
- 15 states allow tech check tech

Source: NABP Survey of Pharmacy Law - 2015
Activities of Pharmacy Technicians

% Hospitals with technicians performing activity

Traditional functions
- Restocking floor stock and/or ADCs 98%
- Replenishing unit dose carts 94%
- Purchasing 95%
- Packaging activities 91%
- Compounding sterile preps 85%
- Billing 81%
- Quality Assurance act/unit inspections 62%
- Compounding chemotherapy preps 76%
- Controlled substance system mgmt 61%
- IT system management 38%
- Technician supervising other technicians 28%
- Tech-check-tech 18%
- Medication reconciliation (obtaining list) 18%
- Order entry (for pharmacist verification) 11%
- Medication assistance program mgmt 11%
- Facilitating Transitions of Care 8%
- Screening of medical records for MRPs 6%
- Dispensing with remote video supervision 6%

Non-traditional functions
- Preparing of clinical monitoring information 10%
- Screening of medical records for MRPs 6%

Source: 2012 ASHP National Survey of Hospitals

Non-traditional activities of Pharmacy Technicians

% Hospitals with technicians performing activity

Areas of decline
- IT system management 2014: Orange
- Technician supervising other technicians 2011: Blue 2014: Orange
- Preparation of clinical monitoring information 2011: Blue
- Screening of medical records for MRPs 2011: Blue

Areas of growth
- Tech-check-tech 2012: Orange
- Medication reconciliation (obtaining list) 2012: Orange
- Medication assistance program mgmt 2012: Orange
- Facilitating Transitions of Care 2012: Orange
- Dispensing with remote video supervision 2012: Orange

Source: 2012 ASHP National Survey of Hospitals
Pharmacy Technician Allocation of Time - CURRENT

Non-traditional activities:
- Initiating medication reconciliation
- IV/PO switch programs
- Dispensing via remote video supervision
- Criteria based screening of medical records
- Preparation of clinical monitoring information
- Managing pharmacy information systems
- Managing medication assistance programs
- Tech check tech

Source: 2012 ASHP National Survey of Hospitals

Pharmacy Technician Allocation of Time - FUTURE

Non-traditional activities:
- Initiating medication reconciliation
- IV/PO switch programs
- Dispensing via remote video supervision
- Criteria based screening of medical records
- Preparation of clinical monitoring information
- Managing pharmacy information systems
- Managing medication assistance programs
- Tech check tech

Source: 2012 ASHP National Survey of Hospitals
ASHP/ACPE-Accredited Pharmacy Technician Training Programs

Number and Type of ASHP/ACPE-Accredited Pharmacy Technician Programs
(current total = 258)
Availability of Pharmacy Residency Positions

ASHP Accredited Pharmacy Residency Program Growth (1980-2015) as of 1/5/15

1,861
Shortage of PGY1 positions - based on match participants and available PGY1 positions

Implications and Discussion
Implications

• Good implications: Workload, job satisfaction, proportion of patient care duties is positive for our members

• Challenges: Ongoing monitoring of supply vs. demand, advancing the roles of pharmacists

What can ASHP and NMSHP Do?

• Proactively monitor workforce trends
• Communicate implications with members
• Identify and move forward actions that support the ASHP strategic plan related to workforce trends
• Advocate with stakeholders to advance pharmacy practice
Questions/Discussion?