Postgraduate Pharmacy Education - A Call to Arms: Considerations for New and Expanding Programs

ASHP Midyear Meeting
Monday, December 5, 2011
1:30-3:00 pm

Disclosures
The program chair and presenters for this continuing pharmacy education activity report no relevant financial relationships.

Postgraduate Pharmacy Education: A Continual Opportunity for Pharmacy Academia

Lynette R. Bradley-Baker, RPh, PhD
Director of Professional Alliance Development
American Association of Colleges of Pharmacy

"The Responsibility of Pharmaceutical Education for Scholarship, Graduate Education, Fellowships, and Postgraduate Professional Education and Training”

AACP Commission to Implement Change in Pharmaceutical Education Position Paper IV, 1993

Overview of Postgraduate Pharmacy Education (PPE)

- Postgraduate Pharmacy Education (PPE): a structured and systematic educational and training experience which generally occurs after licensure and which is directed toward some predetermined educational outcome relative to the knowledge and skills required for the delivery of pharmaceutical services
  - Fellowships
  - Graduate Education
  - Pharmacy Residencies

Agenda

- Overview of Postgraduate Pharmacy Education (PPE)
- Current State of Pharmacy Residency Programs
- The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs
- Expanding opportunities for Pharmacy Residency Programs
Overview of Postgraduate Pharmacy Education (PPE)

- Fellowships
  - A directed, highly individualized, postgraduate program designed to prepare the participant to become an independent researcher
    - Pharmaceutical industry, pharmacy academia, managed care
  - Programs developed by various entities
    - Academic health centers, schools/colleges of pharmacy, pharmaceutical manufacturers
    - Number of schools/colleges of pharmacy participating in fellowships (Fall 2010):
      - Post-PharmD Fellowship: 18/120 (15%)
      - Post-PhD Fellowship: 46/120 (38%)
  - No accreditation body for fellowship programs
  - Typically 12-24 months in duration

- Future directions
  - More schools/colleges of pharmacy should investigate the feasibility of establishing fellowship programs
  - Collaboration between education and practice is needed to identify new disciplines for fellowships
  - Clinical, social, and basic science pharmacy faculty and those from other professions working together

Overview of Postgraduate Pharmacy Education (PPE)

- Graduate Education
  - Research-intensive degrees that also provide curricular or experiential options
  - Graduates pursue careers in a variety of settings
  - Number of schools/colleges of pharmacy offering graduate degree programs (anticipated 2012-13)
    - Master of Science: 46%
    - Doctor of Philosophy: 50%
  - Viable option for PharmD students
  - Summer research opportunities
  - Dual degree programs

- Future Directions of Pharmacy Graduate Programs
  - New examination of career paths and pathways for graduates from master’s and doctoral programs
  - Increase advocacy efforts
  - New examination of fellowship programs
  - Number of schools/colleges of pharmacy offering graduate degree programs (anticipated 2012-13)
    - Master of Science: 46%
    - Doctor of Philosophy: 50%
  - Viable option for PharmD students
  - Summer research opportunities
  - Dual degree programs

Dr. Vincent Lau, AACP Chief Science Officer and Vice-President of Research and Graduate Education
Overview of Postgraduate Pharmacy Education (PPE)

- Pharmacy Residency Programs
  - Organized, postgraduate experience in a defined area of practice that allows entry-level practitioners to enhance existing competencies and/or acquire additional competencies that exceed entry level.
  - Postgraduate year one pharmacy residency (PGY1)
  - Postgraduate year two pharmacy residency (PGY2)

History of Pharmacy Residency Programs

- 1930's: pharmacy residency training as hospital pharmacy internships
- 1948: ASHP developed standards for pharmacy internships in pharmacy
- 1962: ASHP established accreditation standards and process for residencies in hospital pharmacy
- 1970s: Residencies in clinical practice developed—led to accreditation standards for clinical pharmacy and creation of the ASHP Commission on Credentialing (COC)
- 1993: Pharmacy practice residencies and accreditation standards for specialized areas of practice prevailed; ASHP formed partnerships with AMCP and APhA
- 2005: ASHP COC established new residency accreditation standards for PGY1 and PGY2 pharmacy residencies.

