PPMI IN ACTION: OPTIMIZING THE USE OF PHARMACY EXTENDERS
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LEARNING OBJECTIVES
1. Describe the term “pharmacist extender”
2. Differentiate work that can or cannot be delegated to a pharmacy student
3. Relate how the use of technology can be used to expand the role of pharmacy technicians
4. Explain how pharmacy services were reengineered to support technicians as part of the patient care team

Goal of the 2010 Pharmacy Practice Model Initiative
Develop and disseminate a futuristic practice model that supports the effective use of pharmacists as direct patient care providers.

Major PPMI Themes
- Move pharmacists closer to the patient
- Responsibility for safe use of medications and ensuring quality
- Well-developed technician workforce
- Wide-spread use of technology

PPMI National Dashboard

Goal 1
- Pharmacists, with assistance from pharmacists and technicians, will promote medication safety for patients in institutional and home settings.
- Pharmacists will standardize medication use processes in institutional and home settings.
- Pharmacists will develop and implement plans for medication use improvement, including the use of medication use data.

Goal 2
- Pharmacists, with assistance from pharmacists and technicians, will promote medication safety for patients in institutional and home settings.
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Goal 3
- Pharmacists, with assistance from pharmacists and technicians, will promote medication safety for patients in institutional and home settings.
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Goal 4
- Pharmacists, with assistance from pharmacists and technicians, will promote medication safety for patients in institutional and home settings.
- Pharmacists will standardize medication use processes in institutional and home settings.
- Pharmacists will develop and implement plans for medication use improvement, including the use of medication use data.

Goal 5
- Pharmacists, with assistance from pharmacists and technicians, will promote medication safety for patients in institutional and home settings.
- Pharmacists will standardize medication use processes in institutional and home settings.
- Pharmacists will develop and implement plans for medication use improvement, including the use of medication use data.
PPMI in Action
Optimizing the use of Pharmacy Extenders: A Team-Based Technician (TBT) Program
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Objectives
1. Describe the term “pharmacist extender”
2. Differentiate work that can or cannot be delegated to pharmacy students and/or pharmacy technicians
3. Explain how pharmacy students, pharmacy technicians, and the use of technology can extend the reach of pharmacy services

PPMI Vision and Goals

**Vision of PPMI**
- To create passion, commitment, and action among hospital and health-system pharmacy practice leaders to advance the health and well-being of patients by optimizing the role of pharmacists in providing direct patient care

**Goal of PPMI**
- To implement the vision by supporting a futuristic practice model
  - How pharmacists practice and provide care to patients
  - How technicians are involved to support care
  - Use of automation/technology in the medication use system

**Advancing technicians’ role is the nation’s lowest score**
- 28% compliance with recommendations in Massachusetts

Role of Pharmacy Extenders: Technicians

Technicians utilized to their full potential complete the following:
- Tasks that do not typically require specialized clinical knowledge, judgment, and skill
- Management of pharmacy department information technology systems
- Detective work and documentation for med safety or quality assurance (QA) programs
- Initiation of medication reconciliation or medication history collection for pharmacist review

Pilot Study: Pharmacist and Pharmacy Technician Managed Program

**Pilot Study Admission Medication Reconciliation for a Geriatric Service Line**
- Funded August 2012 - July 2013
  - Created and validated procedures for admission med rec
  - Defined the process, tools, and how to utilize resources effectively
  - Collected baseline data to determine the impact of service

**Avoided adverse drug events associated with med rec**
- Included 918 patients admitted to Gen Med or Geriatrics
- Found at least one discrepancy on 51% of patients

Trending of Patient Satisfaction Scores

**HCAHPS: Communication About Medicines**
- Trending of 12-month average %; 100% = respondents “Always” agree

- Pharmacy Services
  - 100% = respondents “Always” agree on any incident
  - Pharmacy Partners overall 2011-12 adult patients
  - PO funded study of pharmacist and pharmacy technician managed medication history reconciliation from July 2011
**Goals with existing resources**

1. Prioritize and continue medication reconciliation on admission service
2. Improve current processes and operations to become more efficient
3. Utilize technicians as pharmacy extenders to provide additional pharmacy services and impact medication therapy outcomes

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**Pharmacy Council Work**

- Pharmacy Practice, Operations Improvement, and Technician Advancement
  - Evaluated the activities/services currently performed by pharmacists and technicians
  - Determined activities/services that could be reassigned or streamlined
  - Identified distributive functions completed by the pharmacists
  - Automated reports to drive operations and decisions
  - Defined a new technician model

