Thank you for joining this webinar — we will begin shortly

National Pharmacist Workforce Surveys: Overview, Demographics, Work Activities and Contributions to the Workforce
Caroline Gaither, PhD, FAPhA, Presenter
Lynette R. Bradley-Baker, RPh, PhD, Moderator

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➢ Download the handout:
  www.ashpmedia.org/pai/docs/Pharmacy-Workforce-Surveys.pdf

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• Question for the presenter?
  – Q&A Session will follow presentation
  – Submit your question using webinar tool

National Pharmacist Workforce Surveys: Overview, Demographics, Work Activities and Contributions to the Workforce
Caroline A. Gaither, PhD, FAPhA
Pharmacy Workforce Center
November 18, 2015
Presentation Overview

- Overview of the Pharmacy Workforce Center and Aggregate Demand Index
- Context and History of the National Pharmacist Workforce Surveys
- Selected Results of Workforce Surveys: Demographics, Work Activities and Contributions to the Workforce

Pharmacy Workforce Center, Inc. (PWC)

- 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 Pharmacists Association (NCPA)
- Pharmacy Technician Certification Board (PTCB)

Mission of PWC

- To serve the pharmacy profession and the public by actively researching, analyzing, and monitoring the size, demography and activities of the pharmacy workforce
Aggregate Demand Index (ADI)

- Started in August 1999 (updated monthly)
- Derived from a panel of pharmacist employers
- Asks the question: “How difficult is it to fill open pharmacy positions?”
- Rated on a scale from 5.0 (High demand: difficult to fill open positions) to 1.0 (1 = Low Demand: much less than the pharmacist supply available)
- National Average (August 2015): 3.49
- URL: pharmacymanpower.com

States Map (ADI)

Aggregate Demand Index: 2002 – August 2015

<table>
<thead>
<tr>
<th>Demand categories</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>High demand: difficult to fill open positions</td>
</tr>
<tr>
<td>3</td>
<td>Demand in balance with supply</td>
</tr>
<tr>
<td>1</td>
<td>Demand is much less than the pharmacist supply available</td>
</tr>
</tbody>
</table>
History of the National Pharmacist Workforce Surveys

- Due to predicted shortages and unprecedented demand for pharmacists, researchers from 5 Universities were contacted by the Pharmacy Manpower Project, Inc., to conduct a national survey of pharmacists.
- The purpose of the survey was to collect reliable information on demographic and practice characteristics of the pharmacist workforce.
- http://www.aacp.org/resources/research/pharmacyworkforcecenter/Pages/default.aspx

Midwest Pharmacy Workforce Research Consortium

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University of Minnesota

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David H. Kreling, PhD
University of Wisconsin

David A. Mott, PhD
University of Wisconsin

National Pharmacist Workforce Survey: 2000
2000 Methods and Questionnaire

- 5,000 pharmacists received an 11-page questionnaire
  - Employment status
  - Employment setting
  - Workload
  - Work activities
  - Quality of work life
  - Work history
  - 46% response rate

History of the National Pharmacist Workforce Surveys: 2000-2004

- Prescription volume increased while the number of pharmacies remained relatively stable
- Increase in the number of pharmacy schools and graduates
- Increased use of dispensing technology and technician: pharmacist ratios
- Continued call for pharmacists to be involved in direct patient care

National Pharmacist Workforce Survey: 2004
2004 Methods and Questionnaire

- Five groups of 1,000 pharmacists randomly received a core questionnaire and/or one of three supplemental questionnaires
  - workplace characteristics: use of technology, services offered, resources available
  - career history: past jobs, work history,
  - quality of work-life: job satisfaction, job stress, amount of control and what you in a value in a job
- Responses rate: 44%

History of the National Pharmacist Workforce Surveys: 2004-2009

- Continued expansion of pharmacists' roles
- Increased efficiencies in medication distribution
- Documented shortage of pharmacists in the United States
- Continued growth in the number of pharmacy school graduates
- An economic recession which persisted throughout the time the study was conducted

National Pharmacist Workforce Survey: 2009
2009 Methods and Questionnaire

- 3,000 pharmacists received a 4-page mail questionnaire
  - Number of filled and vacant full and part-time positions
  - Layoffs, decreased hours, early retirements and restructured schedules
  - Migration patterns
  - Student loan debt
- Responses rates: 52%

History of the National Pharmacist Workforce Surveys: 2009-2014

- Continued growth in the number of pharmacy school graduates
- Passage of the Patient Protection and Affordable Care Act of 2010
- Increased opportunities for team-based care and participation in medical homes
- "Greying" of the population
- Other occupations moving into the health care arena
- Reduction in the ADI