Pharmacy Residency Programs

- Benefits
  - Progression of the pharmacy profession
  - Increasing and enhancing productivity
  - Providing direct patient care
  - Interdisciplinary education and practice

- Challenges
  - Costs associated with financing residency positions
  - Limited resources
  - Perceived lack of value

Current State of Pharmacy Residency Programs

% increase in PGY1 positions over past 5 years?

A. 0 - 10%
B. 11% - 20%
C. 21% - 25%
D. 26% - 30%
E. 31% - 35%
F. 36% - 40%
G. > 40%

Based on National Matching Services data

Current State of Pharmacy Residency Programs

% increase in PGY1 Applicants over past 5 years?

A. 0 - 25%
B. 26% - 35%
C. 36% - 45%
D. 46% - 55%
E. 56% - 65%
F. > 65%

Based on National Matching Services data
72% increase in applicants in 5 years

Note: Over the last 2 years it is a 31% increase in number of applicants

ASHP Resident Matching Program 1990-2011
PGY1 Programs

Pharmacy School and PGY1* Residency Graduation Trends

Demand by Employers
By 2020 residency training should be required for new graduates going into practice:

- Faculty: 87%
- Ambulatory: 80%
- Hospital: 76%
- Managed Care: 54%
- Community: 24%

ASHP Pharmacy Residency Resources

- Accreditation web site
- Accreditation staff
- Midyear Clinical Meeting – residency programming
- Residency Learning System
- National Residency Preceptors Conference – 2012
- Other residency program directors & preceptors
Current State of PGY1 Pharmacy Residency Programs

<table>
<thead>
<tr>
<th>Residency Category</th>
<th>Sub Category</th>
<th>Number of Programs in ASHP Accreditation Statuses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY1</td>
<td>Pharmacy</td>
<td>705</td>
</tr>
<tr>
<td></td>
<td>Managed Care Pharmacy</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>Community Pharmacy</td>
<td>71</td>
</tr>
<tr>
<td>Total PGY1 Residencies</td>
<td></td>
<td>812</td>
</tr>
</tbody>
</table>

Number of PGY1 positions offered in 2011 match: 2,173*
Estimated gap of 2011 PGY1 positions: 1,104 positions

* Information as of 8/1/11 (provided by Janet Teeters, Director, ASHP Accreditation Services)

Current State of PGY2 Pharmacy Residency Programs

<table>
<thead>
<tr>
<th>Residency Category</th>
<th>Sub Category</th>
<th>Number of Programs in ASHP Accreditation Statuses*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY2</td>
<td>Critical Care Pharmacy</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>Oncology Pharmacy</td>
<td>63</td>
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<td></td>
<td>Ambulatory Care Pharmacy</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Infectious Diseases Pharmacy</td>
<td>42</td>
</tr>
<tr>
<td></td>
<td>Pediatric Pharmacy</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>Health System Pharmacy Practice Administration</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Nephrology Pharmacy</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Health System Pharmacy Practice Administration/M.S.</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Psychiatric Pharmacy</td>
<td>23</td>
</tr>
<tr>
<td>Total PGY2 Residencies</td>
<td></td>
<td>492</td>
</tr>
</tbody>
</table>

* Information as of 8/1/11 (provided by Janet Teeters, Director, ASHP Accreditation Services)