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**A Successful Equation**

Use of automation and technology + Efficient operations and processes = Redesign and redeploy resources

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**Team-Based Technician Model**

- Technicians oriented into each pharmacy service team
  - Proactive in owning medication distribution versus reactive to service requests
  - Finding and retrieving missing doses
  - Facilitating the delivery of STAT medications
  - Advising on regulatory standards on med handling and storage
  - Evaluating infusion rates of IV drips
  - Support pharmacists in conducting medication histories within the first 24 hours of admission

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**Reassigned and Reorganized the Work**

- Pharmacist time devoted to clinical services
  - Pharmacy core services provided to every patient, every day
  - Targeted services for high risk or complex patients / therapies
- Pharmacy technicians as pharmacist extenders
  - Assisting pharmacists in completing tasks (data collection, override reports, audits, etc.)
  - Nursing staff to page technicians for drug distribution / service issues
  - More interactive in patient care areas
  - Ownership of drug distribution, storage, and security

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**Implementation Team-Based Technician Program**

- Internal recruitment
  - Interviewed with pharmacists in each patient care team
  - Established service-based criteria for new TBT role
- Daily activities and workflow
  - Replicated procedures and tools for admission medication reconciliation from the pilot study
  - Aligned with pharmacists’ daily activities and service team
- Training Rotations
- Quality Assurance (QA) program
  - Systematic process of checking to see whether service being developed is meeting expectations
    - Audits and metrics

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Team-Based Technician Curriculum and Training

- Rotation 1: Medication distribution oversight
  - Interpreting and running ADC reports
  - Override and drip round procedures
  - Medication storage and use policy
  - Unit inspection forms and temperature procedures
- Rotation 2: Medication history collection
  - Admission medication reconciliation process and shadow
  - Medication Reconciliation and interview guideline
  - Pharmacotherapy Review
- Rotation 3: Professionalism and customer service
  - Hospital Professionalism and etiquette Guideline
  - ICare - The Patient Experience
  - Infection Control
  - Shadow nursing staff

Team-Based Technician Quality Assurance Program

- Medication distribution
  - Optimizing inventory and maintenance of ADCs
  - Medication unit inspections
- Medication history collection
  - Prioritizing patients and accurately collecting a patient’s medication history using various sources
  - Clear communication with the pharmacist about discrepancies
  - While Interviewing, stating it’s important to ALWAYS know about your medications
- Professionalism and customer service
  - Following proper infection control techniques
  - Showing exceptional bedside manner
  - Clearly communicating with the patient and respecting the patient’s feelings

Impact of Team-Based Technician Program

Reorientation of technician responsibilities has enabled increased involvement in collecting medication histories

Anticipated Outcomes

When We Succeed … What Will We Have?

- For our Technicians
  - Empowerment to provide drug distribution services
  - More engaged and productive pharmacy technician workforce
  - Greater accountability for customer service to team-based units
- For the Department of Pharmacy
  - More engaged and productive pharmacist workforce
  - Working at the Top of Your License!
  - Increased patient interaction / education
  - Improved consistency, safety, reliability of medication use system
- For our Patients
  - Improved patient satisfaction (HCAHPS) and medication outcomes
  - Decreased readmissions and adverse drug events

CONFLICT OF INTEREST / DISCLOSURE

No conflicts to disclose
Learning Objectives

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Pharmacist Extender

- Described sporadically in the pharmacy literature
- Traditionally considered as a pharmacy technician or aid
- More recently in ASHP’s PPMI initiative includes residents and students
- Working definition – an individual whose work is delegated and overseen by a pharmacist and allows the pharmacist to accomplish work that otherwise would not be possible

Impetus to Change

- ACPE Draft Standards
  - Released in February for review
  - Key elements include:
    - Patient Care emphasis
    - Diverse patient populations
    - Interprofessional experiences
    - Timing
    - Duration
    - Required vs. elective experiences
    - Geography
  - Design of rotations requires careful thought and balance

Other Drivers

- Hospital pharmacy budget
- Increased technology
- Student expectations
  - Competitive labor market demands the demonstration of skills
  - Residency
- Others
  - Hospital, nursing units demand value

