Evolving Pharmacy Practice: Will the Pain Make Us Stronger?

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Outline

• Describe current trends affecting contemporary hospital-based pharmacy practice and how these may affect both clinicians and administrators
• Discuss challenges related to adapting and changing practices to meet new pharmacy practice paradigms
• Discuss potential options and strategies for addressing the challenges of evolving pharmacy practice


Mirror to Hospital Pharmacy: A Report of the Audit of Pharmaceutical Service in Hospitals
Hospital Pharmacist Direct Professional Services, 1963

- Developing specifications for purchase of all drugs, chemicals, biologicals, and pharmaceutical preparations used in diagnosis and treatment
- Dispensing of medications, chemicals, surgical supplies, and related health items
- Compounding prescriptions for individual patients
- Inspection of medication, chemicals, reagents, and related supplies throughout the hospital
- Manufacturing and prepackaging of bulk quantities of sterile and non-sterile medicinal products
- Assaying or otherwise controlling the quality of drugs manufactured and purchased
- Conducting investigations or research

Advisory and Teaching Functions of Hospital Pharmacists, 1963

- Report made 20 recommendations related to advisory and teaching roles of hospital pharmacists:
  - 2 related to communicating with physicians and nurses
  - 2 related to teaching
  - 1 related to precepting interns and residents
  - 13 related to Pharmacy & Therapeutics Committee and formulary functions
  - 2 related to consulting functions:
    - "Informant"
    - "Consultant"

The Role of the Pharmacist as Consultant (1963)

"These physicians [e.g., clinical pharmacologists, internists] have what the pharmacist lacks. This is first-hand knowledge of the effects of the drug....Without this knowledge the pharmacist must always stop just short of being what some term a true therapeutic consultant.

If we define a therapeutic consultant as one who authoritatively recommends the drug of choice to a physician after he describes the patient's condition, then we don't believe that the pharmacist is or ever will be in a position to assume this responsibility. And if he were, the physician cannot and would not and should not yield his responsibility to prescribe for his patient.

On the other hand, there are important areas in which the pharmacist may speak authoritatively. One of these is selecting and recommending pharmaceutical dosage forms."
The Role of the Pharmacist as Consultant (1963)

“The pharmacist can achieve great competence and speak authoritatively about drugs when his efforts are directed toward contrasting or comparing drugs within a group or helping to determine the relative importance of a new drug or combination. It is perhaps in this area that the pharmacist can be most helpful. Here he can often help the physician arrive at a drug of choice and then authoritatively recommend to him a suitable dosage form of the drug. The pharmacist can seldom speak authoritatively when it comes to the choice of a drug itself for a particular patient. He can, however, authoritatively recommend a dosage form or brand of drug once the physician has made the choice of the drug to be used.”


The Hospital Pharmacist – Look How Far We’ve Come!

Entry-level Competencies Needed for Pharmacy Practice in Hospitals and Health-Systems

- Given a real or simulated case requiring practical application of pharmacokinetic dosing principles for commonly used drugs that are rely on serum levels for dosing, determine the correct dose.
- Given a real or simulated case, document appropriate therapeutic recommendations related to medication therapy.
- Given a real or simulated case, respond to questions with the appropriate level of detail necessary to ensure proper patient care and communication with other relevant parties.
- Given a real or simulated case, demonstrate an appropriate level of clinical knowledge related to medications and therapeutics in making decisions or recommendations.
Basic Direct Pharmacy Services

- Observe patient together with laboratory, pharmacy, medical records, and information from other healthcare providers
- Create problem list
- Evaluate pre-admission medical records
- Integrate and prioritize problems
- Collaborate with other members of the healthcare team
- Formulate a comprehensive therapeutic management plan for each problem including:
  - Desired outcomes
  - Needed drug regimens and devices
  - Monitoring regimen
- Daily patient reassessment

ASHP Position Statements and Guidelines

- Other official ASHP documents address the role of pharmacists in:
  - Antimicrobial Stewardship and Infection Prevention and Control
  - Clinical Pharmacogenomics
  - Clinical PK Monitoring
  - Hospice and Palliative Care
  - Medication Reconciliation
  - Primary Care
  - Emergency Department
  - Emergency Preparedness
  - Pediatric Services
  - Surgery and Anesthesiology