Aggregate Demand Index: 2009 – 2014

Demand categories:
5 = High demand; difficult to fill open positions
3 = Demand in balance with supply
1 = Demand is much less than the pharmacist supply available
2014 Methods and Questionnaire

- 5,200 pharmacists received an 11-page questionnaire
  - Biggest changes seen in last two years
  - Monitoring of patient outcomes and safety
  - Participation in ACA activities
  - Ease of finding different job
  - Quality of work life
  - Response rate: 48%
Work Status of Licensed Pharmacists

<table>
<thead>
<tr>
<th>Year</th>
<th>Full-Time</th>
<th>Part-Time</th>
<th>Not Working in Pharmacy</th>
<th>Retired/Not Working</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>62</td>
<td>13</td>
<td>3</td>
<td>22</td>
</tr>
<tr>
<td>2009</td>
<td>67</td>
<td>21</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>2004</td>
<td>68</td>
<td>18</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>2000</td>
<td>73</td>
<td>15</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

Age of Licensed Pharmacists

<table>
<thead>
<tr>
<th>Year</th>
<th>23-40</th>
<th>41-60</th>
<th>61+</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>28</td>
<td>48</td>
<td>24</td>
</tr>
<tr>
<td>2009</td>
<td>23</td>
<td>54</td>
<td>24</td>
</tr>
<tr>
<td>2004</td>
<td>31</td>
<td>50</td>
<td>20</td>
</tr>
<tr>
<td>2000</td>
<td>41</td>
<td>45</td>
<td>14</td>
</tr>
</tbody>
</table>

Race/Ethnicity of Licensed Pharmacists

<table>
<thead>
<tr>
<th>Year</th>
<th>White</th>
<th>Asian</th>
<th>Black</th>
<th>Latino/a</th>
<th>American Indian</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>85</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2009</td>
<td>87</td>
<td>8</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2004</td>
<td>88</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2000</td>
<td>88</td>
<td>7</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
Webinar: Overview, Demographics, Work Activities and Contributions to the Workforce

Highest Degree Earned by Licensed Pharmacists

<table>
<thead>
<tr>
<th>Year</th>
<th>BS Pharmacy</th>
<th>PharmD</th>
<th>MS/PhD/PhD/Other</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>

*PharmD: Actively Practicing

Proportion of Actively Practicing Pharmacists who Completed Residency Training

<table>
<thead>
<tr>
<th>Year</th>
<th>1990-2014</th>
<th>1990-2014</th>
<th>1990-2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>31.3%</td>
<td>44.8%</td>
<td>57.1%</td>
</tr>
<tr>
<td>2009</td>
<td>31.3%</td>
<td>44.8%</td>
<td>57.1%</td>
</tr>
<tr>
<td>2014</td>
<td>31.3%</td>
<td>44.8%</td>
<td>57.1%</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>0.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>10.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>20.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>30.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>40.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mean Full-Time Equivalent (FTE) Contributions by Gender: 2000-2014*

* Actively Practicing Pharmacists

Mean Full-Time Equivalent (FTE) Contributions by Age & Gender in 2014

Practice Settings

Community: Independent, Chain, Mass Merchandiser, Supermarket

Hospital: In-patient or out-patient hospital settings

Other Patient Care Settings: nursing home/long term care, HMO, nuclear, clinic-based, mail service, 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
Webinar: Overview, Demographics, Work Activities and Contributions to the Workforce

Actively Practicing Pharmacists’ Employment Setting: 2014


Reasons for Change In Base Pay by Setting: 2014*
Reasons for Change In Base Pay by Setting: 2014*

<table>
<thead>
<tr>
<th>Setting</th>
<th>Position Change</th>
<th>Merit</th>
<th>Hours Worked</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>22%</td>
<td>58%</td>
<td>5%</td>
</tr>
<tr>
<td>Industry</td>
<td>19%</td>
<td>83%</td>
<td>85%</td>
</tr>
<tr>
<td>Other Pat Care</td>
<td>12%</td>
<td>90%</td>
<td>9%</td>
</tr>
<tr>
<td>Other Non-Pat Care</td>
<td>16%</td>
<td>93%</td>
<td>9%</td>
</tr>
</tbody>
</table>