Current State of PGY2 Pharmacy Residency Programs

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<th>Number of Programs in ASHP Accreditation Statuses*</th>
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</thead>
<tbody>
<tr>
<td>PGY2</td>
<td>Cardiology Pharmacy</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Solid Organ Transplant Pharmacy</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Pharmacotherapy</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>Emergency Medicine Pharmacy</td>
<td>13</td>
</tr>
<tr>
<td></td>
<td>Drug Information</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Geriatric Pharmacy</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Pharmacy Informatics</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Medication Use Safety</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Palliative Care/Pain Management Pharmacy</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>HIV Pharmacy</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Nutrition Support Pharmacy</td>
<td>3</td>
</tr>
</tbody>
</table>

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Residency Administrator Practice Settings

- Hospital/Health Systems (54%)
- Academic Medical Systems (2%)
- Veterans Administration (3%)
- Colleges/Schools of Pharmacy (1%)
- Managed Care (27%)
- Government (2%)
- Other (4%)

The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs

Approximately what % of schools/colleges of pharmacy indicated participating in a post BS/PharmD residency program in fall 2010?

A. 10%  B. 20%  C. 30%  D. 40%  E. 50%  F. 60%

Based on AACP Fall 2010 Participation in Postgraduate Training Programs, AACP Survey Data

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The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs

Approximately what % of schools/colleges of pharmacy indicated participating in a post BS/PharmD residency program in fall 2010?

- A. 10 %
- B. 20%
- C. 30%
- D. 40% (42%)
- E. 50%
- F. 60%

History of Pharmacy Residency Programs

- 1950s: Pharmacy residency training at hospital teaching internships
- 1968: AACP developed standards for pharmacy manpower in pharmacy
- 1969: AACP established accreditation standards and processes for residencies in hospital pharmacy
- 1993: AACP accreditation standards for clinical practice developed—varied accreditation standards for clinical pharmacy
- 2009: AACP academy involvement in specialized residencies

The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs

- Contributions to Residencies by Pharmacy Academia
  - Full-time faculty with oversight of residencies (Residency Program Directors)
  - Preceptors
  - Partners with residency programs on mutually beneficial educational missions and initiatives
    - Research
    - Teaching certificate training programs
  - Professional leaders on advocacy issues
  - Pharmacist role models in patient care practice

Administrators and faculty must support existing residency programs by collaborating with program directors and program preceptors and stimulating and catalyzing the development of new residencies

“The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs

- AACP Commissions and Committee Reports
  - Final Report and Recommendations of the 2002 AACP Task Force on the Role of Colleges and Schools in Residency Training
  - 2009 AACP Professional Affairs Committee Report
  - AACP Postgraduate Education and Training Policies

Expanding Opportunities for Pharmacy Residency Programs

- Pharmacy Profession Issues
  - Define scope of practice for all members of the pharmacy workforce
  - Ensure that pharmacists take responsibility for all aspects of their professional practice
  - Ensure pharmacists accept global accountability for patient outcomes (shared risk)
  - Standardize technician training and licensing requirement across the profession to increase pharmacists ability to optimize patient care
  - Address board of pharmacy regulations/laws which limit technician/pharmacist roles in prescription fulfillment to support safe and efficient pharmacy service
Expanding Opportunities for Pharmacy Residency Programs

- Challenges with Current Pharmacy Residency Model
  - 1:1 resident to preceptor ratio
  - Episodic resident presence (rotations)
  - Relative lack of residency integration into pharmacy practice model
  - Challenges with program administration
  - Limited opportunities for specific residency experiences and for practicing pharmacists to get residency training

- Potential Opportunities for Expansion
  - Role of the Preceptor
    - Delegate service activities to residents
    - Collaborate in terms to precept residents
    - Utilize technology
  - Role of the Residency
    - Practice as a “Practitioner-learner”
    - Be an extender of services delivered by attending pharmacists (preceptors)
    - Longitudinal periods of integrated responsibilities for the entire care of the patient
  - Program Administration
    - Explore new models for administration for program delivery
    - Shift primary focus of RPD to program delivery, rather than resident