Opportunities and Challenges in a Changing Environment

- Hospital Pharmacy’s Scorecard
  - Patient-specific drug distribution: A
  - Unit dose drug distribution: A-
  - Drug-use control: B
  - Drug information services: A-
  - IV admixture services: A-
  - Clinical practice
    - Selected areas and patients: A+
    - Globally: C
  - Pharmaceutical care
    - Implementation: C-
    - Rhetoric: A+
  - Medication safety
    - Related to product handling: B-
    - Related to clinical care: C-
Challenges Driving the Need for a Change in Practice Models

- Changing population demographics, particularly in proportion of seniors
- Increases in patient acuity
- Need to move patients through the system quickly to free up needed beds and resources for other patients
- Increasing burden of regulatory and accreditation requirements
- Fiscal challenges
- Turnover in nursing and other health professional staffs
- Physicians giving up hospital affiliations, narrowing the scope of their practices, and/or establishing their own procedure/surgical centers

Contemporary Pharmacy Practice Models

- Drug distribution-centered model
- Patient-centered integrated model
  - and clinical responsibilities
- Clinical specialist model
  - Separate roles for distributive staff and clinical staff

Which is the most effective, “correct” model? Is more than one model needed within an organization to meet the needs of all patients?

Relevant Themes Related to Implementation of Effective Pharmacy Practice Models

- Definition of core clinical services
- Collaboration of unit-based pharmacists with health care teams
- Specially trained pharmacists for management of high-risk populations
- Team-based approach to integrating pharmacy generalists and specialists
- Technician training and triage roles to support drug distribution
- Use of students and residents as “pharmacist extenders”
- Effective employment of medication-use technologies, e.g., bar coding
- Ongoing training of pharmacists to ensure clinical competency
Problems Related to Medication Use & Opportunities for Improvement

- Need for safer, more effective drugs
- Reduced time in patient-related activities due to heavy distribution-related workload
- Lack of access to patient-specific data
  - e.g., Transitions-related issues
- Pervasive commercial influences
- Economic barriers
- Multiple and changing formularies
- Patient nonadherence to medication therapy

Barriers to Improving Medication Use in Hospitals and Health Systems

- Information technology
  - Slow rate of adoption of more functional systems
- Limited financial resources
- Human resource and work-force issues
- Deficiencies in drug information
- Organizational and cultural issues within health systems
  - Lack of interdisciplinary teamwork, CQI processes
  - Medication safety issues tend to be pharmacy-centric and driven by individual reporting

Pharmacist Work-Force Issues Which Impact Practice Models

- Shortage of pharmacists, particularly in several key areas requiring specialized knowledge/training
  - Oncology, pediatrics, transplantation, geriatrics, informatics, leadership
- Ensuring competency
- Need for highly trained, certified technicians
- Essential role of residencies
- Importance of interdisciplinary patient care
- Pharmacists desire for work-life balance
- Importance of professionalism
Training and Credentialing of Pharmacists in the Critical Care Setting

Table 4. Credentialing Recommendations for Pharmacists

<table>
<thead>
<tr>
<th>Level of Pharmacy Service</th>
<th>Recommended Credentials</th>
<th>Ideal Credentials</th>
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<tbody>
<tr>
<td>Fundamental Pharmacy Degree</td>
<td>Same as recommended credentials under desirable level of pharmacy service</td>
<td></td>
</tr>
<tr>
<td>Active state licensure level of pharmacy service</td>
<td>1-2 weeks of mentorship clinical exposure</td>
<td>5-7 years and/or focused continuing education</td>
</tr>
<tr>
<td>Desirable Pharmacy Degree</td>
<td>Same as recommended credentials under desirable level of pharmacy service</td>
<td></td>
</tr>
<tr>
<td>Active state licensure level of pharmacy service</td>
<td>Postgraduate training year 1 or similar traineeship</td>
<td>Portfolio review every 5-7 years or equivalent experience</td>
</tr>
<tr>
<td>Advanced Cardiac Life Support Certification</td>
<td>Board of Pharmaceutical Specialties certification in Pharmacotherapy</td>
<td></td>
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| PGY1 Residencies By the Numbers