Our Journey

- Traditional student (APPE) rotations
- PGY-1 residency added
- Hospital administration challenge to do more
- Colleges challenge to do more
- PPMI “ups our game”
  - Self-assessment challenge to provide more oversight of drug therapy
  - More credentialed staff
OUR CHALLENGE
- What responsibilities can we delegate to our residents and students?
  - Residents are licensed (eventually) but cyclical
  - Students (interns) are permitted but VERY cyclical
- Development of ideal tasks that can be delegated

 ISSUES FOR CONSIDERATION WITH STUDENT RESPONSIBILITIES
- Students are not employees
- Variability in skill sets (and interest level)
- Not available 7 days per week
- Balance needs of institution with needs of the student (ACPE)
- Pharmacist oversight availability

 TASK DELEGATION TO STUDENTS

Ideal Task Characteristics
- Provides value to the patient
- Pharmacist oversight available
- Is ok to be interrupted
- Can be picked up when student not available

Non-Ideal Task Characteristics
- Busy-work or difficult to measure value
- Novel programs that institution is not experienced in
- "Must-have" programs

WHAT PROGRAMS CAN YOU THINK OF THAT COULD BE DELEGATED AT YOUR INSTITUTION TO A STUDENT (APPE OR IPPE)
- Take three minutes

EXAMPLES OF SUCCESS
- Literature abounds
  - Incorporating pharmacy student activities into an antimicrobial stewardship program in a long-term acute care hospital
  - Experience with a student-run patient medication assistance service

EXAMPLES OF SUCCESS AT BAYSTATE
- Vancomycin monitoring
- Heart Failure and ACS discharge counseling
- Prescription capture at discharge
- Medication Reconciliation pilots
- Research associates
*All have been initiated and led by longitudinal students
Objective

- Evaluate how the use of technology in the sterile products room and the expansion of the technician as pharmacy extenders allows pharmacists to focus on improving patient outcomes.

Important Numbers

- Beverly Hospital pharmacy services 341 acute care beds, as well as provides extensive outpatient services.
- Approximately 2.2 million doses are dispensed per year; 48,000 of those doses are compounded IV doses made on-site at Beverly Hospital pharmacy.
- In October 2012 we implemented an automated IV workflow management system to help manage some of these doses.

What is an IV Workflow Manager?

Any of the IV Workflow managers include the following components:

- A queue populated by order entry prioritizing doses by due time.
- Barcode verification software.
- Step-by-step instructional screen possibly requiring photographs at important steps.
- A remote verification system to allow log-ins and checks by pharmacists.
Why Automate Sterile Products Compounding?

- Automation exists in many aspects of dispensing.
- Helps reduce/catch errors & track waste.
- Technicians using technology to pre-verify refocuses pharmacists from dispensing to clinical duties.
- Good judgment is required by technicians to look for and resolve inconsistencies.

Medication Error

- The use of an automated IV workflow manager with barcode verification helps by reducing the risk of certain compounding errors before they occur.
- When an incorrect med is scanned, preparation is not allowed to continue until the correct med is scanned.
  1. Saves time spent preparing incorrect meds.
  2. Reduces waste from preparing incorrect meds.
  3. Saves pharmacist time spent checking incorrect doses.

Benefits of image-capture on safe workflow

- Provides audit trail.
- More accurate than syringe-pullback method.
- Does not tie pharmacist to the cleanroom (reducing personnel in the cleanroom, and saving gowning time for pharmacists).
- Ensures only one dose/batch is prepared at a time.

However....

- Many pharmacists are initially uncomfortable relinquishing control of the final check to technicians.
- No longer “holding” the final product makes them concerned about:
  1. Checking for particulates
  2. Checking for color changes
  3. Checking for leaks
  4. Checking for proper labeling, including auxiliary labels.

Safety Controls

- The expanded role of technicians in dose preparation means verifying that the final product is free of particulate matter.
- Use of a white and black light box and a magnifier can help technicians ensure safety of the final product.

Overcoming Resistance to Change

It will take time and practice with the system to reach a comfort level as both competency with the system & understanding it’s benefits increase.
PPMI Applications & Conclusion

- Enhances the role of technicians through technology as recommended in the 2014-2018 ASHP Pharmacy Forecast and is a step toward advanced roles for technicians.
- An expanded technician role will lead to more standardized training.
- Empowering technicians takes pharmacists from being active in dispensing to be more active in patient care.
- Remote verification of CSP’s allows for a more focused workflow for pharmacists with less interruption to enter the cleanroom.

Works Cited