- Training Environment
  - Explore feasibility of training in non-traditional sites (i.e., retail clinics, community health centers, urgent care centers)
  - Development and assessment of performance measures of the quality of resident services
  - Evolving health care models and the role of the pharmacist

- Learning Experience Design
  - Pharmacy Resident
    - Use of simulation and technology for content and competency assessment
    - Use of distance technology to facilitate resident-preceptor interactions in multi-site programs
  - Pharmacist Practitioner
    - Abbreviated or employer-supported residency programs (mid-career residency opportunities)
    - Continuing Professional Education (CPE)

- Conclusions
  - Postgraduate Pharmacy Education (PPE) continues to be necessary for pharmacy’s progression as well as to optimize patient outcomes and public health
  - Schools and colleges of pharmacy have a role in pharmacy residency training and its expansion
  - Opportunities for residencies exist in a variety of practice settings and geographic locations
  - Collaboration is a vital element for pharmacy residency expansion

While residency training has made significant strides over the years, the Commission believes that the profession is poised for enormous expansion in the responsibilities that it will assume, and residency training must support that expansion. Pharmaceutical education has a leadership role in facilitating this expansion by:
  - increasing the number of residency programs;
  - strengthening existing residency programs;
  - identifying new areas of practice that may benefit from residency training;
  - developing pilot residency programs in new practice areas to demonstrate their feasibility;
  - promoting residency training to students and practitioners as career options; and
  - promoting the concept that experienced practitioners may acquire additional practice competencies through residency training

Partnerships Between Health Systems and Schools of Pharmacy

Todd D. Sorensen, Pharm.D.
Professor, University of Minnesota
Director, Ambulatory Care Residency Program
Questions for Schools

- Is residency education in your mission? Vision?
- If you will engage in residency education, what is your goal?
- In partnering with another health care institution for residency education, what does “win-win” look like?

What is the Mission and Vision of Academic Pharmacy Institutions?

Mission

- The College of Pharmacy inspires and educates current and future pharmacists and scientists, engages in cutting-edge research and leads practice development to improve the health of the people of Minnesota and the world.

Vision

- Establishing relationships with patients, decision makers and practitioners to meet changing needs, model patient-centered care and shape the evolving health care system.
- Preparing graduate students, residents and post-doctoral fellows to become the next generation of scientists, advanced practitioners and educators.

Residency Education – What is your goal?

- Prepare advanced practitioners
- Support faculty... Practice Scholarship
- Support experiential education
- Support didactic education
- Advance pharmacy practice in the region
- Build a relationship with an organization
- Your answer here...

What does “win-win” look like?

Health Care Organization

- Increased patient care capacity
- Manpower for new initiatives
- Improvement in quality
- Favorable ROI

School of Pharmacy

- Faculty support
- Teaching support
- Innovative practice sites
- Favorable ROI

The Role of Schools and Colleges of Pharmacy in Pharmacy Residency Programs

- Pharmacy Residency Models
  - College/school affiliation with institutional-based program
  - Jointly-funded programs between practice sites and colleges/schools of pharmacy
- College/School of pharmacy funded residencies

Barriers to Hosting Residency Education
Multi-site PGY1 program coordinated by U of MN
- Formally established in 1999
- Three emphasis areas in ambulatory care:
  - Community Clinic
  - Leadership
  - Rural Pharmacy Practice

Residency Program Vision...

“The program serves as an instrument for pharmaceutical care practice development and as a key source of leadership at the academic-practice interface in Minnesota.”