<table>
<thead>
<tr>
<th>Year</th>
<th>PGY1 Candidates</th>
<th>PGY1 Programs</th>
<th>Matched PGY1s</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>345</td>
<td>375</td>
<td>450</td>
</tr>
<tr>
<td>1995</td>
<td>511</td>
<td>560</td>
<td>596</td>
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<td>2000</td>
<td>647</td>
<td>737</td>
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<tr>
<td>2015</td>
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<td>1356</td>
<td>1900</td>
</tr>
</tbody>
</table>

2015 ASHP National Match Results

- PGY1 programs
  - 4,358 candidates
  - 3,006 positions
  - Difference = 1,352 candidates

- PGY2 programs
  - 1,002 candidates
  - 897 positions
  - Difference = 105 candidates
Ensuring Competency of Pharmacists

- Continuing education
- Clinical credentialing
- Board certification
- "Mid-stream" residency training
- Certificate programs
- Workplace evaluative & professional development processes
- Participation in "pharmacist extender" training programs

Overcoming professional & workplace inertia can be challenging

Financial Challenges: Opportunities for Defining & Expanding Pharmacist Roles

- Movement away from fee-for-service payment systems in conjunction with development of:
  - Patient Centered Medical Home models
  - Accountable care organizations
  - Bundling of care
  - Value-based purchasing
- Emphasis is increasingly on integration of patient care services through multidisciplinary care models
- Endorsements of pharmacist role in patient care by groups such as the Joint Commission, National Quality Forum

Examples of National Quality Organizations and Initiatives

- Centers for Medicare and Medicaid Services (CMS)/Hospital Quality Alliance:
  - Hospital Compare
  - Quality measures
  - HCAHPS Survey
- The Joint Commission
  - Standards
  - National Patient Safety Goals
- National Committee for Quality Assurance (NCQA)
  - HEDIS measures
- National Quality Forum
  - Quality-related measures, indicators, events & practices
- Surgical Care Improvement Project (SCIP) measures
- Institute of Medicine (IOM) reports
ASHP–SHM Joint Statement on Hospitalist–Pharmacist Collaboration

Pharmacist services should include:

- Providing consultative services that foster appropriate, evidence-based medication selection (e.g., during rounds)
- Providing drug information consultation to physicians, nurses, and other clinicians
- Managing medication protocols under collaborative practice agreements
- Assisting in the development of treatment protocols
- Monitoring therapeutic responses (including laboratory test results)
- Continuously assessing for and managing adverse drug reactions
- Gathering medication histories
- Reconciling medications as patients move across the continuum of hospital care
- Providing patient and caretaker education, including discharge counseling and follow-up

Reinventing Acute Care

- “Home Team” in the hospital should include EM physicians, hospitalists, and intensivists partnered with pharmacists, case managers, social workers, and therapists
- Members of the Home Team need to look at the hospital as their primary workplace and be invested in its success
- The hospital will be:
  - patient centered
  - defined by measurable quality
  - Care delivered by teams of health care professionals
  - Success measured at the level of the team, not the individual employee

Team-Based Changes in Practice Models

- Changes needed to allow such Home Teams to function effectively may include:
  - Shifts in hospital hierarchy to allow all team members to be empowered to deliver best practices
  - Protocols designed by the entire team
  - Effective CQI systems & processes in place
  - No more silos
  - Real-time communication across shifts and disciplines which does not depend on EMRs
  - Developing a culture open to criticism and transparency
  - Overcoming geographic barriers within health systems
### Regulatory Issues: 
Keys to “Pharmacy Modernization”

- Provider status
- Limitations of pharmacist scopes of practice by State pharmacy practice acts
- Regulatory agencies which still often perceive pharmacy’s role as largely ancillary & production oriented rather than patient oriented

### Have Hospital Pharmacists Proven That We’re a Good Return on Investment (ROI)?

- Demonstrate ROI of pharmacists working in clinical roles, especially related to improved patient outcomes
- Demonstrate value of pharmacists in easing challenges of workforce shortages in other areas
- Demonstrate value of pharmacists in medication safety and performance improvement measures
- Keep our eye on the prize: demonstrating improved patient care

### Evolving Pharmacy Practice: Summary

- Hospital pharmacy has come a long way, Baby!
- Medication use processes, patient-centered care within health systems are not yet perfect
- Continued implementation of effective pharmacy practice models continues to be challenging with many potential barriers
- Financial, regulatory, & quality drivers are creating significant opportunities for advancement of professional pharmacist roles
- Willingness to accept increased accountability for both medication-use and patient-related outcomes will be the path forward