* Actively Practicing Pharmacists
@Average % Increase


<table>
<thead>
<tr>
<th>Setting</th>
<th>Chain</th>
<th>MMC</th>
<th>Super</th>
<th>OPC</th>
<th>Hospital</th>
<th>ONPC</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>4%</td>
<td>6%</td>
<td>8%</td>
<td>8%</td>
<td>9%</td>
<td>9%</td>
<td>11%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Percent of Graduates with Loans at Graduation*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13%</td>
<td>15%</td>
<td>17%</td>
<td>19%</td>
<td>21%</td>
<td>13%</td>
<td>15%</td>
<td>17%</td>
</tr>
<tr>
<td>31%</td>
<td>33%</td>
<td>35%</td>
<td>37%</td>
<td>39%</td>
<td>31%</td>
<td>33%</td>
<td>35%</td>
</tr>
<tr>
<td>51%</td>
<td>53%</td>
<td>55%</td>
<td>57%</td>
<td>59%</td>
<td>51%</td>
<td>53%</td>
<td>55%</td>
</tr>
<tr>
<td>61%</td>
<td>63%</td>
<td>65%</td>
<td>67%</td>
<td>69%</td>
<td>61%</td>
<td>63%</td>
<td>65%</td>
</tr>
<tr>
<td>81%</td>
<td>83%</td>
<td>85%</td>
<td>87%</td>
<td>89%</td>
<td>81%</td>
<td>83%</td>
<td>85%</td>
</tr>
</tbody>
</table>

*Year of graduation estimated from year first licensed as reported in the survey
Work Activities

- **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 MedicationDispensing**: assessing and evaluating patient medication-related needs, monitoring and adjusting patients’ treatments to attain desired outcome, and other services designed for patient care management

Work Activities (continued)

- **Business/Organization Management**: managing personnel, finances and operations

- **Research/Scholarship**: discovery, development, and evaluation of products, services and/or ideas

- **Education**: teaching, precepting, and mentoring of students/trainees and technicians

- **Other**: any other activities not described in the other categories
Webinar: Overview, Demographics, Work Activities and Contributions to the Workforce

11/18/2015

Percent of Time Spent in Work Activities Weekly 2009 & 2014*

- Patient Care Services: Medication Dispensing
- Patient Care Services: Medication Management
- Patient Care Services: Non-Medication Provision
- Research
- Education
- Management
- Other

* Actively Practicing Pharmacists

Services Offered at Practice Site: 2009 & 2014*

- Immunizations
- Medication Therapy Management
- Adjusting Medication Therapy
- Medication Reconciliation
- Disease State Management
- Health Screening

* Actively Practicing Pharmacists

Services Offered At Community/Ambulatory Practice Sites*

- Collaborative Practice Agreements
- Medication Reconciliation
- Adjusting Medication Therapy
- Health Coaching/Screening
- Medication Therapy Management
- Immunizations

* Actively Practicing Pharmacists
Activities Monitored or Evaluated in Your Work Place: 2014*

- Patient Safety
- Patient Outcomes
- Quality of Care
- Patient Satisfaction

* Actively Practicing Pharmacists

Services Offered At Health-System/Hospital Practice Sites*

- Immunizations
- Collaborative Practice Agreements
- Medication Therapy Management
- Sterile Compounding
- Discharge Counseling
- Ordering Lab Tests
- Medication Reconciliation
- Adjusting Medication Therapy

* Actively Practicing Pharmacists

Participation in Contemporary Healthcare Activities: 2014*

- Affiliated with Accountable Care Organization?
- Patient-Centered Medical Home?
- Regular Direct Contact with Health Care Providers Regarding Patient Care?
- Part of an Interprofessional Health Care Team?

* Actively Practicing Pharmacists
Summary

• The ADI continues to provide information on the demand for pharmacists throughout the country
• Overall work participation of pharmacists has decreased due to more retirements of older male pharmacists
• Movement from a male-dominated to female-dominated profession and the contribution of female FTEs is almost equal to males
• Approximately 50% of actively practicing pharmacists have a PharmD degree

Summary (continued)

• There is movement of pharmacists away from community settings into hospitals, other patient care and non-patient care employment
• Increased offerings of immunizations and MTM services since 2004
• Pharmacists who completed residency training had increased debt load between 2010 and 2014
• Pharmacists are performing more activities in their jobs but their feelings of job security, job satisfaction and ease of finding a new job has decreased
Conclusions

- Pharmacists have taken a larger role in health care delivery by increasing access for patients through provision of expanded service offerings

- But at what cost to pharmacists’ quality of work life?

Questions?

Please submit questions using the webinar tool

Thank You