<table>
<thead>
<tr>
<th>Community Clinic Emphasis</th>
<th>Rural Health Emphasis</th>
<th>Leadership Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community-University Health Care Center (CUHCC)</td>
<td>Kanabec Hospital and Clinic</td>
<td>Broadway Family Medicine Clinic</td>
</tr>
<tr>
<td>Fairview Pharmacy Services</td>
<td>Avera Marshall Regional Medical Center</td>
<td>Broadway Family Medicine Clinic</td>
</tr>
<tr>
<td>Goodrich Pharmacy</td>
<td>St. Croix Hospital</td>
<td>ESU of MN College of Pharmacy</td>
</tr>
<tr>
<td>Essential Health System</td>
<td>Westside Community Health Services</td>
<td></td>
</tr>
</tbody>
</table>

Expanding Residencies to Serve Minnesota

Emphasis Areas
- Community Clinic
- Rural Health
- Leadership

Seeing Growth in the Future...

Envision a program structure that can support growth over time

UM Program Learning Activity Distribution

- Site-Based Learning Activities
  - Patient Care Practice Management
  - Residency Project Staffing
- Core Learning Activities
  - Grand Rounds
  - Journal Club
  - Case Discussions
  - Leadership Development

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Page 9 of 11
UM Program Administration

Distribution

Centralized Administration

Site-Based Admin

Marketing and Recruitment
Application/Interview coordination
Program communications
Fiscal management
RLS/ResiTrak management
Accreditation coordination

Learning experience design
Resident evaluations

UM Program Admin Structure

Residency Program Director

Program Coordinator

Assistant Program Director

Practice Site Coordinators

Responsibilities
- Ensure objectives of program are met
- Coordinate resident recruitment, selection and orientation
- Test management of academic day
- Provide support to site preceptors

Responsibilities
- Coordination of all program activities
- Program communications
- Fiscal management
- Accreditation agreements
- Marketing & Recruitment activities
- Resident project support

Responsibilities
- Site coordinators
- Site Visit coordinators
- Self-site evaluations and independent analysis

Responsibilities
- Discipline and student cooperation
- Independent analysis

Responds to
- Program Director
- Assistant Program Director

Residency Program Director

Program Coordinator

Assistant Program Director

Practice Site Coordinators

Responsibilities
- Site coordinators
- Site Visit coordinators
- Self-site evaluations and independent analysis

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- Discipline and student cooperation
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UM Program Administration

Centralized Administration

Site-Based Admin

Marketing and Recruitment
Application/Interview coordination
Program communications
Fiscal management
RLS/ResiTrak management
Accreditation coordination

Learning experience design
Resident evaluations

Financing the Program

Sites
- 100% Salary and fringe
- Professional travel stipend - $1000
- Program admin fee - $5000
- Tech/library fee - $2000
- ~$53,000
- No Medicare pass-through funds

College of Pharmacy
- Program administration
  - Director
  - Assistant Director
  - Coordinator (0.75 FTE)
  - Leadership Emphasis residents (4 FTE)

Value of Conducting Residency Training – Perspective of Health Care Organization

External Funding

Value Recognized by Health Care Organization

Indirect Revenues

2008 ACCP Task Force on Residencies Pharmacotherapy
2010;30(12):490e–510

Strategies for Identifying Training Sites

Sites seeking to expand pharmacy services
- Sites with unique funding streams
- Cost-based reimbursement, MTM contracts, P4P
- Access to seed grant opportunities
- Past residency graduates
- Leveraging existing partnerships

Benefits and Results

- Small practice sites hosting residents
  - Reduced administrative burden
  - Expanded learning opportunities for residents
- Win-Win Partnerships
  - Increased ambulatory care residency opportunities in the state
  - Significant increase in site-level pharmacy staff
    contribution
  - Enhanced experiential education opportunities

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Page 10 of 11
Strategies for Site and Preceptor Development

- Coaching on program’s RLS applied to site-specific learning activities
- Bi-annual program retreats
  - Preceptor development, input and collegiality
  - Site Visits
  - Program Listserv
- Traveling “Academic Days”

Questions for the Audience.

- Working together, discuss…
  - Considering your own institution, how would you plan an expansion in your postgrad pharmacy residency program?
  - If you are in a health care system and not involved with a College of Pharmacy, how could you develop a partnership with the College?